HISTORIC PRESERVATION COMMISSION

Marc Elrich
County Executive

Sandra I. Heiler
Chairman

Date: February 19, 2021

MEMORANDUM

TO: Hadi Mansouri
Department of Permitting Services
FROM: Michael Kyne
Historic Preservation Section
Maryland-National Capital Park & Planning Commission
SUBJECT: Historic Area Work Permit #912522: Building rehabilitation and new construction

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The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP). This application was **Approved** at the May 27, 2020 HPC meeting, with revisions approved by staff on February 19, 2021.

The HPC staff has reviewed and stamped the attached construction drawings**.**

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: Thomas Zippelli (Ryan Behnemen, Architect)
Address: 3308 Olney Sandy Spring Road, Olney

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once work is complete the applicant will contact Michael Kyne at 301.563.3403 or michael.kyne@montgomeryplanning.org to schedule a follow-up site visit.

DocuSign Envelope ID: A4A848AE-807A-4B4C-BAB6-A44924E665BB

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

SITE LOCATION MAP NOT TO SCALE

SCOPE OF WORK

Includes:
Repair of the existing historic wood windows.
Replacement of existing vinyl windows on the south (rear) elevation with clad windows.
Replacement of the existing standing seam roof with a new standing seam roof to match.
Demolition of the existing front portico and replacement with a 8 foot deep hipped roof porch spanning the width of the main structure based on historic precedents.
Construction of new brick and stone accessible ramp and steps leading to the porch.
Construction of a new accessible stone path leading to the new egress door on the west elevation of the stair addition.
Demolition of the existing walk-in cooler shed to the southeast, and replacement with a new shed roof addition to contain new walk-in cold storage.
Demolition of the existing dining room and toilet additions to the south, and replacement with a 2-story dining, bar and restroom addition. Two-thirds of which under a gable roof perpendicular to the ridge of the main house, and the remainder located under a shed roof that spans between the new and existing gable additions.
All new construction is proposed to be wood framed clad in 7" exposure Hardie siding under a standing seam roofing with aluminum clad double hung windows and French doors.
New covered patio with roof top dining on the second floor.
New shed roof addition to contain a new exit access stair.
Insulation of existing walls, roofs, and floors.
New light fixtures.
New mechanical equipment.
New plumbing fixtures.
Expanded NFPA 13 Sprinkler System.
New fire alarm.
New foodservice equipment.
New finishes.

ARCHITECTURAL & LIFE SAFETY REVIEW COMPLETED BY MATTHEW SHANKS

ABBREVIATIONS ARCHITECTURAL DRAWINGS

@	AT	FIX	FIXTURE(S)	PLAM	PLASTIC LAMINATE
#	NUMBER,	FHC	FIRE HOSE CABINET	PLAS	PLASTER
&	AND	FLASH	FLASHING	PLYWD	PLYWOOD
Ø	DIAMETER	FLR	FLOORING|	PR	PAIR
		FLUOR	FLUORESCENT	PREFAB	PREFABRICATED
A	AREA	FOW	FACE OF WALL	PSF	POUNDS PER SQUARE FOOT
AB	ANCHOR BOLT	FR	FIRE RATED, FRONT	PSI	POUNDS PER SQUARE INCH
ABV	ABOVE	FRT	FIRE RETARDANT TREATED	PT	PRESSURE TREATED
A/C	AIR CONDITIONING	FT	FEET, FOOT	PTD	PAINTED, PAPER TOWEL DISP.
ACC / ACCESS	ACCESSIBLE	FTG	FOOTING	PTN	PARTITION
ACOUST	ACOUSTICAL	FUR	FURRING		
ACP	ACOUSTICAL CEILING PANEL	FURN	FURNITURE	QUAL	QUALITY
ACT	ACOUSTICAL CEILING TILE	FV	FIELD VERIFY	QT	QUARRY TILE
AD	AREA DRAIN			QTY	QUANTITY
ADA	AMERICANS WITH DISABILITIES ACT	GA	GAUGE		
ADAAG	ADA ARCHITECTURAL GUIDELINES	GALV	GALVANIZED	R	RADIUS, RISER(S), RANGE
ADMIN	ADMINISTRATION	GB	GRAB BAR	RB	RUBBER BASE
ADJ	ADJUSTABLE	GC	GENERAL CONTRACTOR	RCP	REFLECTED CEILING PLAN
AFF	ABOVE FINISH FLOOR	GCU	GYPSUM CONCRETE UNDERLAYMENT	RD	ROOF DRAIN
AGG	AGGREGATE	GEN / GENL	GENERAL	REBAR	REINFORCING BAR
AHU	AIR HANDLING UNIT	GFCI / GFI	GROUND FAULT CIRCUIT INTERRUPT	RECEPT	RECEPTACLE
AL / ALUM	ALUMINUM	GL	GLASS, GLAZING	REFL	REFLECTED
ALT	ALTERNATE	GWB / GYPBD	GYPSUM WALL BOARD	REINF	REINFORCE(D)(ING)
ANC	ANCHOR, ANCHORAGE			REF	REFERENCE, REFRIGERATOR
ANOD	ANODIZED	H	HIGH	REQD	REQUIRED
APPROX	APPROXIMATE	HB	HOSE BIB	RES	RESILIENT (SHEET FLOORING)
ARCH	ARCHITECT/ARCHITECTURAL	HD	HEAVY DUTY, HAND DRYER	REV	REVISION, REVISE(D), REVERSED
ATM	AUTOMATIC TELLER MACHINE	HDW / HDWR	HARDWARE	RH	RIGHT HAND
AUTO	AUTOMATIC	HGT / HT	HEIGHT	RM	ROOM
		HK	HOOK	RO	ROUGH OPENING
BD	BOARD	HM	HOLLOW METAL	ROW	RIGHT OF WAY
BEL	BELOW	HORIZ	HORIZONTAL	RS	RISERS
BKHD	BULKHEAD	HP	HIGH POINT		
BLK / BLKG	BLOCK, BLOCKING	HR	HOUR	S	SOUTH, STOVE
BLDG	BUILDING	HVAC	HEATING VENTILATION & AIR COND.	SAT	SATURATED
BOT	BOTTOM	HWD	HARDWOOD	SCD	TOILET SEAT COVER
BR	BRICK, BEDROOM			SCH / SCHED	SCHEDULE
BTW	BETWEEN	IBC	INTERNATIONAL BUILDING CODE	SD	STORM DRAIN, SOAP DISPENSER
BUR	BUILT UP ROOFING	ID	INSIDE DIAMETER	SECT	SECTION
		IN	INCH	SF	SQUARE FEET
C	CHANNEL, COURSES (MASONRY)	INFO	INFORMATION	SGFT	STRUT, GLAZED FACING TILE
CAB / CABT	CABINET	INSUL	INSULATION	SGL	SINGLE
CARP	CARPET	INT	INTERIOR	SH	SHOWER, SHEET
CEM	CEMENT	INV	INVERT(ED)	SHT	SHEET
CER	CERAMIC			SIM	SIMILAR
CH	CEILING HEIGHT	J / JT	JOINT	SND	SANITARY NAPKIN DISPENSER
CJ	CONTROL JOINT	JC / JAN CLOS	JANITOR CLOSET	SNR	SANITARY NAPKIN RECEPTOR
CL	CENTER LINE	JST	JOIST	SPD	SOAP DISPENSER
CLG	CEILING			SPEC	SPECIFICATION, SPECIFIED
CLOS	CLOSET	K	KIP, 1000	SQ	SQUARE
CLR	CLEAR, CLEARANCE	KO	KNOCKOUT	SS / SST	STAINLESS STEEL
CM	CENTIMETER			STA	STATION
CMU	CONCRETE MASONRY UNIT	L	LONG, ANGLE	STC	SOUND TRANSMISSION CLASS
COL	COLUMN	LAM	LAMINATE(D)	STD	STANDARD
CONC	CONCRETE	LAV	LAVATORY	STL	STEEL
CONF	CONFERENCE	LB	POUND	STOR	STORAGE
CONST	CONSTRUCTION	LF	LINEAR FEET	STRUCT	STRUCTURAL
CONT	CONTINUOUS	LH	LEFT HAND		
CONTR	CONTRACT/CONTRACTOR	LIN	LINEN, LINEAR	T	TREAD(S), TOILET
CONV	CONVECTOR	LINO	LINOLEUM	T&G	TONGUE AND GROOVE
CORR	CORRUGATED, CORRIDOR	LKR	LOCKER	THOLD	THRESHOLD
CRS	COURSES (MASONRY)	LOC	LOCATION	TB	TOWEL BAR
CT	CERAMIC TILE	LP	LOW POINT	TBD	TO BE DETERMINED
CTOP	COUNTERTOP	LT	LIGHT	TEL	TELEPHONE
CTR	CENTER, COUNTER	LTL	LINTEL	TEMP	TEMPERED, TEMPORARY
CUH	CABINET UNIT HEATER	LVR	LOUVER	TERR	TERRAZZO
CUR	CURTAIN			THK	THICK
		M	MEN, METER (MEASUREMENT)	THRU	THROUGH
D	DEEP, DIAMETER, DRAIN, DRYER	MACH	MACHINE	TKBD	TACKBOARD
DBL	DOUBLE	MANUF / MFR	MANUFACTURER	T.O.	THROUGHOUT, TOP OF
DEMO	DEMOLISH/DEMOLITION	MAT / MATL	MATERIAL	TOL	TOLERANCE
DET	DETAIL	MAX	MAXIMUM	TOP	TOPPING
DF	DRINKING FOUNTAIN	MBRC	MARYLAND BUILDING REHAB. CODE	TOS	TOP OF STEEL, TOP OF SLAB
DH	DOUBLE HUNG	MC	MEDICINE CABINET	TPD	TOILET PAPER DISPENSER
DIA	DIAMETER	MECH	MECHANICAL	TPTN	TOILET PARTITION
DIAG	DIAGONAL	MEMB	MEMBRANE	TSTAT	THERMOSTAT
DIM	DIMENSION	MET	METAL	TYP	TYPICAL
DISP	DISPENSER, DISPOSAL	MEZZ	MEZZANINE		
DIV	DIVISION(S)	MFD	MANUFACTURED	UC	UNDERCUT
DN	DOWN	MICRO	MICROWAVE	UL	UNDERWRITERS LABORATORIES
DPF	DAMP PROOFING	MIN	MINIMUM	UNF	UNFINISHED
DR	DOOR	MISC	MISCELLANEOUS	UNO	UNLESS NOTED OTHERWISE
DS	DOWNSPOUT	MM	MILLIMETER	UV	UNIT VENTILATOR
DTL	DETAIL	MO	MASONRY OPENING	UR	URINAL
DWG(S)	DRAWING(S)	MTD	MOUNTED	US	UNDERSIDE
		MTG	MOUNTING		
E	EAST	MTL	METAL, MATERIAL	V	VOLT(S)
EA	EACH	MTR	METER (DEVICE)	VB	VAPOR BARRIER
EE	EACH END	MULL	MULLION	VCT	VINYL COMPOSITION TILE
EJ	EXPANSION JOINT			VERT	VERTICAL
EL / ELEV	ELEVATION, ELEVATOR	N	NORTH	VEST	VESTIBULE
ELEC	ELECTRICAL	NA	NOT APPLICABLE	VIF	VERIFY IN FIELD
EMER	EMERGENCY	NIC	NOT IN CONTRACT		
ENCL	ENCLOSURE	NO	NUMBER	W	WEST, WIDE, WASHER, WOMEN
EQ	EQUAL	NOM	NOMINAL	W/	WITH
EQUIP	EQUIPMENT	NTS	NOT TO SCALE	W/O	WITHOUT
EW	EACH WAY			WC	WALL COVERING, WATER CLOSET
EWC	ELECTRIC WATER COOLER	O / OV	OVEN	WD	WOOD
EX / EXIST	EXISTING	OA	OVERALL	WDW	WINDOW
EXP	EXPOSED, EXPANSION	OC	ON CENTER	WH	WATER HEATER, WALL HUNG
EXT	EXTERIOR	OD	OUTSIDE DIAMETER	WI	WROUGHT IRON
		OFF	OFFICE	WIN	WINDOW
FCU	FAN COIL UNIT	OH	OPPOSITE HAND	WP	WATERPROOF(ING)
FD	FLOOR DRAIN	OPG	OPENING	WR	WATER RESISTANT
FDN	FOUNDATION	OVH	OVERHEAD	WS	WEATHER STRIPPING
FE	FIRE EXTINGUISHER			WSCT	WAINSCOT
FEC	FIRE EXTINGUISHER CABINET	PART	PARTITION, PARTIAL	WT	WEIGHT
FF	FINISHED FLOOR	PERIM	PERIMETER	WWF	WELDED WIRE FABRIC
FIN	FINISH(ED)	PL	PLATE, PROPERTY LINE		

RENOVATION & ADDITION TO

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

OWNER
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RNM@BALASVA.COM

SYMBOLS

ROOM_NAME 123 — SPACE TITLE / SPACE NUMBER
101 — DOOR NUMBER
A — WINDOW TYPE
B — PARTITION TYPE
1 — REVISION
3 — KEYNOTE
2 3 / 1 — EQUIPMENT
1 / A2-1 — ELEVATION
2 / 1 A4-1 3 / 4 — INTERIOR ELEVATION (SHEET NO. AT CENTER; DETAIL NOS. AROUND EDGE)
3 / A3-1 — SECTION
1 / A5-1 — DETAIL
N — NORTH ARROW
258.33' — ELEVATION ABOVE SEA LEVEL OR ABOVE FIRST FLOOR LEVEL
(-)1'-6" — SPOT ELEVATION ABOVE FIRST FLOOR LEVEL
2 — SOIL TEST BORING LOCATION & NUMBER
℄ — CENTERLINE
℄ — PROPERTY LINE
REFERENCE LINE
CONSTRUCTION FENCE
220 — FINISH GRADE (CONTOUR)
220 — EXISTING GRADE (CONTOUR)
+15.5' — SPOT FINISH ELEVATION
BREAK LINE

MATERIALS

TIMBER WOOD FRAMIING
FINISH WOOD
PLYWOOD
HARDBOARD PARTICLE BOARD
SPRAY FOAM INSULATION
FLEXIBLE INSULATION
ACCOUSTICAL TILE OR PANELS
GLASS LARGE SCALE
GLASS OR METAL SMALL SCALE
SCREENING
CMU
BRICK
STONE MASONRY
MARBLE
FACING TILE
RIGID INSULATION
PRECAST STONE OR CONCRETE
GRAVEL FILL
EARTH
POROUS FILL
STANDARD CONCRETE
LIGHTWEIGHT CONCRETE
REINFORCING BARS
STEEL
ALUMINUM
GWB, PLASTER, MORTAR, SAND
STUCCO
FLAGSTONE SLATE
CERAMIC QUARRY TILE
RESILIENT FLOORING

DRAWING INDEX

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REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Sandra A. Heiler

ARCHITECTURAL REGISTRATION BOARD 7286-A STATE OF MARYLAND
Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	10.29.2020	PERMIT COMMENTS

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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DRAWN: RB | PROJECT 20003
CHECKED: Jeff Penza, AIA
CAD FIL...: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

TITLE SHEET

G1.1

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

CODE ANALYSIS

APPLICABLE CODES

BUILDING	CHAPTER 8 MONTGOMERY COUNTY BUILDING CODE 2018 INTERNATIONAL BUILDING CODE W/ AMENDMENTS 2015 INTERNATIONAL EXISTING BUILDING CODE 2012 INTERNATIONAL GREEN CONSTRUCTION CODE
ELECTRICAL/ MECHANICAL	2015 INTERNATIONAL ENERGY CONSERVATION CODE 2015 INTERNATIONAL MECHANICAL CODE MONTGOMERY COUNTY CODE CHAPTER 8 (MECHANICAL) MONTGOMERY COUNTY CODE CHAPTER 17 (ELECTRICAL) NFPA 70 NATIONAL ELECTRIC CODE
FIRE	2015 NFPA 1 FIRE CODE 2015 NFPA 101 LIFE SAFETY CODE
ACCESSIBILITY	COMAR 05.02.02 THE MARYLAND ACCESSIBILITY CODE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
ZONING	SEE CIVIL DRAWINGS

USE AND OCCUPANCY

IBC 303.3 ASSEMBLY GROUP A-2: RESTAURANT (INCLUDING ASSOCIATED COMMERCIAL KITCHENS) TAVERNS AND BARS.

IBC 311.1.1 ACCESSORY STORAGE SPACES: A ROOM OR SPACE USED FOR STORAGE PURPOSES THAT IS ACCESSORY TO ANOTHER OCCUPANCY SHALL BE CLASSIFIED AS PART OF THAT OCCUPANCY.

NFPA 101 6.1.2 ASSEMBLY

NFPA 101 6.1.13 STORAGE

SPECIAL REQUIREMENTS

IBC 413.2 ATTIC SPACES USED FOR STORAGE OF COMBUSTIBLE MATERIALS ARE NOT REQUIRED TO BE FIRE-RESISTANCE-RATED WHERE PROTECTED BY AN APPROVED AUTOMATIC SPRINKLER SYSTEM.

GENERAL BUILDING HEIGHTS AND AREAS

IBC TABLE 504.3 BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASS	TYPE OF CONSTRUCTION	SPRINKLERED	ALLOWABLE HEIGHT	PROPOSED HEIGHT
A	**V-B**	**S**	**60-FEET**	**30-FEET**

IBC TABLE 504.4 NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASS	TYPE OF CONSTRUCTION	SPRINKLERED	ALLOWABLE STORIES	PROPOSED STORIES
A-2	**V-B**	**S**	**2**	**2**

IBC TABLE 506.2 ALLOWABLE AREA FACTOR IN SQUARE FEET

OCCUPANCY CLASS	TYPE OF CONSTRUCTION	SPRINKLERED	ALLOWABLE AREA	PROPOSED AREA
A-2	**V-B**	**S**	**18,000 SQ.FT.**	**505 SQ.FT.**
BASEMENT				

OCCUPANCY CLASS	TYPE OF CONSTRUCTION	SPRINKLERED	ALLOWABLE AREA	PROPOSED AREA
A-2	**V-B**	**S**	**18,000 SQ.FT.**	**3,435 SQ.FT.**
FIRST FLOOR				

OCCUPANCY CLASS	TYPE OF CONSTRUCTION	SPRINKLERED	ALLOWABLE AREA	PROPOSED AREA
A-2	**V-B**	**S**	**18,000 SQ.FT.**	**2,280 SQ.FT.**
SECOND FLOOR				

IBC 508 MIXED USE AND OCCUPANCY: BUILDING IS A SINGLE OCCUPANCY PER IBC 311.1.1

NFPA 101 6.1.14.3.2 MIXED OCCUPANCIES: EACH PORTION SHALL BE CLASSIFIED TO ITS USE IN ACCORDANCE WITH NFPA 101 6.1. THE BUILDING SHALL COMPLY WITH THE MOST RESTRICTIVE REQUIREMENTS OF THE OCCUPANCIES INVOLVED.

IBC TABLE 509 INCIDENTAL USES: NO INCIDENTAL USES ARE FOUND WITHIN THE PROPOSED BUILDING.

TYPES OF CONSTRUCTION

IBC TABLE 601 & 602 CONSTRUCTION TYPE V-B

BUILDING ELEMENT TYPE V-B	**FIRE-RESISTANCE RATING REQUIREMENTS (HOURS)**	
PRIMARY STRUCTURAL FRAME	0	
BEARING & NONBEARING EXTERIOR WALL X < 5 FEET	A-2	1
BEARING & NONBEARING EXTERIOR WALL 5 ≤ X <10 FEET	1	
BEARING & NONBEARING EXTERIOR WALL X ≥10 FEET	0	
BEARING INTERIOR WALLS	0	
NONBEARING INTERIOR WALLS AND PARTITIONS	0	
FLOOR CONSTRUCTION	0	
ROOF CONSTRUCTION	0	

PER IBC TABLE 602: ALL EXTERIOR WALLS HAVE A FSD OF > 10 FEET. NO FIRE RESISTANCE RATING OF EXTERIOR WALLS IS REQUIRED.

FIRE AND SMOKE PROTECTION FEATURES

IBC TABLE 705.8: EXTERIOR WALLS HAVING A FSD OF 20 FEET TO LESS THAN 25 FEET ARE LIMITED TO 45% WHEN UNPROTECTED AND NONSPRINKLERED. PROVISION APPLIES TO CENTER SECTION OF WEST ELEVATION. SEE EXT WALL OPENING AREA - WEST

EXTERIOR WALLS HAVING A FSD OF 25 FEET TO LESS THAN 30 FEET ARE LIMITED TO 70% WHEN UNPROTECTED AND NONSPRINKLERED. PROVISION APPLIES TO REMAINING SECTIONS OF WEST ELEVATION. SEE EXT WALL OPENING AREA - WEST

ALL OTHER EXTERIOR WALLS HAVE A FSD OF > 30 FEET. WHERE NO PROTECTION OR LIMIT TO OPENINGS IS REQUIRED.

FIRE AND SMOKE PROTECTION FEATURES

IBC 707.3.1: THE FIRE RESISTANCE RATING OF THE FIRE BARRIER SEPARATING BUILDING AREAS FROM A SHAFT SHALL COMPLY WITH SECTION 713.4.

IBC 707.3.3: THE FIRE-RESISTANCE-RATING OF THE FIRE BARRIER SEPARATING BUILDING AREAS FROM AN EXIT ACCESS STAIRWAY SHALL COMPLY WITH SECTION 713.4

IBC 707.5: FIRE BARRIERS SHALL EXTEND FROM THE TOP OF THE FLOOR ASSEMBLY BELOW TO THE UNDERSIDE OF THE ROOF SHEATHING ABOVE AND SHALL BE SECURELY ATTACHED THERETO. SUCH FIRE BARRIERS SHALL BE CONTINUOUS THROUGH CONCEALED SPACE. FIRE BARRIERS MUST COMPLY WITH 708 FIRE PARTITIONS & 709 SMOKE BARRIERS. JOINTS & VOIDS AT INTERSECTIONS SHALL COMPLY WITH SECTIONS 707.8 & 707.9.

IBC 707.6 OPENINGS IN FIRE BARRIERS SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 716. OPENINGS SHALL BE LIMITED TO A MAXIMUM AGGREGATE WIDTH OF 25% OF THE LENGTH OF THE WALL, AND THE MAXIMUM AREA OF ANY SINGLE OPENING SHALL NOT EXCEED 156 SQ.FT.

IBC 707.7 PENETRATIONS IN FIRE BARRIERS SHALL COMPLY WITH SECTION 714.

IBC 707.8 JOINTS MADE IN OR BETWEEN FIRE BARRIERS, AND JOINTS MADE AT THE INTERSECTION OF FIRE BARRIERS WITH THE UNDERSIDE OF THE ROOF DECKS ABOVE AND THE EXTERIOR VERTICAL WALL INTERSECTION SHALL COMPLY WITH SECTION 715.

IBC 707.9 THE VOIDS CREATED AT THE INTERSECTION OF A FIRE BARRIER AND A NON FIRE-RESISTANCE-RATED ROOF OR EXTERIOR WALL ASSEMBLY SHALL BE FILLED WITH AN APPROVED MATERIAL OR SYSTEM.

IBC 713.2 SHAFT ENCLOSURES SHALL BE CONSTRUCTED AS FIRE BARRIERS IN ACCORDANCE WITH SECTION 707.

IBC 713.4 FIRE-RESISTANCE RATING: SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN 4 STORIES. THE NUMBER OF STORIES CONNECTED BY THE SHAFT ENCLOSURE SHALL INCLUDE ANY BASEMENTS. THE PROPOSED SHAFT CONNECTS 3 STORIES.

IBC 713.6 EXTERIOR WALLS WHERE EXTERIOR WALLS SERVE AS PART OF A REQUIRED SHAFT ENCLOSURE SUCH WALLS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 705 FOR EXTERIOR WALLS AND THE FIRE -RESISTANCE-RATED ENCLOSURE REQUIREMENTS SHALL NOT APPLY.

IBC 713.7 OPENINGS IN A SHAFT ENCLOSURE SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 716 AS REQUIRED FOR FIRE BARRIERS. DOORS SHALL BE SELF- OR AUTOMATIC-CLOSING BY SMOKE DETECTION IN ACCORDANCE WITH SECTION 716.5.9.3

IBC 713.8 PENETRATIONS IN A SHAFT ENCLOSURE SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 714.

IBC 713.8.1 PENETRATIONS OTHER THAN THOSE NECESSARY FOR THE PURPOSE OF THE SHAFT SHALL NOT BE PERMITTED IN SHAFT ENCLOSURES.

IBC 713.9 JOINTS IN A SHAFT ENCLOSURE SHALL COMPLY WITH SECTION 715.

IBC 714.4.1 THROUGH PENETRATIONS IN FIRE-RESISTANCE RATED ASSEMBLIES SHALL BE PROTECTED BY AN APPROVED PENETRATION FIRESTOP SYSTEM.

IBC 714.4.2 MEMBRANE PENETRATIONS. RECESSED FIXTURES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE-RESISTANCE RATING WILL NOT BE REDUCED.

IBC 715 JOINTS INSTALLED IN OR BETWEEN FIRE-RESISTANCE-RATED ASSEMBLIES SHALL BE PROTECTED BY AN APPROVED FIRE-RESISTANT JOINT SYSTEM DESIGNED TO RESIST THE PASSAGE OF FIRE FOR A TIME PERIOD NOT LESS THAN THE REQUIRED FIRE-RESISTANCE RATING OF THE ASSEMBLIES BEING JOINED.

IBC TABLE 716.1 (2): FIRE DOORS IN 1 HOUR FIRE BARRIERS FOR SHAFT ENCLOSURES SHALL HAVE A MINIMUM FIRE DOOR ASSEMBLY RATING OF 1 HOUR.

IBC 716.2.6.2 DOOR CLOSING. FIRE DOORS SHALL BE LATCHING AND SELF CLOSING.

IBC 718.2 - FIREBLOCKING SHALL BE INSTALLED IN COMBUSTIBLE CONCEALED SPACES TO CUT OFF CONCEALED DRAFT OPENINGS AND SHALL FORM AN EFFECTIVE BARRIER BETWEEN FLOORS, BETWEEN A TOP STORY AND A ROOF OR ATTIC SPACE.

IBC 718.2.4 FIREBLOCKING SHALL BE PROVIDED IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN.

IBC 718.3 & 718.4 DRAFTSTOPPING IS NOT REQUIRED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH 903.3.1.1.

IBC 720 INSULATING MATERIALS INCLUDING VAPOR-PERMEABLE MEMBRANES SHALL COMPLY WITH THE REQUIREMENTS OF THIS SECTION. FOAM PLASTIC INSULATION SHALL COMPLY WITH CHAPTER 26.

IBC 720.2 ANY CONCEALED INSULATION MATERIAL SHALL HAVE A FLAME SPREAD INDEX OF 25 MAX. AND A SMOKE-DEVELOPED INDEX OF 450 MAX.

IBC 720.3 ANY EXPOSED INSULATION MATERIAL SHALL HAVE A FLAME SPREAD INDEX OF 25 MAX. AND A SMOKE-DEVELOPED INDEX OF 450 MAX.

INTERIOR FINISHES

IBC 803.1.1 / NFPA 101, 10.2.3.4 - INTERIOR WALL AND CEILING FINISH MATERIALS:
CLASS 'A' = FLAME SPREAD INDEX 0-25 / SMOKE-DEVELOPED INDEX 0-450.
CLASS 'B' = FLAME SPREAD INDEX 26-75 / SMOKE-DEVELOPED INDEX 0-450.
CLASS 'C' = FLAME SPREAD INDEX 76-200 / SMOKE-DEVELOPED INDEX 0-450.

IBC TABLE 803.13 / NFPA 101, 7.1.4.1 - INTERIOR WALL AND CEILING FINISH REQUIREMENTS - SPRINKLERED

OCCUPANCY	CORRIDORS & EXIT ACCESS STAIRS	ROOMS	
A-2	B	C	

FIRE PROTECTION SYSTEMS

IBC 903.2.1.2 GROUP A-2 : AN AUTOMATIC SPRINKLER SYSTEM IS REQUIRED. THE FIRE AREA = 6,220 SF, WHICH EXCEEDS 5,000 SF. THE OCCUPANT LOAD = 273 WHICH EXCEEDS 100. ALL AREAS ARE **NOT** LOCATED AT THE LEVEL OF EXIT DISCHARGE.

IBC 903.3.1.1 NFPA 13 SPRINKLER SYSTEMS. SPRINKLERS SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13.

IBC 906.1 PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN THE FOLLOWING LOCATION: GROUP A OCCUPANCIES. FIRE EXTINGUISHER CABINET LOCATIONS ARE IDENTIFIED ON THE PLANS NOTED "FEC". FIRE EXTINGUISHER LOCATIONS ARE NOTED "FE".

IBC 906.2: PORTABLE FIRE EXTINGUISHERS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH NFPA 10.

IBC 906.3.1 - CLASS A FIRE HAZARD FOR MODERATE HAZARD OCCUPANCY:
MINIMUM RATED SINGLE EXTINGUISHER: 2-A
MAXIMUM FLOOR AREA PER UNIT OF A: 1,500 SQUARE FEET
MAXIMUM FLOOR AREA FOR EXTINGUISHER: 11,250 SQUARE FEET
MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER: 75-FEET

IBC 906.4 FIRE EXTINGUISHERS PROVIDED FOR THE PROTECTION OF COOKING GREASE FIRES SHALL BE OF AN APPROVED TYPE PER SECTION 904.12.5 OF THE IFC.

PER IBC 907.2.1 GROUP A, A FIRE ALARM OR DETECTION SYSTEM IS REQUIRED FOR MORE THAN 100 PERSONS ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE.

EXCEPTION: MANUAL FIRE ALARM BOXES ARE NOT REQUIRED WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1

PER NFPA 101 12.3.4.1.1, 38.3.4.1 & 42.3.4.1.2 A FIRE ALARM OR DETECTION SYSTEM IS **NOT** REQUIRED.

MEANS OF EGRESS

IBC 1003.2 / NFPA 101, 7.1.5.1 - CEILING HEIGHT SHALL BE 7'-6" MINIMUM.

IBC TABLE 1004.1.2 - OCCUPANT LOAD

STORAGE	594 SQ.FT. / 300 GSF =	2 OCC. LOAD
ASSEMBLY - STANDING SPACE	120 SQ.FT. / 5NSF =	24 OCC. LOAD
ASSEMBLY - CHAIRS ONLY	483 SQ.FT. / 7 NSF =	69 OCC. LOAD
ASSEMBLY - TABLES & CHAIRS	2,570 SQ.FT. / 15 NSF =	172 OCC. LOAD
COMMERCIAL KITCHEN	1,065 SQ.FT. / 200 GSF =	6 OCC. LOAD
TOTAL OCCUPANT LOAD		**= 273 OCC. LOAD**

NFPA 101, TABLE 7.3.1.2 OCCUPANT LOAD FACTOR

STORAGE	594 SQ.FT. / 500 GSF =	2 OCC. LOAD
ASSEMBLY - CONCENTRATED	603 SQ.FT. / 7 NSF =	87 OCC. LOAD
ASSEMBLY - LESS CONCENTRATED	2,570 SQ.FT. / 15 NSF =	172 OCC. LOAD
KITCHENS	1,065 SQ.FT. / 100 GSF =	11 OCC. LOAD
TOTAL OCCUPANT LOAD		**= 272 OCC. LOAD**

IBC 1005.3.1 THE CAPACITY IN INCHES OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAY BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.3 INCH.

IBC 1005.3.2 THE CAPACITY IN INCHES OF OTHER MEANS OF EGRESS COMPONENTS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH A COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH. PER IBC 1010.1.1 THE MINIMUM CLEAR WIDTH OF 32" / 0.2 = 160 OCCUPANTS SERVED. ALL DOORS PROPOSED SERVE FEWER THAN 160 OCCUPANTS.

IBC 1006.2.1 SPACES WITH ONE EXIT

OCCUPANCY	MAXIMUM OCCUPANT LOAD	MAXIMUM COMMON EGRESS TRAVEL DISTANCE W/ SPRINKLER
A	49	75

IBC 1006.3.2 MINIMUM NUMBER OF EXITS FROM STORY FOR OCCUPANT LOAD BETWEEN 1-500 = 2. PROPOSED OCCUPANT LOAD IS 273. 3 EXITS ARE PROVIDED.

IBC 1007.1.1 WHERE TWO EXITS ARE REQUIRED FROM ANY PORTION OF THE EXIT ACCESS, AND A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM, THEY SHALL BE PLACED SUCH A DISTANCE APART EQUAL TO NOT LESS THAN ONE-THIRD OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING. THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING IS 66'-8" / 3 = 22' - 3". REMOTENESS OF EXITS PROVIDED EXCEEDS THIS REQUIREMENT.

IBC 107.1.1.1 MEASUREMENT POINT. THE SEPARATION DISTANCE TO EXIT ACCESS STAIRWAYS SHALL BE MEASURED TO THE CLOSEST RISER.

IBC 1008.2.1 THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL BE NOT LESS THAN 1 FOOTCANDLE (11 LUX) AT THE WALKING SURFACE.

IBC 1009.1 ACCESSIBLE MEANS OF EGRESS REQUIRED: ACCESSIBLE SPACES SHALL BE PROVIDED WITH NOT LESS THAN ONE ACCESSIBLE MEANS OF EGRESS.

EXCEPTION 1: ACCESSIBLE MEANS OF EGRESS ARE NOT REQUIRED TO BE PROVIDED IN EXISTING BUILDINGS.

IBC 1010.1.1 SIZE OF DOORS: MINIMUM CLEAR WIDTH OF 32" (48" MAXIMUM) MINIMUM HEIGHT OF 80".

IBC 1010.1.2.1 DIRECTION OF SWING. DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING A ROOM OR AREA CONTAINING AN OCCUPANT LOAD OF 50 OR MORE PERSONS.

IBC 1010.1.10 PANIC HARDWARE DOORS SERVING ROOMS OR SPACES WITH AN OCCUPANT LOAD OF 50 OR MORE IN A GROUP A OCCUPANCY SHALL NOT BE PROVIDED WITH A LATCH OR LOCK OTHER THAN PANIC HARDWARE.

IBC 1011.2 STAIRWAY WIDTH SHALL BE NOT LESS THAN 44 INCHES. EXCEPTION 1. STAIRWAYS SERVING AN OCCUPANT LOAD OF LESS THAN 50 SHALL HAVE A WIDTH OF NOT LESS THAN 36 INCHES.

IBC 1011.3 STAIRWAYS SHALL HAVE A HEADROOM CLEARANCE OF NOT LESS THAN 80 INCHES.

IBC 1011.5.2 STAIR RISER HEIGHTS SHALL BE 7 INCHES MAXIMUM AND 4 INCHES MINIMUM. TREAD DEPTH SHALL BE 11 INCHES MINIMUM.

IBC 1011.5.5 NOSING AND RISER PROFILE: NOSING SHALL HAVE A CURVATURE OR BEVEL OF NOT LESS THAN 1/16 OF AN INCH, BUT NOT MORE THAN 9/16 OF AN INCH FROM THE FOREMOST PROJECTION OF THE TREAD. RISERS SHALL BE SOLID AND VERTICAL OR SLOPED UNDER THE TREAD ABOVE FROM THE UNDERSIDE OF THE NOSING ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES FROM THE VERTICAL.

IBC 1011.5.5.1 NOSING PROJECTION SIZE: THE LEADING EDGE OF TREADS SHALL PROJECT NOT MORE THAN 1 1/4 INCHES BEYOND THE TREAD BELOW.

IBC 1011.6 THERE SHALL BE A LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH OF THE LANDING SHALL NOT BE LESS THAN THE WIDTH OF THE STAIRWAYS SERVED. EVERY LANDING SHALL HAVE A MINIMUM WIDTH MEASURED PERPENDICULAR TO THE DIRECTION OF TRAVEL EQUAL TO THE WIDTH OF THE STAIRWAY. WHERE STAIRWAYS HAVE A STRAIGHT RUN THE WIDTH NEED NOT EXCEED 48 INCHES.

IBC 1011.7.2 OUTDOOR CONDITIONS: OUTDOOR STAIRWAYS AND OUTDOOR APPROACHES TO STAIRWAYS SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON THE WALKING SURFACES.

IBC 1011.7.3 ENCLOSURES UNDER STAIRWAYS. THE WALLS AND SOFFITS WITHIN ENCLOSED USABLE SPACES UNDER ENCLOSED AND UNENCLOSED STAIRWAYS SHALL BE PROTECTED BY 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION. ACCESS TO THE ENCLOSED SPACE SHALL NOT BE DIRECTLY FROM WITHIN THE STAIRWAY ENCLOSURE.

IBC 1011.11 HANDRAILS: STAIRWAYS SHALL HAVE HANDRAILS ON EACH SIDE AND SHALL COMPLY WITH SECTION 1014.
IBC 1011.13 GUARDS SHALL BE PROVIDED ALONG STAIRWAYS AND LANDINGS WHERE REQUIRED BY SECTION 1015.

IBC 1012.2 RAMP SLOPE SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN ONE UNIT VERTICAL IN 12 UNITS HORIZONTAL.

IBC 1012.3 CROSS SLOPE THE SLOPE MEASURED PERPENDICULAR TO THE DIRECTION OF TRAVEL OF A RAMP SHALL NOT BE STEEPER THAN ONE UNIT VERTICAL IN 48 UNITS HORIZONTAL. PROVISION APPLIES TO THE EXTERIOR ENTRANCE RAMP.

IBC 1012.4 THE VERTICAL RISE FOR ANY RAMP SHALL BE 30 INCHES MAXIMUM.

IBC 1012.5.1 THE MINIMUM WIDTH OF ANY RAMP SHALL BE 36" MINIMUM CLEAR BETWEEN HANDRAILS.

IBC 1012.6 RAMPS SHALL HAVE LANDINGS AT THE TOP AND BOTTOM OF EACH RAMP.

IBC 1012.6.1 RAMP LANDINGS SHALL HAVE A SLOPE NOT GREATER THAN ONE UNIT VERTICAL IN 48 UNITS HORIZONTAL.

IBC 1012.6.2 RAMP LANDING WIDTH SHALL NOT BE LESS THAN THE WIDEST RAMP RUN.

IBC 1012.6.3 RAMP LANDING LENGTH SHALL BE 60 INCHES MINIMUM.

IBC 10.12.6.4 WHERE CHANGES IN DIRECTION OF TRAVEL OCCUR AT LANDINGS PROVIDED BETWEEN RAMP RUNS, THE LANDING SHALL BE 60 INCHES BY 60 INCHES.

IBC 1012.7.1 RAMP SURFACE: THE SURFACE OF RAMPS SHALL BE OF SLIP-RESISTANT MATERIALS THAT ARE SECURELY ATTACHED.

IBC 1012.7.2 OUTDOOR RAMPS AND APPROACHES TO RAMPS SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

IBC 1012.8 RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL HAVE HANDRAILS ON BOTH SIDES.

IBC 1012.9 GUARDS: GUARDS SHALL BE PROVIDED WHERE REQUIRED BY SECTION 1015 AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 1015.

IBC 1012.10 EDGE PROTECTION SHALL BE PROVIDED ON EACH SIDE OF RAMP RUNS.

IBC 1013.1 EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL.

EXCEPTION 1: EXIT SIGNS ARE NOT REQUIRED IN ROOMS OR AREAS THAT REQUIRE ONLY ONE EXIT OR EXIT ACCESS.

EXCEPTION 2: MAIN EXTERIOR EXIT DOORS THAT ARE OBVIOUSLY AND CLEARLY IDENTIFIABLE AS EXITS NEED NOT HAVE EXIT SIGNS WHERE APPROVED BY THE BUILDING OFFICIAL.

IBC 1014.2 HANDRAIL HEIGHT. HANDRAIL HEIGHT MEASURED ABOVE STAIR TREAD NOSINGS OR FINISH SURFACE OF A RAMP SHALL BE UNIFORM, NOT LESS THAN 34 INCHES AND NOT MORE THAN 38 INCHES.

IBC 1014.4 CONTINUITY: HANDRAIL GRIPPING SURFACES SHALL BE CONTINUOUS, WITHOUT INTERRUPTION BY NEWEL POSTS OR OTHER OBSTRUCTIONS.

IBC 1014.6 HANDRAIL EXTENSIONS: HANDRAILS SHALL RETURN TO A WALL, GUARD, OR THE WALKING SURFACE. HANDRAILS SHALL EXTEND HORIZONTALLY NOT LESS THAN 12 INCHES BEYOND THE TOP RISER AND CONTINUE TO SLOPE FOR THE DEPTH OF ONE TREAD BEYOND THE BOTTOM RISER. AT RAMPS HANDRAILS SHALL EXTEND HORIZONTALLY ABOVE THE LANDING 12 INCHES MINIMUM BEYOND THE TOP AND BOTTOM OF RAMP RUNS.

NFPA 101 7.2.2.4.5.5. NEW HANDRAILS SHALL BE INSTALLED TO PROVIDE A CLEARANCE OF NOT LESS THAN 2 1/4 INCHES BETWEEN THE HANDRAIL AND THE WALL TO WHICH IT IS FASTENED.

IBC 1015.2 GUARDS SHALL BE LOCATED ALONG OPEN-SIDED WALKING SURFACES...THAT ARE LOCATED MORE THAN 30 INCHES MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY TO THE EDGE OF THE OPEN SIDE.

IBC 1015.3 HEIGHT REQUIRED GUARDS SHALL BE NOT LESS THAN 42 INCHES HIGH.

IBC 1015.4 OPENING LIMITATIONS: REQUIRED GUARS SHALL NOT HAVE OPENINGS THAT ALLOW PASSAGE OF A SPHERE 4 INCHES IN DIAMETER.

IBC1016.2.2 & 1016.2.5 EGRESS FROM A ROOM OR SPACE SHALL NOT PASS THROUGH ADJOINING OR INTERVENING ROOMS OR AREAS, EXCEPT WHERE SUCH ADJOINING ROOMS OR AREAS AND THE AREA SERVED ARE ACCESSORY TO ONE OR THE OTHER, AND PROVIDE A DISCERNIBLE PATH OF EGRESS TRAVEL TO AN EXIT. EGRESS SHALL NOT PASS THROUGH KITCHENS, STORAGE ROOMS, CLOSETS, OR SPACES USED FOR SIMILAR PURPOSES.

IBC TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE:

OCCUPANCY	MAXIMUM EGRESS TRAVEL DISTANCE W SPRINKLER
A	250 FEET

IBC 1019.2 EXIT ACCESS STAIRWAYS AND RAMPS THAT SERVE FLOOR LEVELS WITHIN A SINGLE STORY ARE NOT REQUIRED TO BE ENCLOSED.

IBC 1019.3 FLOOR OPENINGS CONTAINING EXIT ACCESS STAIRWAYS SHALL BE ENCLOSED WITH A SHAFT ENCLOSURE CONSTRUCTED IN ACCORDANCE WITH SECTION 713.

IBC TABLE 1020.1 CORRIDOR SHALL BE FIRE-RESISTANCE RATING
CORRIDORS IN A, OCCUPANCIES EQUIPPED WITH A SPRINKLER SYSTEM ARE **NOT** REQUIRED TO BE RATED.

IBC TABLE 1020.2 CORRIDOR WIDTH WITH AN OCCUPANT LOAD LESS THAN 50 SHALL BE A MINIMUM OF 36 INCHES.

IBC 1027.3 EXTERIOR EXIT STAIRWAYS SHALL BE OPEN ON NOT LESS THAN ONE SIDE.

IBC 1027.5 EXTERIOR EXIT STAIRWAYS SHALL HAVE A MINIMUM FIRE SEPARATION DISTANCE OF 10 FEET MEASURED AT RIGHT ANGLES FROM THE EXTERIOR EDGE OF THE STAIRWAY INCLUDING LANDINGS TO ADJACENT LOT LINES, OR OTHER PORTIONS OF THE BUILDING.

IBC 1027.6 OPENINGS SHALL BE LIMITED TO THOSE NECESSARY FOR EGRESS FROM NORMALLY OCCUPIED SPACES. EXCEPTION 1 SEPARATION FROM THE INTERIOR OF THE BUILDING IS NOT REQUIRED IN BUILDINGS THAT ARE NOT MORE THAN TWO STORIES ABOVE THE GRADE PLANE WHERE A LEVEL OF EXIT DISCHARGE IS THE FIRST STORY ABOVE THE GRADE PLANE.

INTERIOR ENVIRONMENT

IBC 1202.2.1 VENTILATION REQUIRED: AN AIRSPACE OF NOT LESS THAN 1 INCH SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING. THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA VENTILATED.

IBC 1202.5.1 VENTILATION AREA REQUIRED: THE OPENABLE AREA OF THE OPENINGS TO THE OUTDOORS SHALL BE NOT LESS THAN 4 % OF THE FLOOR AREA VENTILATED.

IBC 1203.1 TEMPERATURE CONTROL EQUIPMENT AND SYSTEMS: INTERIOR SPACES INTENDED FOR HUMAN OCCUPANCY MUST BE PROVIDED WITH SPACE HEATING SYSTEMS CAPABLE OF MAINTAINING 68ºF 3 FEET ABOVE THE FLOOR ON THE DESIGN HEATING DAY.

IBC 1204.2 NATURAL LIGHT: THE MINIMUM NET GLAZED AREA SHALL BE NOT LESS THAN 8 % OF THE FLOOR AREA SERVED.

IBC 1208.2 ATTIC SPACES: AN OPENING NOT LESS THAN 20" X 30" SHALL B PROVIDED INTO ANY ATTIC HAVING A CLEAR AREA OF OVER 30". CLEAR HEADROOM OF NOT LESS THAN 30" SHALL BE PROVIDED AT OR ABOVE THE OPENING.

IBC 1209.2.1 & 1209.2.2 TOILET AND BATHROOM FINISH MATERIALS AT FLOORS, TO A HEIGHT OF 4 INCHES ON ALL WALLS, AND TO A HEIGHT OF 4 FEET WITHIN 2 FEET OF SERVICE SINKS, URINALS, AND WATER CLOSETS, SHALL HAVE A SMOOTH HARD NONABSORBENT SURFACE.

PLUMBING SYSTEMS

IBC 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

OCCUPANCY & SPACE	OCCUPANT LOAD	WATER CLOSETS	LAVATORIES	DRINKING FOUNTAIN	SERVICE SINK
A-2 RESTAURANT	139 MALE 139 FEMALE	1 PER 75 1.85 EA. REQ'D.	1 PER 200 .695 EA. REQ'D.	1PER 500 .546 REQ'D.	1
TOTAL REQUIRED	MALE	2 WC	1 LAVS	EXEMPT PER IPC 410.4	1
	FEMALE	2 WC	1 LAVS		
TOTAL PROVIDED	UNISEX	4 WC	2 LAVS	EXEMPT PER IPC 410.4	1

IBC 2902.2.1 ASSISTED-USE TOILET FACILITIES SERVING AS SEPARATE FACILITIES: WHERE A BUILDING REQUIRES A SEPARATE TOILET FACILITY FOR EACH SEX, AND EACH TOILET FACILITY IS REQUIRED TO HAVE ONLY ONE WATER CLOSET, TWO ASSISTED-USE TOILET FACILITIES SHALL BE PERMITTED TO SERVE AS THE REQUIRED SEPARATE FACILITIES. ASSISTED-USE FACILITIES SHALL NOT BE REQUIRED TO BE IDENTIFIED FOR EXCLUSIVE USE BY EITHER SEX AS REQUIRED BY 2902.4

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

IBC 2902.3.3 TOILET FACILITIES SHALL BE LOCATED WITHIN A TRAVEL DISTANCE OF 500 FEET.

IPC 410.4 WHERE RESTAURANTS PROVIDE DRINKING WATER IN A CONTAINER FREE OF CHARGE, DRINKING FOUNTAINS SHALL NOT BE REQUIRED IN THOSE RESTAURANTS.

IECC 2015 ENERGY CODE COMPLIANCE: PRESCRIPTIVE - SECTIONS C402-C406

TABLE C402.1.3

CLIMATE ZONE	4
ROOFS	
ATTIC & OTHER	R-38
WALLS, ABOVE GRADE	
WOOD FRAMED	R-13 + R-3.8 CI
SLAB-ON-GRADE FLOORS	
UNHEATED SLABS	R-10 FOR 24" BELOW
OPAQUE DOORS	
SWINGING	U-0.61

TABLE C402.4

CLIMATE ZONE	4
VERTICAL FENESTRATION	
U-FACTOR	
FIXED FENESTRATION	.38
OPERABLE FENESTRATION	.45
ENTRANCE DOORS	.77
SHGC	PROJECTION FACTOR < 0.2
SOUTH, EAST, OR WEST	.40
NORTH FACING	.53

IEBC 505 ALTERATION - LEVEL 3: IEBC 505.1 LEVEL 3 ALTERATIONS APPLY WHERE THE WORK AREA EXCEEDS 50% OF THE BUILDING AREA.

IEBC 905 MEANS OF EGRESS: 905.1 THE MEANS OF EGRESS SHALL COMPLY WITH THE REQUIRMENTS OF SECTION 805 EXCEPT AS SPECIFICALLY REQUIRED BY SECTIONS 905.2 & 905.3

IEBC 905.2 MEANS OF EGRESS LIGHTING SHALL BE PROVIDED PER THE IBC.

IEBC 905.3 EXIT SIGNAGE SHALL BE PROVIDED PER THE IBC.

IEBC 805 MEANS OF EGRESS: 805.2 EXCEPTIOIN 1. WHERE THE WORK AREA AND THE MEANS OF EGRESS SERVING IT COMPLIES WITH NFPA 101

NFPA 101 43.10.4.7.1 STAIRWAYS SHALL BE PERMITTED TO BE UNENCLOSED IN A HISTORIC BUILDING WHERE SUCH STAIRWAYS SERVE ONLY ONE ADJACENT FLOOR.

1

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APPROVED
Montgomery County
Historic Preservation Commission
Sandra I. Heiler

7286-A
JEFFREY A. PENZA
Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	10.29.2020	PERMIT COMMENTS

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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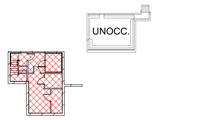
DRAWN: RB
PROJECT 20003
CHECKED: Jeff Penza, AIA
CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

CODE REVIEW

G1.2

DocuSign Envelope ID: A4A848AE-807A-4B4C-BAB6-A44924E665BB

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

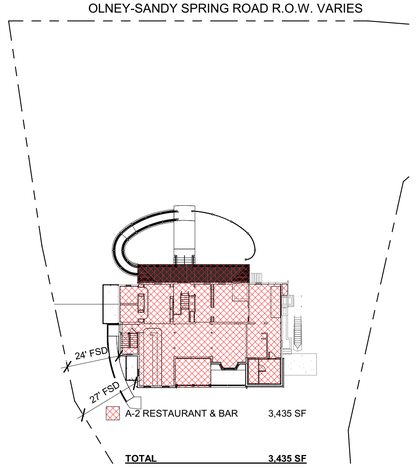


A-2 RESTAURANT & BAR 515 SF

TOTAL 515 SF

1 OCCUPANCY & AREA PLAN-BASEMENT
1/32" = 1'-0"

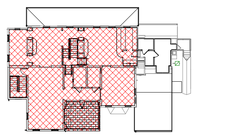
OLNEY-SANDY SPRING ROAD R.O.W. VARIES



A-2 RESTAURANT & BAR 3,435 SF

TOTAL 3,435 SF

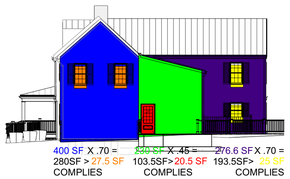
2 OCCUPANCY & AREA PLAN - 1ST FLOOR
1/32" = 1'-0"



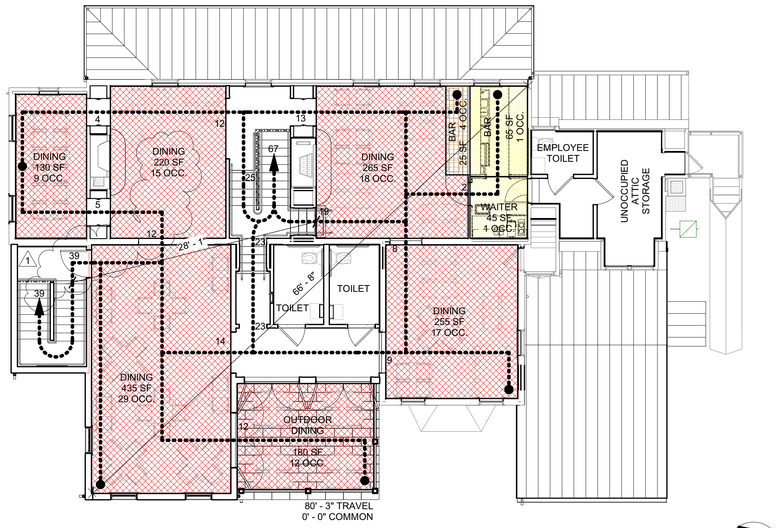
A-2 RESTAURANT & BAR 2,290 SF

TOTAL 2,290 SF

3 OCCUPANCY & AREA PLAN - 2ND FLOOR
1/32" = 1'-0"



4 EXT WALL OPENING AREA - WEST
1/16" = 1'-0"



ASSEMBLY CHAIRS ONLY 7 NET

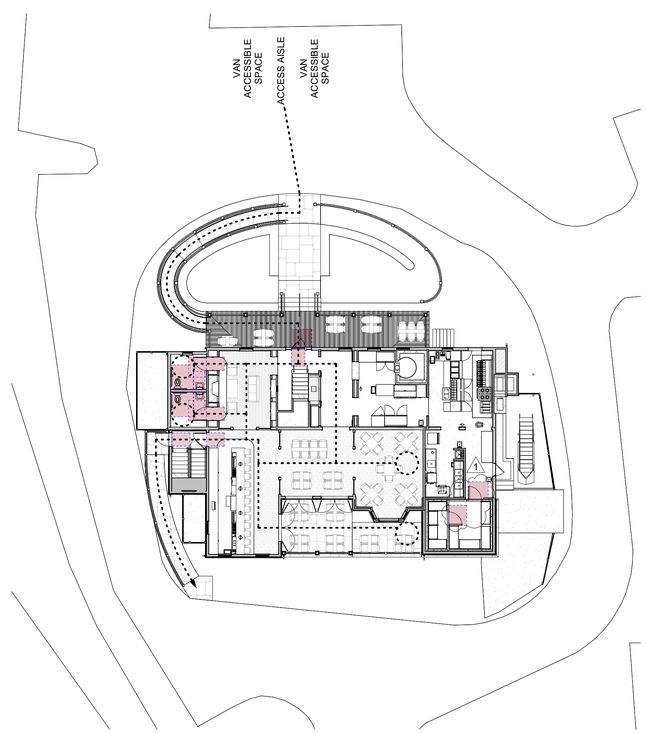
ASSEMBLY TABLES & CHAIRS 15 NET

COMMERCIAL KITCHEN 200 GROSS

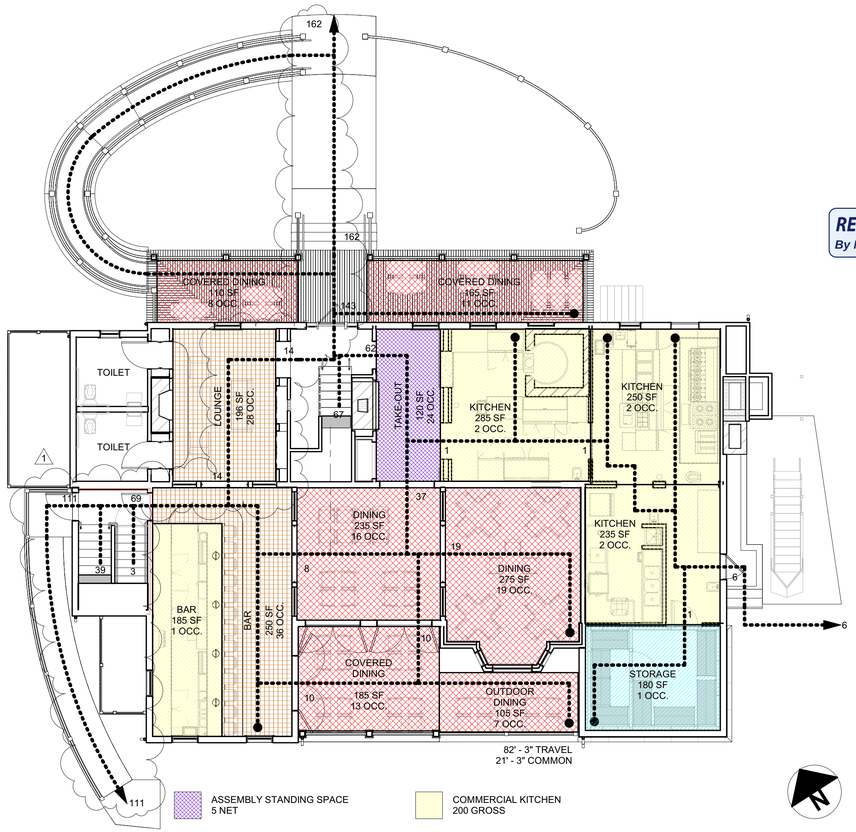
IEBC 805 MEANS OF EGRESS: 805.2 EXCEPTIOIN 1. WHERE THE WORK AREA AND THE MEANS OF EGRESS SERVING IT COMPLIES WITH NFPA 101

NFPA 101 43.10.4.7.1 STAIRWAYS SHALL BE PERMITTED TO BE UNENCLOSED IN A HISTORIC BUILDING WHERE SUCH STAIRWAYS SERVE ONLY ONE ADJACENT FLOOR.

5 USE & EXIT PLAN - 2ND FLOOR
1/8" = 1'-0"



8 ACCESSIBLE ROUTE PLAN
1/16" = 1'-0"



ASSEMBLY STANDING SPACE 5 NET

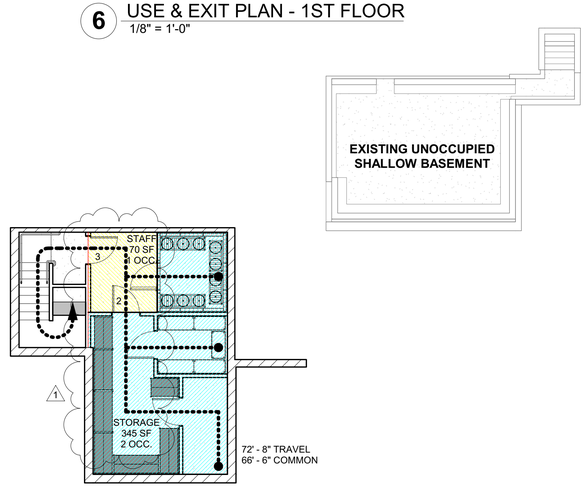
ASSEMBLY CHAIRS ONLY 7 NET

ASSEMBLY TABLES & CHAIRS 15 NET

COMMERCIAL KITCHEN 200 GROSS

STORAGE AREAS 300 GROSS

6 USE & EXIT PLAN - 1ST FLOOR
1/8" = 1'-0"



STORAGE AREAS 300 GROSS

COMMERCIAL KITCHEN 200 GROSS

7 USE & EXIT PLAN - BASEMENT
1/8" = 1'-0"

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REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

ARCHITECTURAL REGISTRATION BOARD 7286-A STATE OF MARYLAND

Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

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DRAWN: RB | PROJECT 20003
CHECKED: Jeff Penza, AIA
CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

CODE PLANS

G1.3

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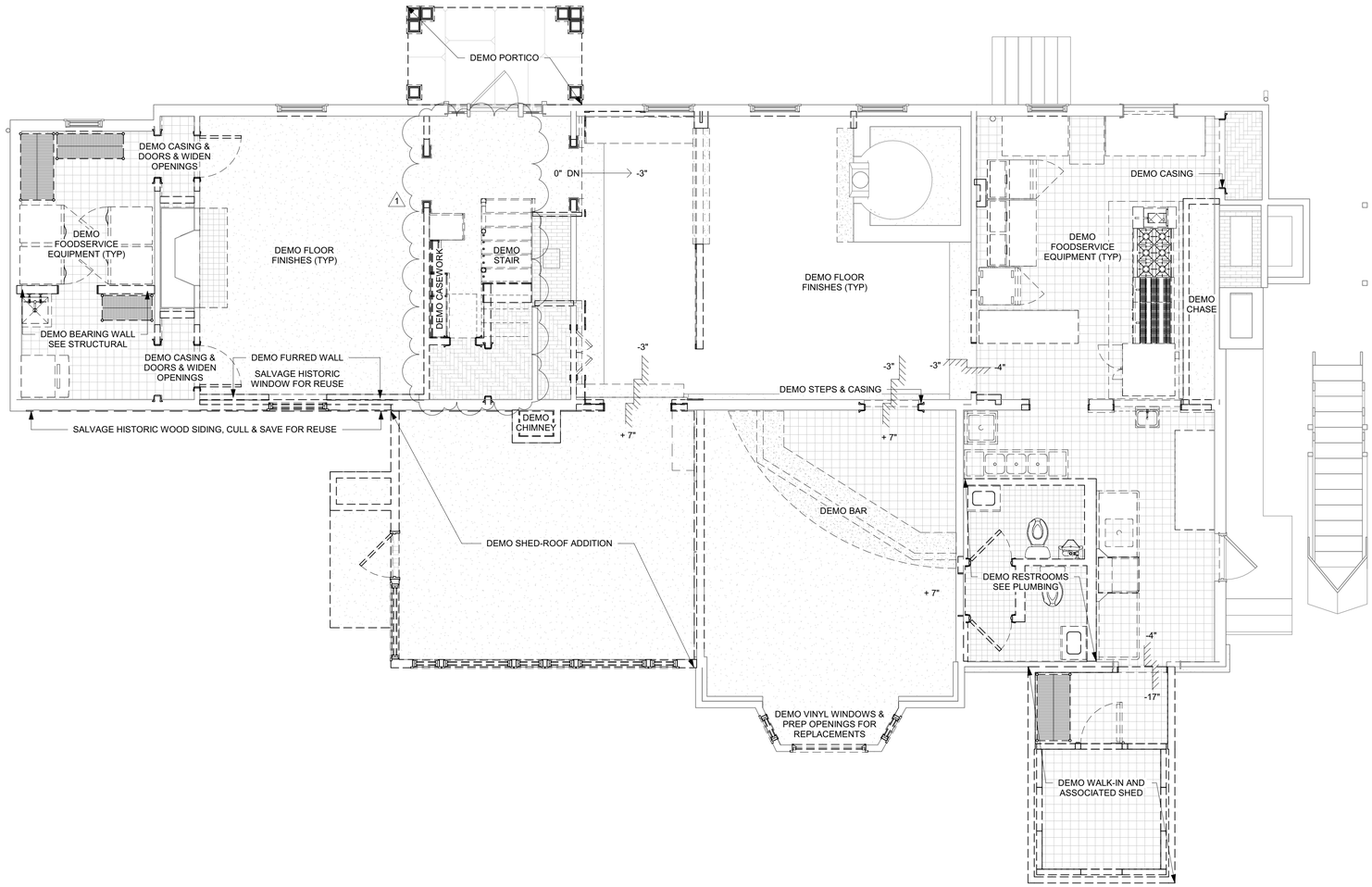
Date 01/14/21



1 DEMO PLAN - FIRST FLOOR
1/4" = 1'-0"

0' 4' 8' 16' 32'

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Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

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DEMO PLAN - FIRST FLOOR

D1.1

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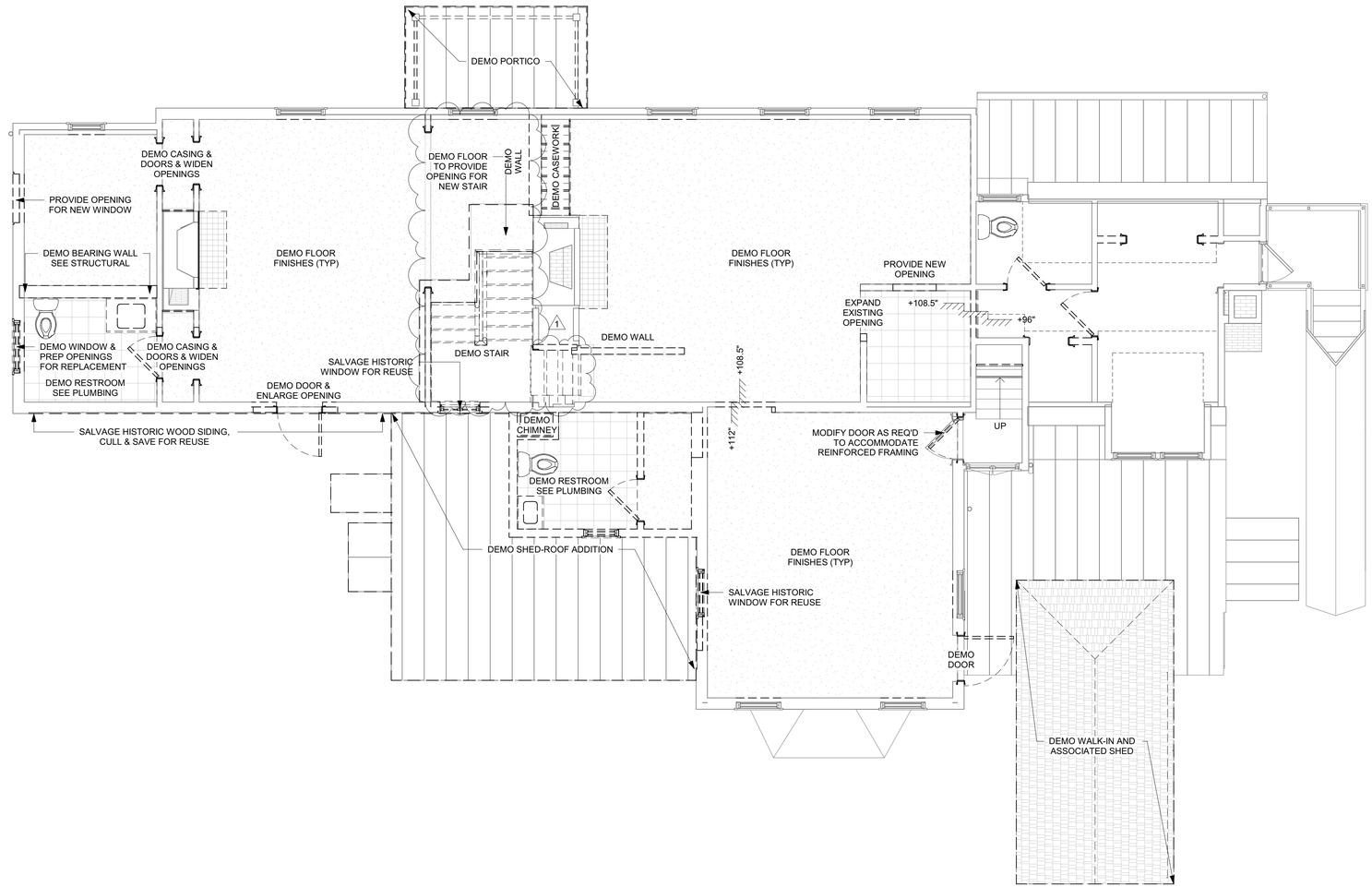

1 DEMO PLAN - SECOND FLOOR
1/4" = 1'-0"

0' 4' 8' 16' 32'

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DEMO PLAN - SECOND FLOOR

D1.2

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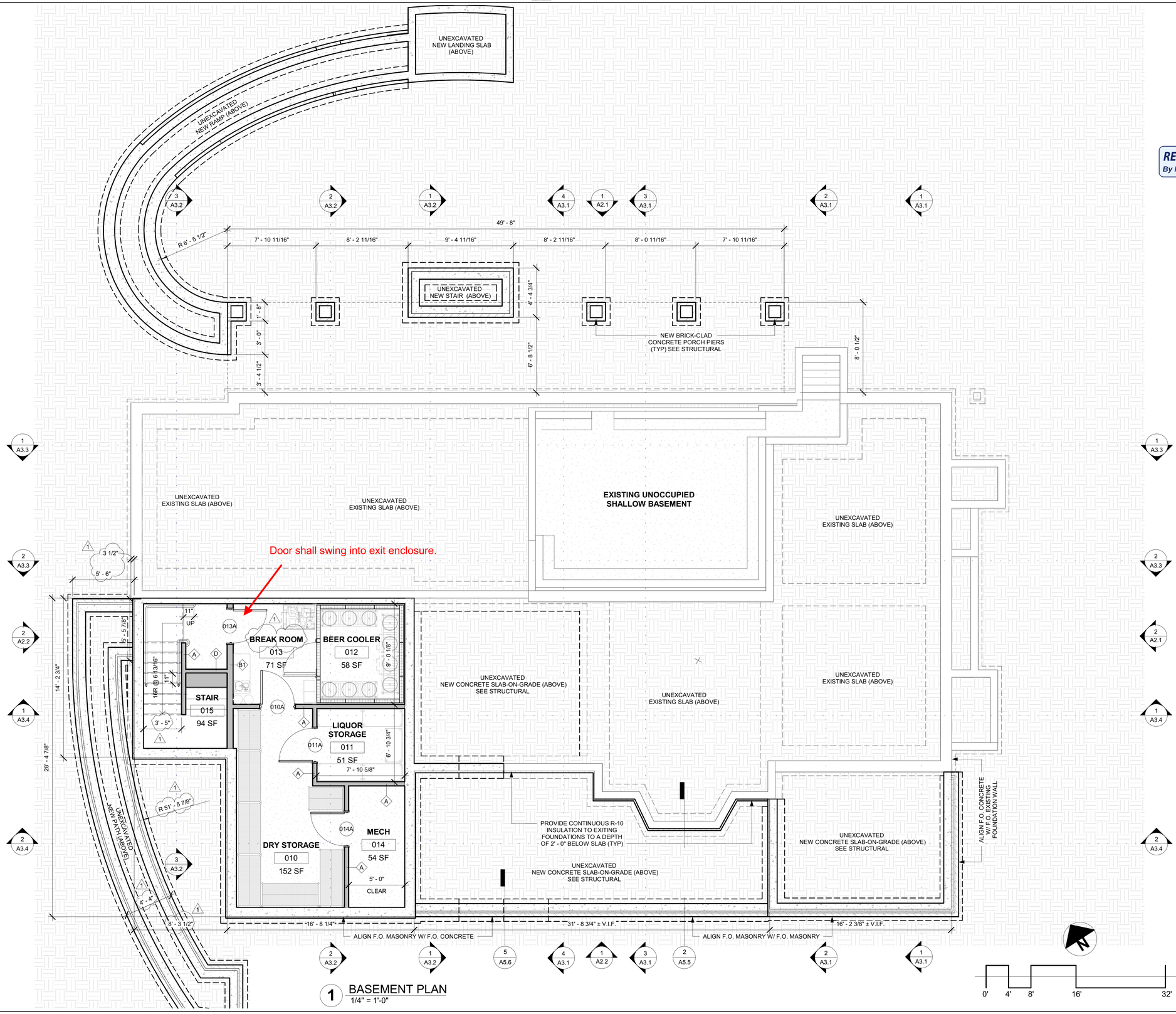

1 BASEMENT PLAN
1/4" = 1'-0"

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BASEMENT PLAN

A0.1

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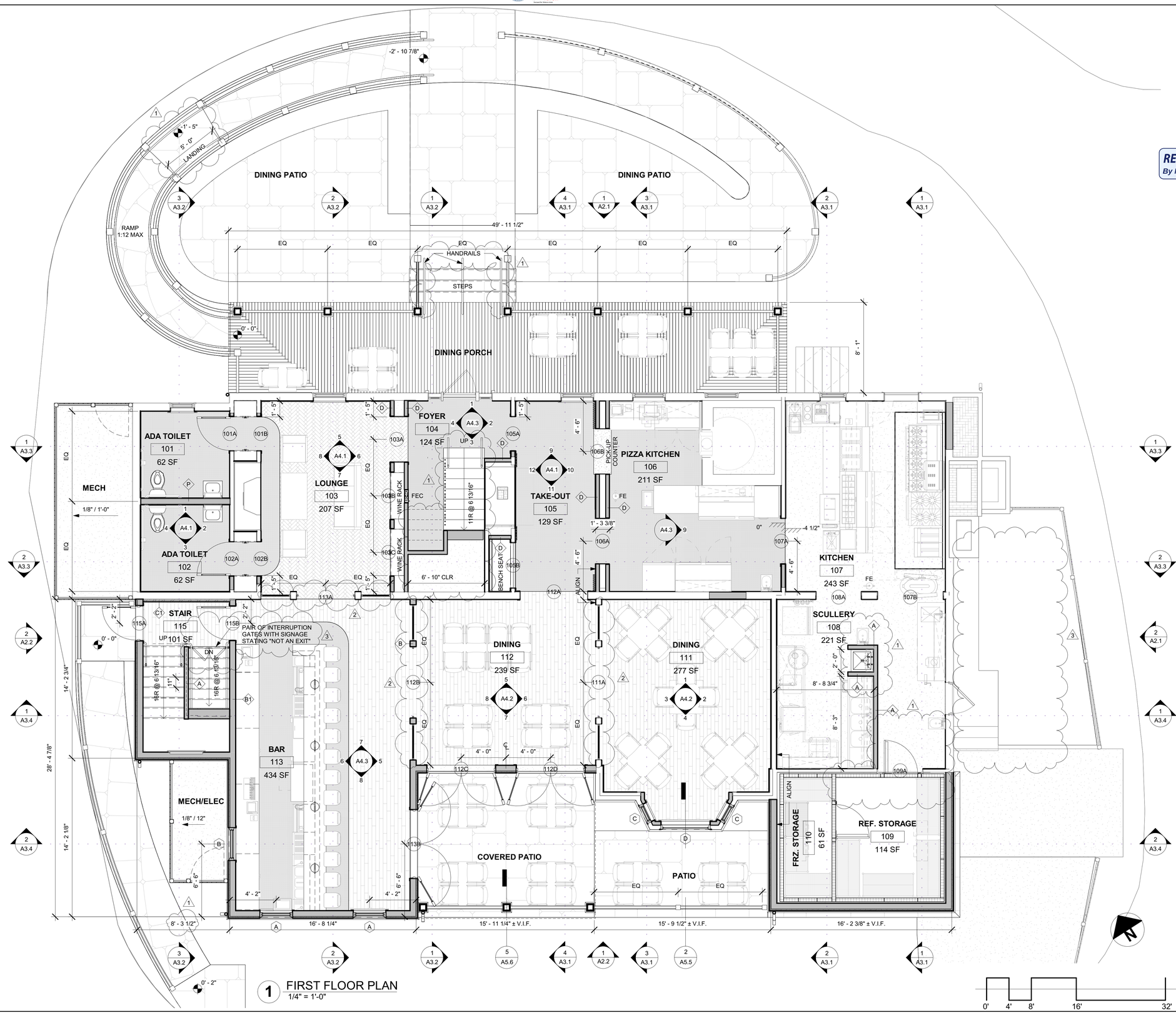

1 FIRST FLOOR PLAN
1/4" = 1'-0"

0' 4' 8' 16' 32'

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FIRST FLOOR PLAN

A1.1

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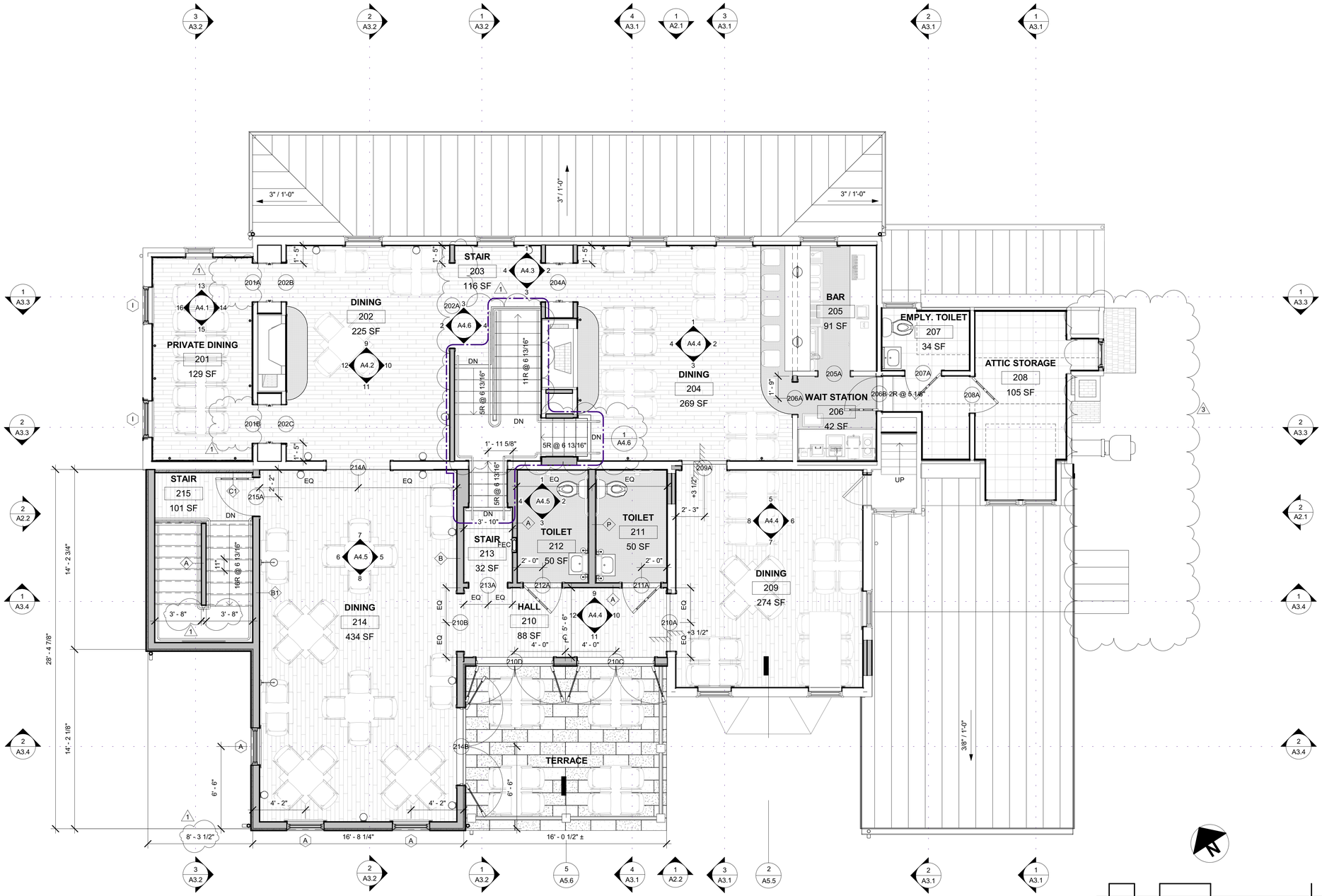

1 SECOND FLOOR PLAN
1/4" = 1'-0"

0' 4' 8' 16' 32'

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SECOND FLOOR PLAN

A1.2

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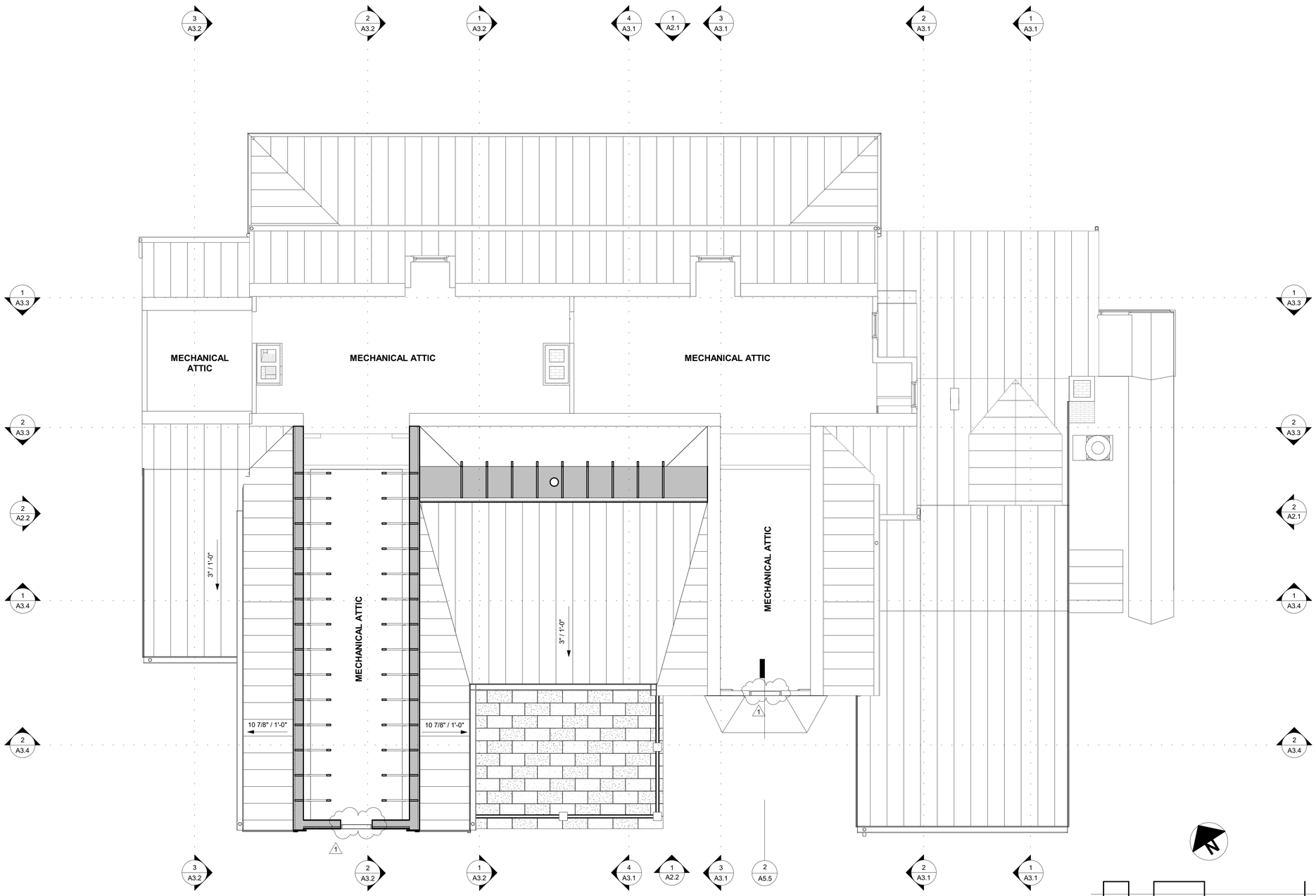

1 ATTIC PLAN
1/4" = 1'-0"

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ATTIC FLOOR PLAN

A1.3

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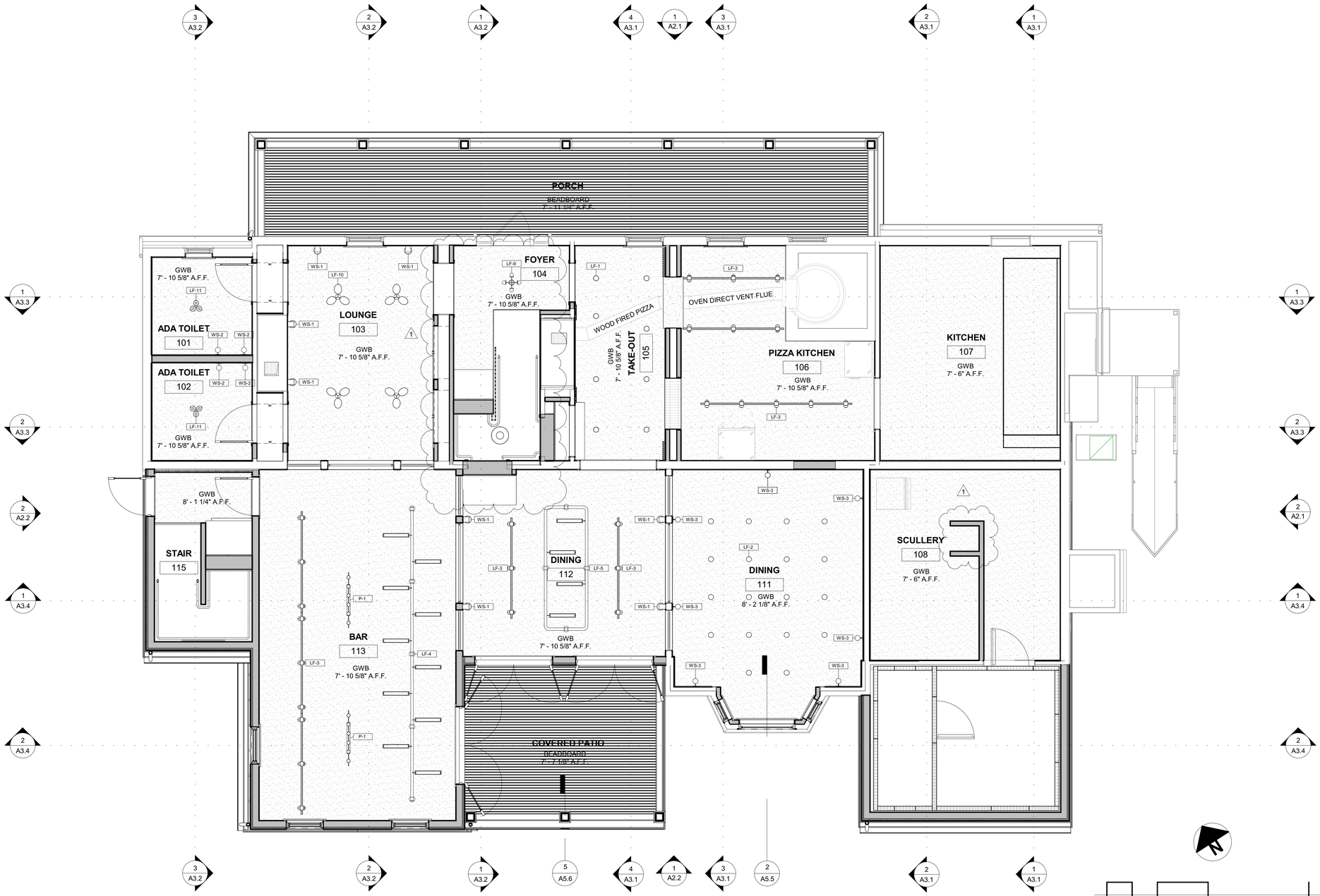

1 FIRST FLOOR - RCP
1/4" = 1'-0"

0' 4' 8' 16' 32'

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R.C.P. FIRST FLOOR

A1.4

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1 SECOND FLOOR - RCP
1/4" = 1'-0"

0' 4' 8' 16' 32'

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R.C.P. SECOND FLOOR

A1.5

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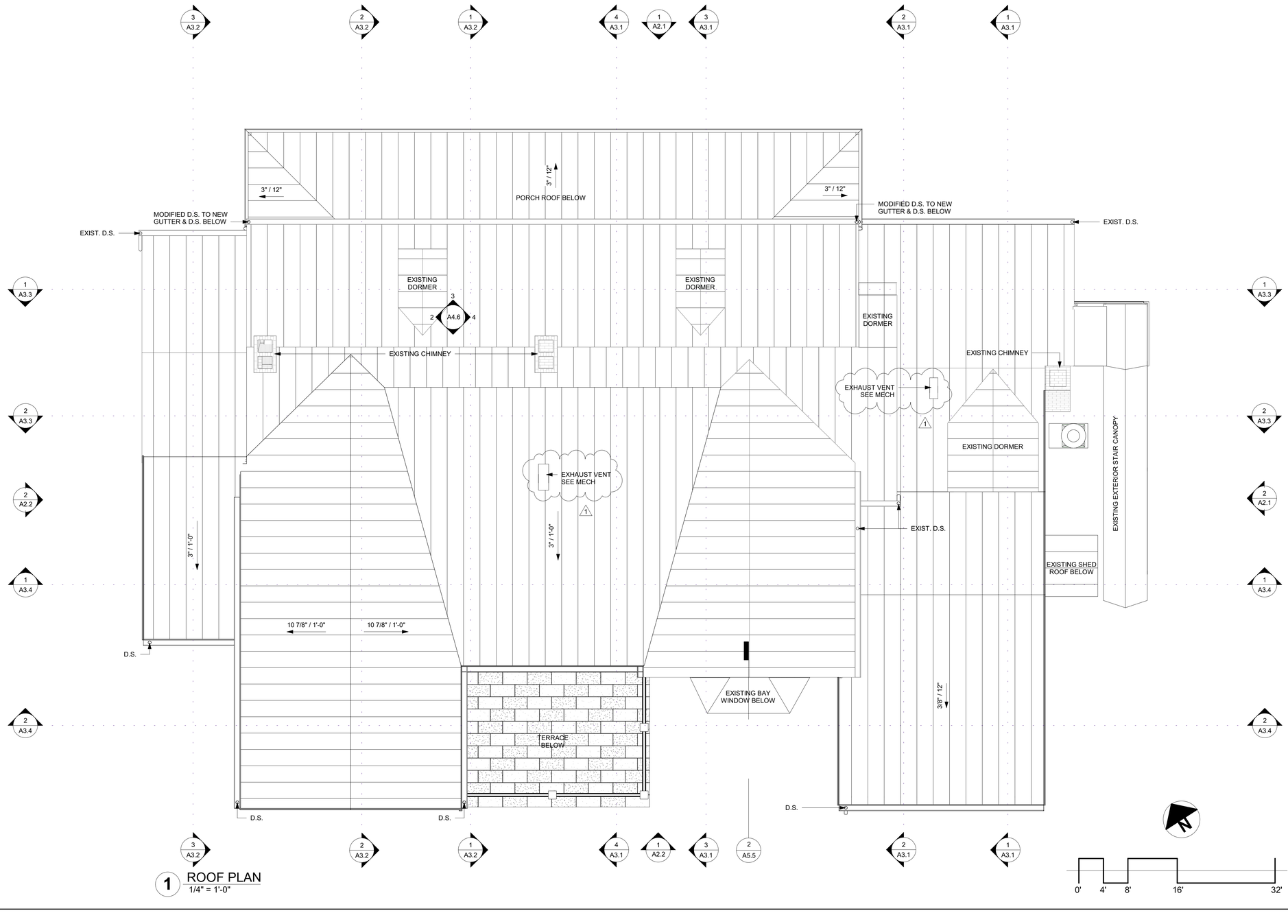

1 ROOF PLAN
1/4" = 1'-0"

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ROOF PLAN

A1.6

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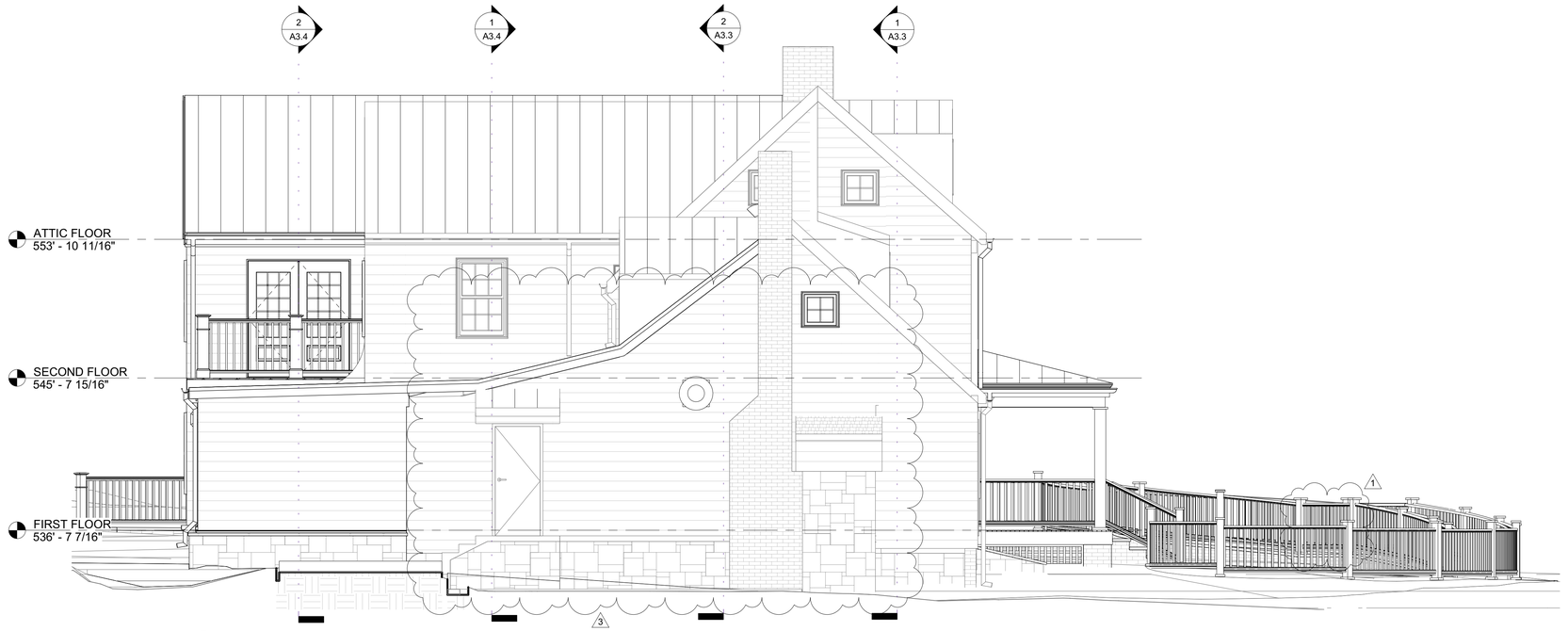
1 NORTH (FRONT) ELEVATION
1/4" = 1'-0"



2 EAST ELEVATION
1/4" = 1'-0"

0' 4' 8' 16' 32'

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ELEVATIONS

A2.1

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1 SOUTH (REAR) ELEVATION
1/4" = 1'-0"

2 WEST ELEVATION
1/4" = 1'-0"

0' 4' 8' 16' 32'

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ELEVATIONS

A2.2

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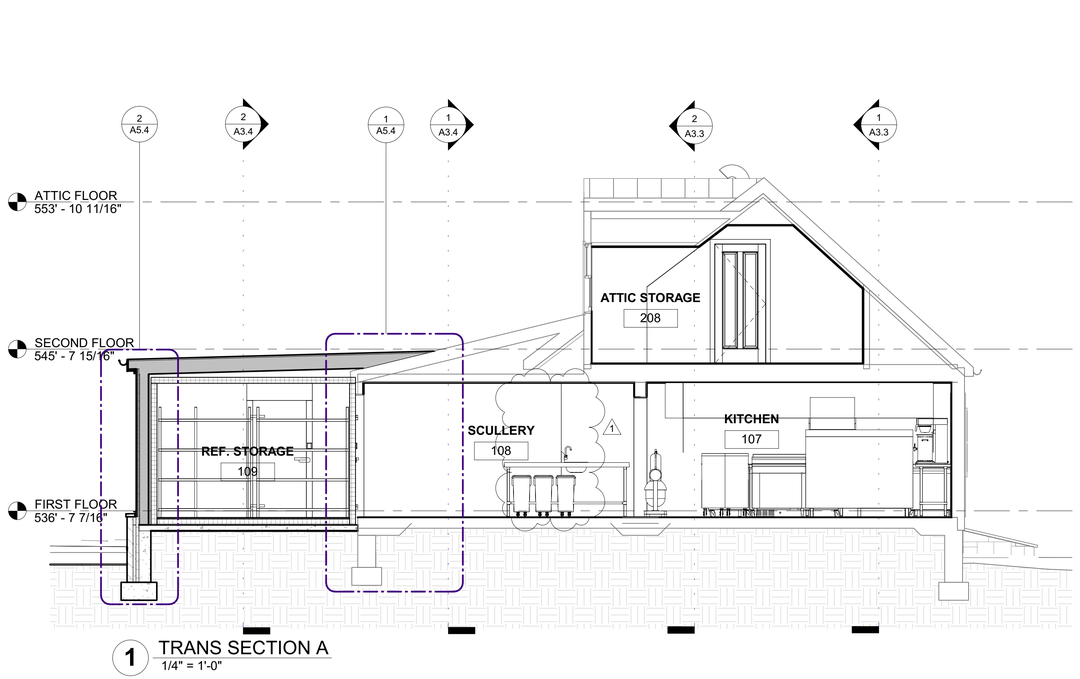
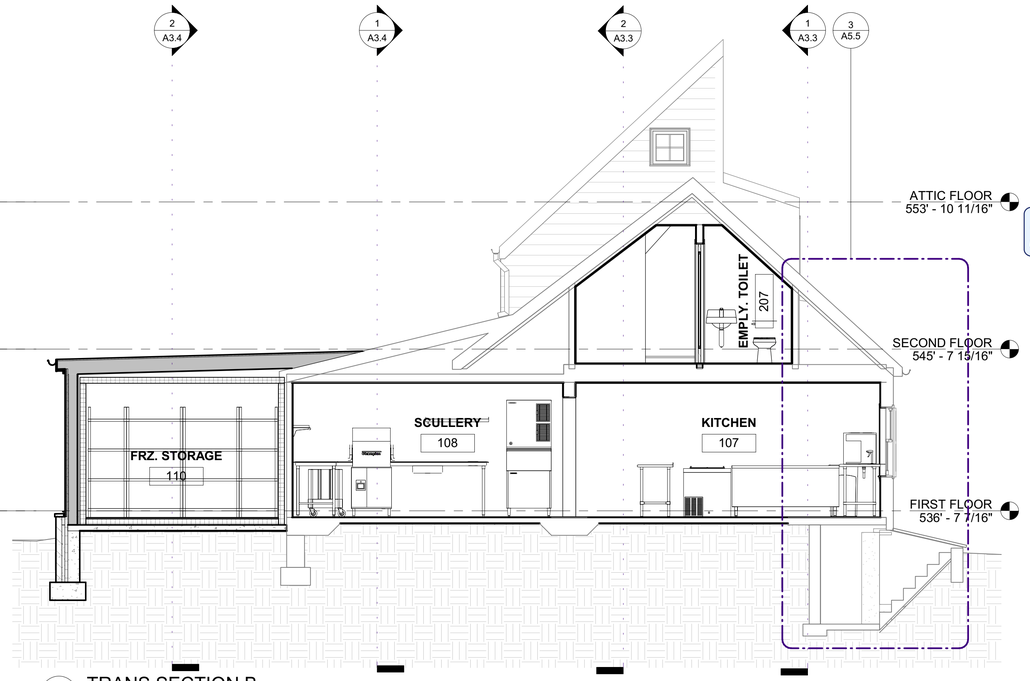
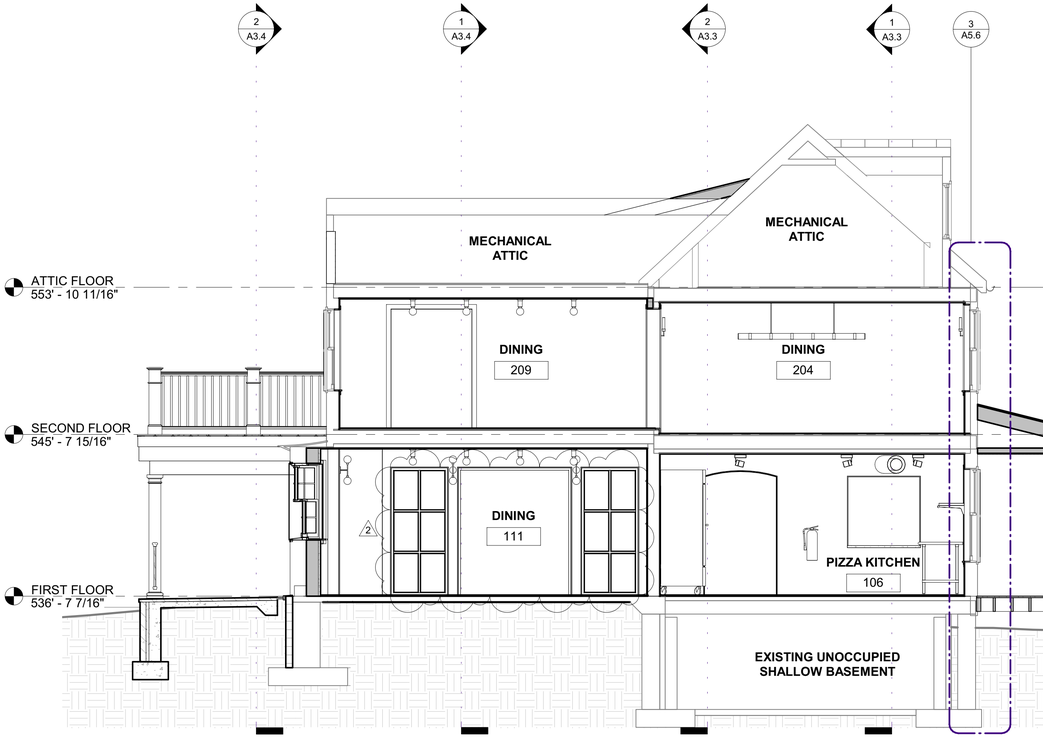


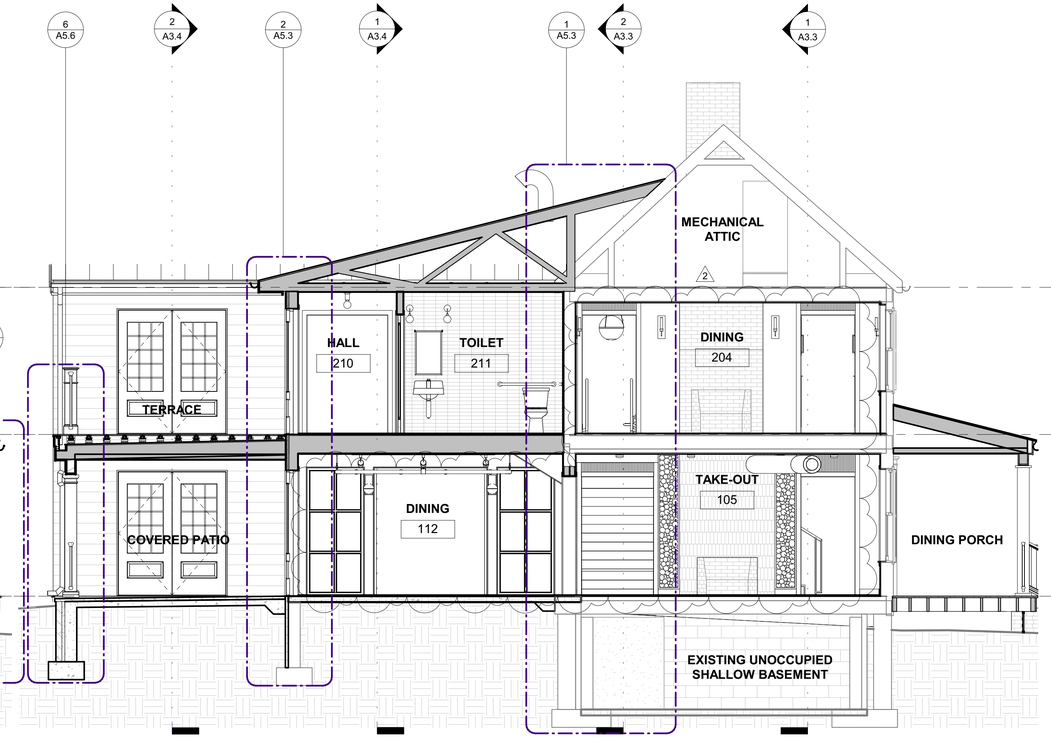
1 TRANS SECTION A
1/4" = 1'-0"



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



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



4 TRANS SECTION D
1/4" = 1'-0"

0' 4' 8' 16' 32'

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TRANSVERSE SECTIONS

A3.1

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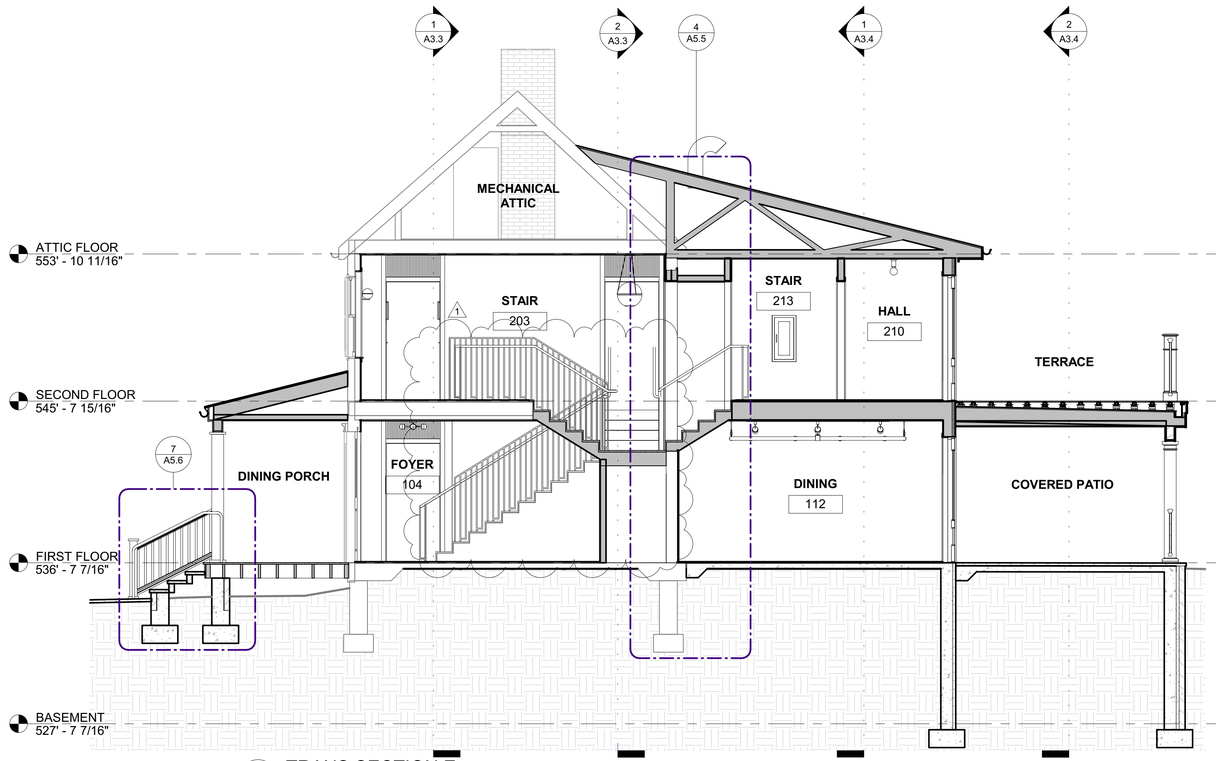
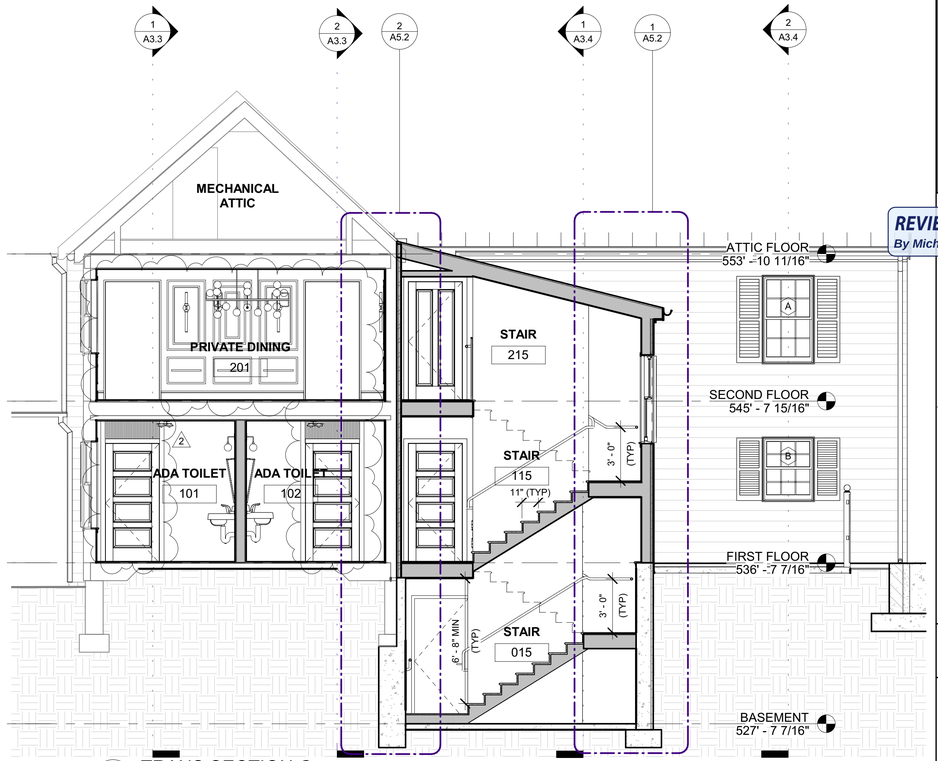
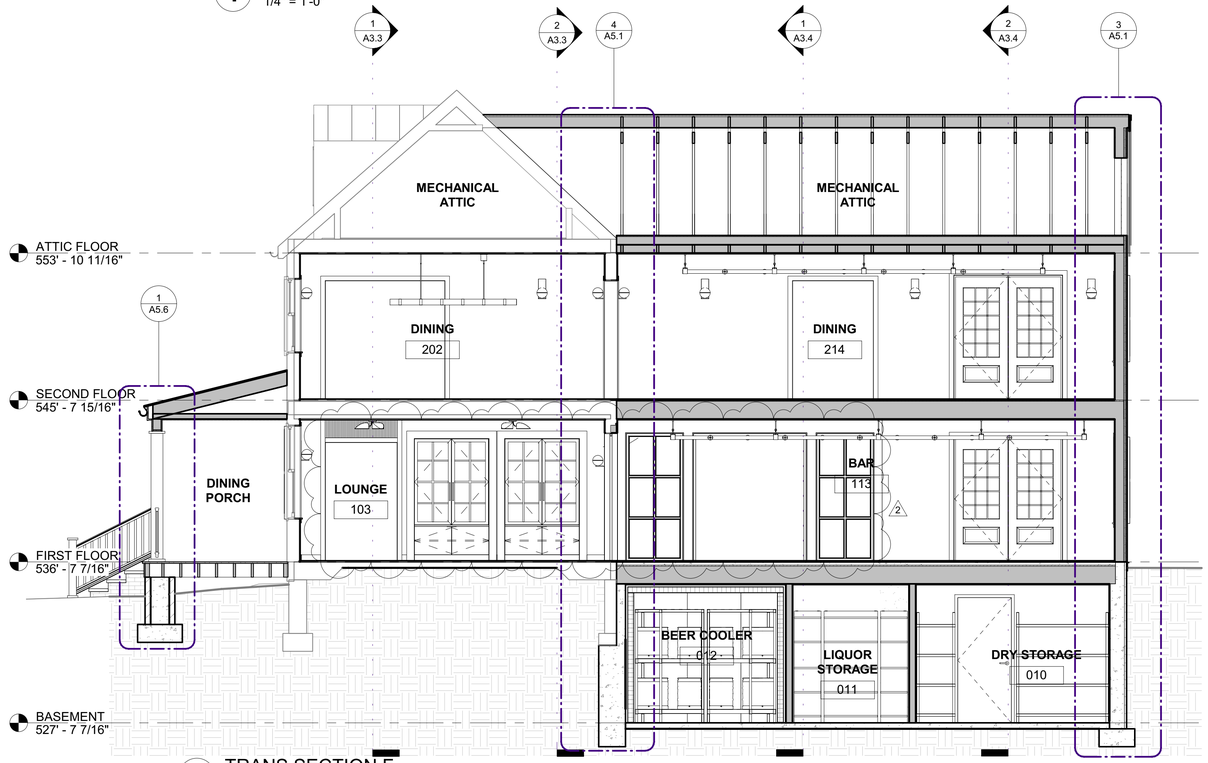


1 TRANS SECTION E
1/4" = 1'-0"



3 TRANS SECTION G
1/4" = 1'-0"



2 TRANS SECTION F
1/4" = 1'-0"

0' 4' 8' 16' 32'

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T 410-435-6677 | F 410-435-6868
www.PenzaBailey.com

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

ARCHITECTURAL REGISTRATION BOARD 7286-A STATE OF MARYLAND

Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	10.29.2020	PERMIT COMMENTS
2	10.30.2020	INTERIOR DESIGN

ISSUED FOR:
- ☐ REVIEW
- ☐ SD SET
- ☐ BID
- ☐ DD SET
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- ☐ CD SET

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CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

TRANSVERSE SECTIONS

A3.2

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Permit # COMBUILD-921463
Date 01/14/21

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

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

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LONGITUDINAL SECTIONS

A3.3

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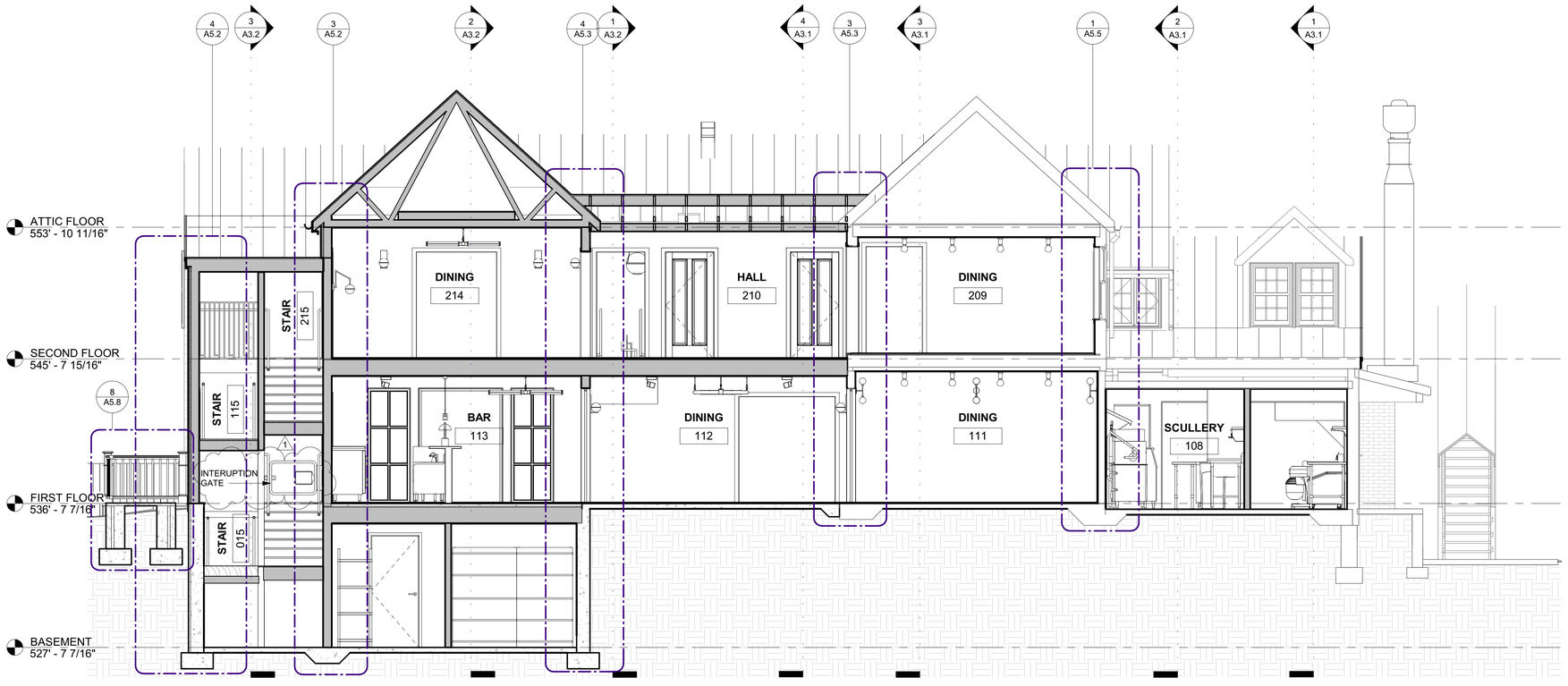
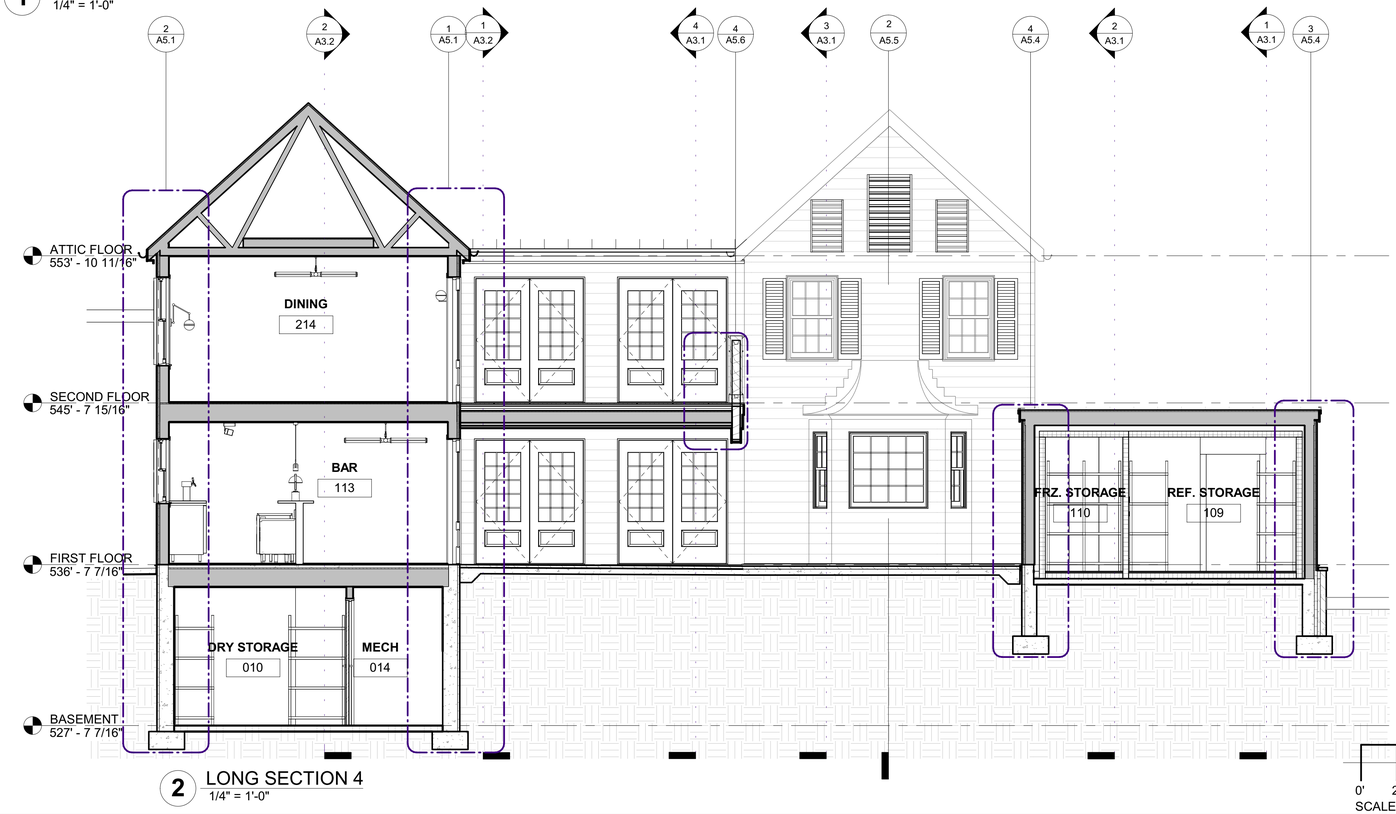


1 LONG SECTION 3
1/4" = 1'-0"



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

0' 2' 4' 8' 16'
SCALE 1/4" = 1'-0"

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LONGITUDINAL SECTIONS

A3.4

DocuSign Envelope ID: A4A848AE-807A-4B4C-BAB6-A44924E665BB

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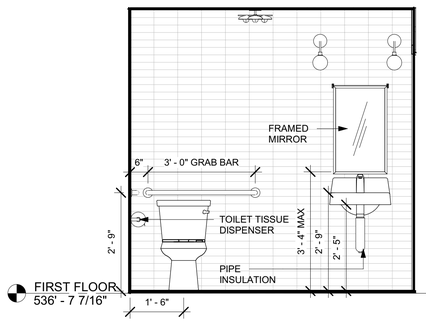
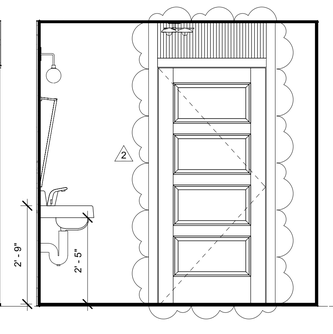


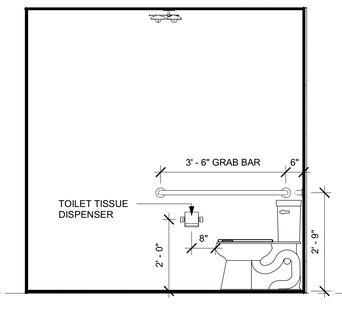
FIRST FLOOR
536' - 7 7/16"

1 ADA TOILET 101/102 P-WALL
1/2" = 1'-0"

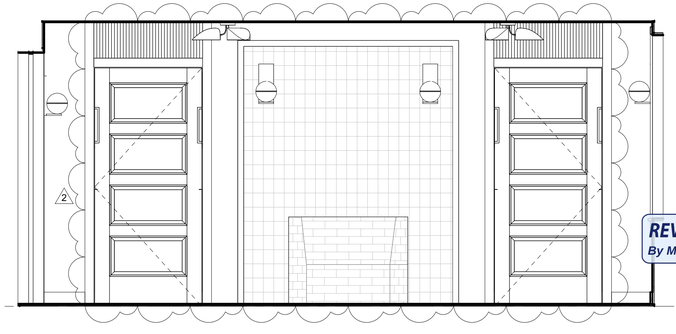


2 ADA TOILET 101/102 EAST
1/2" = 1'-0"

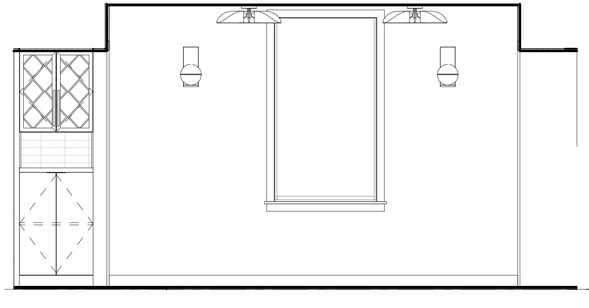
3 ADA TOILET O-WALL
1/2" = 1'-0"



4 ADA TOILET 101/102 WEST
1/2" = 1'-0"

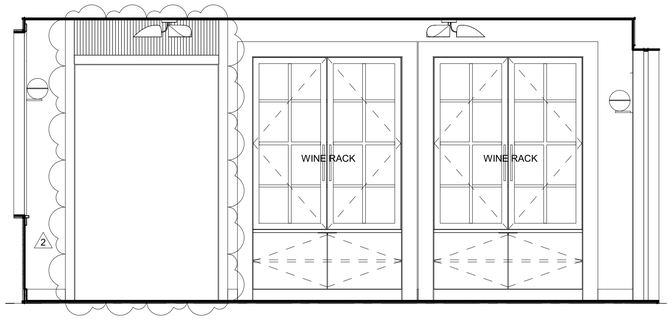


8 LOUNGE 103 WEST
1/2" = 1'-0"

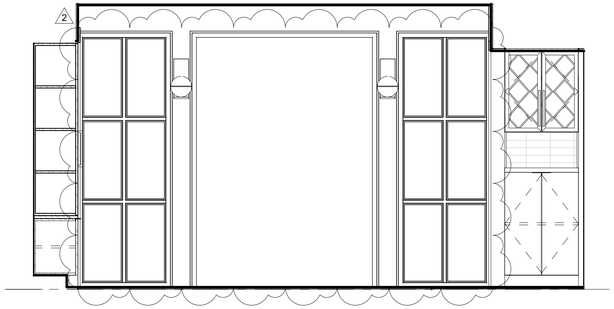


FIRST FLOOR
536' - 7 7/16"

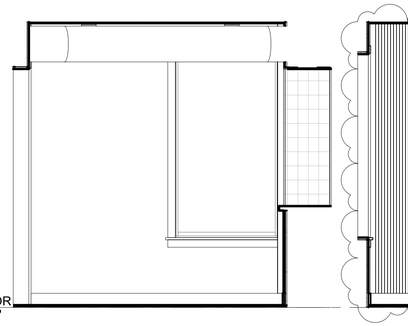
5 LOUNGE 103 NORTH
1/2" = 1'-0"

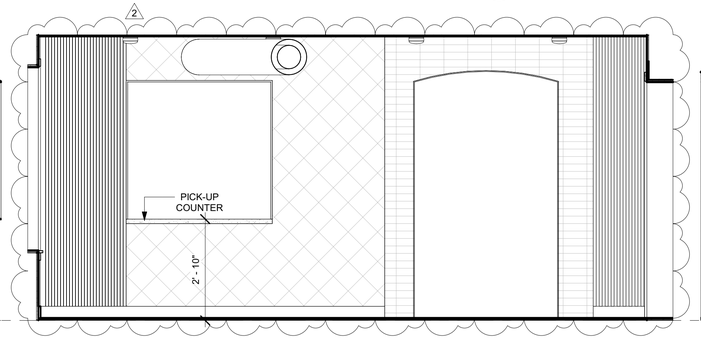


6 LOUNGE 103 EAST
1/2" = 1'-0"



7 LOUNGE 103 SOUTH
1/2" = 1'-0"

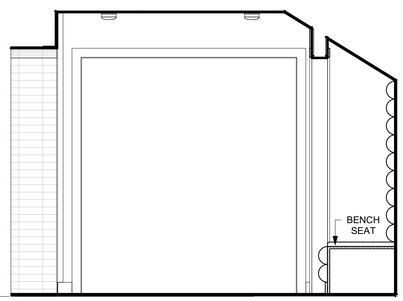




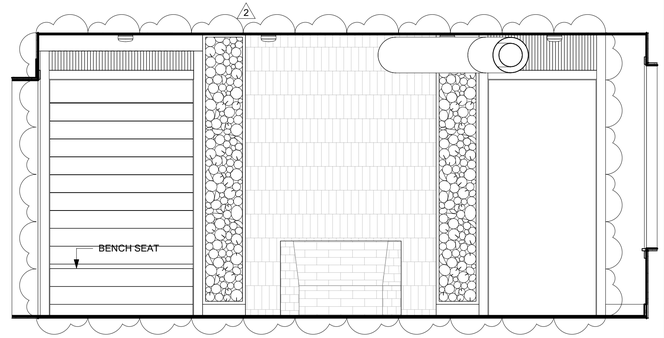
FIRST FLOOR
536' - 7 7/16"

9 TAKE-OUT 105 NORTH
1/2" = 1'-0"

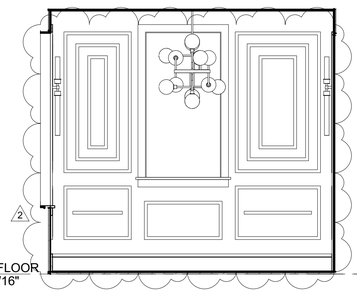
10 TAKE-OUT 105 EAST
1/2" = 1'-0"



11 TAKE-OUT 105 SOUTH
1/2" = 1'-0"

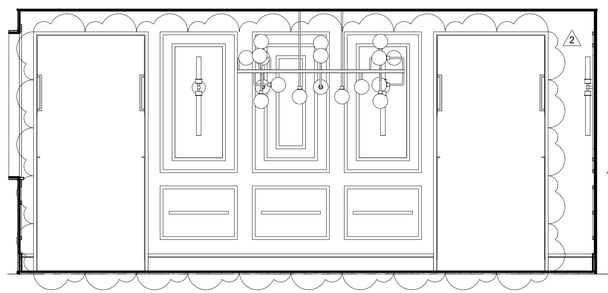


12 TAKE-OUT 105 WEST
1/2" = 1'-0"

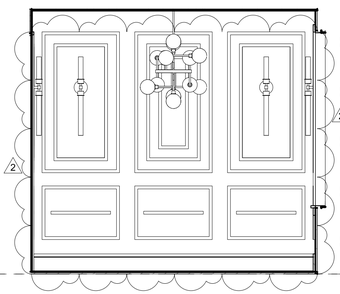


SECOND FLOOR
545' - 7 15/16"

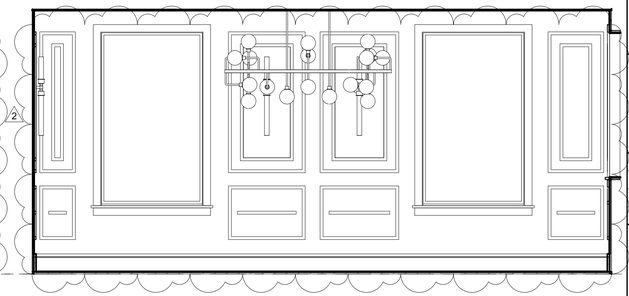
13 DINING 201 NORTH
1/2" = 1'-0"



14 DINING 201 EAST
1/2" = 1'-0"



15 DINING 201 SOUTH
1/2" = 1'-0"



16 DINING 201 WEST
1/2" = 1'-0"

0' 1' 2' 4' 6'

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INTERIOR ELEVATIONS

A4.1

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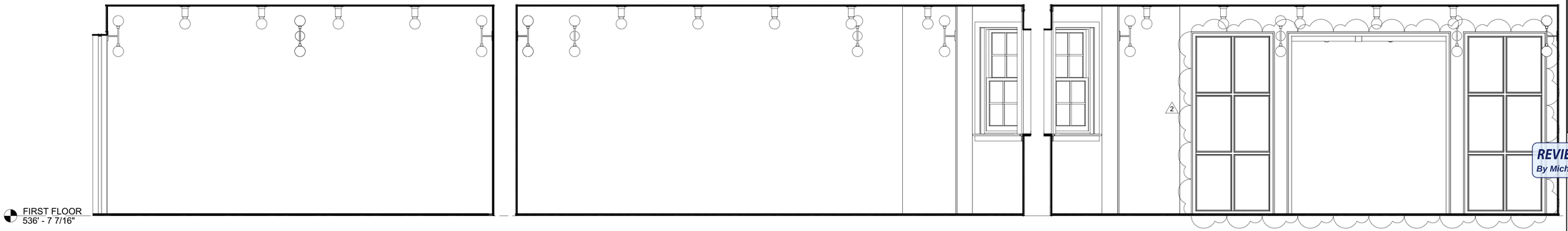
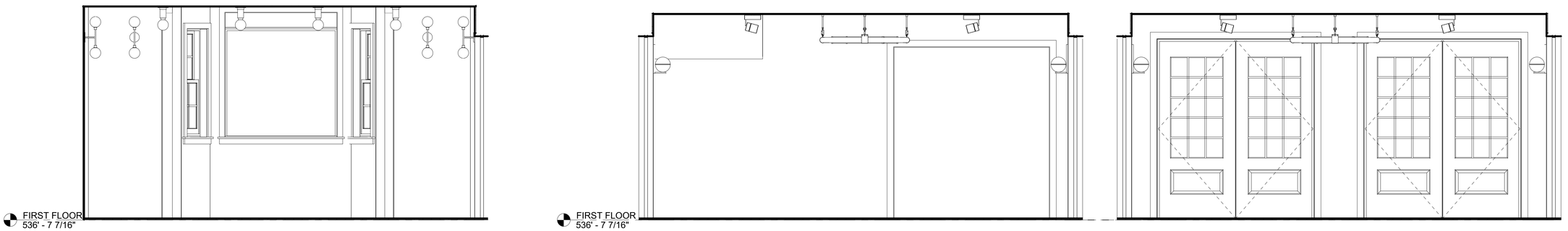


1 DINING 111 NORTH
1/2" = 1'-0"

2 DINING 111 EAST
1/2" = 1'-0"

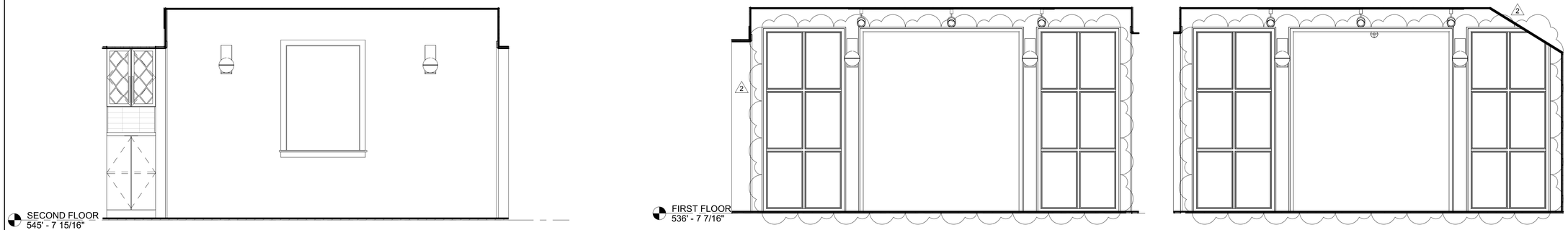
3 DINING 111 WEST
1/2" = 1'-0"



4 DINING 111 SOUTH
1/2" = 1'-0"

5 DINING 112 NORTH
1/2" = 1'-0"

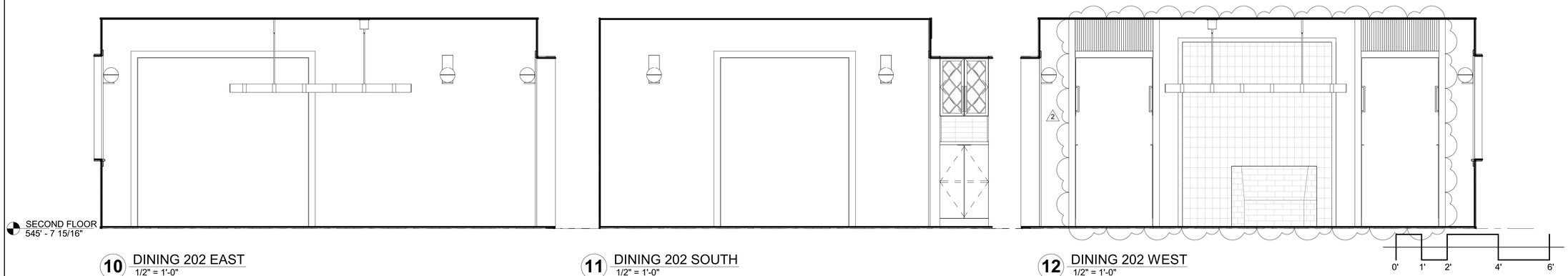
7 DINING 112 SOUTH
1/2" = 1'-0"



9 DINING 202 NORTH
1/2" = 1'-0"

6 DINING 112 EAST
1/2" = 1'-0"

8 DINING 112 WEST
1/2" = 1'-0"



10 DINING 202 EAST
1/2" = 1'-0"

11 DINING 202 SOUTH
1/2" = 1'-0"

12 DINING 202 WEST
1/2" = 1'-0"

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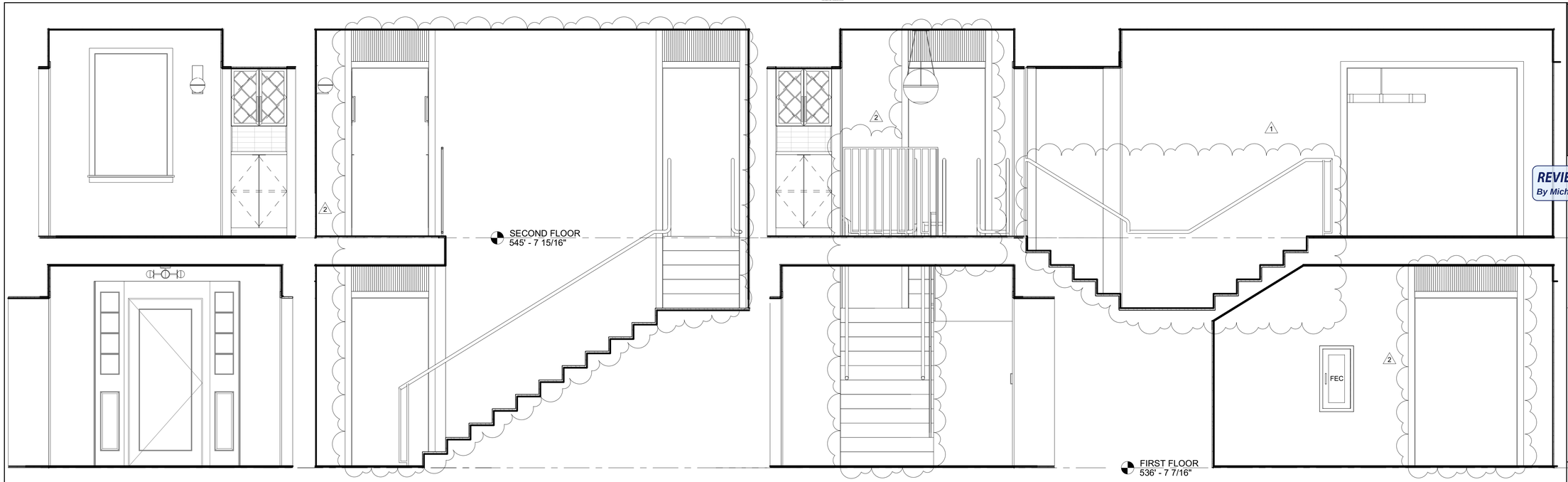
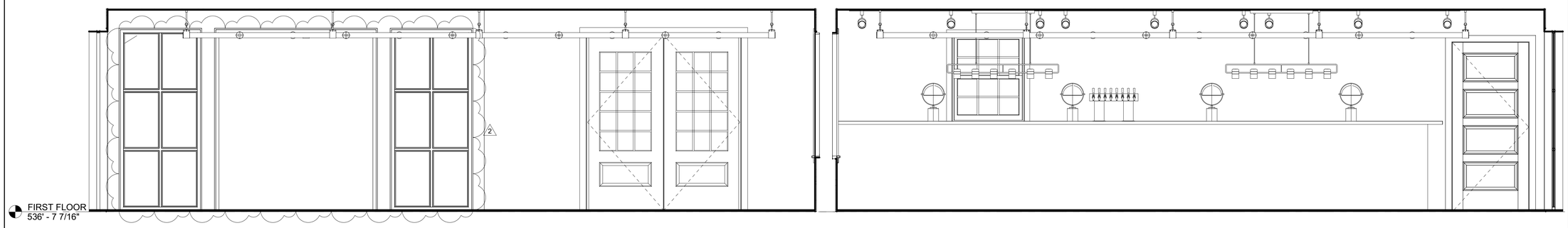


1 STAIR 203 NORTH
1/2" = 1'-0"

2 STAIR 203 EAST
1/2" = 1'-0"

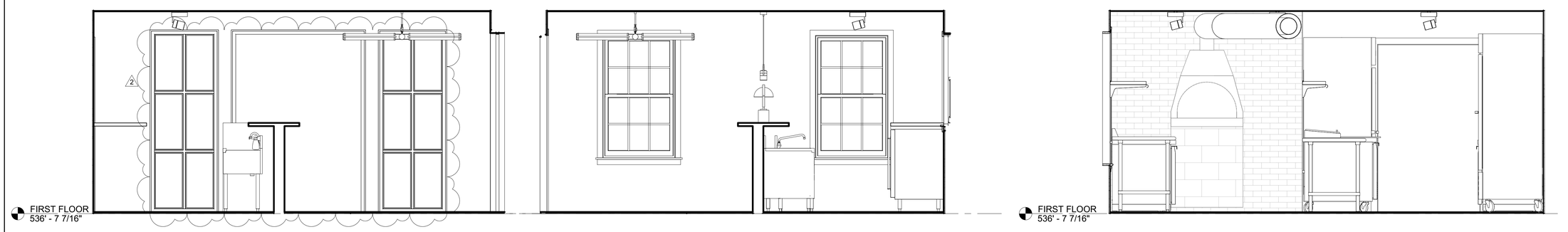
3 STAIR 203 SOUTH
1/2" = 1'-0"

4 STAIR 203 WEST
1/2" = 1'-0"



5 BAR 113 EAST
1/2" = 1'-0"

6 BAR 113 WEST
1/2" = 1'-0"



7 BAR 113 NORTH
1/2" = 1'-0"

8 BAR 113 SOUTH
1/2" = 1'-0"

9 PIZZA KITCHEN - EAST
1/2" = 1'-0"

0' 1' 2' 4' 6'

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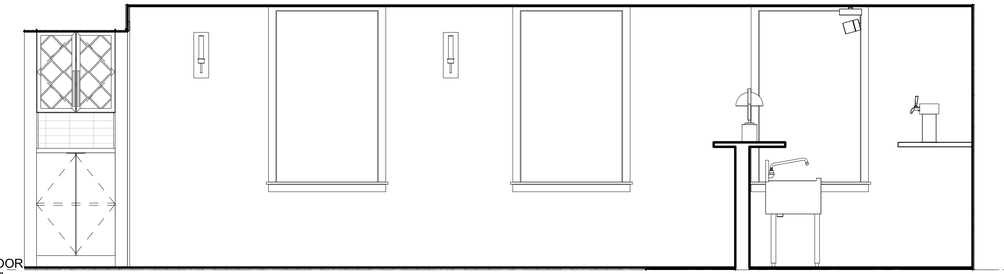
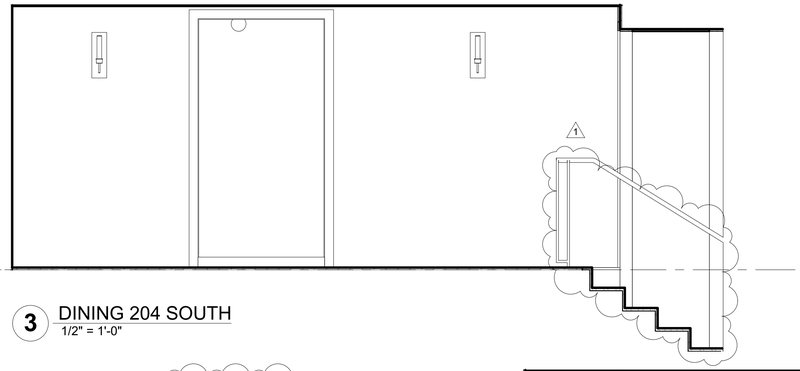
SECOND FLOOR
545' - 7 15/16"

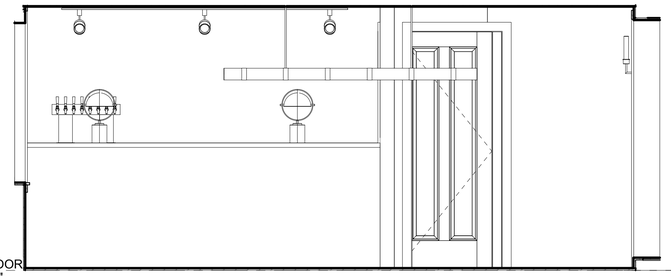


1 DINING 204 NORTH
1/2" = 1'-0"

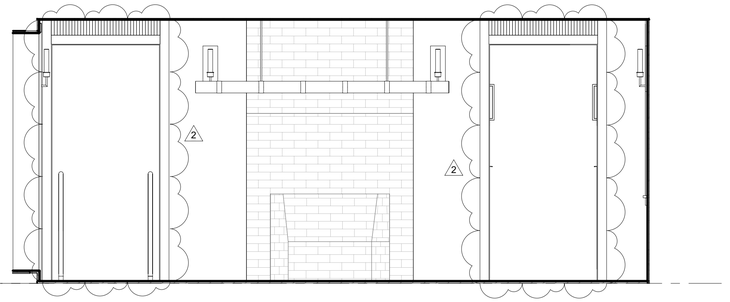


3 DINING 204 SOUTH
1/2" = 1'-0"

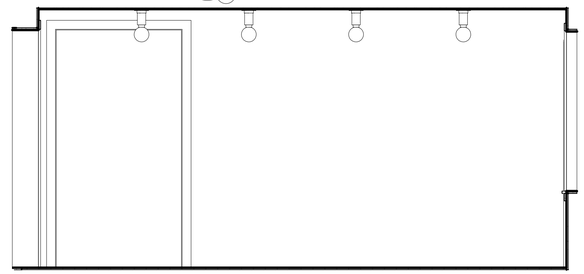
SECOND FLOOR
545' - 7 15/16"



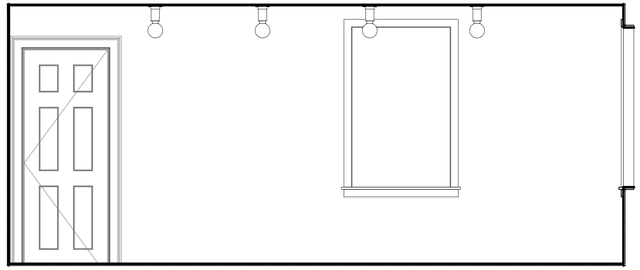
2 DINING 204 EAST
1/2" = 1'-0"



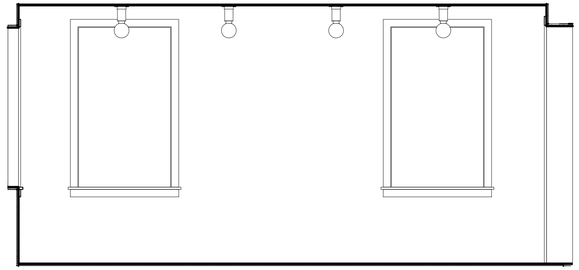
4 DINING 204 WEST
1/2" = 1'-0"



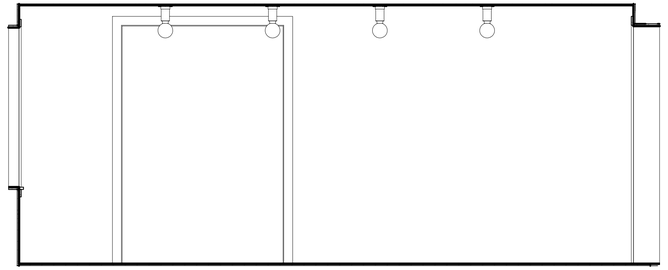
5 DINING 209 NORTH
1/2" = 1'-0"



6 DINING 209 EAST
1/2" = 1'-0"

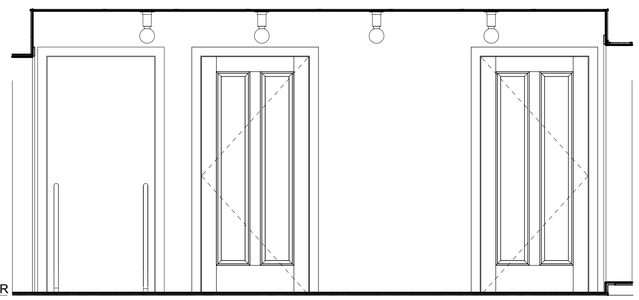


7 DINING 209 SOUTH
1/2" = 1'-0"

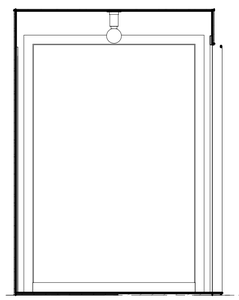


8 DINING 209 WEST
1/2" = 1'-0"

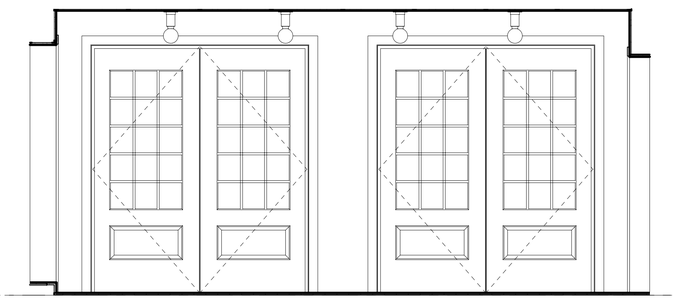
SECOND FLOOR
545' - 7 15/16"



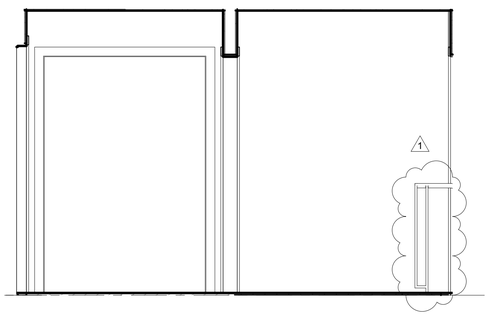
9 HALL 210 NORTH
1/2" = 1'-0"



10 HALL 210 EAST
1/2" = 1'-0"



11 HALL 210 SOUTH
1/2" = 1'-0"



12 HALL 210 WEST
1/2" = 1'-0"

0' 1' 2' 4' 6'

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APPROVED
Montgomery County
Historic Preservation Commission

ARCHITECTURAL REGISTRATION BOARD 7286-A STATE OF MARYLAND

Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	10.29.2020	PERMIT COMMENTS
2	10.30.2020	INTERIOR DESIGN

ISSUED FOR:
- ☐ REVIEW
- ☐ SD SET
- ☐ BID
- ☐ DD SET
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CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

INTERIOR ELEVATIONS

A4.4

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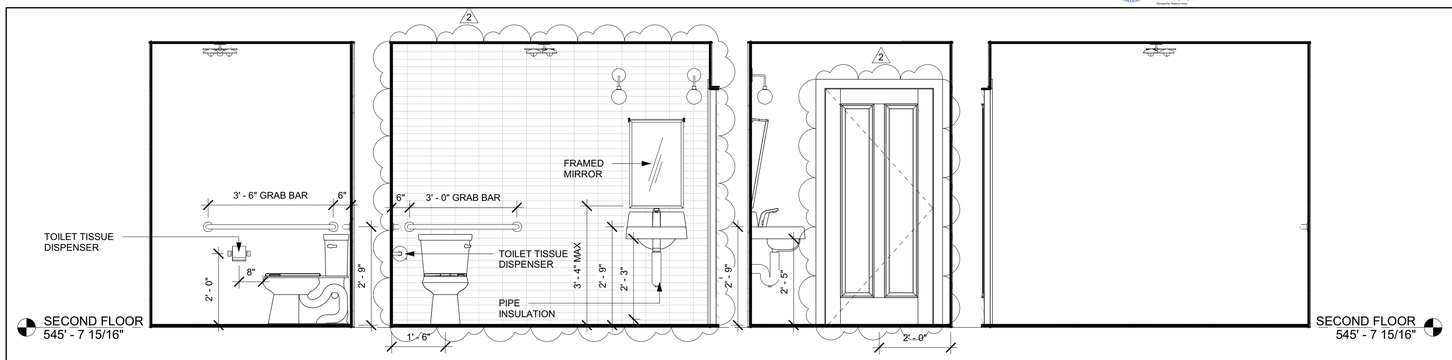
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

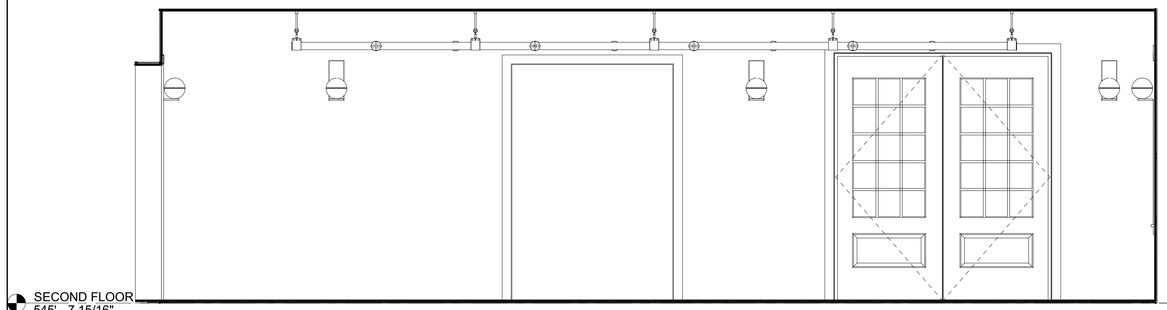


1 TOILET 211/212 NORTH
1/2" = 1'-0"

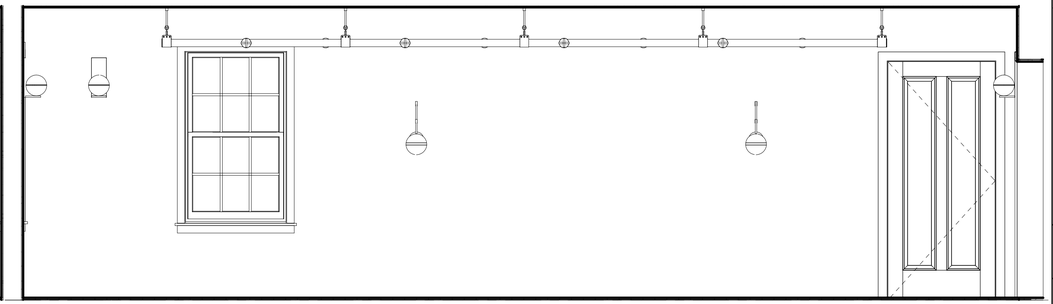
2 TOILET 211/212 P-WALL
1/2" = 1'-0"

3 TOILET 211/212 SOUTH
1/2" = 1'-0"

4 TOILET 211/212 O-WALL
1/2" = 1'-0"



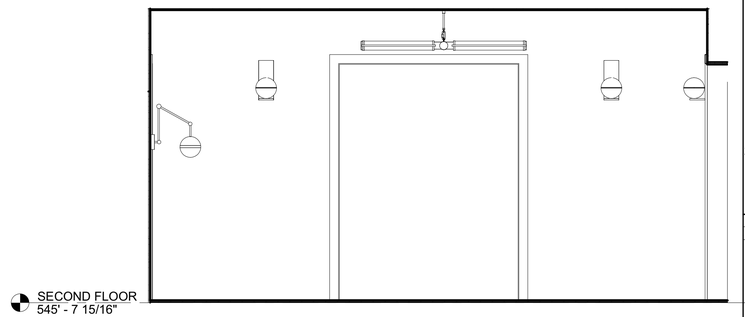
5 DINING 214 EAST
1/2" = 1'-0"



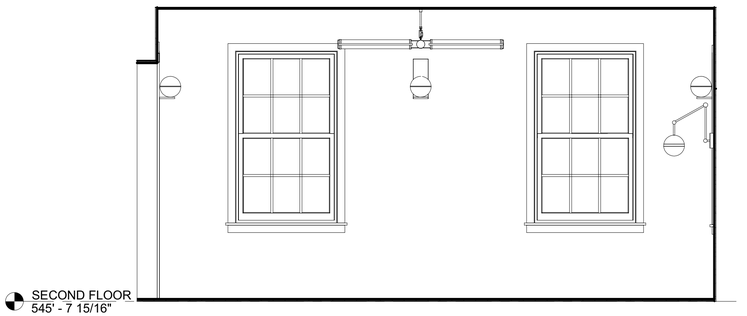
6 DINING 214 WEST
1/2" = 1'-0"

ROOM FINISH SCHEDULE

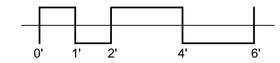
FLOOR	ROOM NO.	ROOM NAME	AREA	PERIMETER	HEIGHT	FLOOR	BASE	WALL	CEILING	NOTES
BASEMENT	010	DRY STORAGE	152 SF	55' - 3"	7' - 8 3/4"	RESINOUS	RESINOUS COVE	GWB/PT- & CONC./PT-	GWB/PT-	
BASEMENT	011	LIQUOR STORAGE	51 SF	28' - 8"	7' - 8 3/4"	RESINOUS	RESINOUS COVE	GWB/PT- & CONC./PT-	GWB/PT-	
BASEMENT	012	BEER COOLER	58 SF	30' - 6"	7' - 3 1/4"	RESINOUS	SEE FOODSERVICE	SEE FOODSERVICE	SEE FOOD SERVICE	SEE FOODSERVICE
BASEMENT	013	BREAK ROOM	71 SF	33' - 4"	7' - 8 3/4"	RESINOUS	RESINOUS COVE	GWB/PT- & CONC./PT-	GWB/PT-	
BASEMENT	014	MECH	54 SF	31' - 8"	7' - 8 3/4"	CONC. SEALED	RESILIENT BASE 1	GWB & CONC.	GWB	
BASEMENT	015	STAIR	94 SF	61' - 5"	8' - 1 1/2"	RESINOUS	RESINOUS COVE	GWB/PT- & CONC./PT-	GWB/PT-	
FIRST FLOOR	101	ADA TOILET	62 SF	31' - 6"	7' - 10 5/8"	PORCELAIN FLOOR TILE	PORCELAIN TILE BASE	GWB/PT- & CERAMIC WALL TILE	GWB/PT-	SEE INTERIOR ELEVATIONS
FIRST FLOOR	102	ADA TOILET	62 SF	31' - 6"	7' - 10 5/8"	PORCELAIN FLOOR TILE	PORCELAIN TILE BASE	GWB/PT- & CERAMIC WALL TILE	GWB/PT-	SEE INTERIOR ELEVATIONS
FIRST FLOOR	103	LOUNGE	207 SF	61' - 11"	7' - 10 5/8"	T&G HARDWOOD & PFT	WOOD BASE-1	GWB/PT-	GWB/PT-	
FIRST FLOOR	104	FOYER	124 SF	80' - 1"	7' - 10 5/8"	PORCELAIN FLOOR TILE	WOOD BASE-1	GWB/PT-	GWB/PT-	
FIRST FLOOR	105	TAKE-OUT	129 SF	56' - 4"	7' - 10 5/8"	PORCELAIN FLOOR TILE	WOOD BASE-1	GWB/PT-	GWB/PT-	
FIRST FLOOR	106	PIZZA KITCHEN	211 SF	66' - 6"	7' - 10 5/8"	PORCELAIN FLOOR TILE	PORCELAIN TILE BASE	GWB/PT-	GWB/PT-	
FIRST FLOOR	107	KITCHEN	243 SF	62' - 7"	7' - 6"	RESINOUS	RESINOUS COVE	FRP	GWB/PT-	
FIRST FLOOR	108	SCULLERY	221 SF	91' - 7"	7' - 6"	RESINOUS	RESINOUS COVE	FRP	GWB/PT-	
FIRST FLOOR	109	REF. STORAGE	114 SF	43' - 2"	7' - 6"	SEE FOODSERVICE	SEE FOODSERVICE	SEE FOODSERVICE	SEE FOOD SERVICE	SEE FOODSERVICE
FIRST FLOOR	110	FRZ. STORAGE	61 SF	33' - 10"	7' - 6"	SEE FOODSERVICE	SEE FOODSERVICE	SEE FOODSERVICE	SEE FOOD SERVICE	SEE FOODSERVICE
FIRST FLOOR	111	DINING	277 SF	68' - 5"	8' - 2 1/8"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
FIRST FLOOR	112	DINING	239 SF	61' - 11"	7' - 10 5/8"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
FIRST FLOOR	113	BAR	434 SF	86' - 11"	7' - 10 5/8"	T&G HARDWOOD & PFT	WOOD BASE-1 & PTB	GWB/PT-	GWB/PT-	
FIRST FLOOR	115	STAIR	101 SF	42' - 4"	8' - 1 1/4"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	201	PRIVATE DINING	129 SF	48' - 2"	7' - 3 3/4"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	202	DINING	225 SF	61' - 11"	8' - 1 1/2"	T&G HARDWOOD & PFT	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	203	STAIR	116 SF	47' - 9"	8' - 1 1/2"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	204	DINING	269 SF	75' - 3"	7' - 3 3/4"	T&G HARDWOOD & PFT	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	205	BAR	91 SF	38' - 2"	7' - 3 3/4"	PORCELAIN FLOOR TILE	WOOD BASE-1 & PTB	GWB/PT-	GWB/PT-	
SECOND FLOOR	206	WAIT STATION	42 SF	25' - 11"	7' - 3 3/4"	PORCELAIN FLOOR TILE	PORCELAIN TILE BASE	GWB/PT-	GWB/PT-	
SECOND FLOOR	207	EMPLY. TOILET	34 SF	23' - 9"	7' - 8 3/8"	VCT-1	RESILIENT BASE 1	GWB/PT-	GWB/PT-	CLG. HGT. VARIES
SECOND FLOOR	208	ATTIC STORAGE	105 SF	44' - 10"	7' - 8 3/8"	VCT-1	RESILIENT BASE 1	GWB/PT-	GWB/PT-	CLG. HGT. VARIES
SECOND FLOOR	209	DINING	274 SF	67' - 6"	7' - 2 3/4"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	210	HALL	88 SF	43' - 1"	7' - 10 3/4"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	211	TOILET	50 SF	29' - 1"	7' - 10 3/4"	PORCELAIN FLOOR TILE	PORCELAIN TILE BASE	GWB/PT- & CERAMIC WALL TILE	GWB/PT-	SEE INTERIOR ELEVATIONS
SECOND FLOOR	212	TOILET	50 SF	29' - 0"	7' - 10 3/4"	PORCELAIN FLOOR TILE	PORCELAIN TILE BASE	GWB/PT- & CERAMIC WALL TILE	GWB/PT-	SEE INTERIOR ELEVATIONS
SECOND FLOOR	213	STAIR	32 SF	25' - 7"	7' - 10 3/4"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	214	DINING	434 SF	93' - 5"	8' - 1 1/2"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	
SECOND FLOOR	215	STAIR	101 SF	42' - 4"	6' - 10 5/8"	T&G HARDWOOD	WOOD BASE-1	GWB/PT-	GWB/PT-	CLG. HGT. VARIES



7 DINING 214 NORTH
1/2" = 1'-0"



8 DINING 214 SOUTH
1/2" = 1'-0"



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APPROVED
Montgomery County
Historic Preservation Commission

Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
2	10.30.2020	INTERIOR DESIGN

ISSUED FOR:
- ☐ REVIEW
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DATE: 10.30.2020

INTERIOR ELEVATIONS

A4.5

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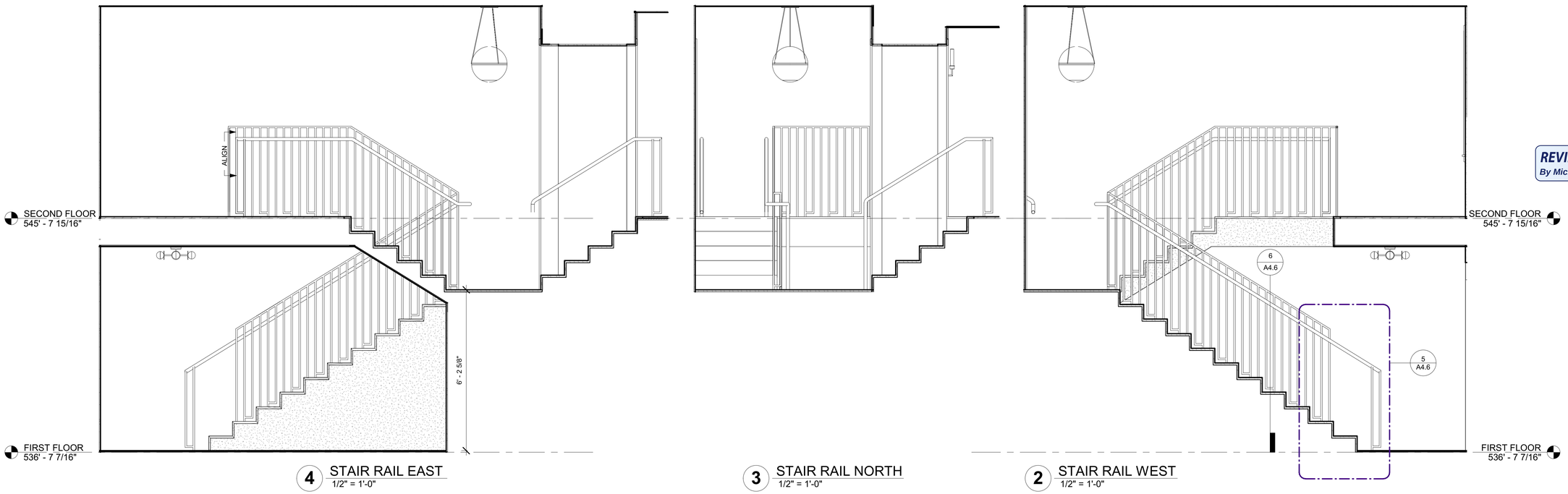
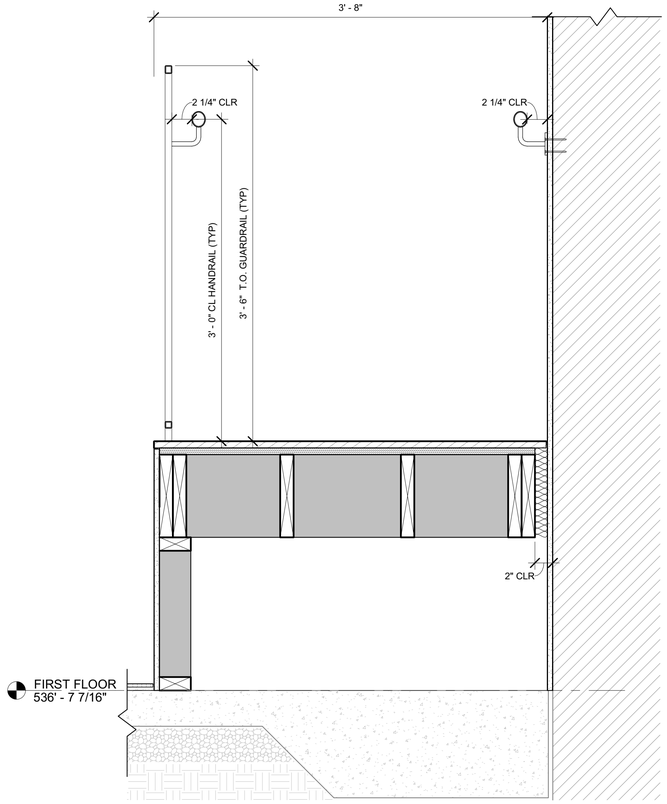
Permit # COMBUILD-921463
Date 01/14/21



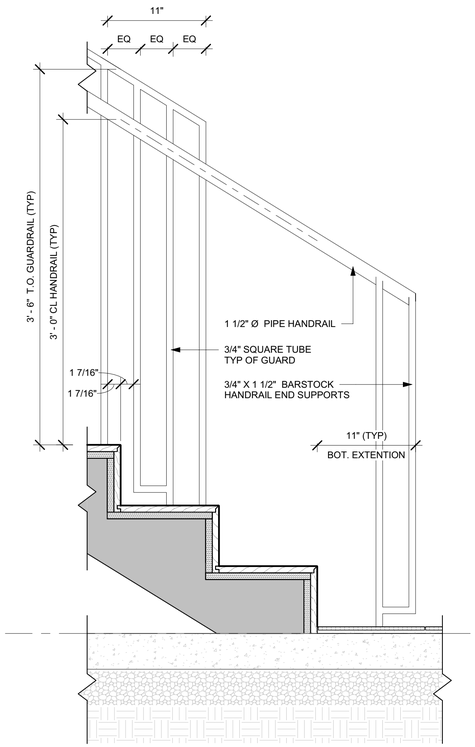
4 STAIR RAIL EAST
1/2" = 1'-0"

3 STAIR RAIL NORTH
1/2" = 1'-0"

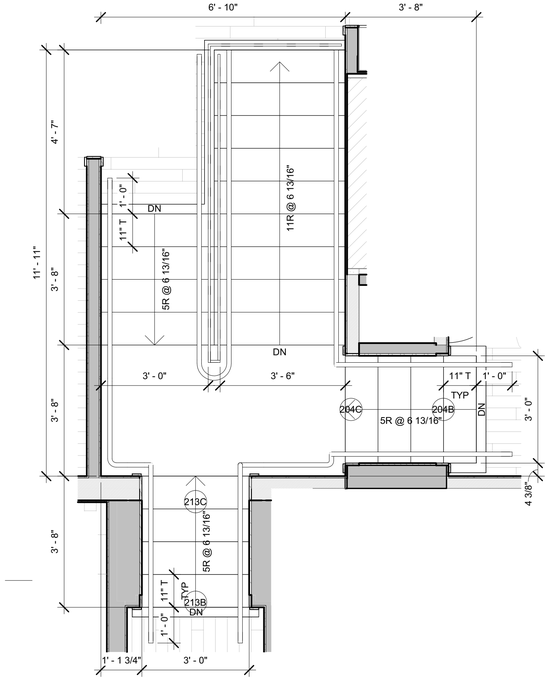
2 STAIR RAIL WEST
1/2" = 1'-0"



6 STAIR SECTION DETAIL
1 1/2" = 1'-0"



5 STAIR RAIL ELEVATION DETAIL
1 1/2" = 1'-0"



1 ENLARGED PLAN -STAIR 203
1/2" = 1'-0"

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STAIR

A4.6

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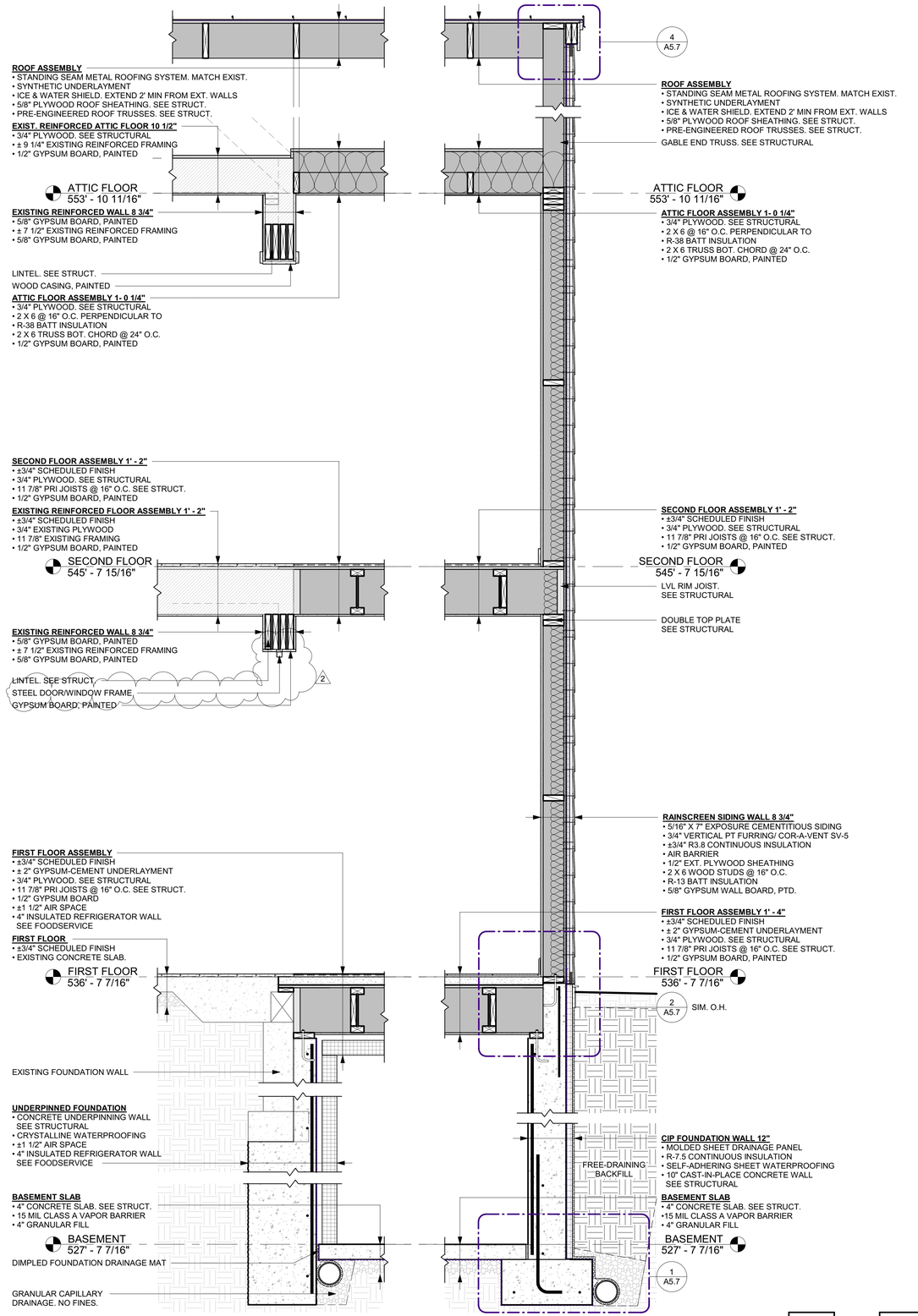
Permit # COMBUILD-921463
Date 01/14/21



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WALL SECTIONS - GABLE ADDITION

A5.1

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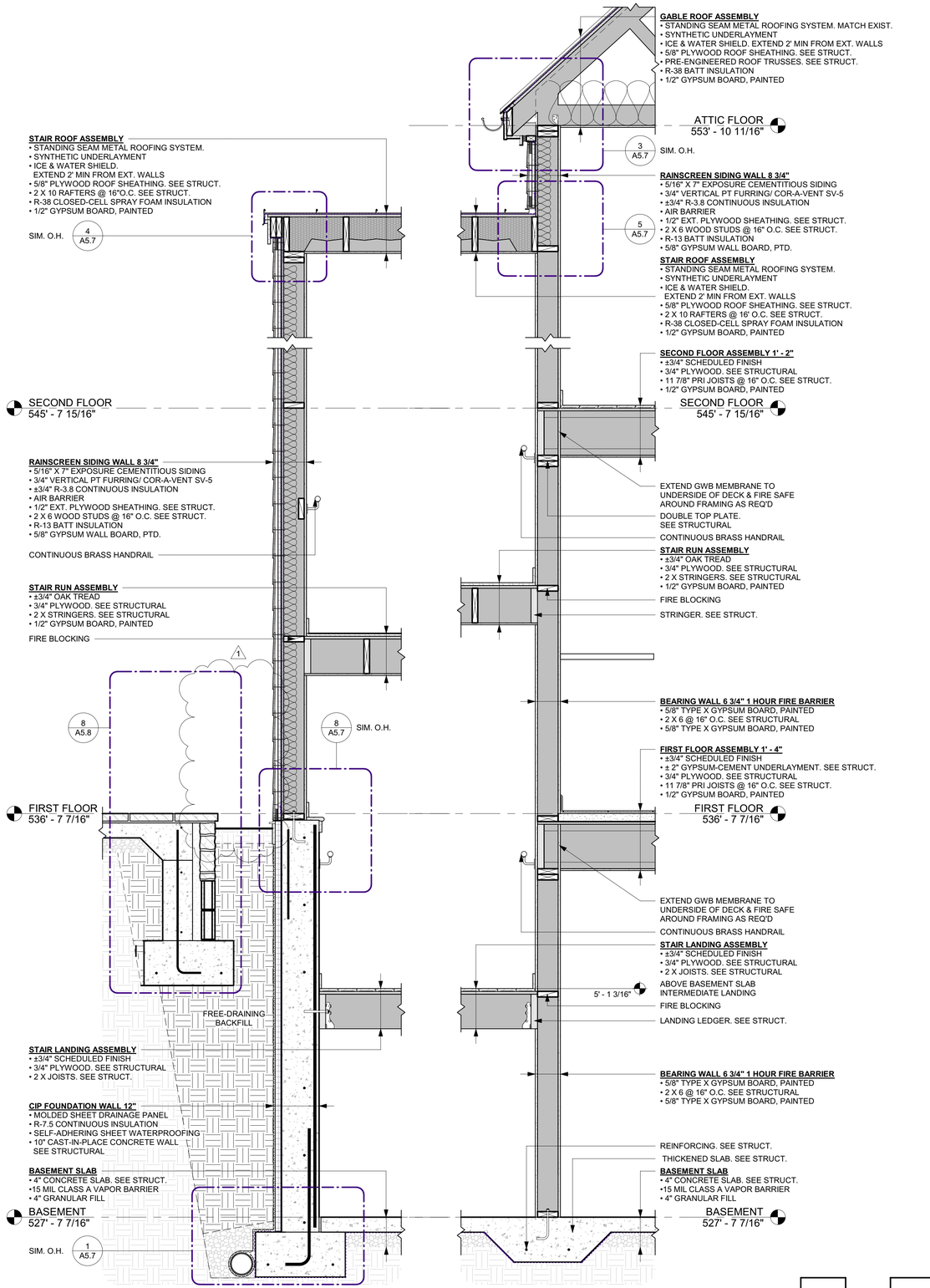

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DATE: 10.30.2020

WALL SECTIONS - STAIR ADDITION

A5.2

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Permit # COMBUILD-921463
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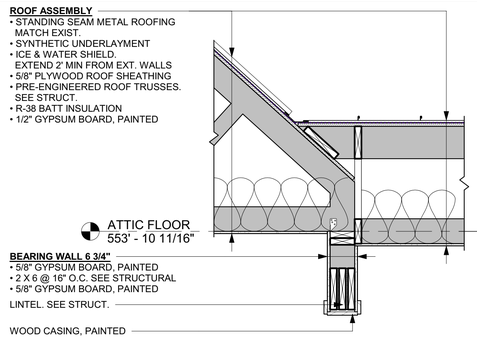
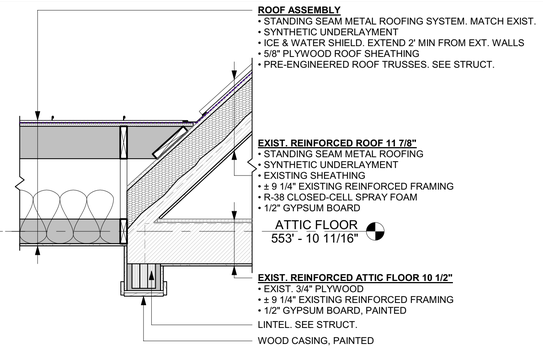
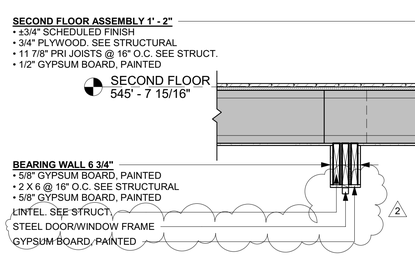
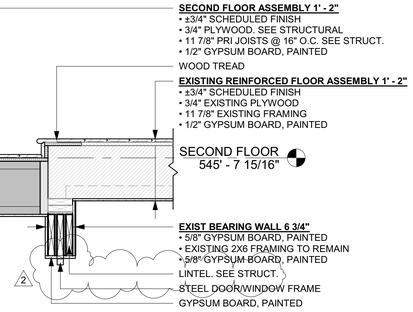
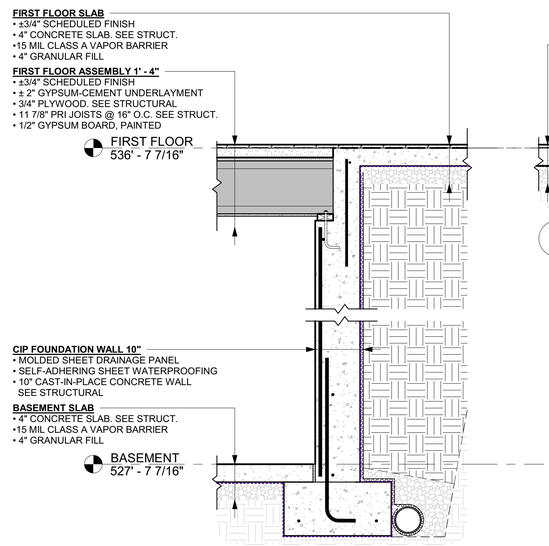
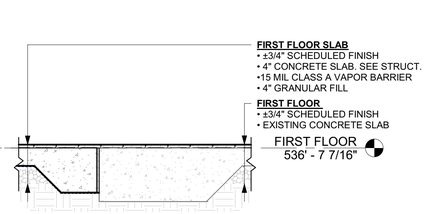






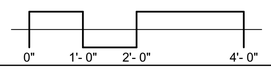


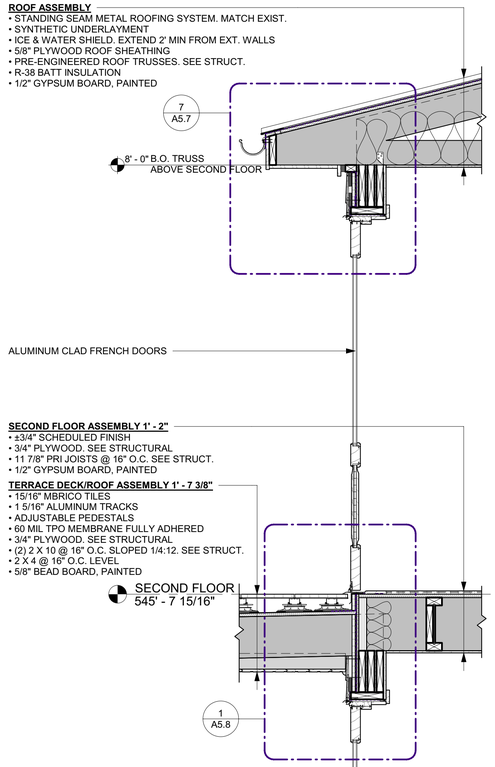




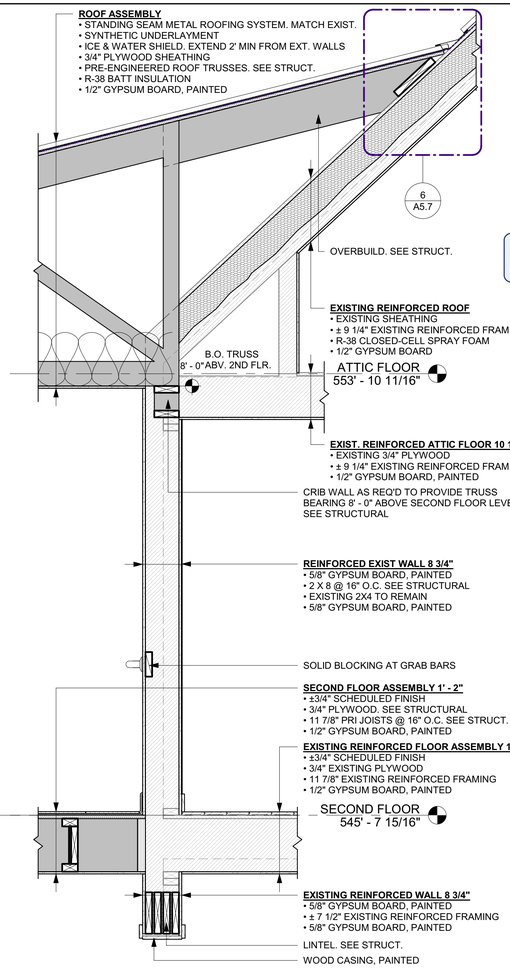
3 WALL SECTION - EXIST. GABLE SHED VALLEY
3/4" = 1'-0"

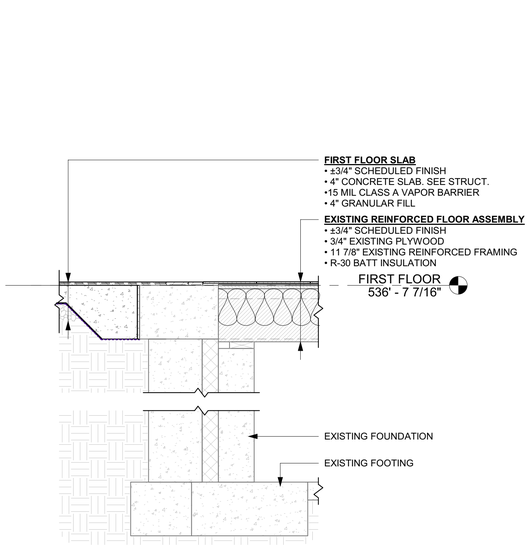
4 WALL SECTION - GABLE SHED VALLEY
3/4" = 1'-0"





2 WALL SECTION - SHED EAVE AT DECK
3/4" = 1'-0"





1 WALL SECTION - SHED AT EXIST.
3/4" = 1'-0"

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By Michael Kyne at 1:59 am, Feb 19, 2021

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Historic Preservation Commission

ARCHITECTURAL REGISTRATION BOARD
7286-A
STATE OF MARYLAND

Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
2	10.30.2020	INTERIOR DESIGN

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- ☐ REVIEW
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- ☐ BID
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CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

WALL SECTIONS - SHED ADDITION

A5.3

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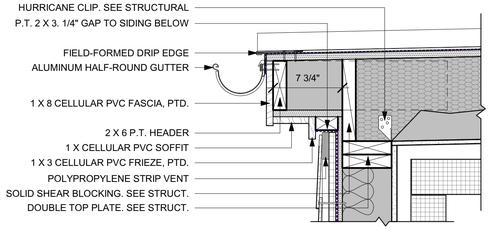
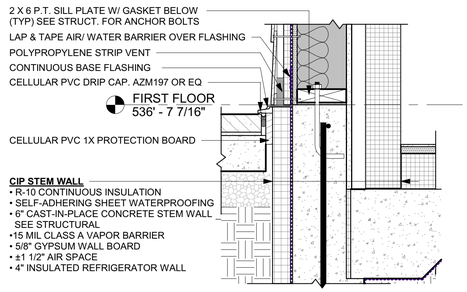
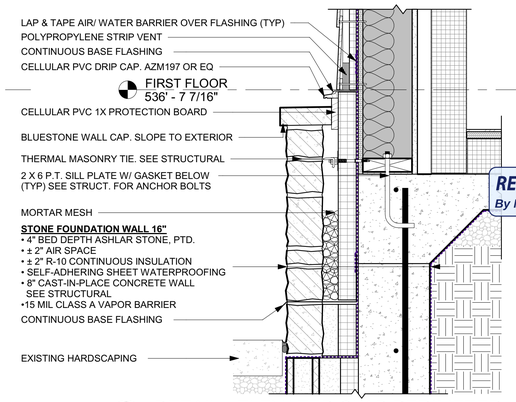
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21



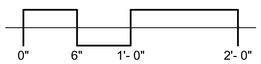
7 DETAIL - SHED EAVE - LOW SLOPE
1 1/2" = 1'-0"

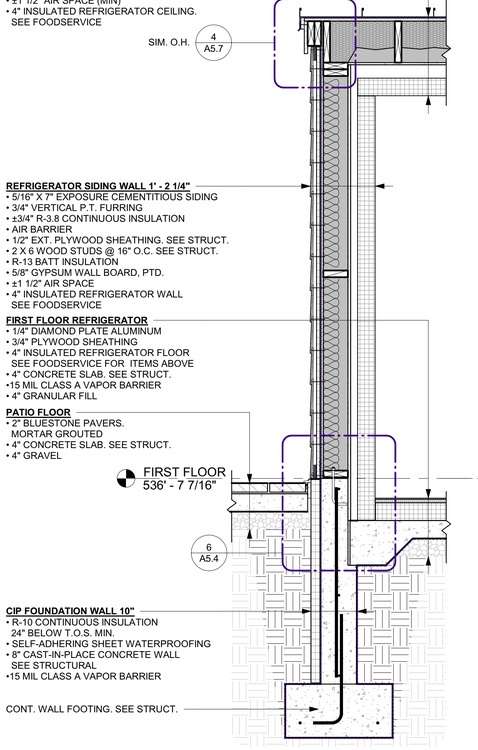


6 DETAIL - SUNKEN SLAB PERIMETER
1 1/2" = 1'-0"

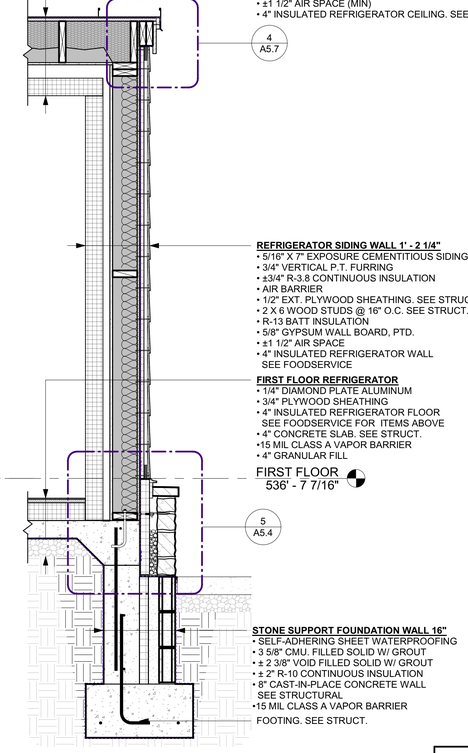


5 DETAIL - ELEVATED SLAB PERIMETER
1 1/2" = 1'-0"

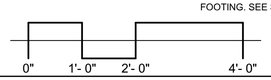


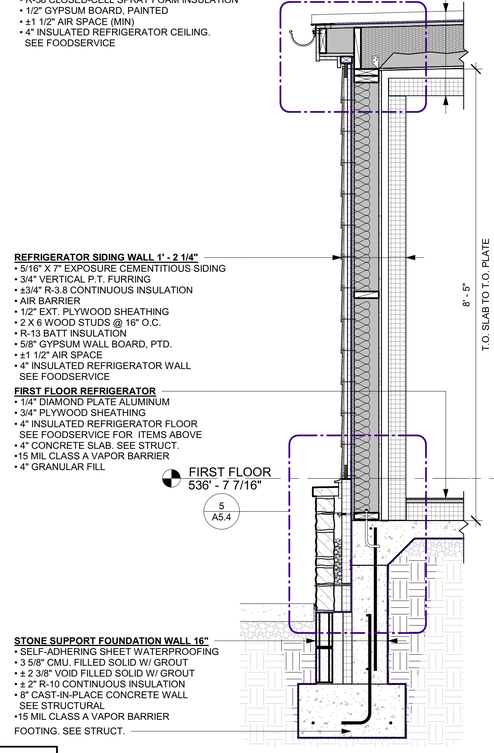


4 WALL SECTION - REF. RAKE WEST
3/4" = 1'-0"

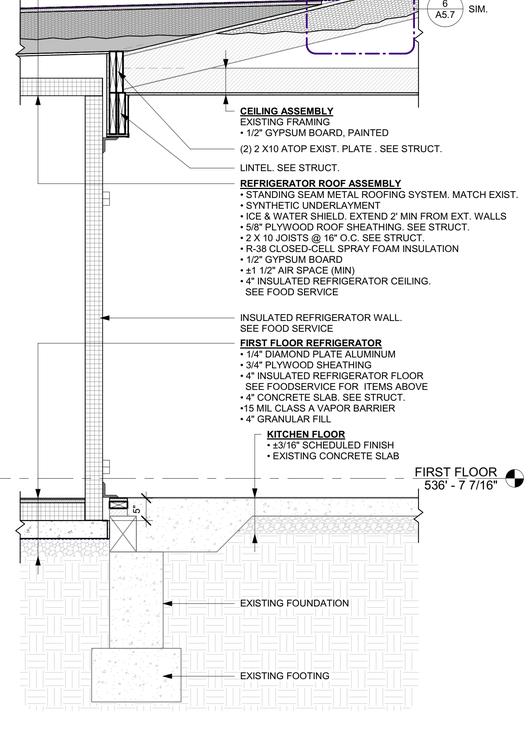


3 WALL SECTION - REF. RAKE EAST
3/4" = 1'-0"





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



1 WALL SECTION - REF. AT EXIST.
3/4" = 1'-0"

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ARCHITECTURAL REGISTRATION BOARD 7286-A STATE OF MARYLAND

DocuSigned by:
Jeffrey Penza
B6340501D2D914DE...

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RENOVATION & ADDITION

SALT & VINE

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WALL SECTIONS - REF. ADDITION

A5.4

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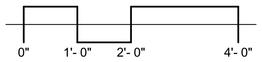
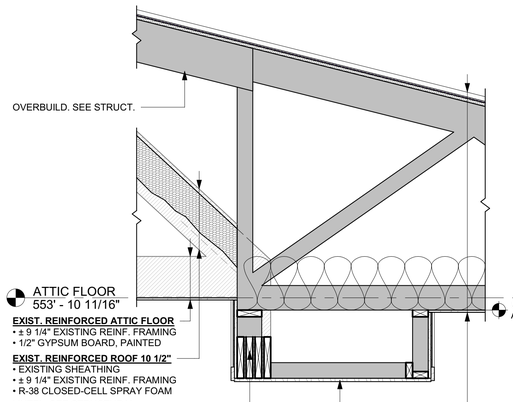
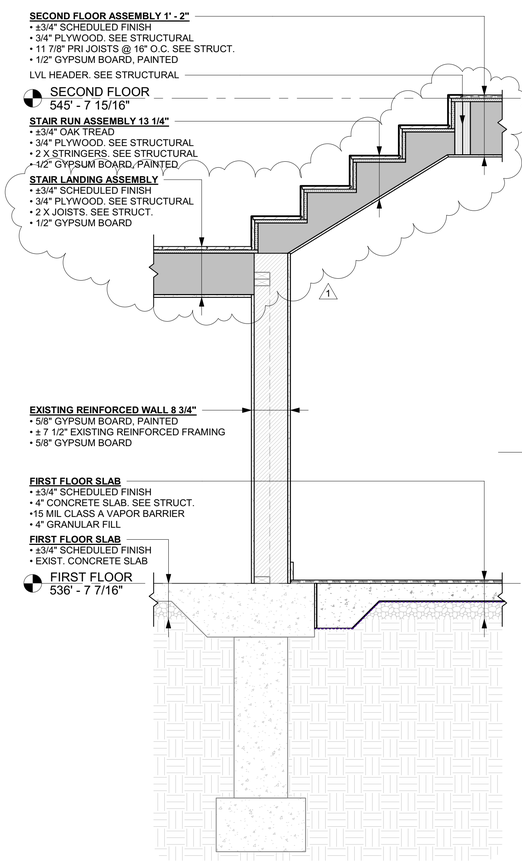
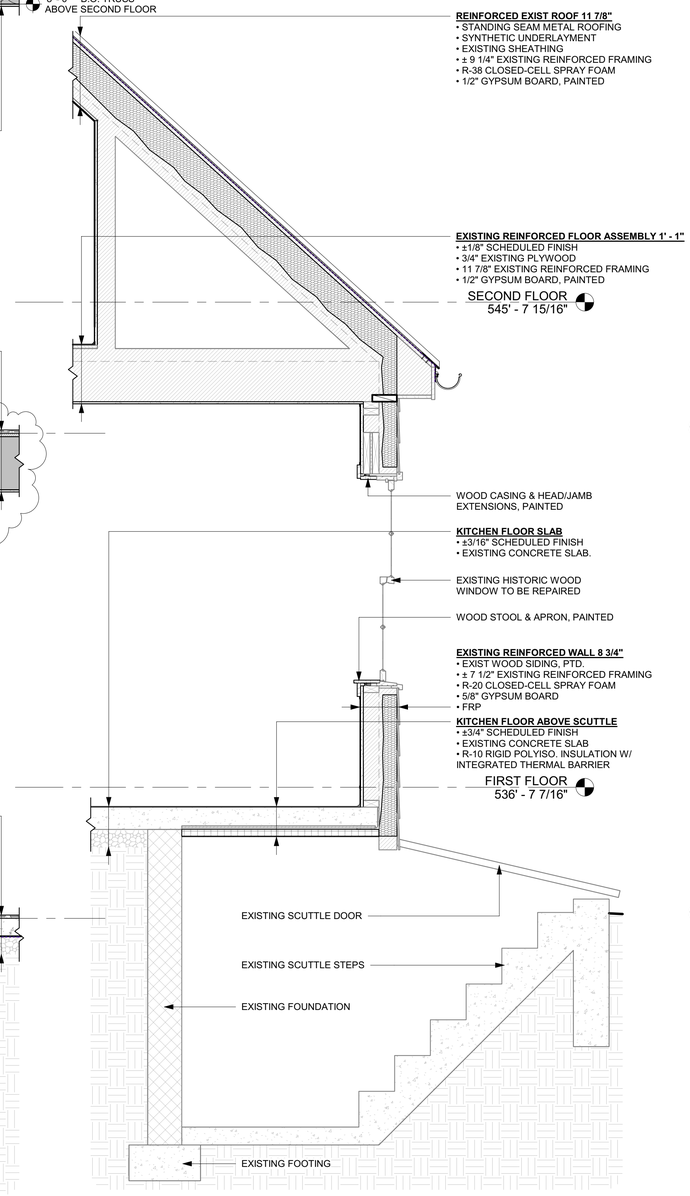
Permit # COMBUILD-921463
Date 01/14/21



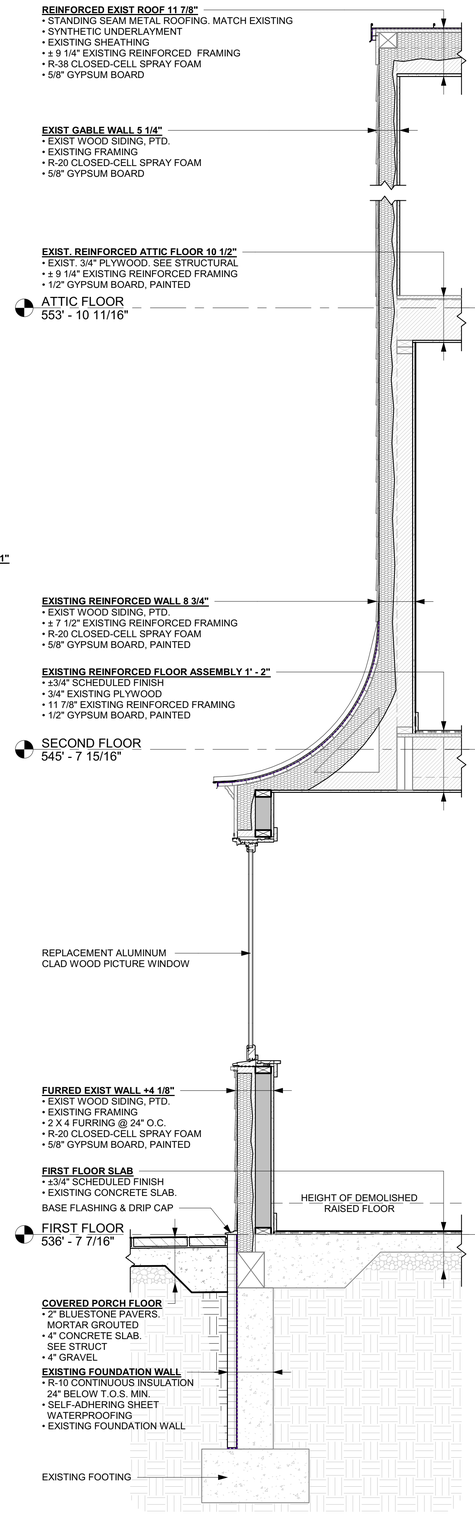




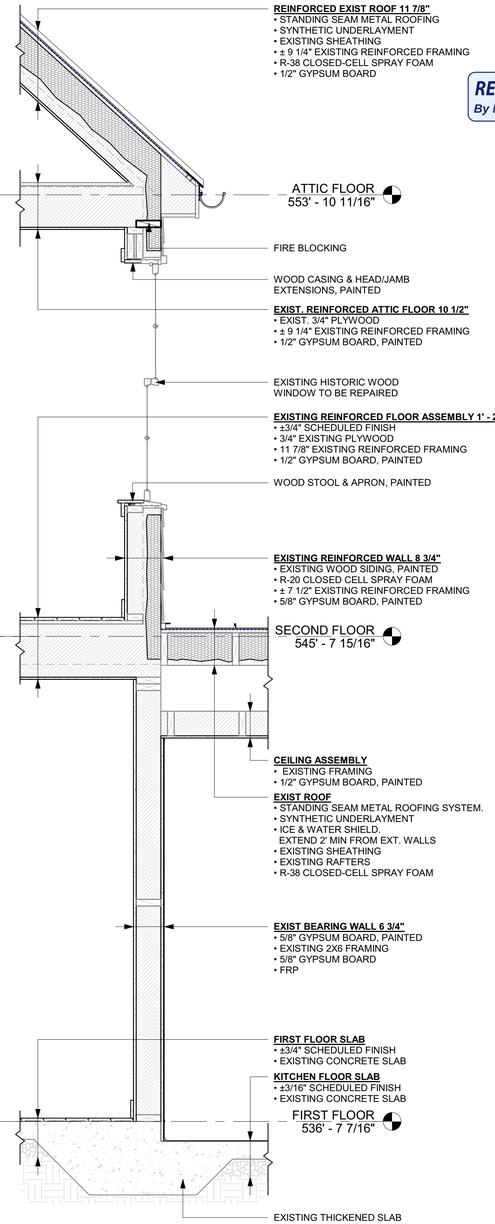
4 WALL SECTION - STAIR 213
3/4" = 1'-0"



3 WALL SECTION - KITCHEN AT SCUTTLE
3/4" = 1'-0"



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



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

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WALL SECTIONS - EXIST.

A5.5

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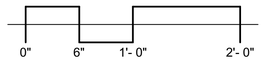
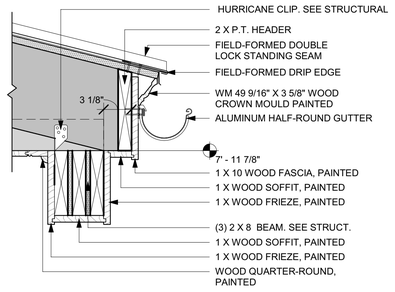
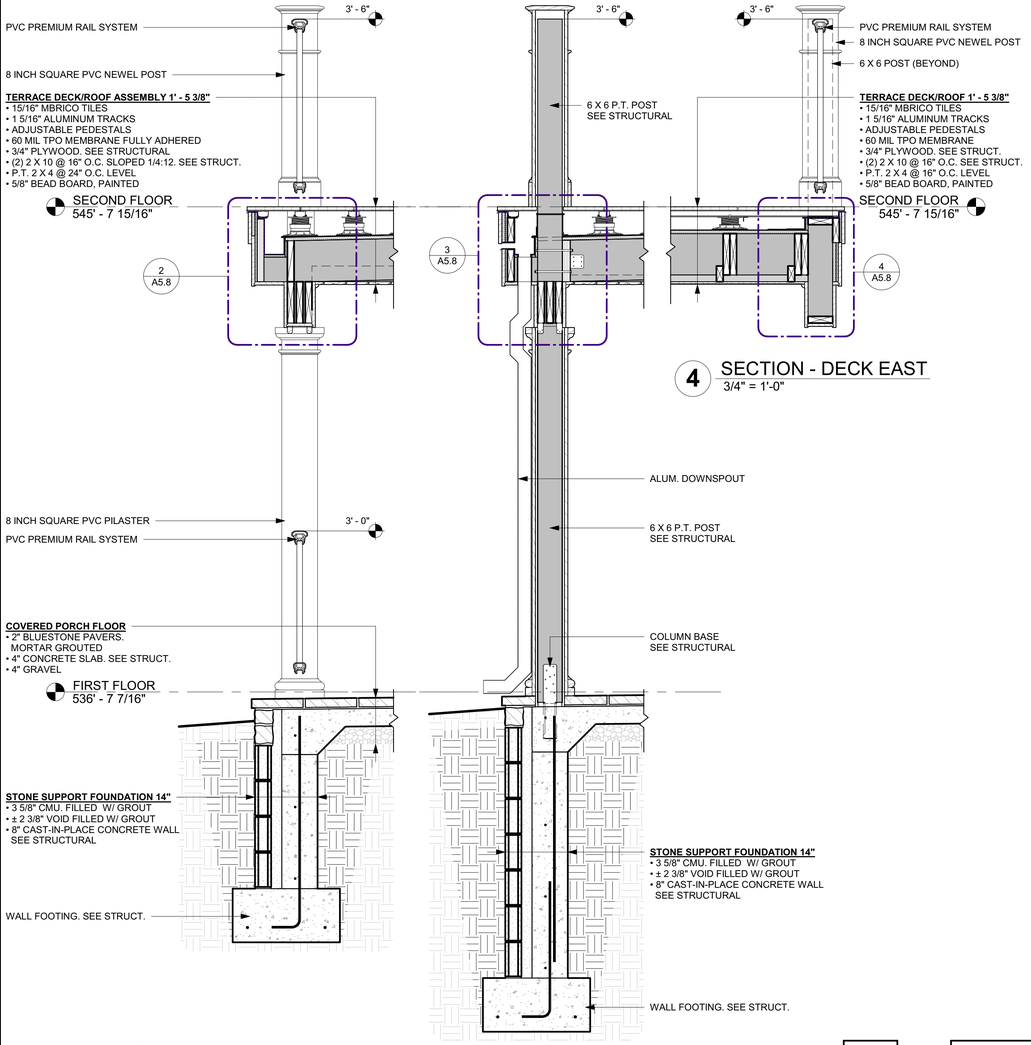




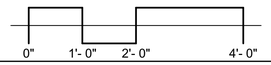
8 DETAIL - PORCH EAVE
1 1/2" = 1'-0"

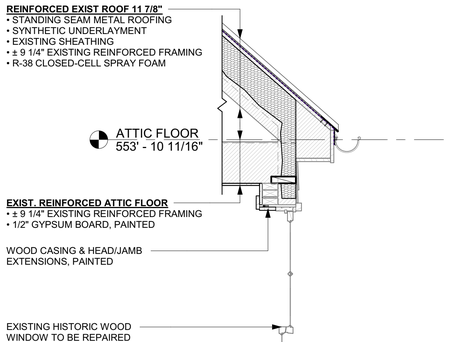


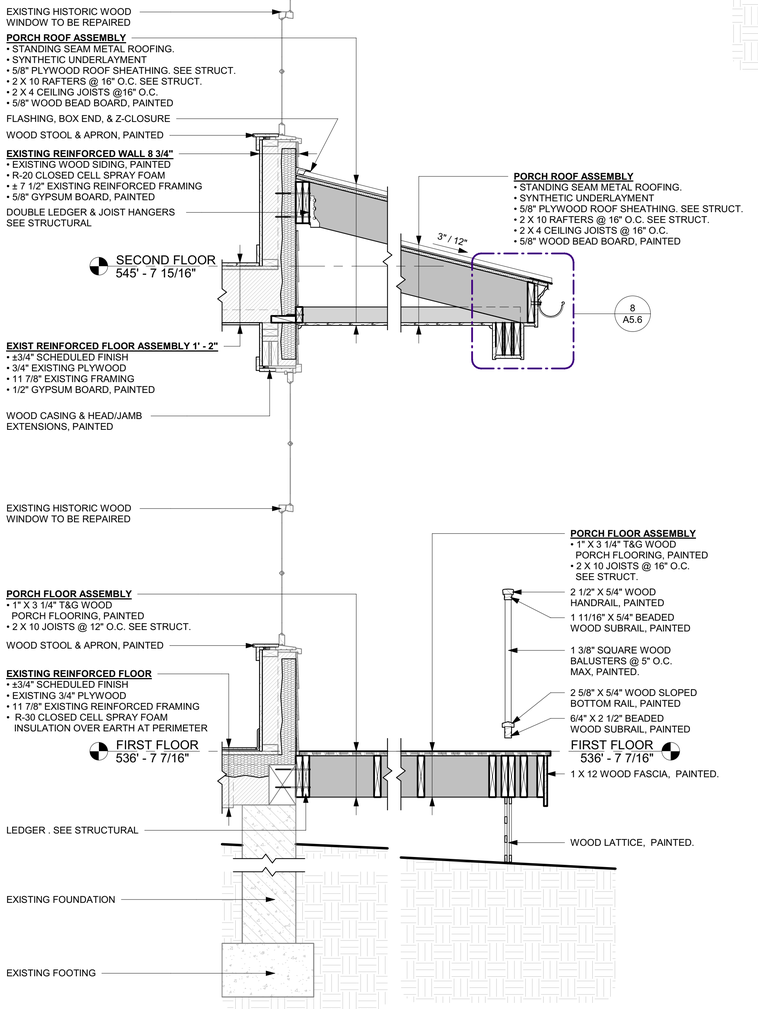
4 SECTION - DECK EAST
3/4" = 1'-0"

6 SECTION - DECK SOUTH
3/4" = 1'-0"

5 SECTION - DECK SOUTH COLUMN
3/4" = 1'-0"

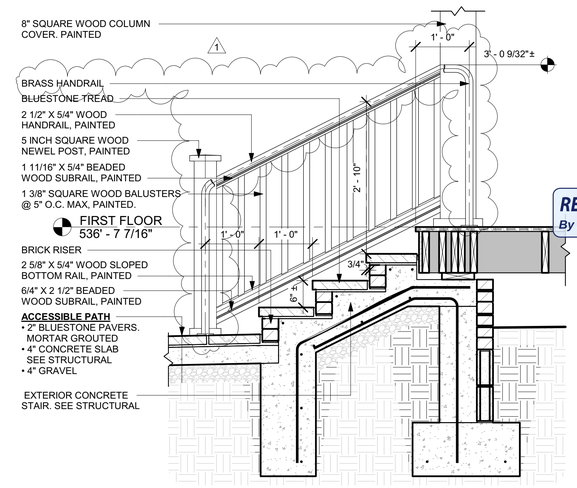




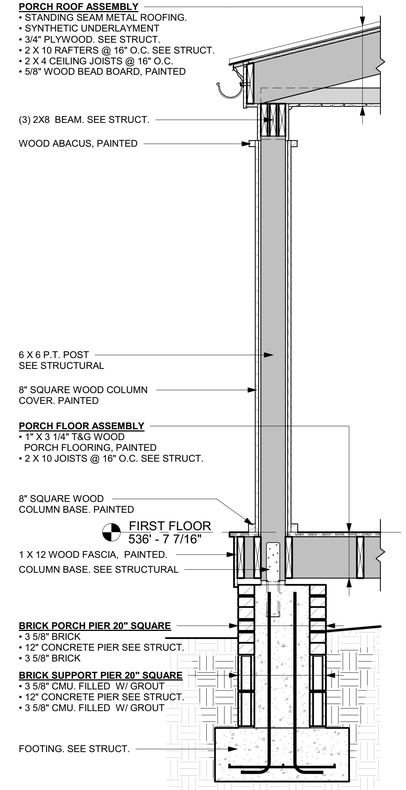


3 WALL SECTION - PORCH AT EXIST.
3/4" = 1'-0"

2 SECTION - PORCH EAVE
3/4" = 1'-0"



7 SECTION - ENTRY STAIR
3/4" = 1'-0"



1 SECTION - PORCH COLUMN
3/4" = 1'-0"

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RENOVATION & ADDITION

SALT & VINE

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DATE: 10.30.2020

SECTIONS

A5.6

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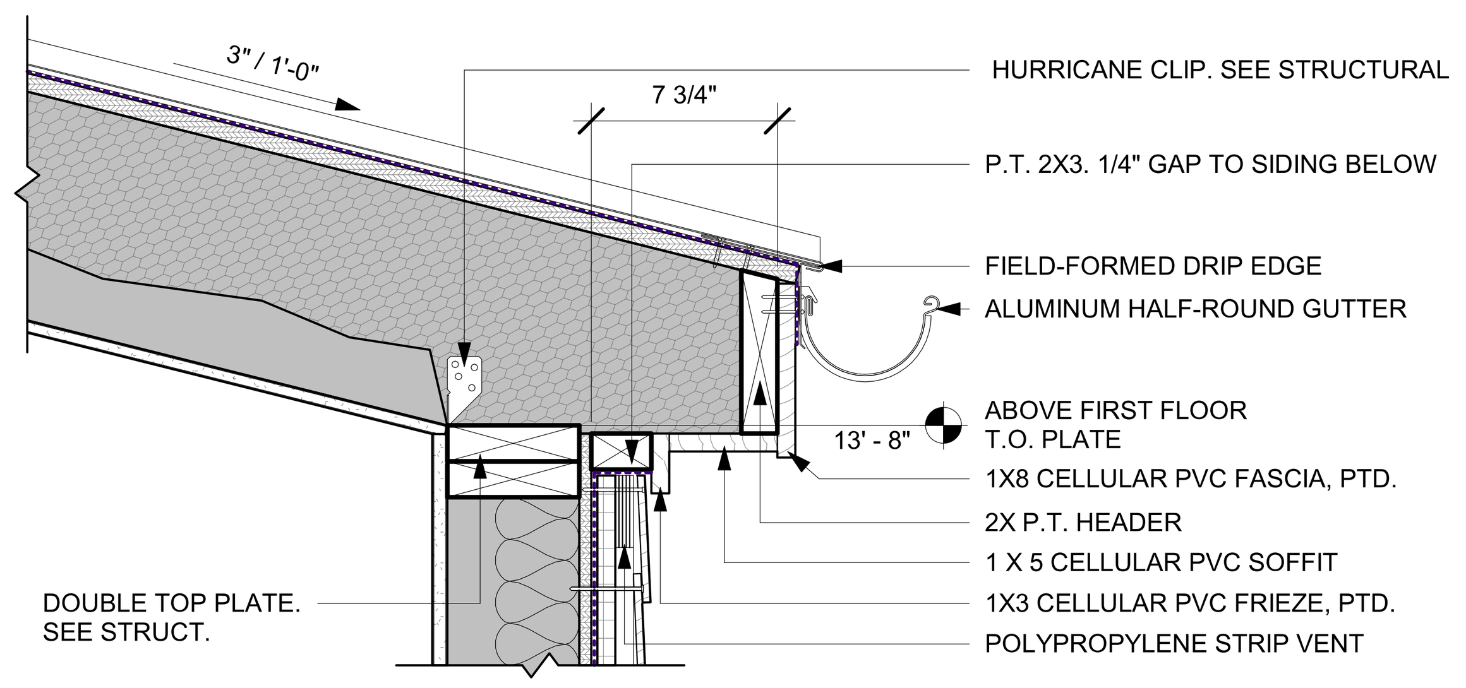
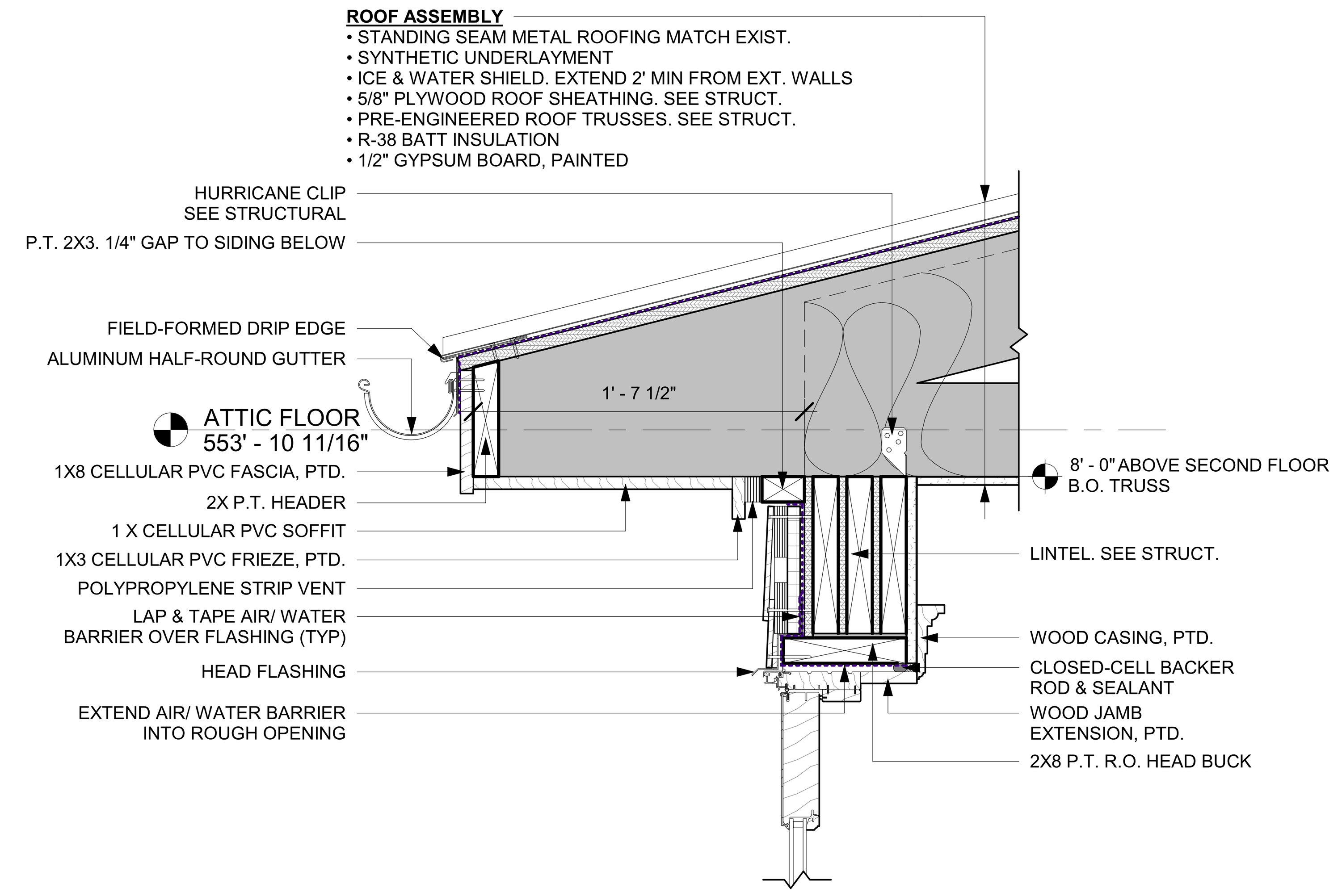
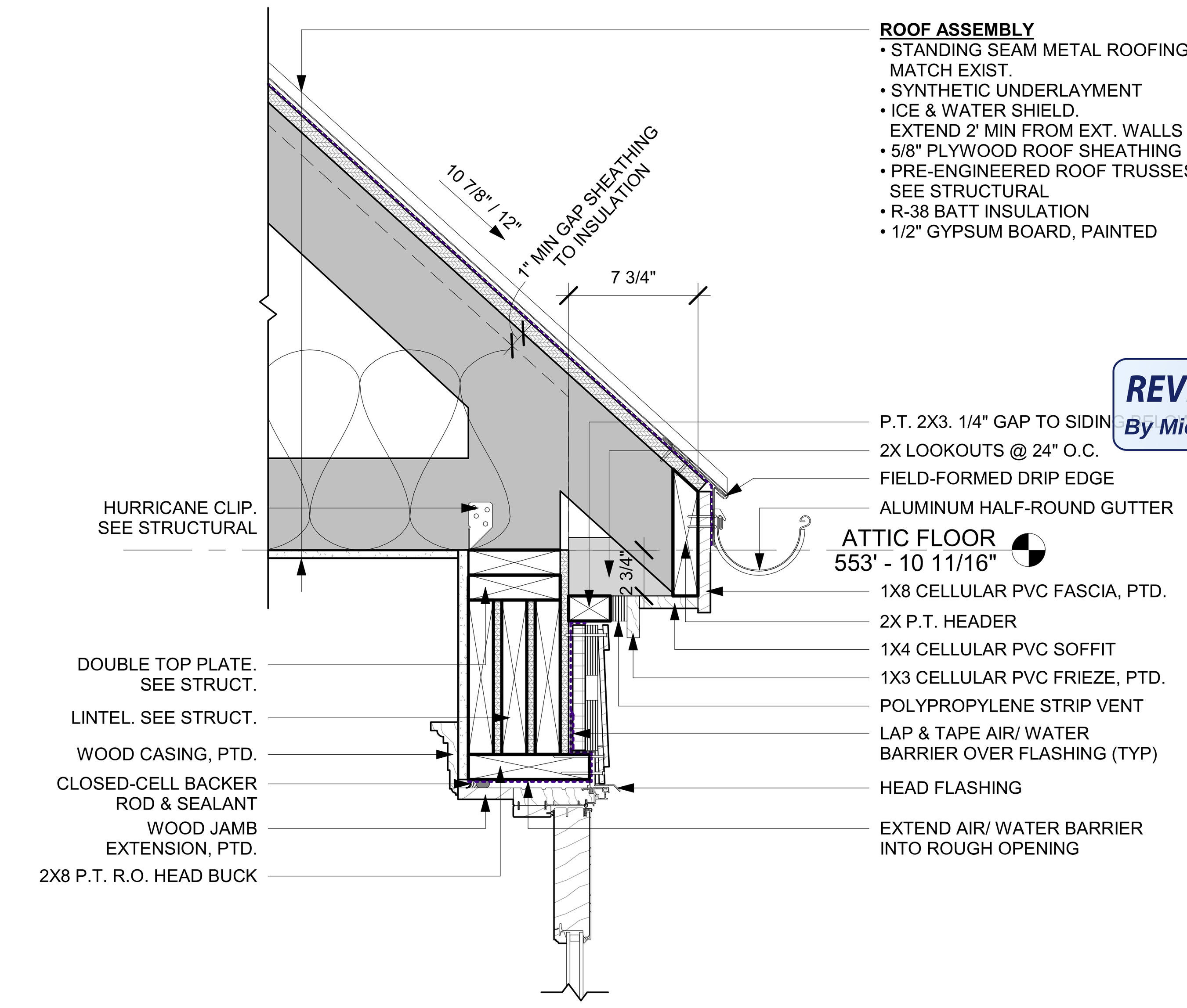
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21



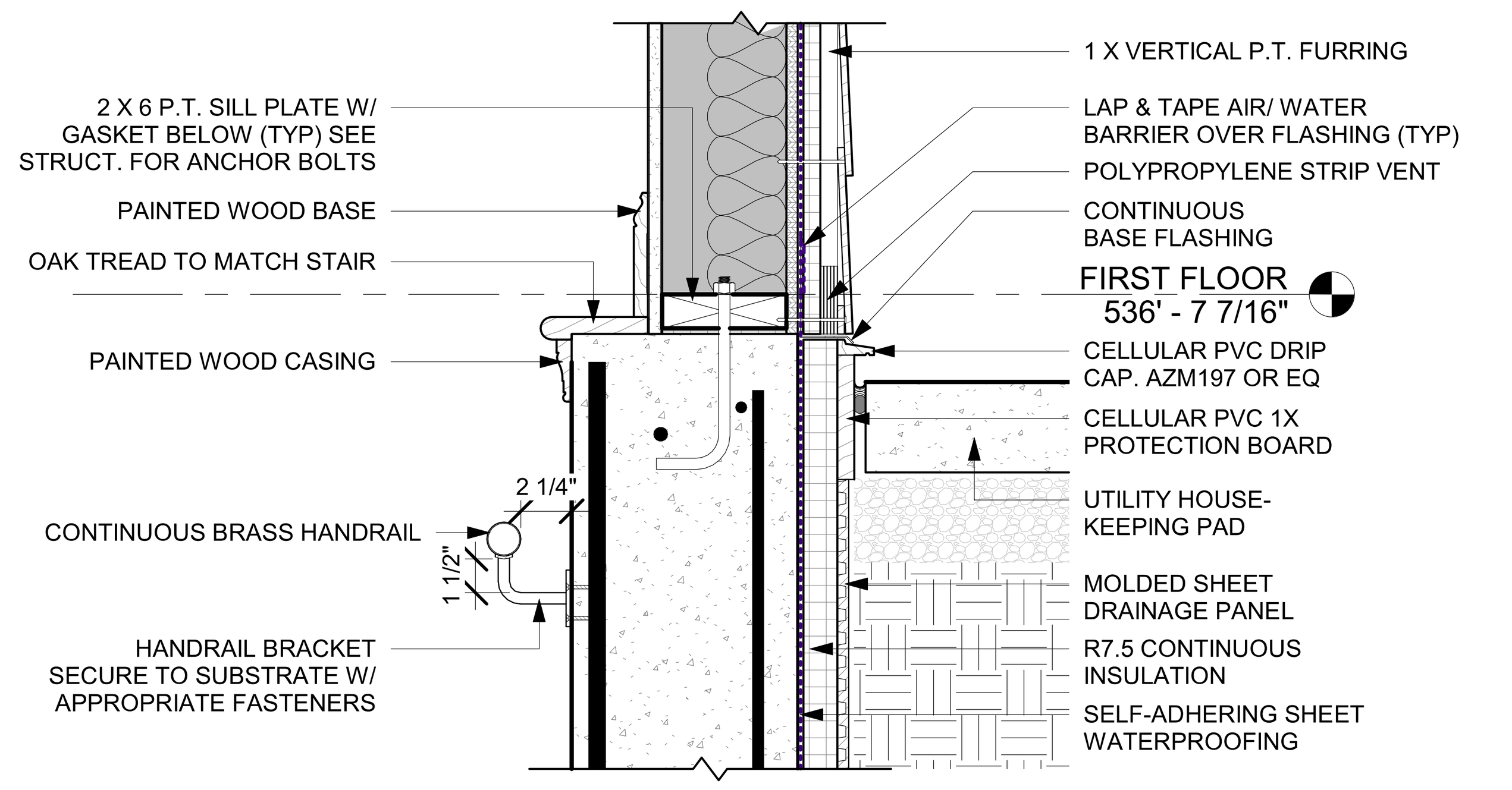
9 DETAIL - STAIR EAVE
1 1/2" = 1'-0"



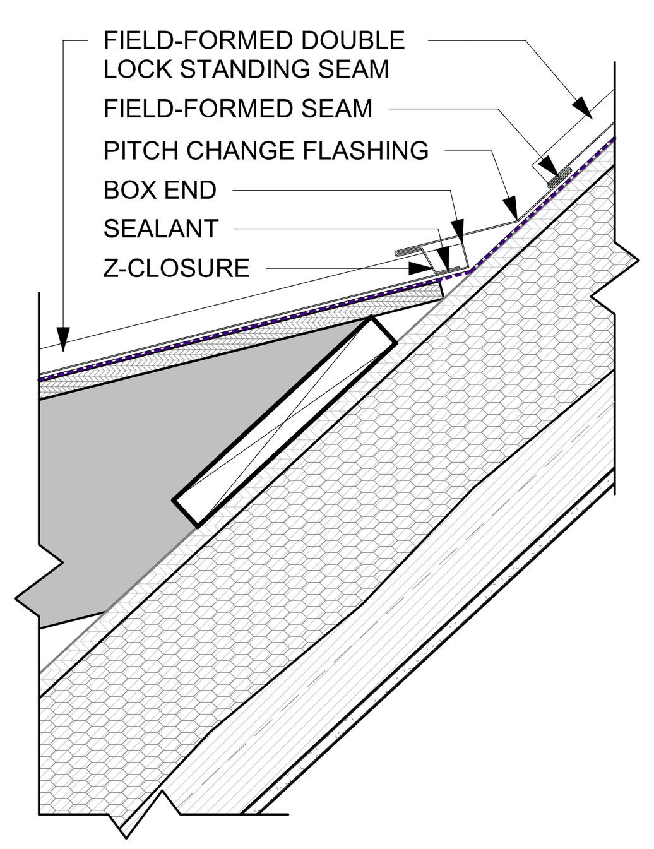
7 DETAIL - SHED EAVE
1 1/2" = 1'-0"



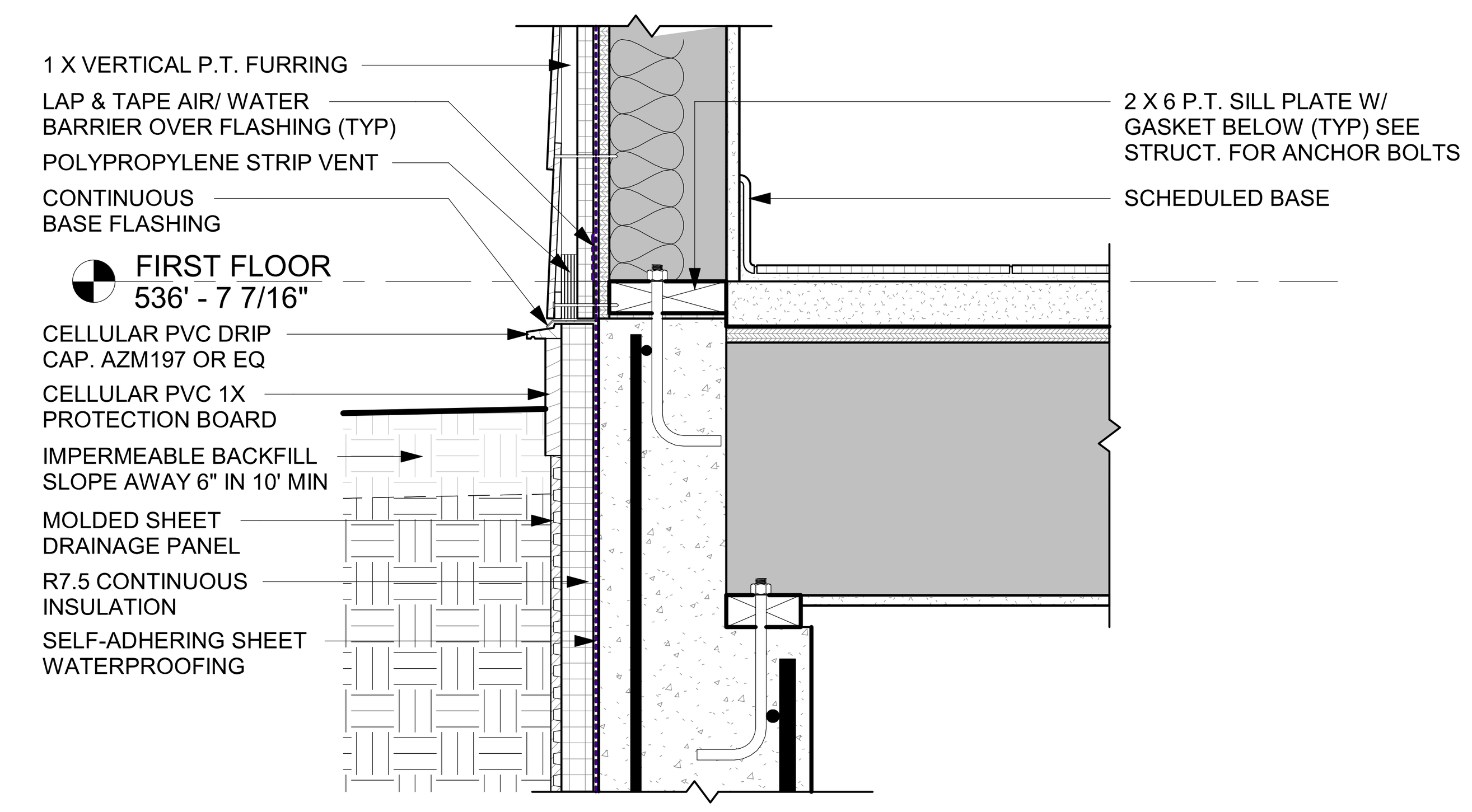
3 DETAIL - GABLE EAVE
1 1/2" = 1'-0"



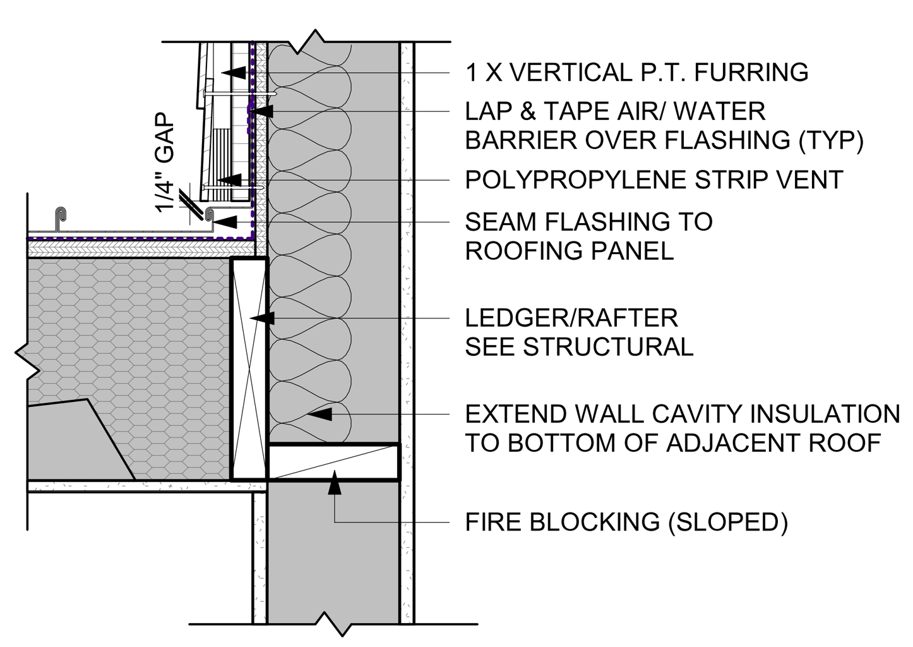
8 DETAIL - STAIR SLAB PERIMETER
1 1/2" = 1'-0"



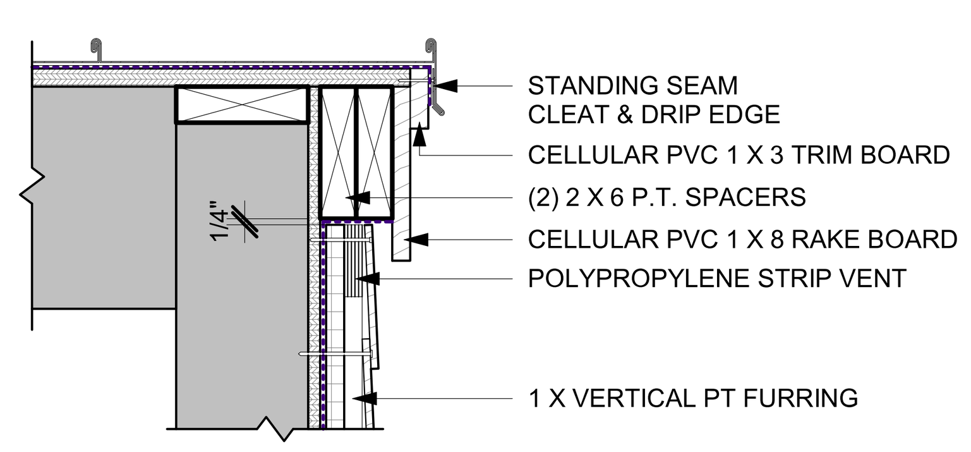
6 DETAIL - ROOF CHANGE IN PITCH
1 1/2" = 1'-0"



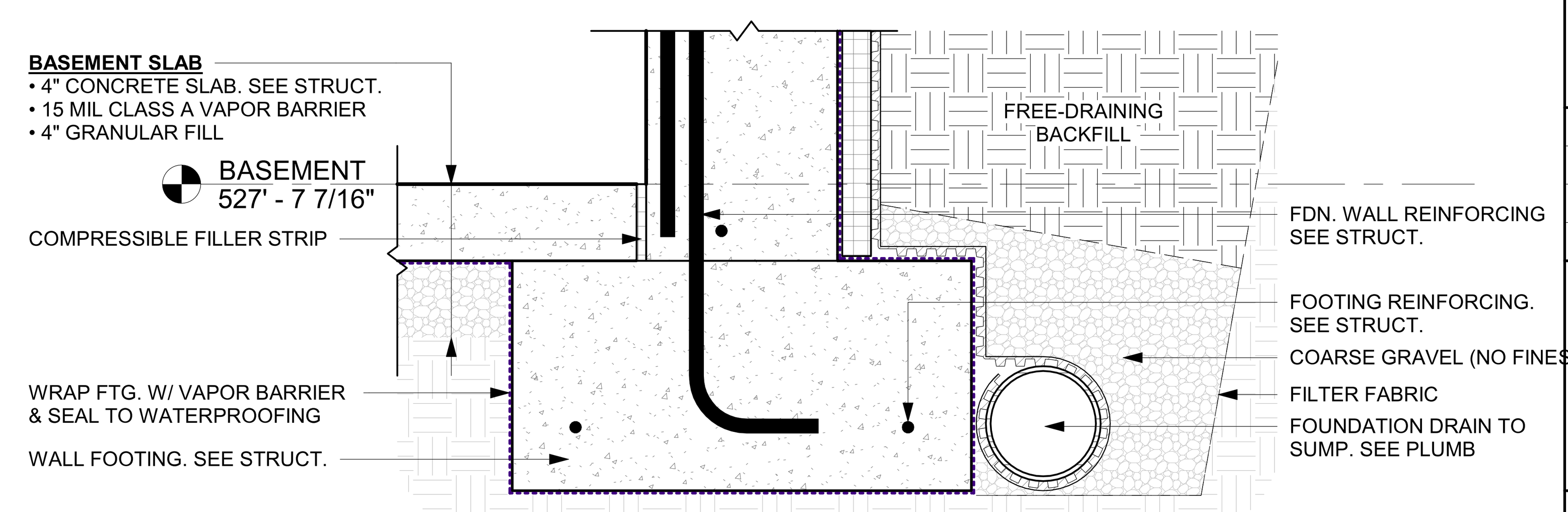
2 DETAIL - SLAB PERIMETER
1 1/2" = 1'-0"



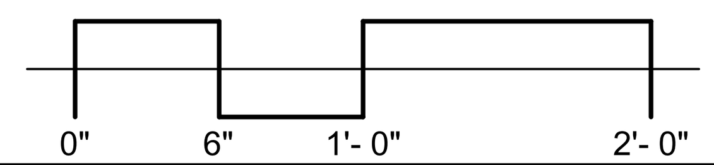
5 DETAIL - RAKE AT WALL
1 1/2" = 1'-0"



4 DETAIL - RAKE
1 1/2" = 1'-0"



1 DETAIL - BASEMENT FOUNDATION
1 1/2" = 1'-0"



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DETAILS

A5.7

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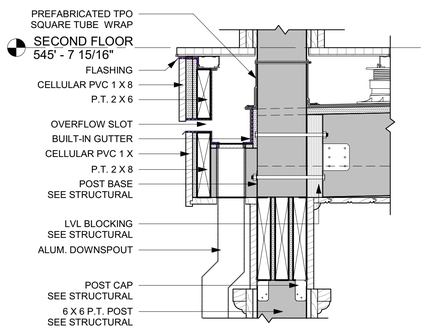
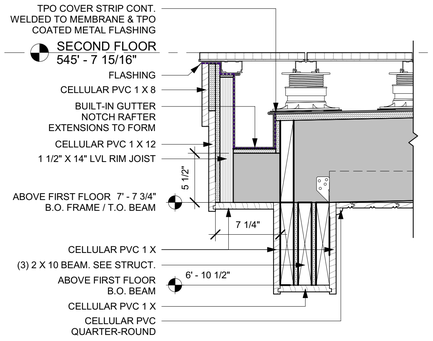
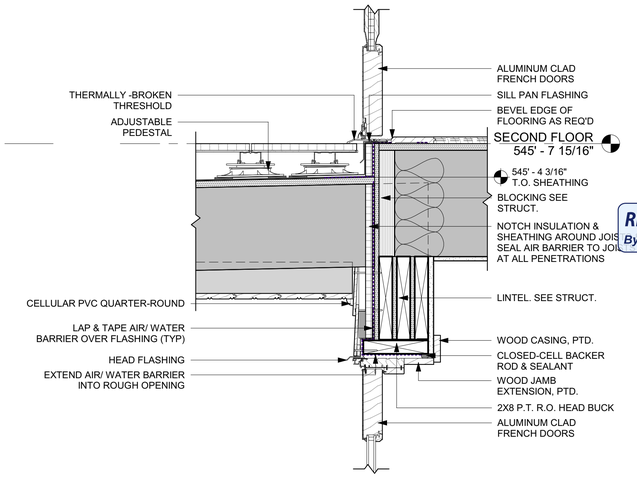


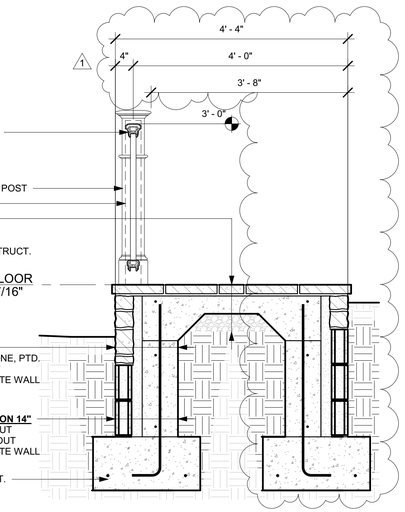
3 DETAIL - TERRACE EAVE COLUMN
1 1/2" = 1'-0"



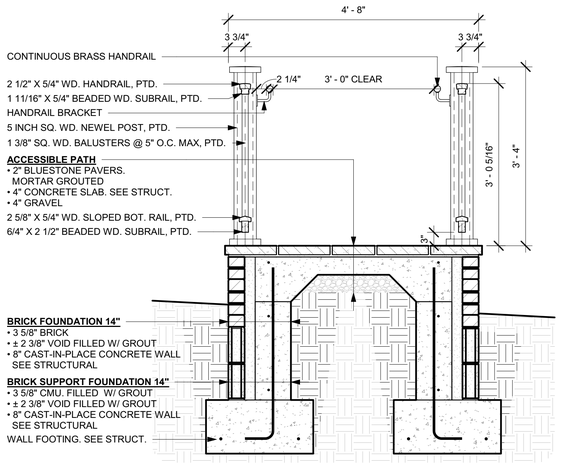
2 DETAIL - TERRACE EAVE
1 1/2" = 1'-0"



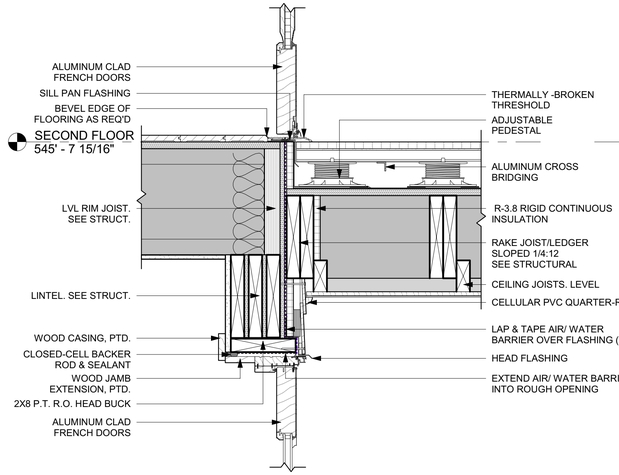
1 DETAIL - TERRACE RIDGE
1 1/2" = 1'-0"



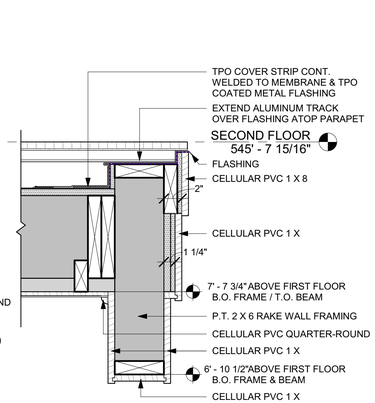
8 SECTION - ADA PATH EDGE
3/4" = 1'-0"



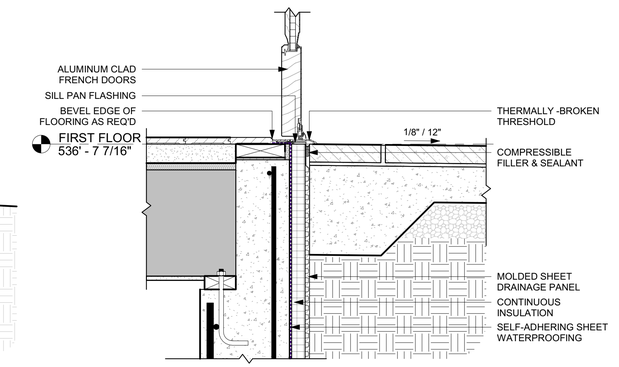
7 SECTION - ADA RAMP
3/4" = 1'-0"



5 DETAIL - TERRACE RAKE WEST
1 1/2" = 1'-0"



4 DETAIL - TERRACE RAKE EAST
1 1/2" = 1'-0"



6 DETAIL - COVERED PATIO SILL
1 1/2" = 1'-0"

0" 6" 1'- 0" 2'- 0"

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Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	10.29.2020	PERMIT COMMENTS

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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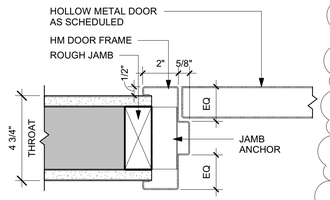
DRAWN: RB PROJECT 20003
CHECKED: Jeff Penza, AIA
CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

DETAILS

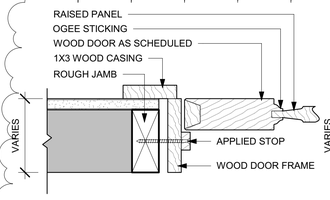
A5.8

DocuSign Envelope ID: A4A848AE-807A-4B4C-BAB6-A44924E665BB

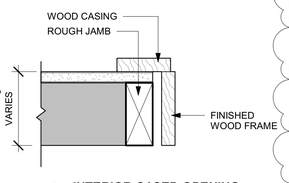
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21



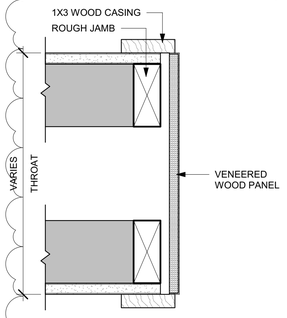
1 **INTERIOR HOLLOW METAL DOOR & FRAME - DWO**



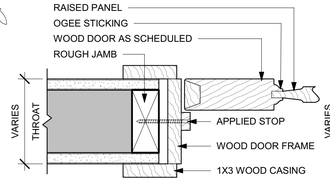
2 **INTERIOR WOOD PANEL DOOR & FRAME - ONE SIDED**



3 **INTERIOR CASED OPENING ONE SIDED**



6 **INTERIOR CASED OPENING DEEP PANELED JAMB**



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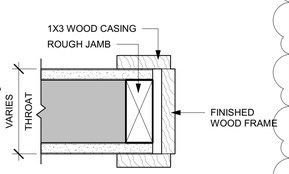
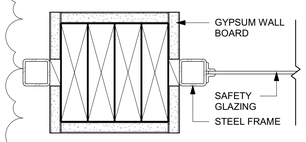
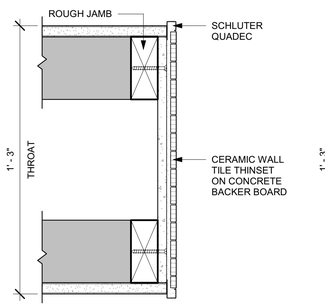


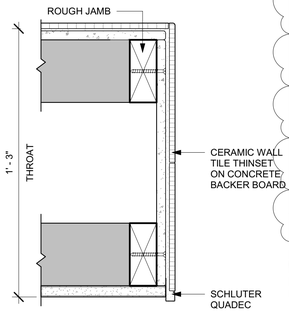
5 **INTERIOR CASED OPENING**



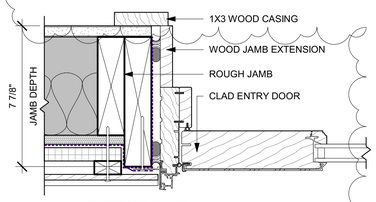
7 **INTERIOR STEEL & GLASS OPENING**



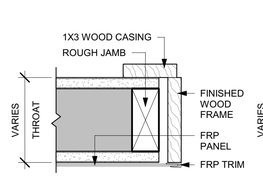
8 **INTERIOR TILED OPENING DEEP JAMB AT GWB**



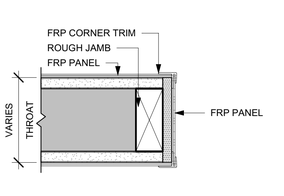
9 **INTERIOR TILED OPENING DEEP JAMB AT TILE**



10 **EXTERIOR CLAD DOOR & FRAME**

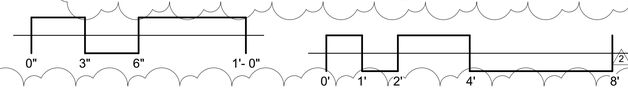


11 **INTERIOR CASED / FRP OPENING**



12 **INTERIOR FRP OPENING**

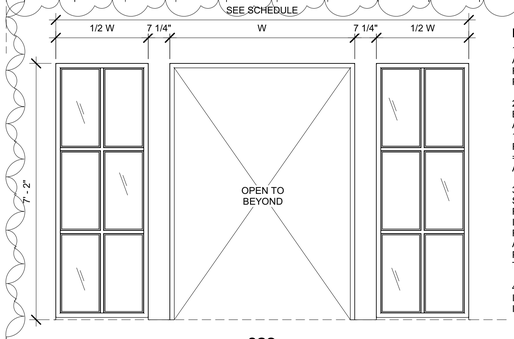
2 DOOR JAMB LEGEND
3" = 1'-0"



DOOR SCHEDULE

DOOR NUMBER	LEVEL	ROOM NAME	INT/EXT	DOOR WIDTH	DOOR HEIGHT	DOOR HEAD HGT	DOOR THICKNESS	DOOR MATERIAL	DOOR FINISH	TYPE	FRAME JAMB	FRAME MATERIAL	FRAME FINISH	HAND	HARDWARE SET	FIRE RATING	NOTES
010A	BASEMENT	DRY STORAGE	Interior	3' - 0"	7' - 0"	7' - 0"	0' - 1 3/4"	HM	PTD	F	1	HM	PTD	RHR	01		
011A	BASEMENT	LIQUOR STORAGE	Interior	3' - 0"	7' - 0"	7' - 0"	0' - 1 3/4"	HM	PTD	F	1	HM	PTD	RHR	01		
013A	BASEMENT	BREAK ROOM	Interior	3' - 0"	7' - 0"	7' - 0"	0' - 1 3/4"	HM	PTD	F	1	HM	PTD	LH	02	1 HR	
014A	BASEMENT	MECH	Interior	3' - 0"	7' - 0"	7' - 0"	0' - 1 3/4"	HM	PTD	F	1	HM	PTD	LHR	01		
101A	FIRST FLOOR	ADA TOILET	Interior	3' - 0"	6' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD	RS4T	2	WD	PTD	RH	03		
101B	FIRST FLOOR	LOUNGE	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	3	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
102A	FIRST FLOOR	ADA TOILET	Interior	3' - 0"	6' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD	RS4T	2	WD	PTD	LH	03		
102B	FIRST FLOOR	LOUNGE	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	3	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
103B	FIRST FLOOR	LOUNGE	Interior	4' - 1 13/16"	6' - 10 9/16"	6' - 10 9/16"		N/A	N/A	CO	3	WD	PTD	N/A	N/A		CASED OPENING
103C	FIRST FLOOR	LOUNGE	Interior	4' - 1 13/16"	6' - 10 9/16"	6' - 10 9/16"		N/A	N/A	CO	3	WD	PTD	N/A	N/A		CASED OPENING
105A	FIRST FLOOR	TAKE-OUT	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	5	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
105B	FIRST FLOOR	TAKE-OUT	Interior	4' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	5	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
106A	FIRST FLOOR	PIZZA KITCHEN	Interior	4' - 0"	6' - 8"	6' - 8"		N/A	N/A	TOA	9	CT	N/A	N/A	N/A		ARCHED TOP TILED OPENING
106B	FIRST FLOOR	PIZZA KITCHEN	Interior	4' - 0"	6' - 8"	9' - 4 1/2"	0' - 0"	N/A	N/A	TO	8	CT	N/A	N/A	N/A		TILED OPENING W/ COUNTER BELOW
107A	FIRST FLOOR	KITCHEN	Interior	4' - 0"	7' - 0"	6' - 7 9/16"		N/A	N/A	CO	11	WD/FRP	N/A/PT	N/A	N/A		CASED/ FRP OPENING
107B	FIRST FLOOR	KITCHEN	Interior	5' - 10"	6' - 8 3/16"	6' - 3 3/4"		N/A	N/A	FRPO	12	FRP	N/A	N/A	N/A		FRP WRAPPED OPENING
108A	FIRST FLOOR	SCULLERY	Interior	4' - 0"	6' - 8 3/16"	6' - 3 3/4"		N/A	N/A	FRPO	12	FRP	N/A	N/A	N/A		FRP WRAPPED OPENING
111A	FIRST FLOOR	DINING	Interior	6' - 3 9/16"	7' - 2"	7' - 2"		N/A	N/A	SGO	7	STEEL	PTD	N/A	N/A		STEEL & GLASS OPENING W/ SIDELITES
112A	FIRST FLOOR	DINING	Interior	6' - 0"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
112B	FIRST FLOOR	DINING	Interior	6' - 3 9/16"	7' - 2"	7' - 2"		N/A	N/A	SGO	7	STEEL	PTD	N/A	N/A		STEEL & GLASS OPENING W/ SIDELITES
112C	FIRST FLOOR	DINING	Exterior	6' - 2 3/16"	7' - 0 1/2"	7' - 0 1/2"	0' - 2 1/4"	CLAD	FF	EE	10	CLAD	FF	LHRA	04		CLAD COMMERCIAL FRENCH DOORS
112D	FIRST FLOOR	DINING	Exterior	6' - 2 3/16"	7' - 0 1/2"	7' - 0 1/2"	0' - 2 1/4"	CLAD	FF	EE	10	CLAD	FF	RHRA	04		CLAD COMMERCIAL FRENCH DOORS
113A	FIRST FLOOR	BAR	Interior	5' - 2 1/16"	7' - 2"	7' - 2"		N/A	N/A	SGO	7	STEEL	PTD	N/A	N/A		STEEL & GLASS OPENING W/ SIDELITES
115B	FIRST FLOOR	BAR	Exterior	6' - 2 3/16"	7' - 0 1/2"	7' - 0 1/2"	0' - 2 1/4"	CLAD	FF	EE	10	CLAD	FF	LHRA	04		CLAD COMMERCIAL FRENCH DOORS
115A	FIRST FLOOR	STAIR	Exterior	3' - 2 3/16"	6' - 9 1/16"	6' - 9 1/16"	0' - 1 3/4"	CLAD	FF	E	10	CLAD	FF	LHR	05		CLAD COMMERCIAL FRENCH DOOR
115B	FIRST FLOOR	STAIR	Interior	3' - 0"	6' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD	RS4	4	WD	PTD	LHR	06	1 HR	
201A	SECOND FLOOR	PRIVATE DINING	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
201B	SECOND FLOOR	PRIVATE DINING	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
202A	SECOND FLOOR	STAIR	Interior	6' - 8"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
202B	SECOND FLOOR	DINING	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	3	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
202C	SECOND FLOOR	DINING	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	3	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
202F	SECOND FLOOR	STAIR	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	3	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
204A	SECOND FLOOR	DINING	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	COT	3	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM
204B	SECOND FLOOR	DINING	Interior	3' - 0"	7' - 8 13/16"	6' - 8"		N/A	N/A	COT	6	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM & DEEP JAMBS
205A	SECOND FLOOR	BAR	Interior	2' - 6"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
206A	SECOND FLOOR	WAIT STATION	Interior	2' - 6"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
206B	SECOND FLOOR	WAIT STATION	Interior	2' - 8"	6' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD	RS2	4	WD	PTD	RHR	01		
207A	SECOND FLOOR	EMPLY. TOILET	Interior	2' - 10"	6' - 8"	5' - 10 3/8"	0' - 1 3/4"	WD	PTD	RS2	4	WD	PTD	RHR	03		
208A	SECOND FLOOR	ATTIC STORAGE	Interior	2' - 10"	6' - 8"	5' - 10 3/8"	0' - 1 3/4"	WD	PTD	RS2	4	WD	PTD	LH	01		
209A	SECOND FLOOR	DINING	Interior	3' - 6"	7' - 0"	7' - 0"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING W/ STEP
210A	SECOND FLOOR	HALL	Interior	4' - 6"	7' - 0"	7' - 0"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING W/ STEP
210B	SECOND FLOOR	DINING	Interior	4' - 6"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
210C	SECOND FLOOR	HALL	Exterior	6' - 2 3/16"	7' - 0 1/2"	7' - 0 1/2"	0' - 2 1/4"	CLAD	FF	EE	10	CLAD	FF	RHRA	04		CLAD COMMERCIAL FRENCH DOORS
210D	SECOND FLOOR	HALL	Exterior	6' - 2 3/16"	7' - 0 1/2"	7' - 0 1/2"	0' - 2 1/4"	CLAD	FF	EE	10	CLAD	FF	LHRA	04		CLAD COMMERCIAL FRENCH DOORS
211A	SECOND FLOOR	TOILET	Interior	3' - 0"	6' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD	RS2	4	WD	PTD	RHR	08		
212A	SECOND FLOOR	TOILET	Interior	3' - 0"	6' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD	RS2	4	WD	PTD	LHR	08		
213A	SECOND FLOOR	STAIR	Interior	3' - 0"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
213B	SECOND FLOOR	STAIR	Interior	3' - 0"	7' - 2 1/32"	6' - 8"		N/A	N/A	COT	6	WD	PTD	N/A	N/A		CASED OPENING W/ DECO TRANSOM & DEEP JAMBS
214A	SECOND FLOOR	DINING	Interior	5' - 0"	6' - 8"	6' - 8"		N/A	N/A	CO	5	WD	PTD	N/A	N/A		CASED OPENING
214B	SECOND FLOOR	DINING	Exterior	6' - 2 3/16"	7' - 0 1/2"	7' - 0 1/2"	0' - 2 1/4"	CLAD	FF	EE	10	CLAD	FF	LHRA	04		CLAD COMMERCIAL FRENCH DOORS
215A	SECOND FLOOR	STAIR	Interior	3' - 0"	6' - 8"	6' - 8"	0' - 1 3/4"	WD	PTD	RS2	4	WD	PTD	LHR	06	1 HR	

SEE SCHEDULE



SGO
INT STEEL & GLASS OPENING W/ SIDELITES

DOOR NOTES

1.EXTERIOR DOORS SHALL COMPLY WITH ALL APPLICABLE CODES, MEETING REQUIREMENTS FOR EGRESS, WIND / WATER PRESSURE TESTS.

2. SHOP DRAWINGS: FOR ALL DOORS SHALL BE SUBMITTED FOR REVIEW BY THE ARCHITECT AT A MINIMUM SCALE OF 1/2"= 1-0".
FOR PLANS, SECTION, ELEVATIONS AND 1 1/2" = 1'-0" FOR DETAILS. DIGITAL SUBMISSIONS ARE PERMITTED.

3. SILL PAN FLASHING. INSTALL CAULK & SEAL BELOW ALL FLASHING AND BACKER ROD CAULK AND SEAL AND LOOSE FILL INSULATION BETWEEN ALL UNIT FRAMES AND ROUGH OPENING TO FORM AIR TIGHT SEAL. ALL FLASHING SHALL TURN UP UNDER FELT PAPER, ICE DAM SHEET AND TAPE AND SEAL TO ALL LIQUID APPLIED AIR BARRIERS.

4. EXTERIOR GLAZING IS TO BE LOW E INSULATED, AND SHALL CONFORM TO 2015 IECC ENERGY CODE REQUIREMENTS

HARDWARE SET 01
1 STOREROOM LOCKSET
3 NRP BB HINGES
3 DOOR SILENCERS
1 FLOOR DOOR STOP
1 KICK PLATE

HARDWARE SET 02
1 STOREROOM LOCKSET
3 NRP BB HINGES
1 SURFACE CLOSER
1 PERIMETER SEAL
1 SWEEP SEAL
1 KICK PLATE

HARDWARE SET 03
1 PRIVACY LOCKSET
3 NRP BB HINGES
3 DOOR SILENCERS
1 WALL DOOR STOP
1 MOP PLATE

HARDWARE SET 04
ANSI/BHMA GRADE 1

DOUBLE CYLINDER MORTISE LOCKSET (ACTIVE)
BTB DUMMY (INACTIVE)
MANUAL FLUSH BOLTS (INACTIVE)
6 NRP BB HINGES
1 PERIMETER GASKET
2 SWEEP SEALS
1 ASTRAGAL SEAL
1 THRESHOLD
2 KICK PLATE
2 RAIN DRIPS

HARDWARE SET 05
ANSI/BHMA GRADE 1

1 EXIT DEVICE W/ MORTISE ENTRY LOCKSET
3 NRP BB HINGES
1 PERIMETER GASKET
1 SWEEP SEAL
1 THRESHOLD
1 KICK PLATE
1 RAIN DRIP

HARDWARE SET 06
ANSI/BHMA GRADE 1

1 EXIT DEVICE W/ PASSAGE LOCKSET
3 NRP HINGES
1 PERIMETER GASKET
1 SWEEP SEAL
1 KICK PLATE

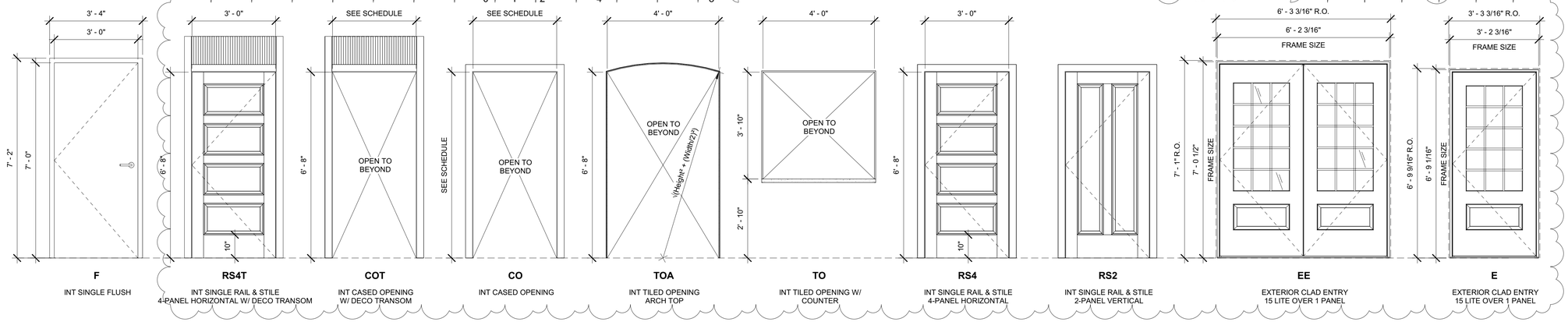
HARDWARE SET 08

1 PRIVACY LOCKSET
3 NRP BB HINGES
3 DOOR SILENCERS
1 MOP PLATE

NOTES

1. ALL DOOR HARDWARE TO MEET OR EXCEED ANSI/BHMA GRADE 2 UNLESS NOTED OTHERWISE.

1 DOOR TYPE LEGEND
1/2" = 1'-0"

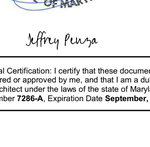


4 DOOR HARDWARE

PENZA+BAILEY
ARCHITECTS
401 Woodbourne Avenue
Baltimore, Maryland 21212
T 410-435-6677 | F 410-435-6868
www.PenzaBailey.com

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission



Jeffrey Penza

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2022**.

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
2	10.30.2020	INTERIOR DESIGN

ISSUED FOR:
- ☐ REVIEW
- ☐ BID
- ☒ PERMIT
- ☐ SD SET
- ☐ DD SET
- ☐ CD SET

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DRAWN: RB | PROJECT 20003
CHECKED: Jeff Penza, AIA
CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0803.rvt
DATE: 10.30.2020

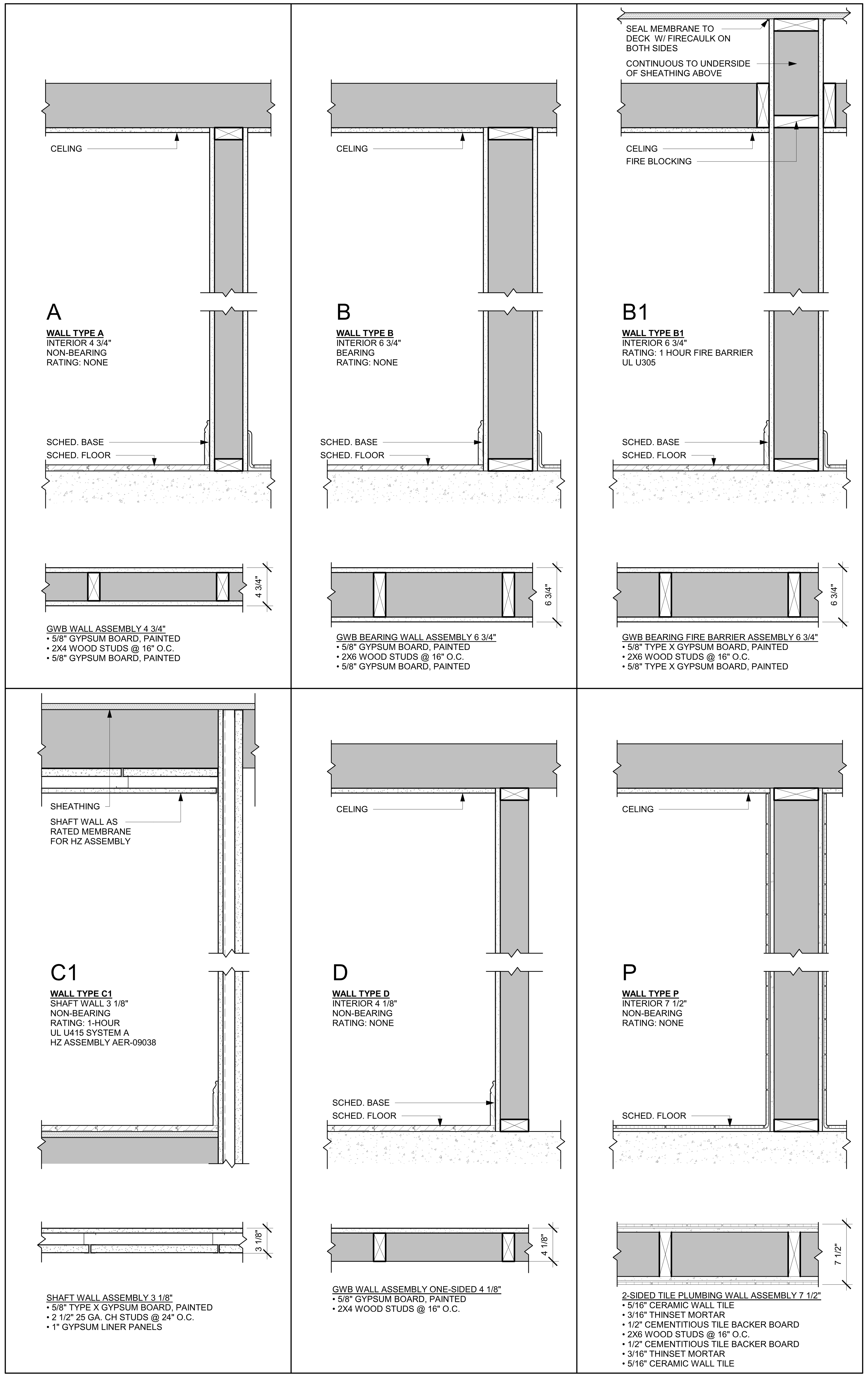
DOOR SCHEDULE, LEGEND, & DETAILS

A6.1

DocuSign Envelope ID: 1637821C-2F1B-4620-B36A-1349055392CA

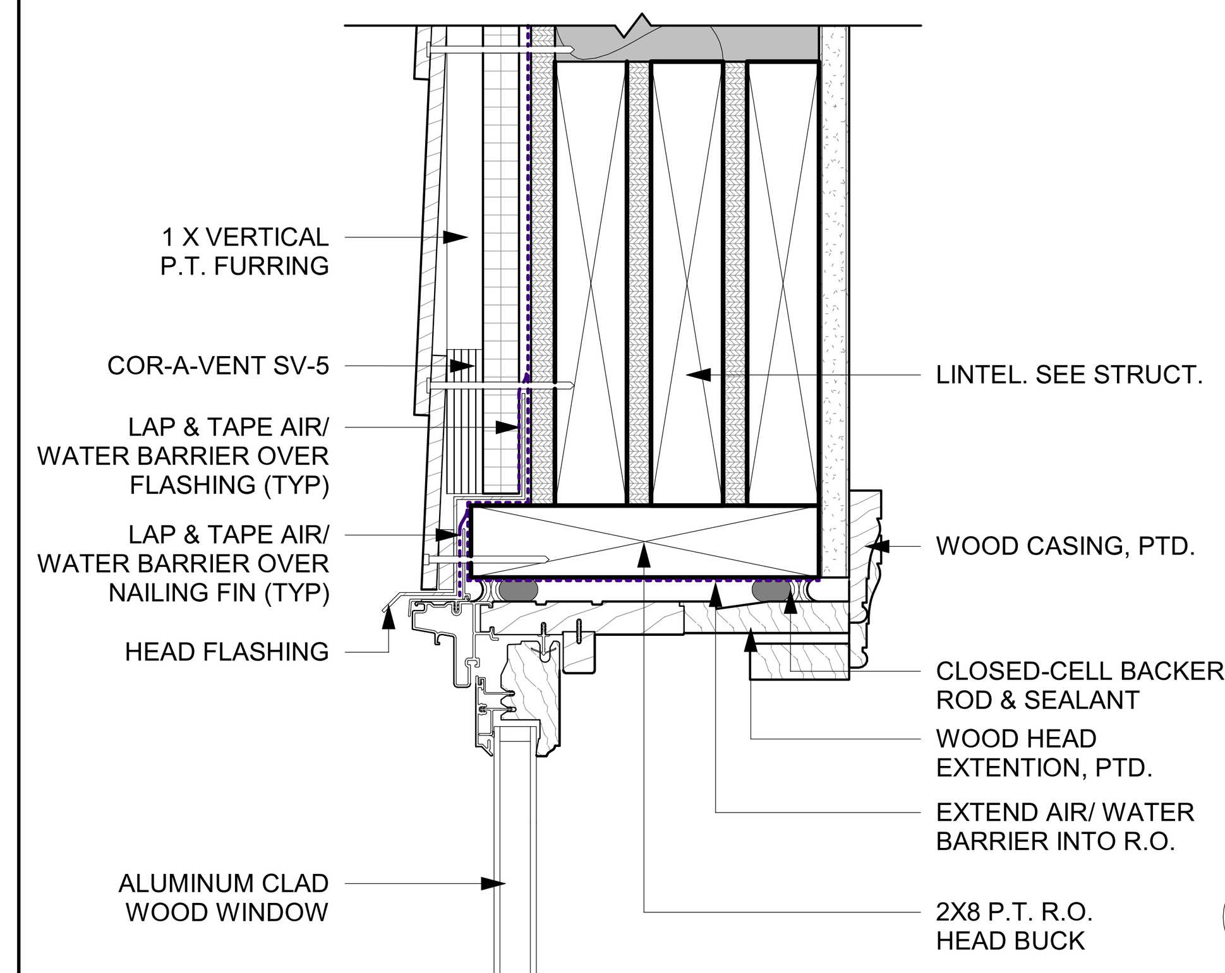
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

WINDOW SCHEDULE													
		FRAME SIZE		ROUGH OPENING									
MARK	QTY.	WIDTH	HEIGHT	ROUGH WIDTH	ROUGH HEIGHT	ROUGH SILL	ROUGH HEAD	TYPE	U-FACTOR	SHGC	LIGHT	VENT	NOTES / REMARKS
A	8	2' - 11 1/4"	4' - 11 1/2"	3' - 0 1/4"	5' - 0"			UDHG2 3026	0.3704 BTU/(h·ft²·°F)	0.31	10 SF	5 SF	AT EXIST. R.O. V.I.F (TYP OF 2)
B	1	2' - 11 1/4"	3' - 7 1/2"	3' - 0 1/4"	3' - 8"	3' - 5"	7' - 1"	UDHG2-3018	0.3704 BTU/(h·ft²·°F)	0.31	7 SF	3 SF	
C	2	1' - 9 1/4"	4' - 3 1/2"	1' - 10 1/4"	4' - 4"	3' - 1 11/16"	7' - 5 11/16"	UDHG2 1822	0.3704 BTU/(h·ft²·°F)	0.31	4 SF	2 SF	EXIST. R.O. V.I.F. PROVIDE CUSTOM SIZE AS REQ'D
D	1	4' - 5 1/4"	4' - 3 1/2"	4' - 6 1/4"	4' - 4"	3' - 1 11/16"	7' - 5 11/16"	UDHPG2-5250	0.3704 BTU/(h·ft²·°F)	0.31	29 SF	7 SF	EXIST. R.O. V.I.F. PROVIDE CUSTOM SIZE AS REQ'D

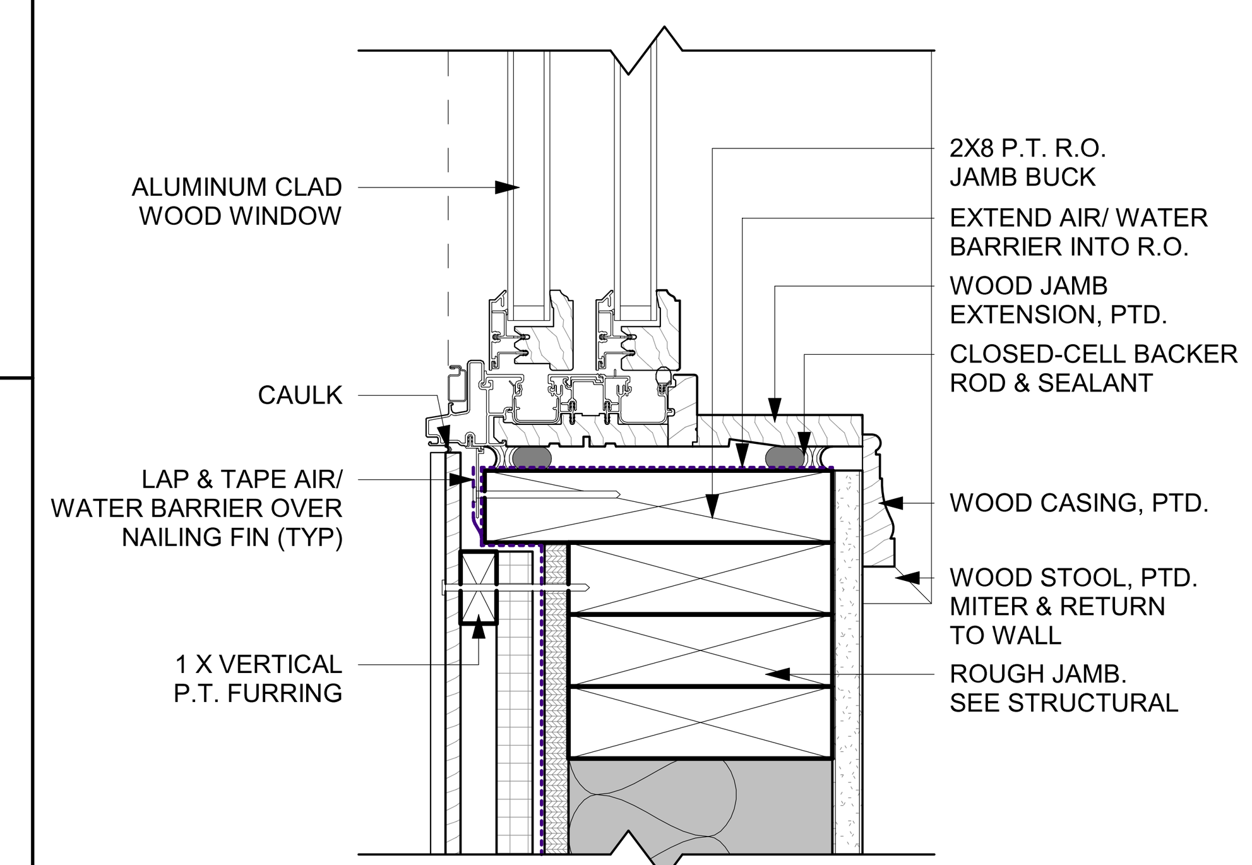


0" 6" 1'- 0" 2'- 0"

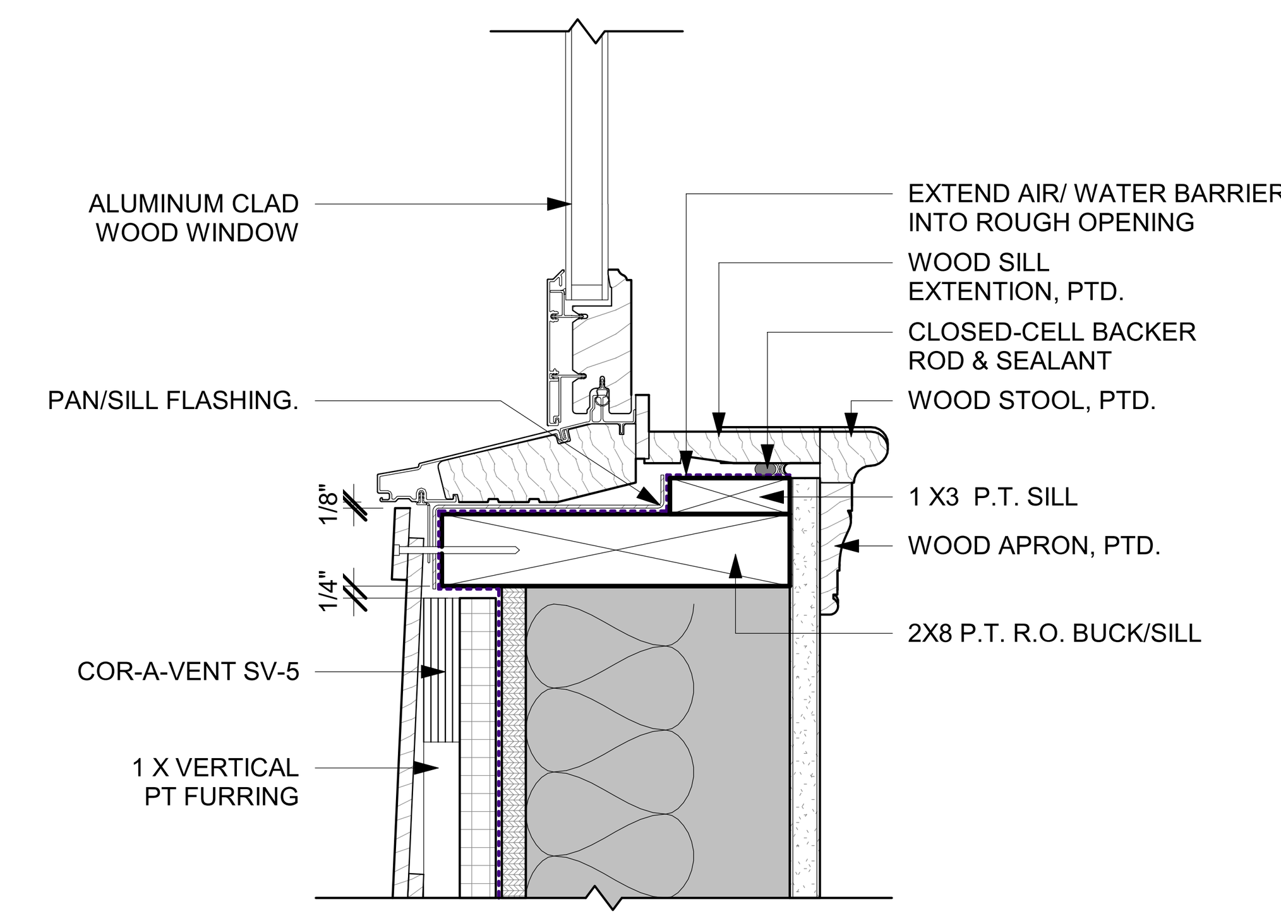
5 PARTITION LEGEND
1 1/2" = 1'-0"



1 WINDOW HEAD DETAIL
3" = 1'-0"

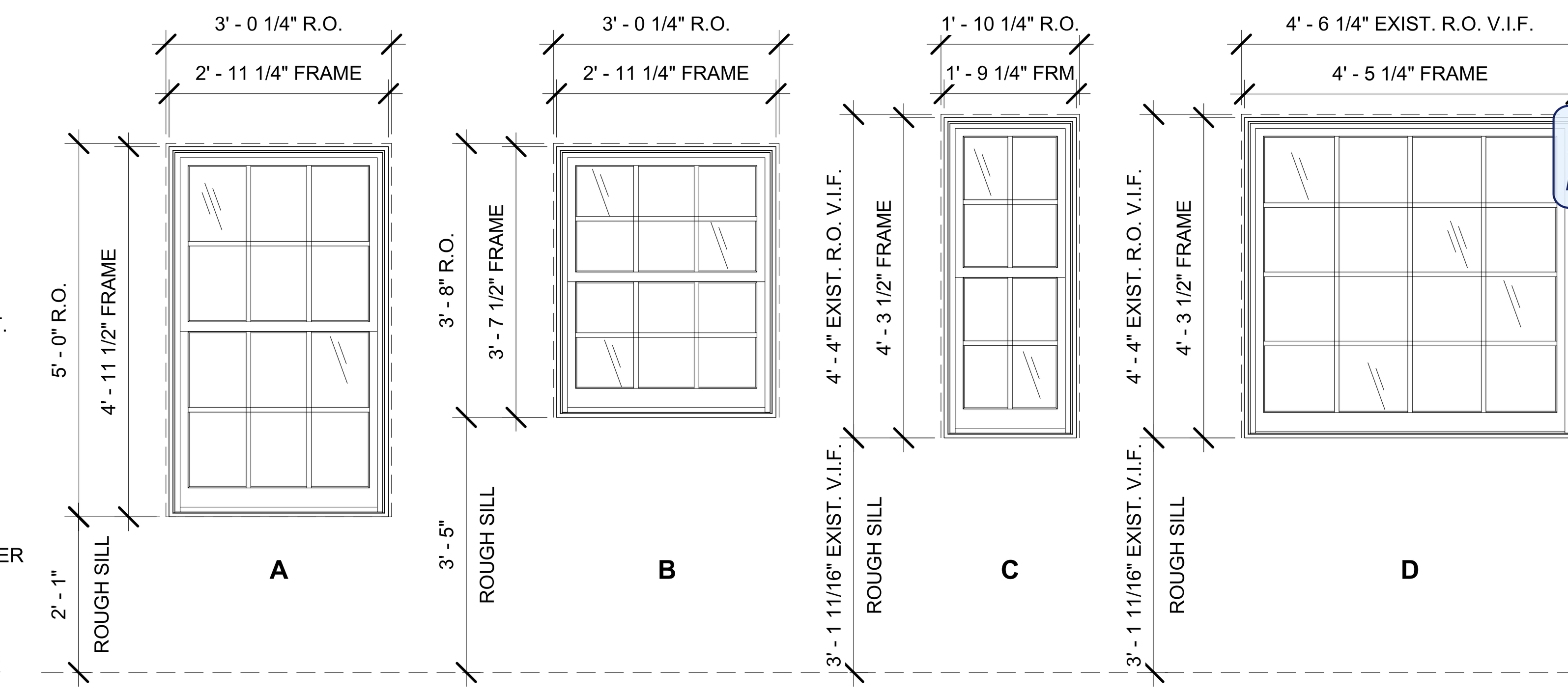


2 WINDOW JAMB DETAIL
3" = 1'-0"



3 WINDOW SILL DETAIL
3" = 1'-0"

0" 3" 6" 1'- 0"



4 WINDOW TYPE LEGEND
1/2" = 1'-0"

0' 1' 2' 4' 8'

WINDOW NOTES

1.WINDOWS SHALL COMPLY WITH ALL APPLICABLE CODES, MEETING REQUIREMENTS FOR EGRESS, WIND / WATER PRESSURE TESTS.

2. WINDOWS SHALL BE ALUMINUM-CLAD WINDOWS.
WOOD SPECIES SHALL BE PINE PRIMED WHITE WOOD INTERIOR.
CLADDING COLOR SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
HARDWARE STYLE AND FINISH SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

3. SHOP DRAWINGS: FOR ALL WINDOWS SHALL BE SUBMITTED FOR REVIEW BY THE ARCHITECT AT A MINIMUM SCALE OF 1/2"=1-0", FOR PLANS, SECTION, ELEVATIONS AND 1 1/2" = 1'-0" FOR DETAILS. DIGITAL SUBMISSIONS ARE PERMITTED.

4. SILL PAN FLASHING. INSTALL CAULK & SEAL BELOW ALL FLASHING AND BACKER ROD CAULK AND SEAL AND LOOSE FILL INSULATION BETWEEN ALL UNIT FRAMES AND ROUGH OPENING TO FOR AIR TIGHT SEAL. ALL FLASHING SHALL TURN UP UNDER FELT PAPER, ICE DAM SHEET AND TAPE AND SEAL TO AIR BARRIERS.

5. GLAZING IS TO BE LOW E INSULATED, AND SHALL CONFORM TO 2015 IECC ENERGY CODE REQUIREMENTS

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ARCHITECTURAL REGISTRATION BOARD
7286-A
STATE OF MARYLAND

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Jeffrey Penza
863409D12D914DE...

Professional Certification: I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland, license number **7286-A**, Expiration Date **September, 2020**.

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CHECKED: Jeff Penza, AIA
CAD FILE: BIM 360://Salt & Vine/20003-Salt and Vine-Cloud-2020-0621.rvt
DATE: 7.13.2020

LEGENDS, WINDOW SCHEDULE, & DETAILS

A6.2

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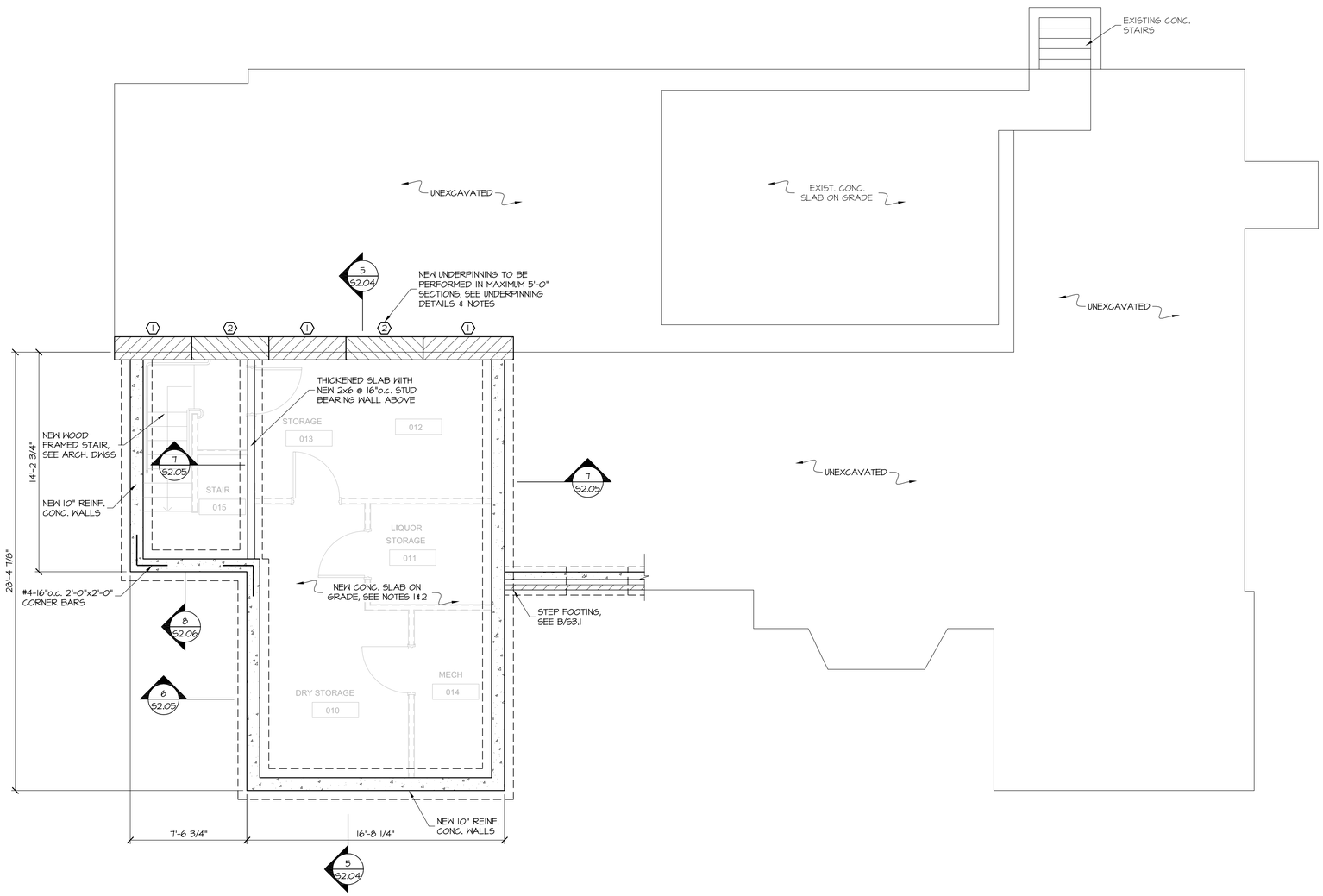

NORTH

BASEMENT & FOUNDATION PLAN

1/4"=1'-0"

NOTES:
1. PROVIDE NEW 4" CONC. SLAB ON GRADE REINFORCED WITH 6x6 - W1.4 x W1.4 WWF., 15 MIL POLY + 4" WASHED GRAVEL SUB-BASE UNDER SLAB.
2. PROVIDE SLAB ON GRADE CONTROL JOINTS (1/8"x3/4" SOFT CUT) AT A MAXIMUM SPACING OF 15'o.c IN BOTH DIRECTIONS.
3. PROVIDE CONTROL JOINTS IN ALL CONCRETE WALLS AT A MAXIMUM SPACING OF 30', EXACT LOCATIONS TO BE APPROVED BY THE ARCHITECT.

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BASEMENT & FOUNDATION PLAN

S1.1

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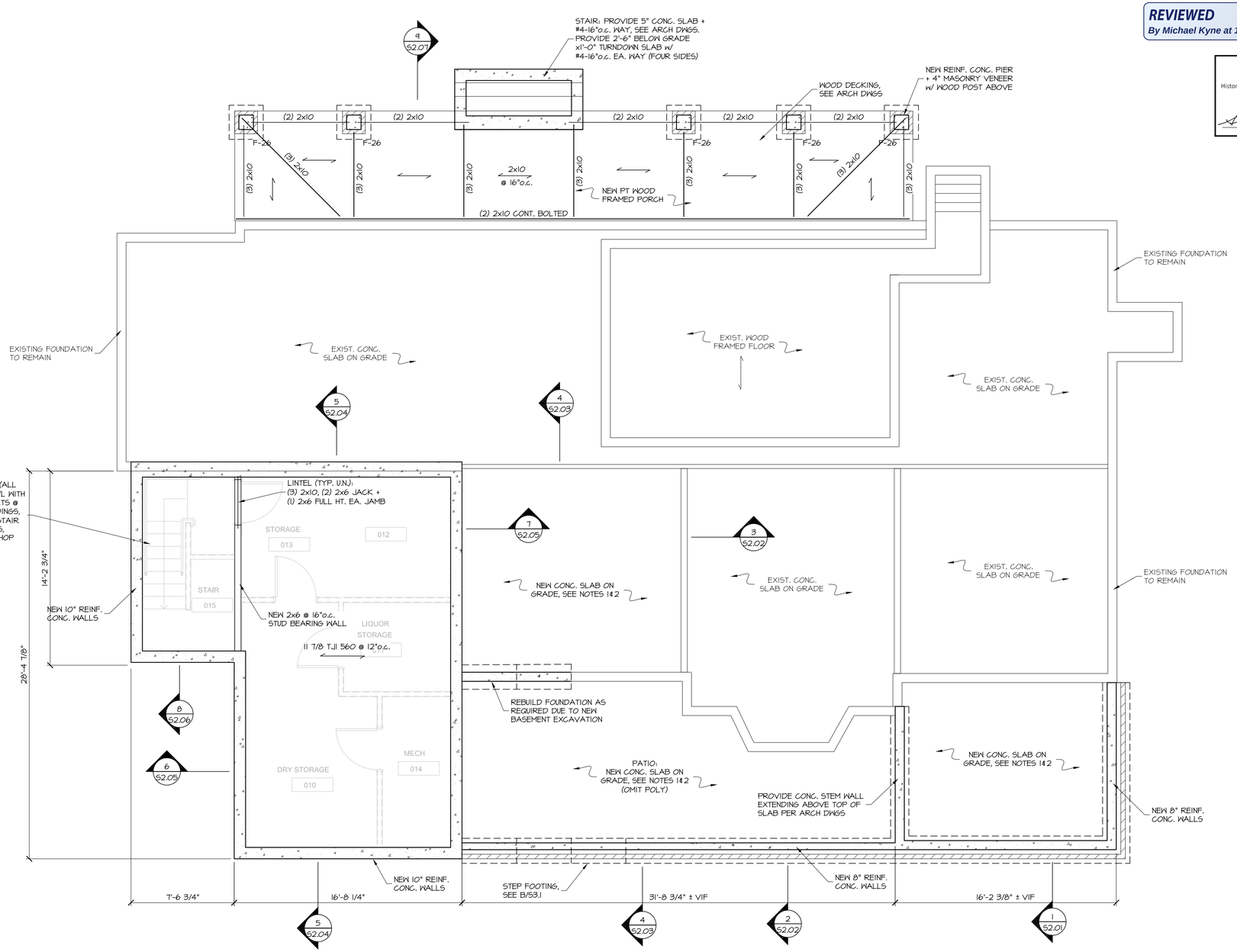

NORTH

FIRST FLOOR FRAMING PLAN

1/4"=1'-0"

NOTES:
1. PROVIDE NEW 4" CONC. SLAB ON GRADE REINFORCED WITH 6x6 - W1.4 x W1.4 WWF., 15 MIL CLASS A VAPOR BARRIER (POLY) + 4" WASHED GRAVEL SUB-BASE UNDER SLAB.
2. PROVIDE SLAB ON GRADE CONTROL JOINTS (1/8"x3/4" SOFT CUT) AT A MAXIMUM SPACING OF 15'o.c IN BOTH DIRECTIONS.

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FIRST FLOOR FRAMING PLAN

S1.2

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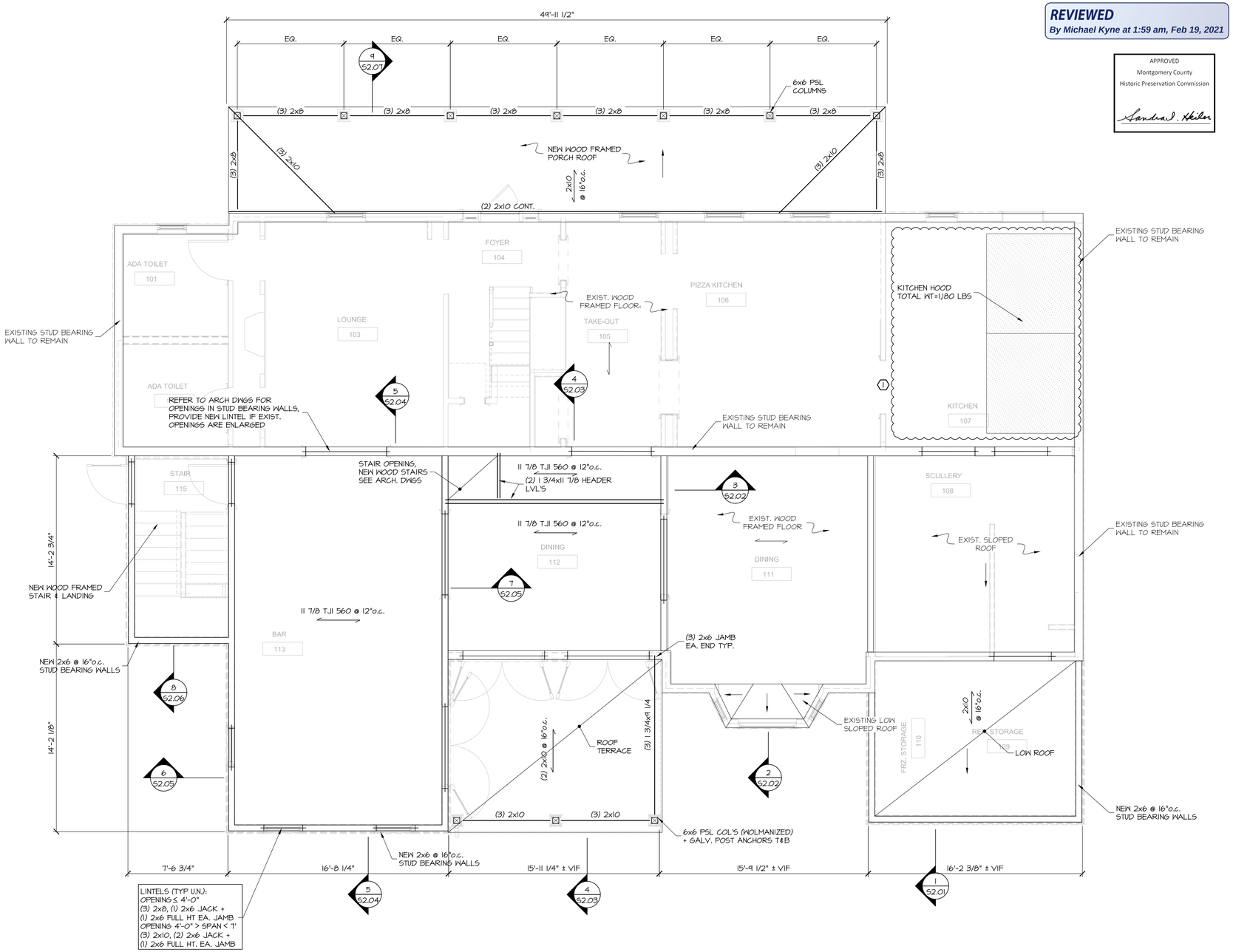

NORTH

SECOND FLOOR/LOW ROOF FRAMING PLAN 1/4"=1'-0"

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JANAKBHAI A PATEL
No. 13758
PROFESSIONAL ENGINEER

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SECOND FLOOR/ LOW ROOF FRAMING PLAN

S1.3

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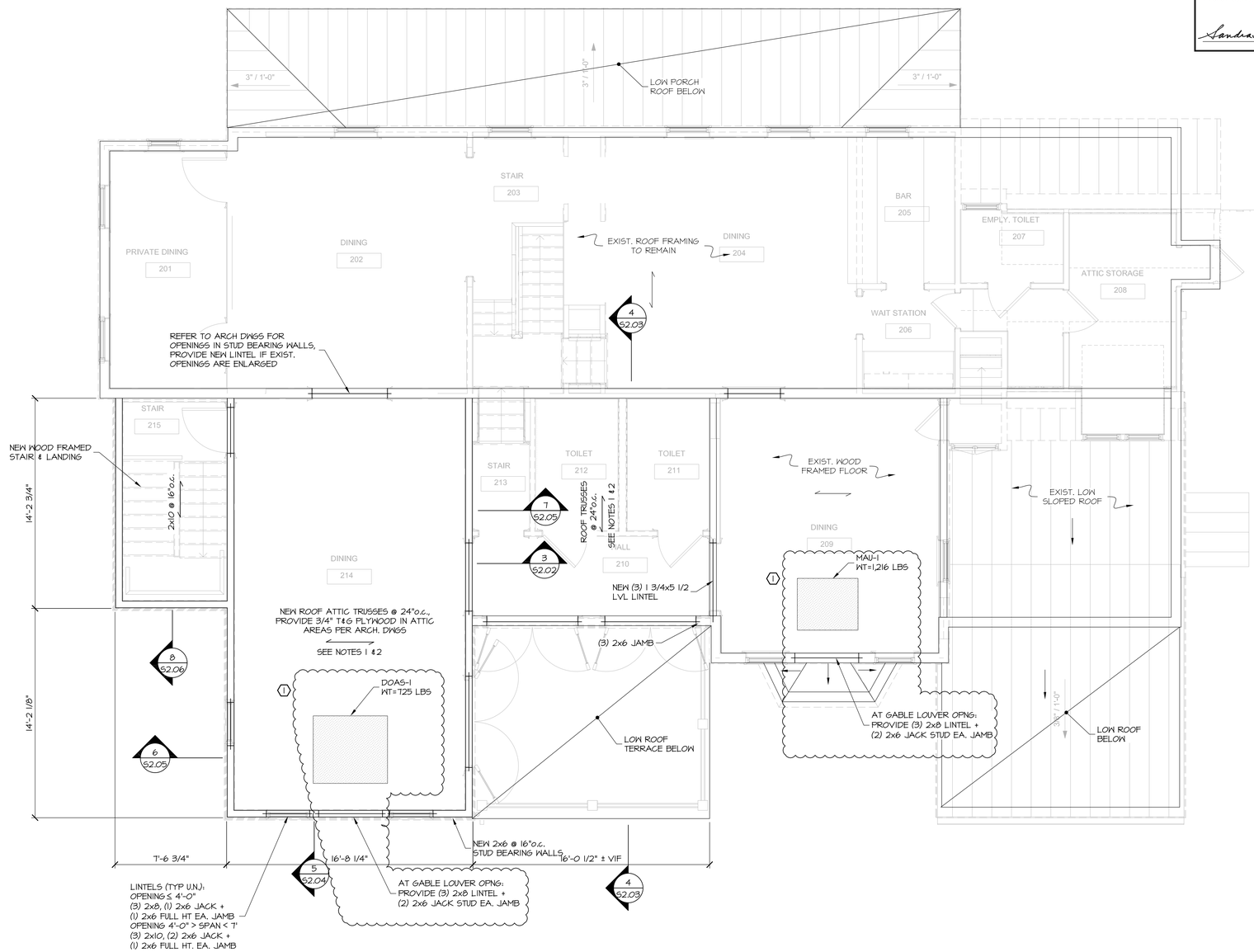
JANAKBHAI A. PATEL
No. 13756
PROFESSIONAL ENGINEER



NORTH

ROOF/ATTIC FRAMING PLAN

1/4"=1'-0"

NOTES:
1. ROOF DECK TO BE 5/8" EXTERIOR GRADE PLYWOOD ROOF DECK w/ GALV. "H CLIPS" @ 24"o.c. + 1/8" GAP AT ALL JOINTS
2. SEE GENERAL NOTES & "ROOF TRUSS NOTES" ON DWG S3.1 FOR PRE-ENGINEERED WOOD TRUSS & ATTIC TRUSS INFORMATION.

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ROOF/ATTIC FRAMING PLAN

S1.4

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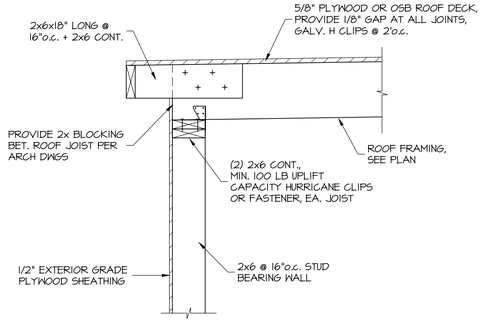

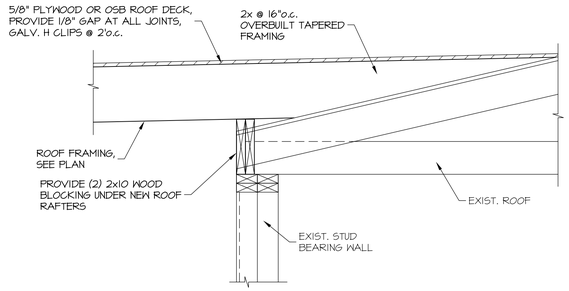

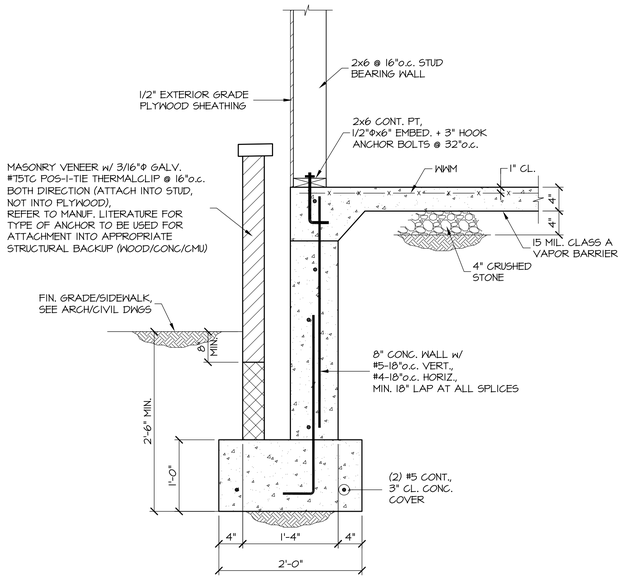

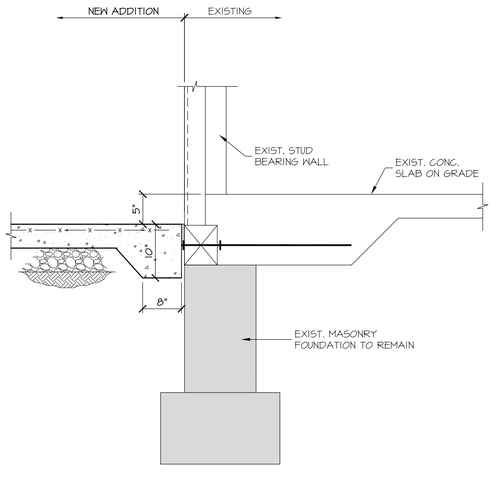

SECTION 1 / S2.01 1"=1'-0"

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SECTIONS

S2.01

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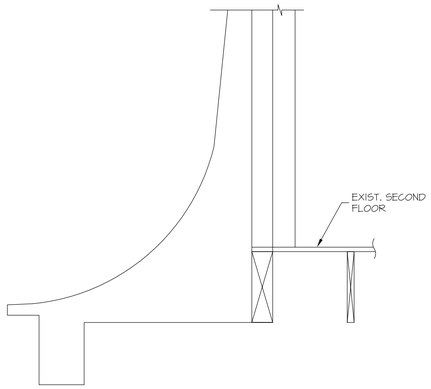

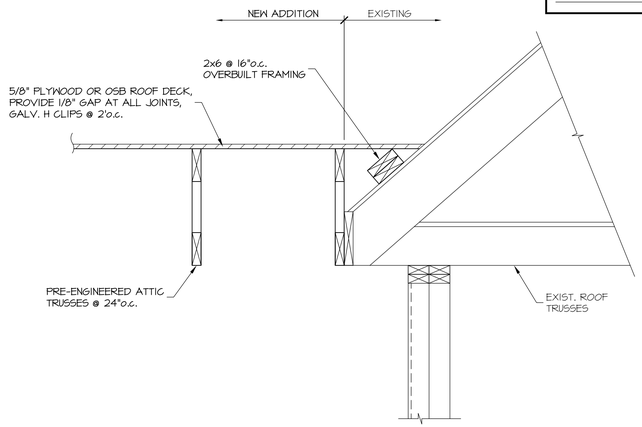

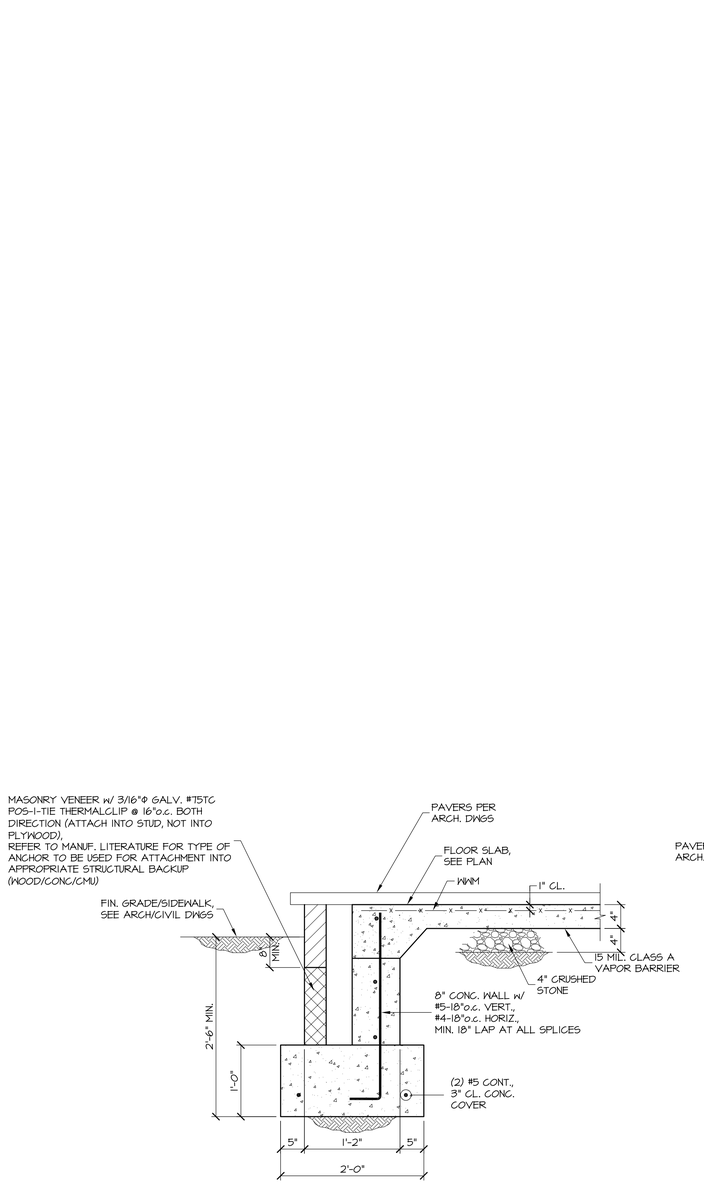

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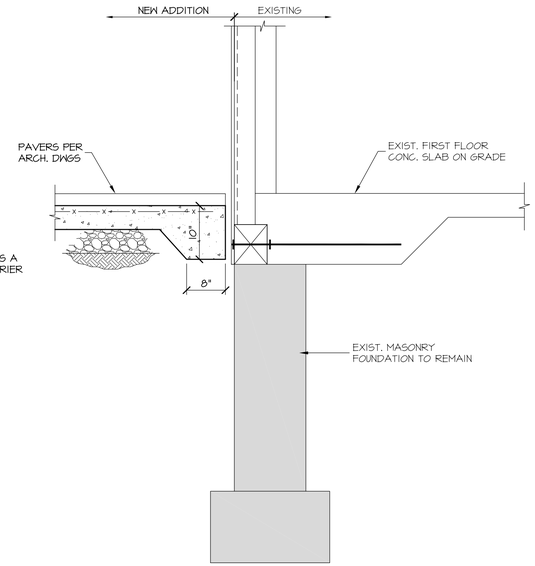

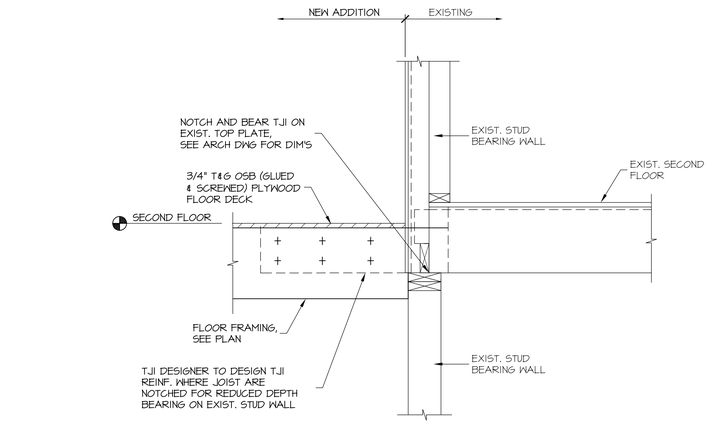

SECTION 3 S2.02 1"=1'-0"

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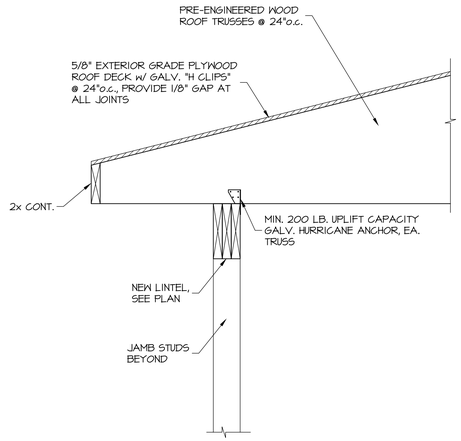

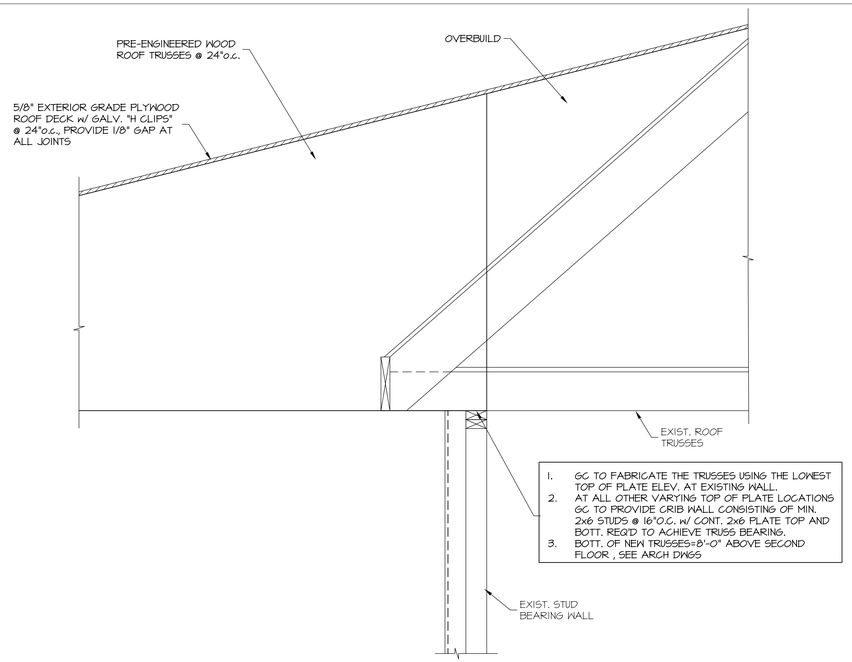

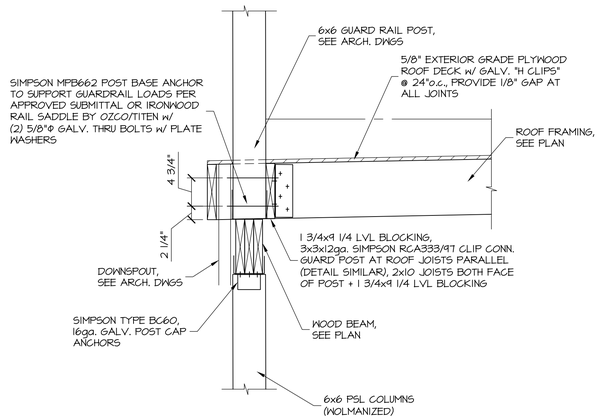

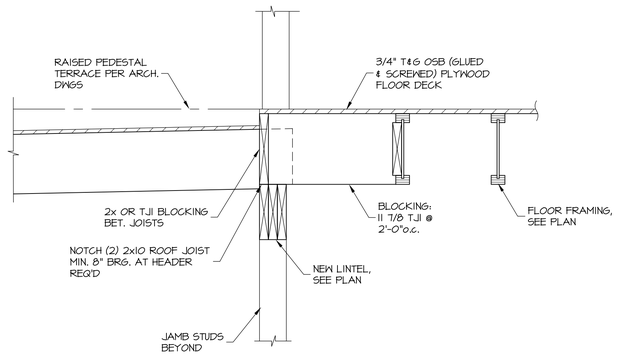

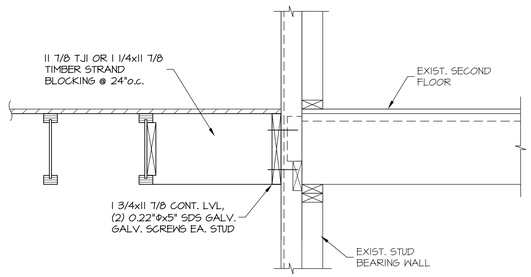

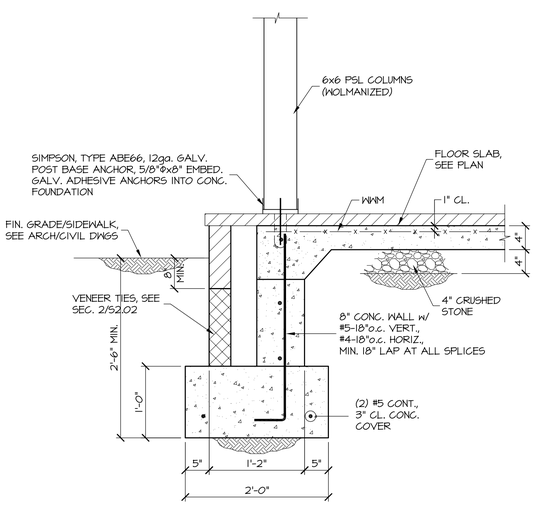

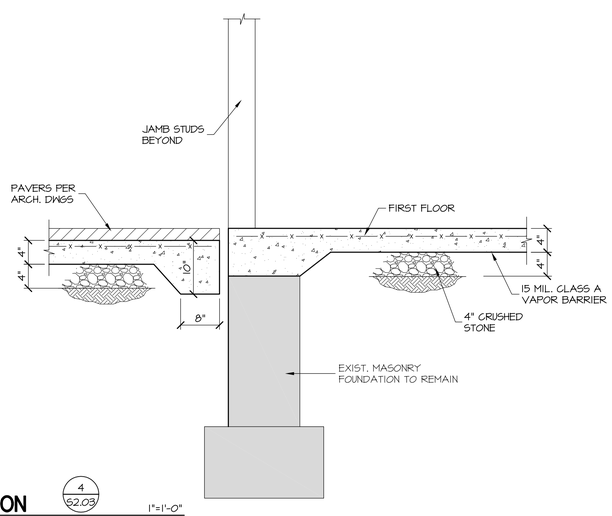

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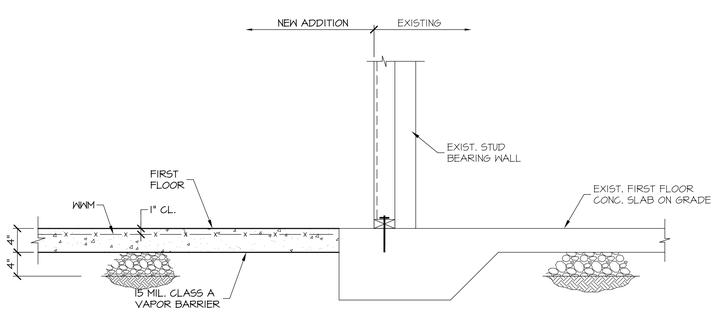

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SECTIONS

S2.03

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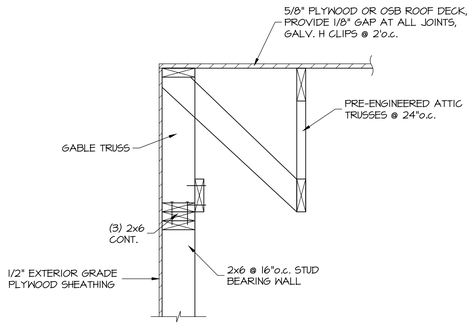
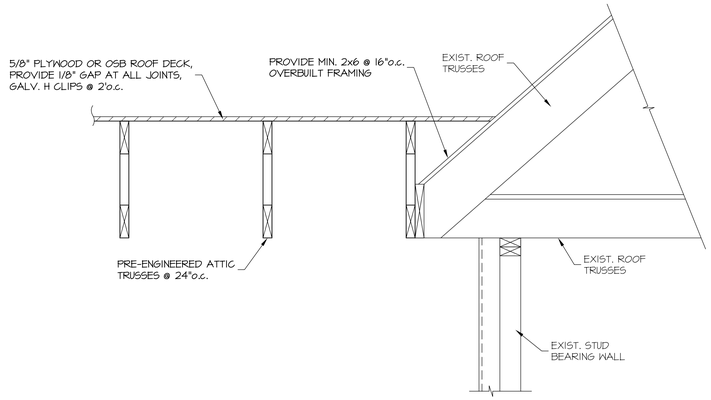
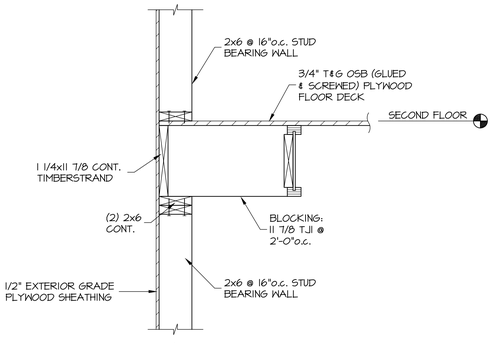
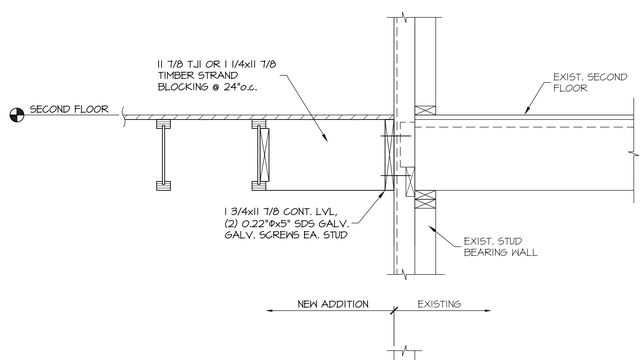
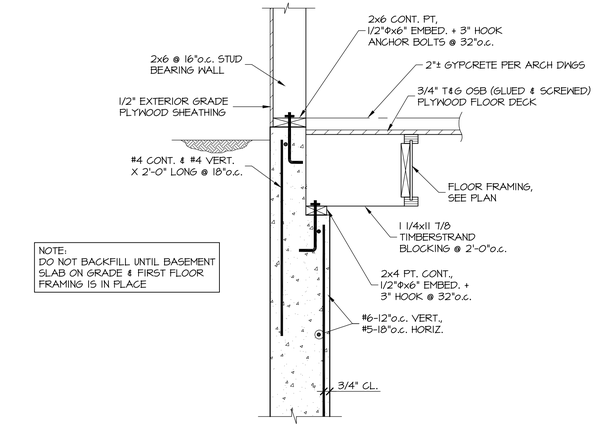


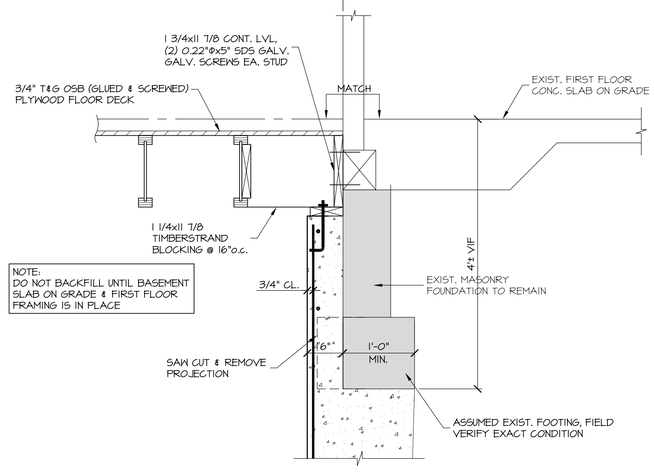








NOTE:
DO NOT BACKFILL UNTIL BASEMENT SLAB ON GRADE & FIRST FLOOR FRAMING IS IN PLACE



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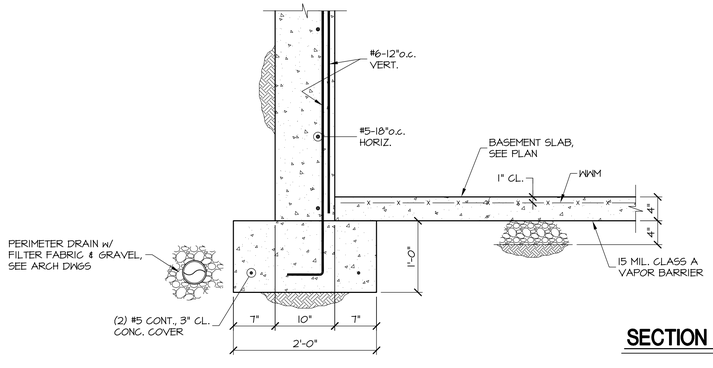

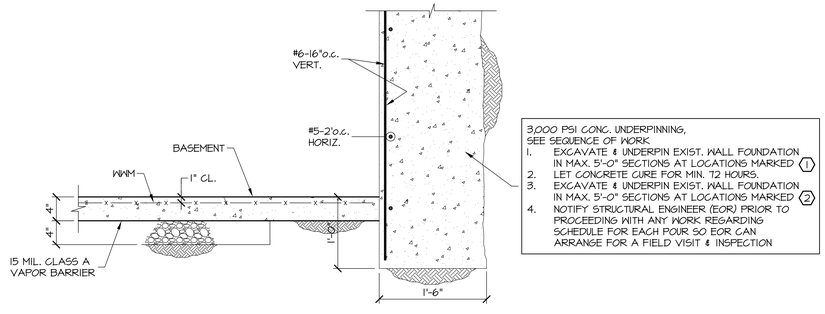

3,000 PSI CONC. UNDERPINNING, SEE SEQUENCE OF WORK

1. EXCAVATE & UNDERPIN EXIST. WALL FOUNDATION IN MAX. 5'-0" SECTIONS AT LOCATIONS MARKED (1)
2. LET CONCRETE CURE FOR MIN. 72 HOURS.
3. EXCAVATE & UNDERPIN EXIST. WALL FOUNDATION IN MAX. 5'-0" SECTIONS AT LOCATIONS MARKED (2)
4. NOTIFY STRUCTURAL ENGINEER (EOR) PRIOR TO PROCEEDING WITH ANY WORK REGARDING SCHEDULE FOR EACH POUR SO EOR CAN ARRANGE FOR A FIELD VISIT & INSPECTION

SECTION 5 / S2.04 — 1"=1'-0"

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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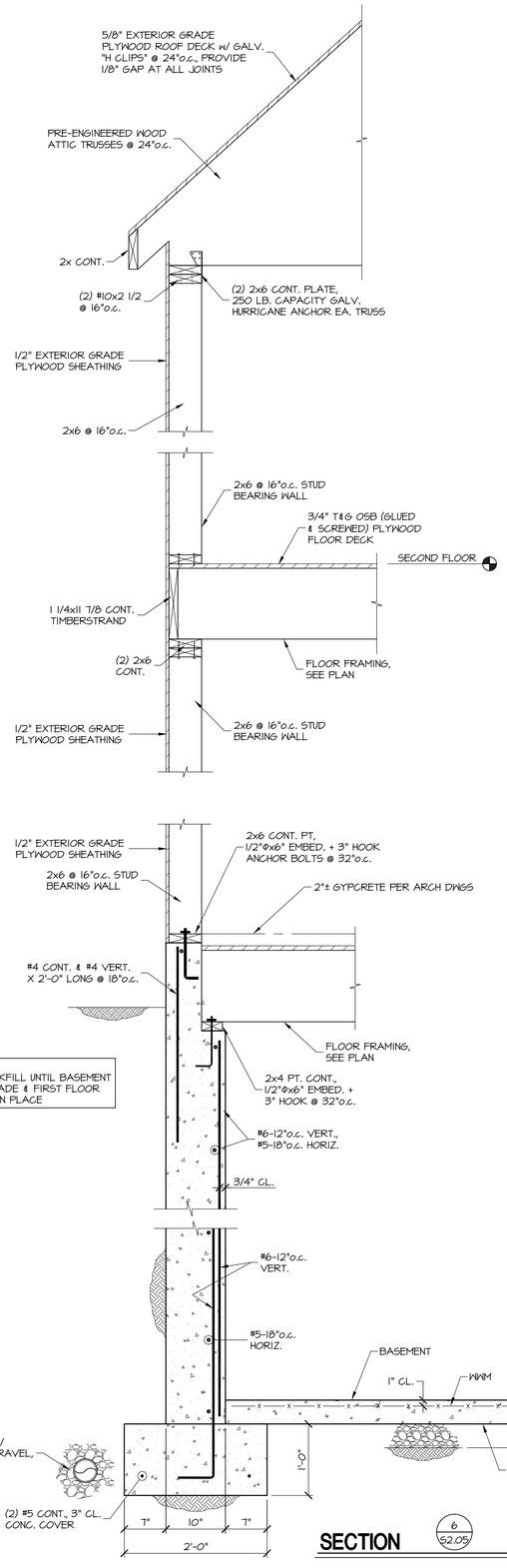
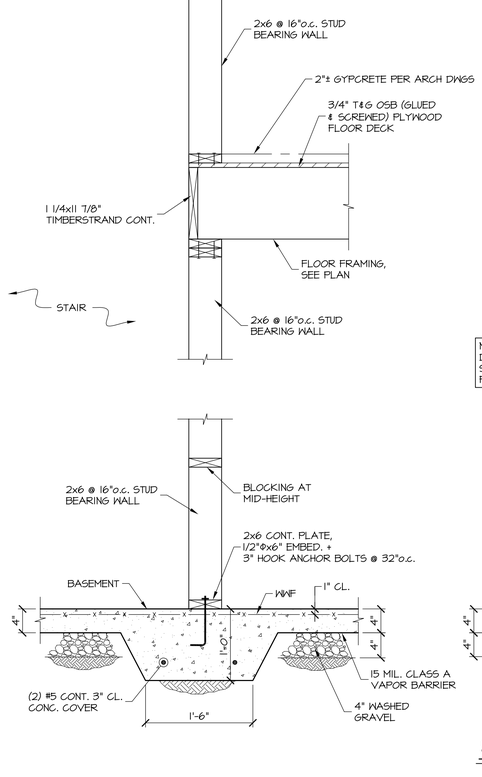
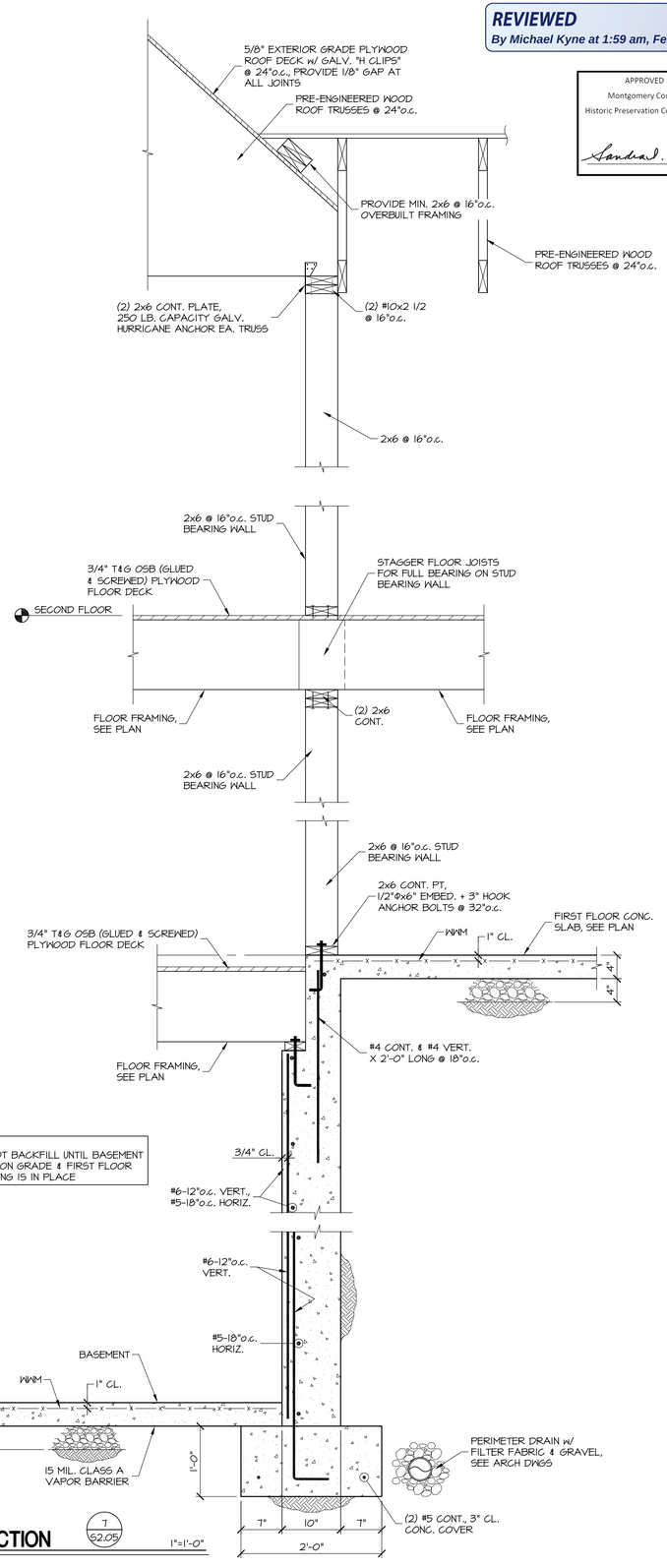


SECTION 6 S2.05 1"=1'-0"





SECTION 7 S2.05 1"=1'-0"

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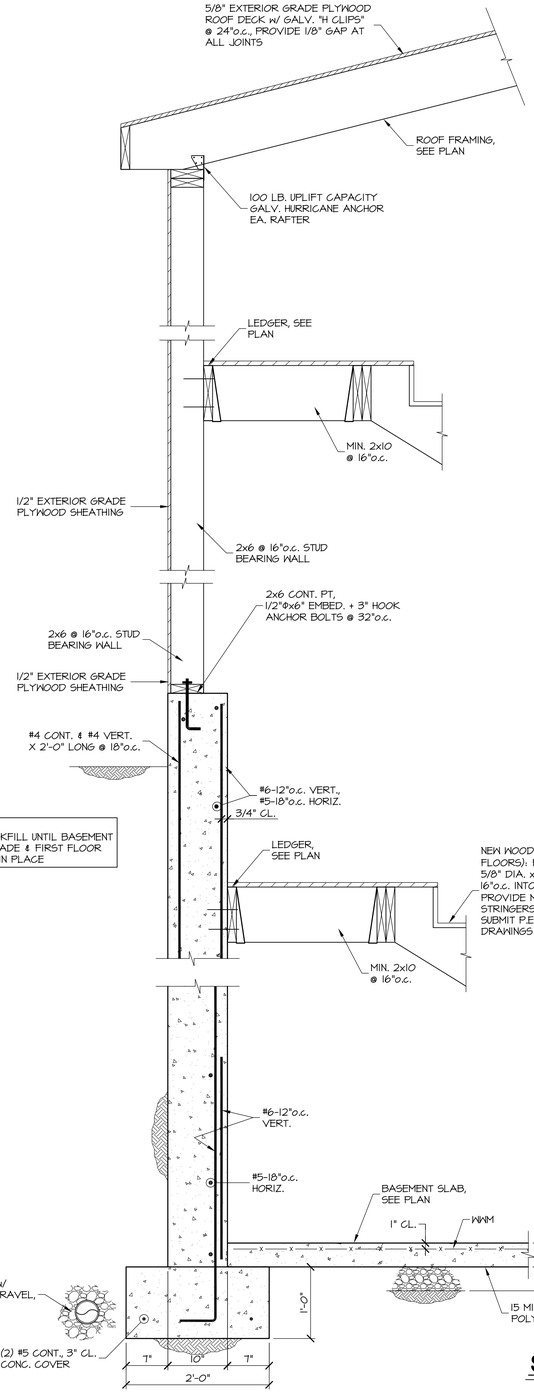
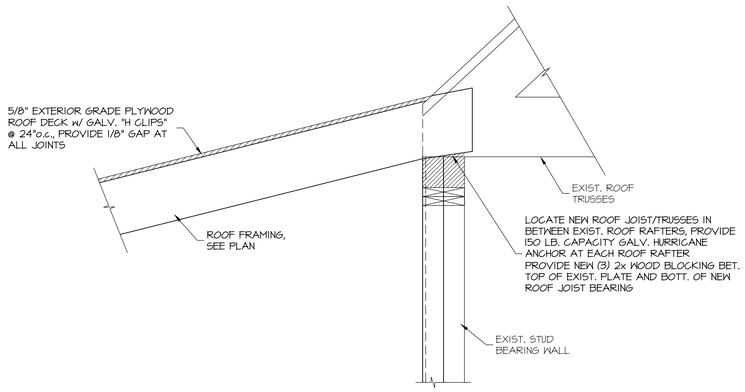
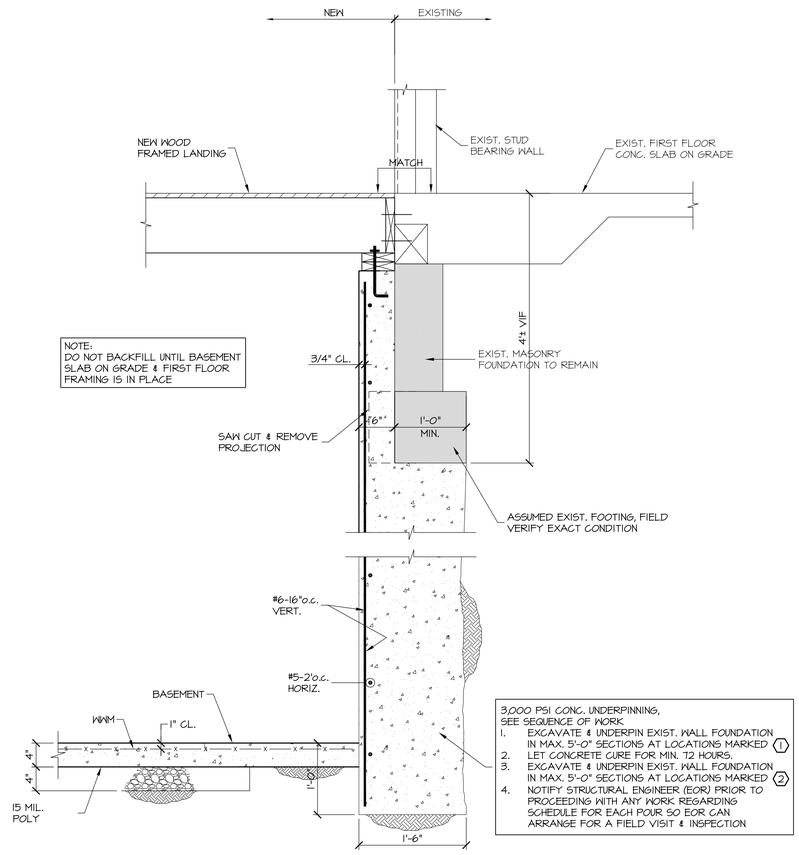


SECTION 8 / S2.06 1"=1'-0"





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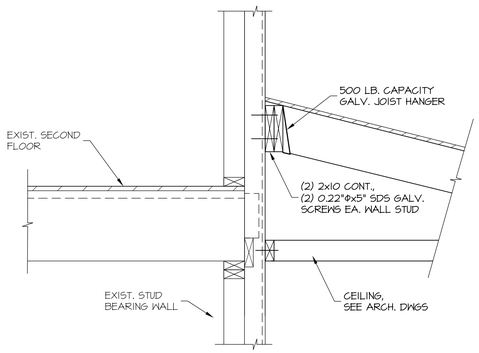

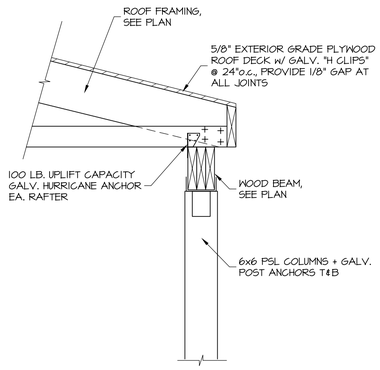

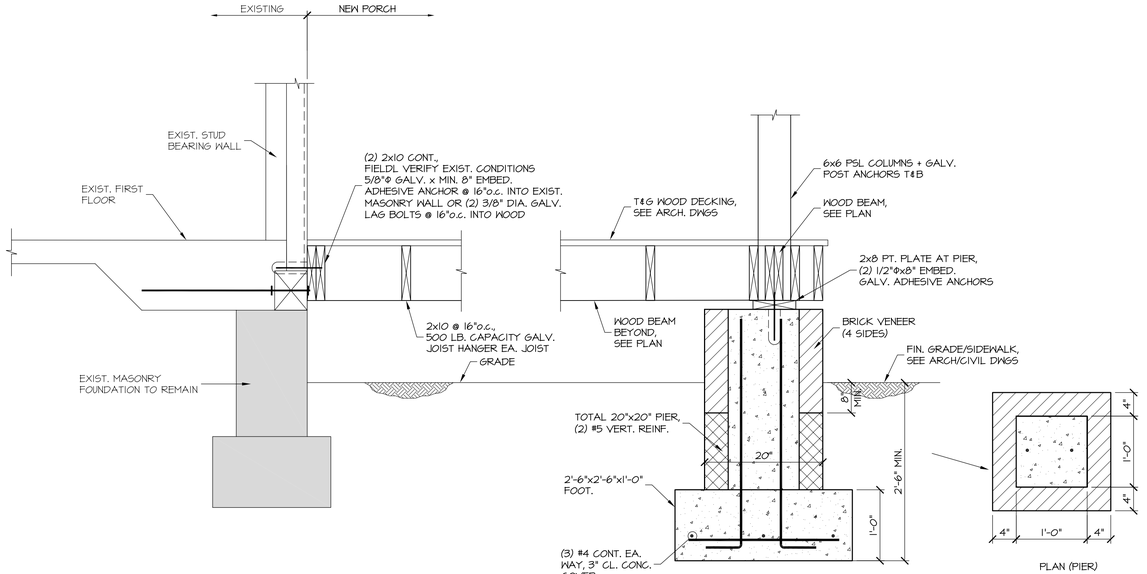

SECTION 9 / S2.07 1"=1'-0"

ROOF TRUSS NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, FABRICATION AND ERECTION OF THE WOOD TRUSSES.
2. TRUSSES SHALL BE DESIGNED FOR THE LOADS INDICATED PLUS APPLICABLE SNOW DRIFT AS REQUIRED BY CODE.
3. NO INCREASE IN ALLOWABLE STRESS, PLATE INCREASE, LUMBER INCREASE, REPETITIVE STRESS INCREASE OR ANY OTHER TYPES OF LOAD REDUCTION OR STRESS INCREASES WILL BE PERMITTED.
4. TRUSS DESIGN SHALL INCLUDE ALL TEMPORARY AND PERMANENT BRACING (TO BE DESIGNED AND DETAILED BY A REGISTERED PROFESSIONAL ENGINEER RETAINED AND PAID BY THE TRUSS CONTRACTOR). PERMANENT BRACING TO BE ATTACHED TO THE WALLS EXCEPT AT EXPANSION JOINTS.
5. TRUSS CONFIGURATIONS SHOWN ARE EXAMPLES ONLY. DESIGN COMPUTATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROJECT LOCATION SHALL BE SUBMITTED INCLUDING ALL CONNECTIONS AND ERECTION DETAILS FOR REVIEW AND APPROVAL BY THE DESIGN TEAM. PROFESSIONAL ENGINEER SHALL VISIT THE SITE TO CONFIRM THAT THE TRUSSES, AS ERECTED, ARE IN ACCORDANCE WITH THE DESIGN. ALL TRUSS CONNECTIONS TO FULLY DEVELOP STRESSES IN MEMBER (NO ALLOWANCE FOR END BEARING WILL BE PERMITTED) PLUS ANY ECCENTRICITIES CAUSED BY CONNECTIONS. CONNECTORS TO BE USED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. ALL CONNECTORS TO BE GALVANIZED.
6. ROOF TRUSSES SHALL BE DESIGNED TO COMPLY WITH LOADS AS INDICATED BELOW:

TOP CHORD	DEAD LOAD	=10 PSF
	LIVE LOAD	=30 PSF (SEE NOTE 2 ABOVE)
	NET UPLIFT	=20 PSF
BOTTOM CHORD	DEAD LOAD	=10 PSF
	LIVE LOAD	=40 PSF (AT ATTIC SPACES)
MAXIMUM LIVE LOAD DEFLECTION		=SPAN/360

FASTENING SCHEDULE

1. JOISTS TO SILL OR GIRDER	(3) 8d COMMON (0.131" DIA.x2 1/2"), TOENAIL
2. BRIDGING TO JOIST	(2) 8d COMMON, TOE NAIL EACH END
3. SOLE PLATE TO JOISTS OR BLOCKING	16d NAILS @ 16"o.c.
4. TOP PLATE TO STUD	(2) 16d COMMON (0.162" DIA.x3 1/2") END NAILS
5. STUD TO SOLE PLATE	(4) 8d COMMON OR (2) 16d COMMON
6. DOUBLE STUDS	16d @ 24"o.c.
7. DOUBLE TOP PLATE	16d @ 16"o.c.
8. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3) 8d COMMON, TOENAIL
9. RIM JOISTS TO TOP PLATE	8d @ 6"o.c.
10. TOP PLATE, LAPS AND INTERSECTIONS	(2) 16d COMMON
11. CONTINUOUS HEADER, TWO PIECES	16d COMMON @ 16"o.c.
12. CONTINUOUS HEADER TO STUD	(4) 8d COMMON, TOENAIL
13. RAFTER TO TOP PLATE	(3) 8d COMMON, TOENAIL
14. BUILT UP CORNER STUDS	16d @ 16"o.c.
15. BUILT UP GIRDER AND BEAMS	20d @ 24"o.c., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES, UNLESS NOTED ON DWG'S TO BE THROUGH BOLTED
16. COLLAR TIES TO RAFTER	(4) 12d FACE NAIL
17. JACK RAFTER TO HIP	(3) 10d COMMON, TOENAIL
18. ROOF RAFTER TO SINGLE 2x RIDGE BEAM	(2) 16d COMMON, TOENAIL
19. ROOF RAFTER TO RIDGE BEAM	JOIST HANGERS, MINIMUM 500 LB. SHEAR CAPACITY
20. JOIST TO RIBBON BOARD	(3) 16d, FACE NAIL
21. CORNER STUDS	16d COMMON 12"o.c. FACE NAIL
22. WOOD STRUCTURAL WALL PANEL SHEATHING	16d COMMON @ 6"o.c. INTO TOP PLATE, 8d COMMON @ 6"o.c. AT ALL EDGE AND 12"o.c. AT ALL OTHER LOCATIONS
23. PLYWOOD OR OSB DECKING LOCATIONS	6d COMMON @ 6"o.c. AT EDGES, 12"o.c. AT ALL OTHER LOCATIONS
24. MULTIPLE LVL AND FLITCH PLATE BEAMS	1/2" DIA. THRU BOLTS @16" O/C STAGGERED

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SECTIONS & SCHEDULES

S2.07

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Permit # COMBUILD-921463
Date 01/14/21

GENERAL NOTES

DIMENSIONS
DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE GENERALLY OBTAINED FROM THE ARCHITECT AND ARE INCLUDED AS INFORMATION COMPLIMENTARY TO THE ARCHITECTURAL DRAWINGS. GENERALLY ARCHITECTURAL DIMENSIONS WILL GOVERN OVER STRUCTURAL DIMENSIONS. LAYOUT OF BUILDING FOUNDATIONS OR OTHER ITEMS MUST BE MADE USING THE DIMENSIONS SHOWN ON THE ARCHITECTURAL DRAWINGS ONLY.

FOUNDATIONS
BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 2'-6" MINIMUM BELOW FINISHED GRADE. A BEARING CAPACITY OF 1,500 PSF. FOR FOOTING DESIGN, AND AN EQUIVALENT FLUID PRESSURE OF 50 PCF FOR RETAINING WALL DESIGN, HAS BEEN ASSUMED. IF SOIL OF THIS CAPACITY IS NOT ENCOUNTERED AT ELEVATIONS INDICATED ON PLAN, FOOTINGS SHALL BE INCREASED IN SIZE OR LOWERED AS DIRECTED BY THE STRUCTURAL ENGINEER. ELEVATIONS INDICATED ON PLAN ARE TO TOP OF FOOTINGS; ADJUST AS REQUIRED TO MEET MASONRY COURSE LINES.
THE PLACING OF COMPACTED FILL MATERIAL AND EQUIPMENT USED FOR COMPACTION SHALL BE SUPERVISED AND APPROVED BY A GEOTECHNICAL ENGINEER. ALL FILL SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY ASTM D 698.

CAST IN PLACE CONCRETE AND REINFORCING
1. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-14)
2. SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301)
3. DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315)
4. MANUAL OF STANDARD PRACTICE (CRSI)
5. ACI DETAILING MANUAL (ACI SP-66)
6. STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIAL (ACI 117)
7. CHEMICAL ADMIXTURES FOR CONCRETE (ACI 212.3)
8. HOT WEATHER CONCRETING (ACI 305)
9. COLD WEATHER CONCRETING (ACI 306)
10. STANDARD SPECIFICATIONS FOR CURING CONCRETE (ACI 308.1)
11. GUIDE TO FORMWORK FOR CONCRETE (ACI 347)

CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH (F'c) AS FOLLOWS:

1. FOUNDATION AND CONCRETE WALLS	=3,000 PSI, MAXIMUM W/C =0.55
2. CONCRETE SLAB ON GRADE	=3,000 PSI, MAXIMUM W/C =0.55
3. EXPOSED TO WEATHER, EXTERIOR CONCRETE	=4,000 PSI, AIR-ENTRAINED, MAXIMUM W/C =0.50

DESIGN MIXES FOR CONCRETE REQUIRING 4,000 PSI COMPRESSIVE STRENGTH OR GREATER SHALL CONTAIN 100% PORTLAND CEMENT.
DESIGN MIXES FOR CONCRETE REQUIRING LESS THAN 4,000 PSI COMPRESSIVE STRENGTH MAY CONTAIN A MAXIMUM OF 10% BLAST FURNACE SLAG CEMENT & 10% FLY ASH AT THE CONTRACTORS OPTION.

CONCRETE MATERIALS
REINFORCING - ASTM A 615, GRADE 60 DEFORMED.
WELDED WIRE FABRIC - ASTM A 185.
SPLICE LAPS FOR ALL REINFORCING SHALL BE CLASS "B" SPLICE.
CEMENT - ASTM C 150, TYPE I OR III.
FLY ASH: ASTM C618, IF USED MAXIMUM 10% BY WEIGHT.
GROUND GRANULATED BLAST FURNACE SLAG: ASTM C484, MAXIMUM 10% BY WEIGHT.
AGGREGATES - ASTM C 33 ACI 304, ACI 211.1.
COARSE AGGREGATE - SIZE #67.
COARSE AGGREGATE FOR TOPPING SLABS, MASONRY FILL & CONCRETE FILL 3" AND LESS IN THICKNESS SHALL BE 1/2" MAXIMUM.
EXTERIOR CONCRETE SHALL BE AIR ENTRAINED 4%-6%.
ALL CONCRETE, EXCEPT CONCRETE USED FOR FOUNDATIONS, SHALL CONTAIN WATER REDUCING ADMIXTURE.
EDGES OF VAPOR BARRIER SHALL BE LAPPED MINIMUM 6" AND TAPED.
CONTRACTOR SHALL SUBMIT DESIGN MIX FOR ALL CLASSES OF CONCRETE PRIOR TO PLACING ANY CONCRETE.
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE SIZE, TYPE AND LOCATIONS OF CONSTRUCTION AND CONTROL JOINTS IN SLABS AND WALLS.

MISCELLANEOUS
1. ALL CONCRETE EXPOSED TO VIEW SHALL CONFORM TO THE ARCHITECTURAL CONCRETE REQUIREMENTS CONTAINED IN ACI 301.
2. REFER TO ARCHITECTURAL AND HVAC DRAWINGS FOR THE SIZE AND LOCATIONS OF SLAB OPENINGS, FLOOR DEPRESSIONS, SLOPES ETC.

MASONRY
MASONRY WORK SHALL COMPLY WITH THE FOLLOWING STANDARDS:
1. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530.2/ASCE 6)
2. SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1-02)

MASONRY MATERIAL
CONCRETE MASONRY UNITS, ASTM C 90.
CONCRETE MASONRY UNITS SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 1,900 PSI AND A MINIMUM PRISM STRENGTH OF F'm = 1,500 PSI.
BRICK UNITS, ASTM SPECIFICATION C 216.
MORTAR, ASTM C 270
MASONRY VENEER, TYPE N
ALL OTHER MASONRY, TYPE S
GROUT, ASTM C476, F'm =2,000 PSI
JOINT REINFORCING, ASTM A951
SHEET METAL ANCHORS AND TIES, ASTM A366
WIRE ANCHORS AND TIES, ASTM A82
CONTRACTOR SHALL DESIGN, PROVIDE AND INSTALL WALL BRACING THAT WILL ASSURE STABILITY OF ALL MASONRY DURING CONSTRUCTION.
ALL MASONRY WALLS SHALL BE CONTINUALLY REINFORCED WITH TRUSS TYPE DUR-O-WAL AT 16" MAXIMUM O.C. VERTICALLY (UNLESS OTHERWISE NOTED ON DRAWINGS) PLUS EXTRA PIECES IMMEDIATELY ABOVE AND BELOW ALL OPENINGS. THESE ADDED PIECES SHALL EXTEND 2'-0" MINIMUM BEYOND EDGE OF OPENING.
ALL SPLICES IN REINFORCEMENT SHALL BE LAPPED 6" MINIMUM AND ALL INTERSECTIONS OF WALLS AND CORNERS SHALL BE PROVIDED WITH PREFABRICATED "T" AND CORNER PIECES.
ALL MORTAR JOINTS IN MASONRY WALLS (HORIZONTAL AND VERTICAL) SHALL BE FILLED 100% WITH MORTAR.
REINFORCED MASONRY WALLS SHALL HAVE CELLS FILLED SOLID WITH PEA GRAVEL CONCRETE IN FOUR COURSE MAXIMUM LIFTS. PROVIDE HOLES IN BOTTOM PORTION OF EACH LIFT OF WALL TO INSURE WALL IS FILLED SOLID.
PROVIDE CONTROL JOINTS IN ALL MASONRY WALLS AT 30'-0" ON CENTER MAXIMUM.
SPLICE LAPS FOR MASONRY REINFORCEMENT SHALL BE 48" BAR DIAMETER, UNLESS NOTED.

LINTELS
ALL OPENINGS IN WALLS AND PARTITIONS ARE TO BE PROVIDED WITH LINTELS.
CONTRACTOR SHALL COORDINATE SIZE, TYPE AND LOCATION OF LINTEL WITH ARCHITECTURAL, STRUCTURAL & MECHANICAL DRAWINGS. SEE PLAN & DETAILS FOR TYPE AND SIZE OF LINTELS.

STRUCTURAL STEEL
FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECIFICATIONS AND AWS D1.1
PLATE, BARS, ANGLE, CHANNEL, ASTM A36 (Fy =36 KSI)
STRUCTURAL BOLTS, ASTM A325, NUTS, ASTM A563, WASHERS, ASTM F436
HIGH STRENGTH BOLTS: ASTM A 325
ANCHOR BOLTS: ASTM A 307
BASE PLATE AND BEARING PLATE GROUT, ASTM C1107, NON-METTALIC, NON-SHRINK.
SHEAR STUD CONNECTORS: ASTM A 108, GRADE 1015 OR 1020.
GALVANIZING OF STRUCTURAL STEEL: ASTM A 123 AND ASTM A153 FOR HARDWARE (SURFACE PREPARATION PER SSPC, SP-6).
SHOP COAT ALL STRUCTURAL STEEL WITH APPROVED PRIMER, UNLESS NOTED.

WOOD FRAMING
ALL STRUCTURAL TIMBER SHALL CONFORM TO THE REQUIREMENTS OF THE "TIMBER CONSTRUCTION MANUAL", PREPARED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.
WOOD SHALL BE SOUTHERN PINE OR DOUGLAS FIR, WITH A MINIMUM F'b = 1,000 PSI AND E = 1,400,000 PSI.
PLYWOOD FLOOR DECK SHALL BE TONGUE AND GROOVE, APA RATED STURD-I-FLOOR WITH A SPAN RATING OF 24"o.c., EXPOSURE-1. PLYWOOD ROOF SHEATHING SHALL BE APA RATED SHEATHING 32/16, EXPOSURE-1.
USE MINIMUM PLYWOOD THICKNESS AS SPECIFIED ON DRAWINGS.
ALL MICRO-LAMS (ML) SHOWN ON THESE DRAWINGS SHALL CONFORM TO TRUSS JOIST CORPORATION'S SPECIFICATIONS.
LVL (MICRO-LAM =LAMINATED VENEER LUMBER) SHALL HAVE A MINIMUM F'b=2,600 PSI, E=1,900,000 PSI AND F'v. =285 PSI.
ALL CONNECTORS SHALL BE GALVANIZED AND MANUFACTURED BY TECO OR APPROVED EQUAL AND SHALL BE THE SAME TYPE AS RECOMMENDED BY THE MANUFACTURER FOR THE INTENDED USAGE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

WOOD TRUSSES
CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, FABRICATION AND ERECTION OF THE WOOD TRUSSES. TRUSSES SHALL BE DESIGNED FOR THE LOADS INDICATED PLUS APPLICABLE SNOW DRIFT AS REQUIRED BY CODE.
NO INCREASE IN ALLOWABLE STRESS, PLATE INCREASE, LUMBER INCREASE, REPETITIVE STRESS INCREASE OR ANY OTHER TYPES OF LOAD REDUCTION OR STRESS INCREASES WILL BE PERMITTED.
TRUSS DESIGN SHALL INCLUDE ALL TEMPORARY AND PERMANENT BRACING (TO BE DESIGNED AND DETAILED BY A REGISTERED PROFESSIONAL ENGINEER RETAINED AND PAID BY THE TRUSS CONTRACTOR). PERMANENT BRACING TO BE ATTACHED TO THE WALLS EXCEPT AT EXPANSION JOINTS. TRUSS CONFIGURATIONS SHOWN ARE EXAMPLES ONLY. DESIGN COMPUTATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROJECT LOCATION SHALL BE SUBMITTED FOR REVIEW. A PROFESSIONAL ENGINEER SHALL VISIT THE SITE TO CONFIRM THAT THE TRUSSES, AS ERECTED, ARE IN ACCORDANCE WITH THE DESIGN. ALL TRUSS CONNECTIONS TO FULLY DEVELOP STRESSES IN MEMBER (NO ALLOWANCE FOR END BEARING WILL BE PERMITTED) PLUS ANY ECCENTRICITIES CAUSED BY CONNECTIONS. CONNECTORS TO BE USED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. ALL CONNECTORS TO BE GALVANIZED.

WOOD STAIRS
STAIR FRAMING SHALL BE DESIGNED FOR A LIVE LOAD OF 100 PSF. STAIR RAILING AND THEIR CONNECTIONS SHALL HAVE ADEQUATE CAPACITY TO COMPLY WITH LATERAL LOAD CAPACITY INDICATED IN INTERNATIONAL BUILDING CODE.
SUBMIT P.E. SIGNED & SEALED SHOP DRAWINGS & CALCULATIONS FOR REVIEW.

SHOP DRAWINGS
SHOP DRAWINGS SHALL BE SUBMITTED FOR ARCHITECT/ENGINEER'S REVIEW FOR THE FOLLOWING ITEMS:

1. CONCRETE REINFORCING STEEL
2. P.E. SIGNED & SEALED PRE-ENGINEERED ROOF FRAMING SYSTEM
3. FLOOR FRAMING (T.J & LVL)
5. P.E. SIGNED & SEALED WOOD STAIRS & RAILINGS

REPRODUCTION OF CONTRACT DRAWINGS IN USE OF PREPARATION OF SHOP DRAWINGS AND SUBMISSION TO THE DESIGN TEAM FOR REVIEW AND APPROVAL WILL NOT BE ACCEPTABLE.

THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT. ANY WORK FABRICATED OR INSTALLED INCORRECTLY DUE TO THE CONTRACTOR'S LACK OF VERIFICATION SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

INSPECTION
AN INDEPENDENT INSPECTION AGENCY, SHALL BE RETAINED AND PAID FOR BY THE CONTRACTOR TO INSPECT/MONITOR/TEST THE ITEMS LISTED BELOW, CONTRACTOR SHALL COMPLY AND PERFORM INSPECTION IN ACCORDANCE WITH THE REQUIREMENTS OF IBC 2009, "CHAPTER 17, STRUCTURAL TESTS AND SPECIAL INSPECTION TABLES 1704.3, TABLE 1704.4 AND TABLE 1704.5.1 1704.5.3 AND TABLE 1704.7."

1. EARTHWORK OPERATIONS INCLUDING VERIFICATION OF SOIL BEARING CAPACITY
2. CAST IN PLACE CONCRETE
3. WOOD FLOOR FRAMING
4. PRE-ENGINEERED WOOD ROOF TRUSS SYSTEM
5. WOOD STAIRS & RAILINGS

LIVE LOADS
THIS BUILDING ADDITION HAS BEEN DESIGNED FOR THE FOLLOWING SUPERIMPOSED LOADS.
GOVERNING CODES:
INTERNATIONAL BUILDING CODE (IBC 2018) W/ MONTGOMERY COUNTY AMENDMENTS.
MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES (ASCE 7-15)

FLOOR LOADS

FIRST FLOOR	=100 PSF
PORCH FLOOR	=100 PSF
SECOND FLOOR	=100 PSF
ROOF TOP TERRACE	=100 PSF
ATTIC	=30 PSF
PORCH ROOF & WALK IN COOLER ROOF	=30 PSF

WIND =20 PSF (NET UPLIFT)
1 ROOF:
DESIGN LIVE LOAD = 30 PSF
DESIGN SNOW LOAD = 30 PSF (NO REDUCTION)
IMPORTANCE FACTOR =1.0
THERMAL FACTOR =1.0

WIND LOAD:

BASIC WIND SPEED (3 SECOND GUST)	=115 MPH
EXPOSURE	=B
WIND IMPORTANCE FACTOR	=1.0
INTERNAL PRESSURE COEFFICIENT	=0.18 AND -0.18
COMPONENTS AND CLADDING DESIGN WIND PRESSURE:	
ROOF: VARIES FROM	=13 PSF TO -24.4 PSF
WALL: VARIES FROM	=13.9 PSF TO -18.2 PSF
NET WIND UPLIFT	=20 PSF

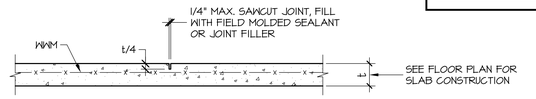
EARTHQUAKE DESIGN DATA:

SEISMIC OCCUPANCY CATEGORY	II
ASSUMED SITE CLASS	D
SPECTRAL RESPONSE ACCELERATION	Ss =0.16
	S1 =0.051
SPECTRAL RESPONSE COEFFICIENT	Sds =0.17
	Sd1 =0.082
SEISMIC IMPORTANCE FACTOR	=1.25

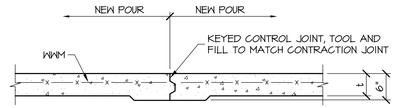
BASIC SEISMIC FORCE RESISTING SYSTEM: LIGHT FRAMED SHEAR WALLS WITH WOOD STRUCTURAL PANELS, R=6.0
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Sandra A. Heiler

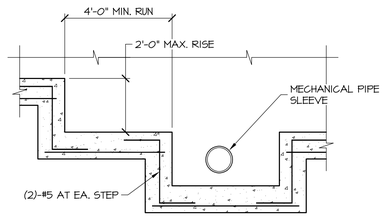


CONTROL JOINT



CONSTRUCTION JOINT

DETAIL A S3.1 N.T.S
(SLAB ON GRADE CONTROL JOINT DETAIL)
NOTE: MAX JOINT SPACING IS 15' o.c., BOTH DIRECTIONS



COORDINATE NUMBER AND LOCATION OF STEPS IN FOOTINGS WITH FINAL GRADES SHOWN ON THE CIVIL DRAWINGS AND PIPE/CONDUIT INVERT ELEVATIONS SHOWN ON THE MECHANICAL DRAWINGS

DETAIL B S3.1 N.T.S
(TYPICAL STEPPED FOOTING)

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CONTACT: JANAKBHAI A. PATEL, P.E.

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13756, Expiration Date: 12-23-2021."

DocuSigned by:
06EA30F53DA2486...

RENOVATION & ADDITION

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	10.29.2020	PERMITCOMMENTS

ISSUED FOR:
- ☐ REVIEW ☐ SD SET
- ☐ BID ☐ DD SET
- ☒ PERMIT ☐ CD SET

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DRAWN: SJP | PROJECT #: 20003
CHECKED: JAP
CAD FILE:
DATE: 07.13.2020

GENERAL NOTES & TYPICAL DETAILS

S3.1

DocuSign Envelope ID: 42057193-2E1B-4725-A43D-802E11CDFDDD

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

GENERAL NOTES

1. THE WORK TO BE DONE UNDER THESE SPECIFICATIONS AND THE DRAWINGS CONSISTS OF PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES AND PERFORMING ALL OPERATIONS TO COMPLETE THE CONSTRUCTION WORK FOR THIS PROJECT. ANY WORK NOT SPECIFICALLY COVERED BY THESE SPECIFICATIONS OR INDICATED ON THE CONTRACT DRAWINGS, BUT NECESSARY TO COMPLETE OR PERFECT ANY PART OF THIS INSTALLATION IN A SUBSTANTIAL MANNER, SHALL BE PROVIDED WITHOUT EXTRA COST TO THE OWNER.
2. THE WORK SHALL CONFORM TO THE MORE STRINGENT OF ALL APPLICABLE CODES & REGULATIONS, UL GUIDELINES, MANUFACTURER'S LITERATURE AND RECOMMENDATIONS AND TO THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL REGULATORY AGENCIES AND AUTHORITIES HAVING JURISDICTION.
3. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE EXTENT, GENERAL CHARACTER, LOCATION AND ARRANGEMENT OF THE WORK UNDER THIS CONTRACT. [EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD AND BY THE ACTUAL BUILDING CONDITIONS.] WHERE JOB CONDITIONS REQUIRE MINOR CHANGES OR ADJUSTMENTS IN THE INDICATED LOCATIONS OR ARRANGEMENT OF THE WORK, SUCH CHANGES SHALL BE PROVIDED WITHOUT EXTRA COST. THE CONTRACTOR SHALL RE-INSTALL EQUIPMENT THAT HAS INADEQUATE OR UNSAFE ACCESSIBILITY.
4. INSTALLATION OF WORK SHALL PROVIDE REASONABLE ACCESSIBILITY FOR OPERATION, INSPECTION AND MAINTENANCE OF EQUIPMENT AND ACCESSORIES. PROVIDE CLEARANCES REQUIRED BY MANUFACTURERS AND APPLICABLE CODES. ALL CEILING MOUNTED EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER THAT LIGHTS, PIPING, AND DUCTWORK DO NOT BLOCK ACCESS TO EQUIPMENT AND RELATED ACCESSORIES.
5. THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "MECHANICAL WORK", "ELECTRICAL WORK", "PLUMBING WORK", ETC. SHALL MEAN ALL LABOR, MATERIAL, EQUIPMENT, SCAFFOLDING, RIGGING, TOOLS, SUPERVISION, SERVICES AND INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
6. THE CM/GC SHALL MAKE SETS OF THE BID DOCUMENTS CONSISTING OF COMPLETE SETS OF DRAWINGS AND SPECIFICATIONS; AND ISSUE THEM TO EACH OF THE PRIME AND SUB-CONTRACTORS. EVERY PRIME AND SUB-CONTRACTOR ON EACH BIDDING TEAM SHALL RECEIVE COMPLETE SETS OF DRAWINGS AND SPECIFICATIONS. THERE ARE NOTES AND CROSS REFERENCES FOR VARIOUS TRADE CONTRACTORS IN MULTIPLE TRADE OR DISCIPLINE DRAWINGS AND SPECIFICATIONS, THUS, EACH CONTRACTOR IS TO RECEIVE COMPLETE SETS OF THE BID DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THESE DRAWINGS FROM CM/GC. EACH CONTRACTOR IS RESPONSIBLE FOR THEIR WORK, AS NOTED ON THE OTHER DISCIPLINE DOCUMENTS. BIDDERS ARE RESPONSIBLE FOR ALL COSTS FOR EACH SET OF BID DOCUMENTS REQUESTED.
7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULL COORDINATION EFFORT IN ORDER TO CREATE A FINALIZED COORDINATED LAYOUT OF ALL EQUIPMENT, SYSTEMS, DUCTWORK, PIPING AND ALL OTHER ITEMS WITHIN THEIR RESPECTIVE SCOPE. THE CONTRACTOR'S COORDINATION EFFORT SHALL INCLUDE COORDINATED INFORMATION FROM ALL OTHER TRADE CONTRACTOR'S INVOLVED IN THE PROJECT SCOPE IN ORDER TO PROVIDE COORDINATION BETWEEN TRADES AND ALL EXISTING CONDITIONS. ALL ERRORS MADE AS A RESULT OF A LACK OF COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND CORRECTED AT NO ADDITIONAL COST TO THE PROJECT. MINOR RELOCATIONS AND SHIFTS OF EQUIPMENT, DUCTWORK, AND PIPING WHICH DO NOT CHANGE THE DESIGN INTENT INDICATED ON THE CONTRACT DOCUMENTS, REQUIRED TO ACCOMMODATE FIELD CONDITIONS ARE AT THE CONTRACTORS DISCRETION AND DO NOT REQUIRE ENGINEER APPROVAL.
8. CONTRACTOR SHALL ARRANGE AND OBTAIN ALL PERMITS, INSPECTIONS AND APPROVALS, AND PAY ALL RELATED FEES.
9. FOR ANY DISCREPANCY BETWEEN DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL BASE THEIR BID UPON THE MOST STRINGENT REQUIREMENT (QUALITY, QUANTITY, SIZE, ETC.). THE CONTRACTOR SHALL IDENTIFY DISCREPANCIES AS PART OF THEIR BID.
10. ALL SERVICES TO EXISTING BUILDINGS SHALL BE MAINTAINED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL COORDINATE ALL SYSTEM SHUT DOWNS AND TIMING WITH OWNER.
11. THE CONTRACTOR SHALL EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.
12. EXISTING EQUIPMENT THAT INTERFERES WITH NEW ARRANGEMENT SHALL BE REMOVED, REINSTALLED, RELOCATED, REROUTED, EXTENDED OR ABANDONED AS REQUIRED, TO SUIT THE NEW ARRANGEMENT.
13. CONTRACTOR SHALL COORDINATE LOCATION OF ALL WALL, FLOOR AND ROOF OPENINGS WITH STRUCTURAL AND OTHER TRADES.
14. PROVIDE CUTTING AND PATCHING AS REQUIRED AND WHERE NECESSARY TO ACCOMMODATE NEW WORK AND THE REPAIR OF EXISTING WORK.
15. CONTRACTOR SHALL SCHEDULE THE WORK UNDER THIS CONTRACT WITH WORK OF OTHER TRADES AS NOT TO DELAY THE OVERALL PROGRESS OF THE PROJECT.
16. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS PRIOR TO PURCHASING EQUIPMENT AND PRIOR TO CUTTING OPENINGS.
17. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS PER SPECIFICATIONS PRIOR TO PURCHASING OR INSTALLING EQUIPMENT AND SYSTEMS INDICATED ON CONTRACT DOCUMENTS. PRIOR TO SUBMITTAL, CONTRACTOR SHALL VERIFY THAT ADEQUATE SPACE EXISTS FOR THE SUBMITTED EQUIPMENT. SHOP DRAWINGS MUST BE REVIEWED BY ARCHITECT/ENGINEER.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY OTHER TRADES DUE TO SUBSTITUTION OF OTHER THAN SCHEDULED EQUIPMENT. WHEN EQUIPMENT FURNISHED IS DIFFERENT THAN INDICATED, THE COST OF ADDITIONAL ELECTRICAL SERVICE, STRUCTURAL AND RELATED WORK SHALL BE PAID BY THIS CONTRACTOR.
19. ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE DONE IN ACCORDANCE WITH GOOD TRADE PRACTICE AND IN CONFORMANCE WITH APPLICABLE MANUFACTURERS' RECOMMENDATIONS.
20. CONTRACTOR SHALL REMOVE ALL TRASH, DEBRIS AND DEMOLITION MATERIAL FROM PREMISES AT THE END OF EACH DAY.
21. RESTORE ALL SURFACES (WALLS, CEILINGS, FLOORS AND ROOFS) THAT ARE DAMAGED BY THE WORK OF THIS CONTRACT TO THEIR ORIGINAL CONDITION AT NO EXTRA COST TO THE OWNER.
22. PRIOR TO EQUIPMENT STARTUP, CONTRACTOR SHALL PERFORM THE SPECIFIED STARTUP AND COMMISSIONING PROCEDURES.
23. IN THE ABSENCE OF OTHER SPECIFIC INSTRUCTIONS, ALL WORK AND MATERIALS SUPPLIED SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THEIR ACCEPTANCE BY THE OWNER.
24. BALA CONSULTING ENGINEERS, INC. (BALA) WILL PROVIDE CONTRACTOR WITH ELECTRONIC CADD FILES OF THE ENGINEERING DESIGNS, AT A COST OF [$95.00] PER DRAWING/SHEET/FILE, FOR THE SOLE USE IN EXPEDITING SHOP DRAWINGS. BALA'S FILES SHALL NOT BE DIRECTLY COPIED AND ISSUED AS SHOP DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD COORDINATION, DIMENSIONING AND ADHERENCE TO THE SHOP DRAWING REQUIREMENTS AS NOTED IN THE SPECIFICATIONS. SHOULD THE SHOP DRAWINGS SUBMITTED PROVE TO BE A DIRECT COPY OF OUR FILES WITHOUT THE NECESSARY FIELD COORDINATION, DIMENSIONING AND ADHERENCE TO THE SHOP DRAWING REQUIREMENTS AS NOTED IN THE SPECIFICATIONS, THESE SHOP DRAWINGS WILL BE RETURNED AS REJECTED. BALA'S ELECTRONIC FILES ARE SAVED IN VERSION [REVIT, AUTOCAD] [2016, 2017, 2018] AND ARE COMPATIBLE WITH ALL VERSIONS AFTER THAT. BALA MAKES NO REPRESENTATION AS TO THE COMPATIBILITY OF THESE FILES WITH THE CONTRACTOR'S HARDWARE OR THEIR SOFTWARE. DATA CONTAINED ON THESE ELECTRONIC FILES ARE PART OF BALA'S "INSTRUMENTS OF SERVICE" AND ARE COPYRIGHTED. CONTRACTOR'S USE OF FILES IS FOR THE SOLE PURPOSE AS A CONVENIENCE IN THE PREPARATION OF DRAWINGS FOR THE REFERENCED PROJECT. ANY OTHER USE OR REUSE BY CONTRACTOR IS UNLAWFUL.

PLUMBING GENERAL NOTES

1. DRAWINGS INDICATE GENERAL LOCATION OF WORK INCLUDED. PLUMBING CONTRACTOR SHALL COORDINATE LOCATION OF WORK WITH ALL OTHER TRADES. COORDINATE THE FINAL LOCATION OF THE PLUMBING FIXTURES WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS.
2. INSTALL ALL FIXTURES, AND EQUIPMENT IN CONFORMANCE WITH ARCHITECTURAL DRAWINGS, MANUFACTURERS RECOMMENDATIONS AND AUTHORITY HAVING JURISDICTION. COORDINATE ALL ROUGH-IN INFORMATION WITH FIXTURE AND EQUIPMENT SUPPLIERS.
3. PROVIDE HANDICAPPED FIXTURES IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT(ADA). INSULATE ALL PIPING BELOW ADA FIXTURES. COORDINATE COLORS WITH ARCHITECT WHERE INDICATED.
4. CONTRACTOR SHALL PROVIDE DOMESTIC WATER SERVICE RESTRAINTS AND THRUST BLOCKS AS REQUIRED.
5. INSTALL ISOLATION VALVES ON ALL BRANCH PIPING UNLESS OTHERWISE NOTED. PROVIDE SHUT OFF VALVES TO ALL FIXTURES AND EQUIPMENT.
6. PROVIDE WATER HAMMER ARRESTERS ON DOMESTIC WATER PIPING IN CONFORMANCE WITH THE PLUMBING AND DRAINAGE INSTITUTE.
7. CONNECT ALL SERVICE BRANCHES TO TOP OF SERVICE MAINS WHERE POSSIBLE. PROVIDE DRAIN VALVES AT ALL LOW POINTS IN SERVICE PIPING SYSTEMS.
8. SLOPE ALL WASTE PIPING IN CONFORMANCE WITH APPLICABLE CODES AND THE AUTHORITY HAVING JURISDICTION.
9. PROVIDE THE REQUIRED FITTINGS AT EACH INDIRECT WASTE PIPE DISCHARGE TO ALLOW REMOVAL OF THE LAST 12" OF INDIRECT WASTE PIPING IN ORDER TO GAIN ACCESS AND PERMIT REMOVAL OF THE SEDIMENT BASKET AS REQUIRED.
10. SUPPORT ALL PIPING IN CONFORMANCE WITH ANSI/MSS-58 AND 69 AND THE AUTHORITY HAVING JURISDICTION.
11. ALL PIPING PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH UL LISTED FIREPROOFING SYSTEM TO MATCH THE RATING OF THE WALL OR FLOOR.
12. DO NOT INSTALL PIPING IN DEDICATED ELECTRICAL SPACES OR ABOVE ANY ELECTRICAL EQUIPMENT, PANELS, ETC AS NOTED IN THE NATIONAL ELECTRIC CODE.
13. PRESSURE TEST AND STERILIZE THE ENTIRE DOMESTIC WATER PIPING SYSTEM FROM POINT OF NEW CONNECTION IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE.
14. PRIOR TO OPENING NATURAL GAS PIPING SYSTEM, THE ENTIRE SECTION OF NATURAL GAS PIPING SYSTEM AFFECTED BY SCOPE SHALL BE ISOLATED AND PURGED IN ACCORDANCE WITH THE APPLICABLE FUEL GAS CODE. UPON COMPLETION OF NATURAL GAS PIPING SYSTEM SCOPE WORK, PLACE SYSTEM INTO OPERATION IN ACCORDANCE WITH THE APPLICABLE FUEL GAS CODE.
15. ALL NATURAL GAS PIPING LOCATED WITHIN THE BUILDING BELOW SLAB ON GRADE CONDITIONS SHALL BE ROUTED WITHIN CONDUIT WITH LONG SWEEP ELBOWS AND THE CONDUIT SHALL BE TERMINATED IN ACCORDANCE WITH THE INTERNATIONAL FUEL GAS CODE OR REQUIREMENTS SET FORTH BY THE LOCAL AUTHORITY HAVING JURISDICTIONS.
16. ALL NATURAL GAS SUPPLY CONNECTIONS TO EQUIPMENT OR APPLIANCES THAT INCLUDE VIBRATION ISOLATION SHALL BE MADE WITH A CSA LISTED FLEXIBLE APPLIANCE CONNECTOR.
17. WHERE CONNECTING TO EXISTING PIPING SYSTEMS, INSPECT PIPING FOR DEFECTS. NOTIFY OWNERS REPRESENTATIVE IF EXISTING PIPING IS FOUND TO BE IN UNSATISFACTORY CONDITION TO DETERMINE IF REPLACEMENT IS NECESSARY.
18. COORDINATE ALL SYSTEM SHUT DOWN TIMES WITH OWNERS REPRESENTATIVE.
19. PLUMBING WORK SHALL BE DONE AT SUCH TIME AND IN SUCH MANNER THAT WILL LEAST INTERFERE WITH OTHER TENANTS, MAINTENANCE OPERATIONS AND OTHER BUILDING ACTIVITIES.
20. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL ANCILLARY DEVICES NOT LIMITED TO BACKFLOW PREVENTERS, ISOLATION VALVES, UNIONS, PRESSURE REDUCING VALVES AND STRAINERS AT EACH PIECE OF KITCHEN EQUIPMENT AS REQUIRED BY THE KITCHEN DESIGN, APPLICABLE CODES AND STANDARDS, INCLUDING MANUFACTURER'S RECOMMENDED INSTALLATION REQUIREMENTS, IN ORDER TO PROVIDE A FULLY FUNCTIONAL AND OPERATING KITCHEN.
21. THE PLUMBING CONTRACTOR SHALL PROVIDE FUSED DISCONNECTS FOR CONTROLLERS MEETING THE MINIMUM SCCR RATING OF BASIS OF DESIGN PUMP SPECIFICATIONS IF THE MANUFACTURER OF THE CONTRACTORS SUBMITTED PUMP SET SCCR RATING CANNOT BE MET.
22. PLUMBING CONTRACTOR SHALL INSTALL PIPE SLEEVES AT ALL FULL HEIGHT WALL PENETRATIONS.

PLUMBING PIPING LEGEND

- (140° HW) 140° HOT WATER
- (140° HWC) 140° HOT WATER CIRC
- (AR) ARGON
- (ARV) ARGON VENT
- (CA) COMPRESSED AIR
- (CW) COLD WATER
- (FM) FORCE MAIN
- (G) GAS
- (GD) GARAGE DRAIN
- (H2) HYDROGEN
- (H2V) HYDROGEN VENT
- (HE) HELIUM
- (HEV) HELIUM VENT
- (HW) HOT WATER
- (HWR) HOT WATER RECIRC
- (IA) INSTRUMENT AIR
- (IW) INDIRECT WASTE
- (LA) LAB AIR
- (LV) LAB VENT
- (LW) LAB WASTE
- (LN) LIQUID NITROGEN
- (N2) NITROGEN
- (N2V) NITROGEN VENT
- (NPW) NON POTABLE WATER
- (OFD) OVERFLOW DRAIN
- (O2) OXYGEN
- (SAN) SANITARY
- (ST) STORM
- (TP) TRAP PRIMER
- (VA) VACUUM
- (V) VENT
- (W) WASTE

ABBREVIATIONS

(E)	EXISTING ITEM
(ED)	EXISTING ITEM TO BE DEMOLISHED
(ER)	EXISTING ITEM TO BE RELOCATED
(RL)	RELOCATED ITEM
A	AQUASTAT
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANB	ACID NEUTRALIZATION BASIN
AO	AIR OUTLET
AP	ACCESS PANEL OR DOOR
AVTR	ACID VENT THROUGH ROOF
BF	BOTTLE FILLER
BFP	BACK FLOW PREVENTER
BLDG	BUILDING
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
CA	COMPRESSED AIR
CB&V	CURB BOX & VALVE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CIP	CAST IRON PIPE
CLG	CEILING
CM	COFFEE MAKER
CO	CLEAN OUT
CONN	CONNECTION
CONT	CONTINUATION
CS	CUP SINK
CTL	COUNTER TOP LAVATORY
CTS	COUNTER TOP SINK
CW	COLD WATER
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DI	DEIONIZED WATER
DIP	DUCTILE IRON PIPE
DN	DOWN
DSB	DOWNSPOUT BOOT
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER
DWG	DRAWING
DWP	DOMESTIC WATER PUMP
DWRH	DOMESTIC WATER REHEATER
DWSM	DOMESTIC WATER SUB METER
EA	EACH
EC	ELECTRICAL CONTRACTOR
EGX	EMERGENCY GENERAL EXHAUST
ET	EXPANSION TANK
EWC	ELECTRICAL WATER COOLER
EWH	ELECTRICAL WATER HEATER
FAI	FRESH AIR INTAKE
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FM	FORCED MAIN
FPC	FIRE PROTECTION CONTRACTOR
FS	FLOOR SINK
FT	FEET
GC	GENERAL CONTRACTOR
GCO	GROUND CLEAN OUT
GD	GARAGE DRAIN
GI	GREASE INTERCEPTOR
GO	GAS OUTLET
GPM	GALLONS PER MINUTE
GWH	GAS WATER HEATER
HB	HOSE BIB
HW	HOT WATER
HWR	HOT WATER RETURN
HWRP	HOT WATER RETURN PUMP
HX	HEAT EXCHANGER
IE	INVERT ELEVATION
IM	ICE MAKER

ABBREVIATIONS

IW	INDIRECT WASTE
KS	KITCHEN SINK
LA	LABORATORY AIR
LAV	LAVATORY
LDR	LEADER
LI	LINT INTERCEPTOR
LPC	LIMIT OF PLUMBING CONTRACTOR
M	METER
MA	MEDICAL AIR
MBH	1000 BRITISH THERMAL UNITS
MC	MECHANICAL CONTRACTOR
MH	MANHOLE
MR	MOP RECEPTOR
MV	MIXING VALVE
N	NITROGEN
N2O	NITROUS OXIDE
N.I.C.	NOT IN CONTRACT
NC	NORMALLY CLOSED
NGSM	NATURAL GAS SUB-METER
NGSV	NATURAL GAS SOLENOID VALVE
NO	NORMALLY OPEN
NPW	NON POTABLE WATER
NTS	NOT TO SCALE
O2	OXYGEN
OD	OVERFLOW DRAIN
PC	PLUMBING CONTRACTOR
PD	POOL DRAIN
PL	PLANTER
PP	POLYPROPOLENE
PRESS	PRESSURE
PRV	PRESSURE REDUCING / REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLY VINYL CHLORIDE
RD	ROOF DRAIN
RH	ROOF HYDRANT
RO	REVERSE OSMOSIS WATER
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPDA	REDUCED PRESSURE DETECTOR ASSEMBLY
RWC	RAIN WATER CONDUCTOR
SA	SHOCK ABSORBER
SAN	SANITARY
SDB	SUPPLY DRAIN BOX
SE	SEWAGE EJECTOR
SF	SQUARE FEET, FOOT
SHR	SHOWER
SI	SEDIMENT INTERCEPTOR
SK	SINK
SOB	SUPPLY OUTLET BOX
SP	SUMP PUMP
SS	SERVICE SINK
ST	STORAGE TANK
STDP	STAND PIPE
TB	THRUST BLOCK
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TMV	THERMOSTATIC MIXING VALVE
TOP	TOP OF PIPE
TP	TRAP PRIMER
TYP	TYPICAL
UF	UNDERFLOOR
UR	URINAL
V	VENT
VAC	VACUUM
VB	VACUMM BREAKER
VE	VACUUM EXHAUST
VIF	VERIFY IN FIELD
VO	VACUUM OUTLET
VTR	VENT THROUGH ROOF
W	WASTE
W/	WITH
W/O	WITH OUT
WC	WATER CLOSET or WATER COLUMN
WCO	WALL CLEAN OUT
WF	WATER FILTER
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTER
WO	WATER OUTLET
WSFU	WATER SUPPLY FIXTURE UNIT

VALVES AND ACCESSORIES

- GATE VALVE
- OSY VALVE
- FLOW CONTROL VALVE
- THERMOSTATIC MIXING VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS COCK
- BALANCING VALVE
- PRESSURE / TEMPERATURE RELIEF VALVE
- BALL VALVE
- CHECK VALVE
- IN-LINE STRAINER
- UNION
- DRAIN VALVE
- FLANGED CONNECTION
- PRESSURE GAUGE
- PRESSURE GAUGE WITH COCK
- THERMOMETER
- CLEAN OUT
- FLOOR OR GROUND CLEAN OUT
- STACK CLEAN OUT
- LINE CLEAN OUT
- CLEAN OUT @ GRADE
- BACK WATER VALVE
- BACK WATER VALVE (IN PIT)
- CAPPED PIPE
- WASTE AND TRAP
- PIPE TURNING DOWN OR RISING
- PIPE RISING / OR RISING AND DROPPING
- PIPE DROP OR RISING 45°
- PIPE DROP OR RISING 90°
- MASTER GAS VALVE
- VALVE IN VERTICAL
- AQUASTAT (A)
- VACUUM BREAKER (VB)
- WATER HAMMER ARRESTOR (WHA)
- WATER HAMMER ARRESTOR W / ACCESS PANEL(WHAAP)
- FS — KITCHEN FLOOR SINK (FS)
- AD — AREA FLOOR DRAIN (AD)
- FD — FLOOR DRAIN (FD)
- GD — GARAGE FLOOR DRAIN (GD)
- HOSE BIB (HB) OPEN / CLOSED
- WALL HYDRANT (WH) OPEN / CLOSED
- ROOF / OVERFLOW DRAIN
- ROOF / OVERFLOW DRAIN ABOVE
- TRENCH DRAIN
- DOUBLE CHECK DETECTOR ASSEMBLY (DCDA)
- DOUBLE CHECK VALVE ASSEMBLY (DCVA)
- REDUCED PRESSURE BACKFLOW PREVENTER (RPBP)
- REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA)
- PUMP

MISC TAGS AND SYMBOLS

- XX — KEYED NOTE
- XX — DEMOLITION NOTE
- XX — KITCHEN EQUIPMENT TAG
- X — REVISION NUMBER X
- XX — DISTANCE TO FINISH FLOOR (FEET & INCHES) FROM BOTTOM OF PIPE
- INDICATES CONNECT NEW TO EXISTING
- INDICATES LIMIT OF REMOVAL
- CW # — COLD WATER RISER TAG
- DR # — DRAIN RISER TAG
- DSP # — DRY STAND PIPE RISER TAG
- HWR # — HOT WATER RETURN RISER TAG
- HW # — HOT WATER RISER TAG
- G # — NATURAL GAS RISER TAG
- RWC # — RAIN WATER CONDUCTOR TAG
- S # — SANITARY STACK TAG
- SP # — SPRINKLER RISER TAG
- V # — VENT STACK TAG
- WSP # — WET STANDPIPE RISER TAG
- XX X — EQUIPMENT TAG
- A / M-1 — SECTION SYMBOL: SECTION DESIGNATION, DRAWING NUMBER LOCATION
- 1 / M-1 — DETAIL SYMBOL: DETAIL NUMBER, DRAWING NUMBER LOCATION

PIPE LOCATION NOTES

1. CONCEALED IN CEILING SPACE ABOVE
2. EXPOSED IN STRUCTURE ABOVE
3. CONCEALED IN CEILING SPACE, BELOW FLOOR
4. EXPOSED ON STRUCTURE, IN CRAWL SPACE
5. BELOW GRADE
6. RACK ON WALL, BELOW COUNTER TOP
7. ABOVE FLOOR
8. RUN THROUGH OR BETWEEN BAR JOIST

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Sandra I. Heiler

DRAWING LIST - PLUMBING

DRAWING NUMBER	DRAWING TITLE	04/22/2020 - DD SUBMISSION	05/15/20 - 95% CD REVIEW	07/13/20 - PERMIT SUBMISSION
P0.01	PLUMBING LEGENDS, ABBREVIATIONS AND GENERAL NOTES	○	●	●
P0.20	PLUMBING SCHEDULES		○	●
P0.30	PLUMBING DETAILS		○	●
P0.31	PLUMBING DETAILS		○	●
P0.41	SANITARY RISER DIAGRAM		○	●
P0.42	SANITARY RISER DIAGRAM		○	●
P0.43	DOMESTIC WATER AND NATURAL GAS RISER DIAGRAMS		○	●
P1.01	BASEMENT PLAN - DRAINAGE AND VENT	○	●	●
P1.11	FIRST FLOOR PLAN - DRAINAGE AND VENT		○	●
P1.21	SECOND FLOOR PLAN - DRAINAGE AND VENT		○	●
P1.31	ATTIC FLOOR PLAN - DRAINAGE AND VENT	○	●	●
P2.01	BASEMENT PLAN - DOMESTIC WATER		○	●
P2.11	FIRST FLOOR PLAN - DOMESTIC WATER		○	●
P2.21	SECOND FLOOR PLAN - DOMESTIC WATER		○	●
P3.01	BASEMENT PLAN - NATURAL GAS		○	●
P3.11	FIRST FLOOR PLAN - NATURAL GAS		○	●
P3.21	SECOND FLOOR PLAN - NATURAL GAS		○	●
P3.31	ATTIC FLOOR PLAN - NATURAL GAS		○	●

REVISION LEGEND: ○ NEW ISSUE; ● REVISED ISSUE; ♦ REVISED, NOT ISSUED; ⊠ REMOVED FROM DRAWING SET; □ ISSUED, NOT REVISED

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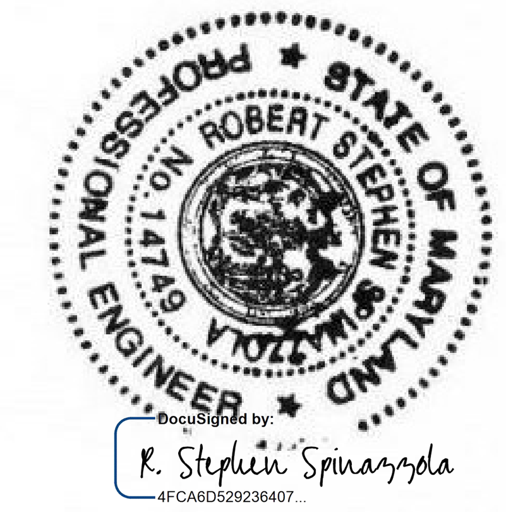

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PLUMBING LEGENDS, ABBREVIATIONS AND GENERAL NOTES

P0.01

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APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

POTABLE WATER EXPANSION TANK SCHEDULE — ET

ITEM	SYSTEM	INITIAL PRESSURE (PSIG.)	MAXIMUM PRESSURE (PSIG.)	VOLUME ACCEPTANCE (GAL)	DIMENSIONS	SYSTEM CONNECTION (IN.)	MANUFACTURER/ MODEL #
ET-1	DOMESTIC WATER HEATER	65	110	4.4	11"ø x15"	3/4"	AMTROL / ST-12

GAS FIRED DOMESTIC WATER HEATER SCHEDULE — WH

ITEM	LOCATION	NOMINAL CAPACITY (GAL.)	INPUT (MBH)	DIAMETER (IN.)	RECOVERY RATE (GPH)	WATER TEMP. RISE °F @ 40°F EWT	GAS CONNECTION (IN.)	COMBUSTION AIR CONNECTION (IN.)	FLUE CONNECTION (IN.)	GAS CONNECTION (IN.)	COLD WATER CONNECTION (IN.)	HOT WATER CONNECTION (IN.)	HOT WATER RECIRC. CONNECTION (IN.)	ELECTRICAL DATA	MANUFACTURER/ MODEL #	REMARKS
WH-1	BASEMENT WATER HEATER ROOM	80	199.9	26-3/8"	256.0	100.0°F	2.0"	3"	3"	1-1/4"	2"	2"	3/4"	120V/1ø/60HZ	RHEEM / GHE80SU-200(A)	

PLUMBING FIXTURE SCHEDULE — P

ITEM	FIXTURE	CONNECTIONS (IN.)					TRAP TYPE	REMARKS
		CW	HW	TEMPERED	SAN	VENT		
P-1	WATER CLOSET	1"	--	--	4"	2"	INTEGRAL	FLOOR MOUNTED, FLUSH VALVE
P-1A	WATER CLOSET (HANDICAPPED)	1"	--	--	4"	2"	INTEGRAL	FLOOR MOUNTED, FLUSH VALVE
P-2	WALL HUNG LAVATORY	1/2"	1/2"	--	1-1/2"	1-1/4"	"P" TRAP	
P-2A	WALL HUNG LAVATORY (HANDICAPPED)	1/2"	1/2"	--	1-1/2"	1-1/4"	"P" TRAP	

NOTES:

1) ALL FLOOR DRAINS TO BE PROVIDED WITH DEEP SEAL TRAPS AND BE PRIMED. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL DETAILS.

PUMP SCHEDULE — HWRP, SP

ITEM	SYSTEM	TYPE	FLUID TYPE	FLUID FLOW (GPM)	HEAD (FEET)	IMPELLER DIAMETER (IN.)	PIPING CONNECTIONS		PUMP EFFICIENCY (%)	RPM	H.P.	AMPS		ELECTRICAL DATA	MANUFACTURER/ MODEL #	REMARKS
							SUCTION	DISCHARGE				FLA	START			
HWRP-1	DOMESTIC HOT WATER RECIRCULATION (140°F LOOP)	IN-LINE	WATER	1.0	6.0'	-	3/4"	3/4"	--	3,250	1/40	0.52	-	120V/1ø/60HZ	TACO / 006	
HWRP-2	DOMESTIC HOT WATER RECIRCULATION (110°F LOOP)	IN-LINE	WATER	1.0	6.0'	-	3/4"	3/4"	--	3,250	1/40	0.52	-	120V/1ø/60HZ	TACO / 006	
SP-1	CRAWL SPACE CONDENSATE DRAINAGE	SUMP PUMP	WATER	95.0	10.0'	-	-	2"	--	-	1/2	9.50	17.00	120V/1ø/60HZ	LITTLE GIANT / 10SN-CIA-SFS	TO BE INSTALLED IN EXSTING SUMP PIT
SP-2	BASEMENT CONDENSATE DRAINAGE	SUMP PUMP	WATER	95.0	10.0'	-	-	2"	--	-	1/2	9.50	17.00	120V/1ø/60HZ	LITTLE GIANT / 10SN-CIA-SFS	PUMP TO BE MOUNTED IN 24"Ø x 24" DEPTH SUMP PIT

KITCHEN EQUIPMENT CONNECTION SCHEDULE — KE

ITEM	DESCRIPTION	WATER		DRAIN		VENT (IN.)	CONDENSATE DRAIN (IN.)	NATURAL GAS		PRESSURE (IN. W.C.)	REMARKS
		HOT (IN.)	COLD (IN.)	INDIRECT (IN.)	DIRECT (IN.)			MBH	SIZE (IN.)		
BKE-2	CARBONATOR		1/2"								
BKE-5	FLOOR SINK TO RECEIVE FROM EVAPORATOR COIL			(1)-3/4"							
BKE-12	FLOOR SINK TO RECEIVE FROM DRAFT BEER POWER PAK			(1)-1/2"							
KE-16	HAND SINK	1/2"	1/2"		1-1/2"	1-1/4"					
KE-18	3-POT COFFEE BREWER		1/2"								
KE-19	HAND SINK	1/2"	1/2"	(1)-1-1/2"		-					
KE-20	WATER STATION		1/2"	(1)-1-1/4"							
KE-21	ICED TEA BREWER AND DISPENSER		1/2"								
KE-27	DIPPERWELL		1/2"								
KE-28	WORKTABLE WITH HAND SINK	1/2"	1/2"	(1)-1-1/2"							
KE-32	3-WELL HOT FOOD TABLE	1/2"		(1)-1-1/2"							
KE-33	12 BURNER RANGE							440.00	1"		
KE-35	4 BURNER RANGE WITH OVEN BASE							160.00	1"		
KE-40	CHEESE MELTER							32.00	3/4"		
KE-46A	MAKEUP AIR UNIT (MAU-1)							168.00	1"		
KE-47	FRYERS							100.00	3/4"		
KE-49	PREP TABLE WITH PREP SINK	1/2"	1/2"	(1)-1-1/2"							
KE-54	WATER FILTER FOR KE-55		1/2"								
KE-55	ICE CUBER		-	(2)-3/4", (1)-3/8"							
KE-56	ICE STORAGE BIN			(1)-1"							
KE-57	SOILED DISHTABLE			(1)-1-1/2"							
KE-60	PRE-RINSE SPRAY	1/2"	1/2"								
KE-61	DISPOSAL CONTROL		1/2"		2"	1-1/4"					
KE-62	CONVEYOR DISHWASHER		3/4"	(1)-1-1/2"							
KE-66	3-COMPARTMENT SINK	1/2"	1/2"	(3)-2"							
KE-72	KITCHEN MOP SINK	1/2"	1/2"		3"	1-1/2"					
KE-80	BAR HAND SINK	1/2"	1/2"	(1)-1-1/2"							
KE-81	COCKTAIL UNIT			(1)-1/2"							
KE-85	GLASS STORAGE UNIT			(1)-1-1/2", (1)-1/2"							
KE-87	8-HEAD DRAFT BEER TOWER			(1)-1/2"							
KE-90	WATER FILTER FOR KE-91		1/2"								
KE-91	UNDERCOUNTER ICE CUBER		-	(1)-3/4"							
KE-93	3-COMPARTMENT BAR SINK	1/2"	1/2"	(3)-1-1/2"							
KE-200	3-COMPARTMENT BAR SINK	1/2"	1/2"	(3)-1-1/2"							
KE-203	GLASS STORAGE UNIT			(1)-1-1/2", (1)-1/2"							
KE-206	COCKTAIL UNIT			(1)-1/2"							
KE-209	BAR HAND SINK	1/2"	1/2"	(1)-1-1/2"							
KE-213	WATER STATION		1/2"								
KE-218	8-HEAD DRAFT BEER TOWER			(1)-1/2"							
KE-219	3-POT COFFEE BREWER		1/2"								
KE-220	ICED TEA BREWER AND DISPENSER		1/2"								

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

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STATE OF MARYLAND — ROBERT STEPHEN SPINAZZOLA — No. 14749 — PROFESSIONAL ENGINEER

DocuSigned by: R. Stephen Spinazzola 4F1CA6D529D36407

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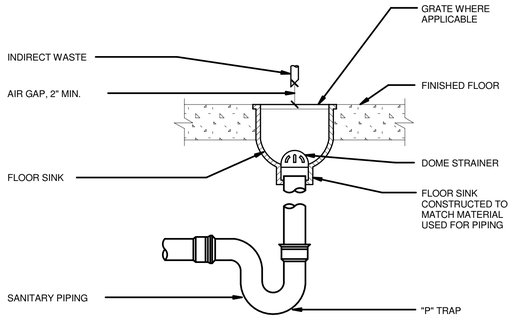
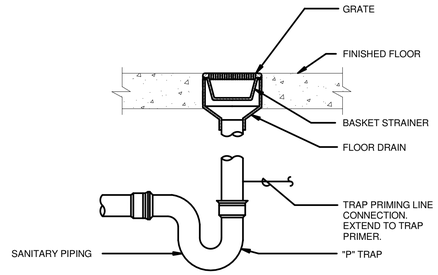
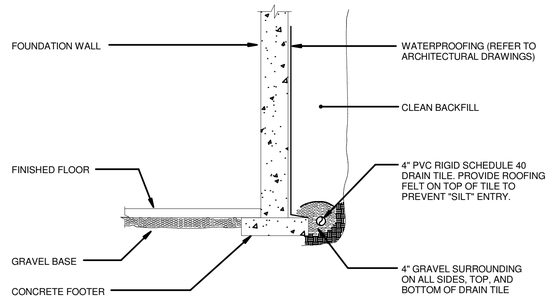
Permit # COMBUILD-921463
Date 01/14/21



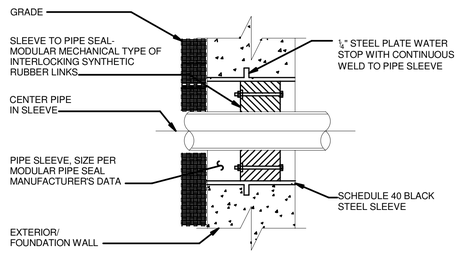
DETAIL - FLOOR SINK
NO SCALE



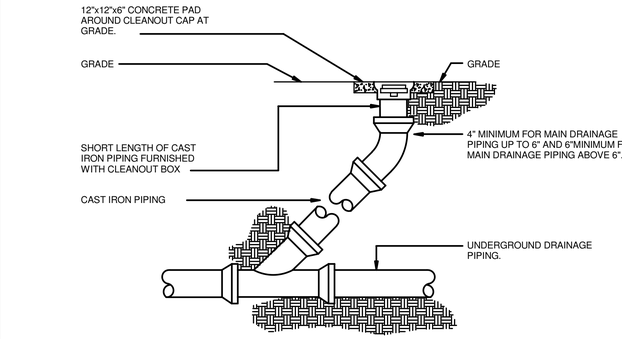
DETAIL - FLOOR DRAIN
NO SCALE



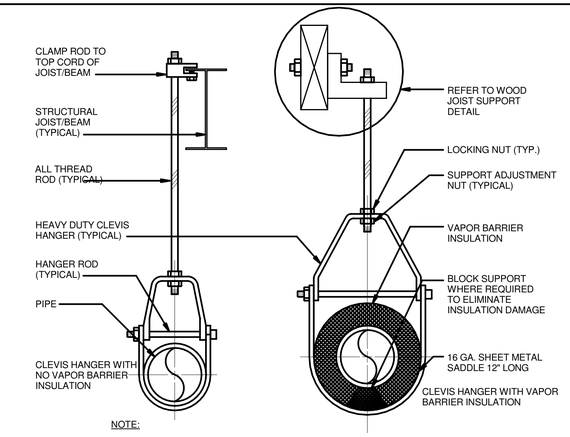
DETAIL - DRAIN TILE INSTALLATION
NO SCALE



DETAIL - WATERTIGHT PIPE SLEEVE PIPE THROUGH WALL
NO SCALE



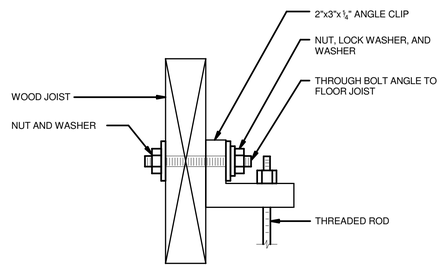
DETAIL - EXTERIOR CLEANOUT
NO SCALE



NOTE:

1. ALL HANGERS FOR COPPER PIPING SHALL BE COPPER COATED.

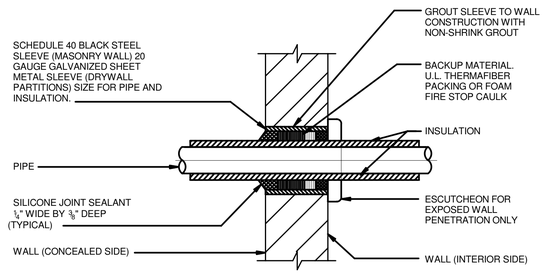
DETAIL - PIPE SUPPORT
NO SCALE



NOTE:

1. WHERE WOOD TRUSSES ARE USED, ANGLE SUPPORT SHALL BE LOCATED AT THE TOP CHORD.

DETAIL - WOOD JOIST/TRUSS SUPPORT
NO SCALE



NOTES:

1. AT THE CONTRACTORS' OPTION A U.L. LISTED/APPROVED FIRE STOP PIPE SLEEVE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL.
2. FOR EXISTING POURED CONCRETE WALLS, CORE DRILL OR STAR DRILL OPENING THROUGH EXISTING WALL FOR PIPE SLEEVES AS DIRECTED.
3. GALVANIZED SLEEVE SHALL BE CAST INTO NEW CONCRETE WALL POURS.
4. PIPE SLEEVE FOR BARE PIPE THROUGH WALL IS SIMILIAR.

DETAIL - PIPE SLEEVE FOR INSULATED PIPE THROUGH WALL
NO SCALE

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

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STATE OF MARYLAND · ROBERT STEPHEN WILKINSON · No. 14749 · PROFESSIONAL ENGINEER

DocuSigned by: R. Stephen Spinazzola 4FCA6D529236457...

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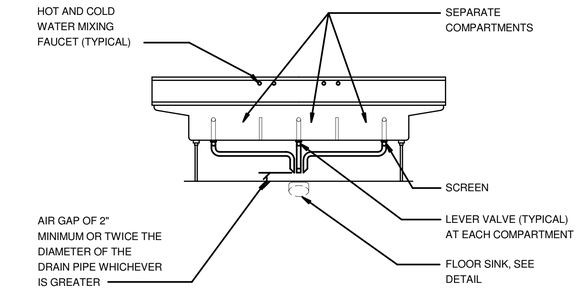
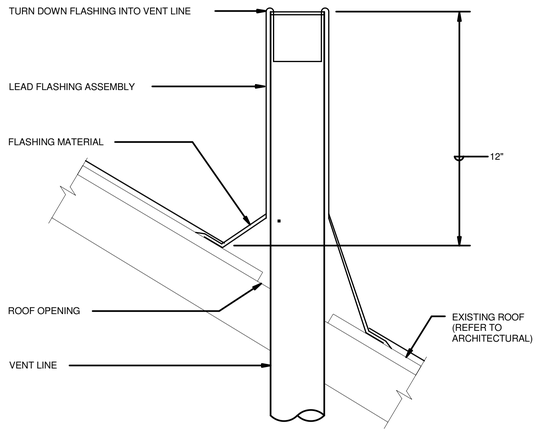
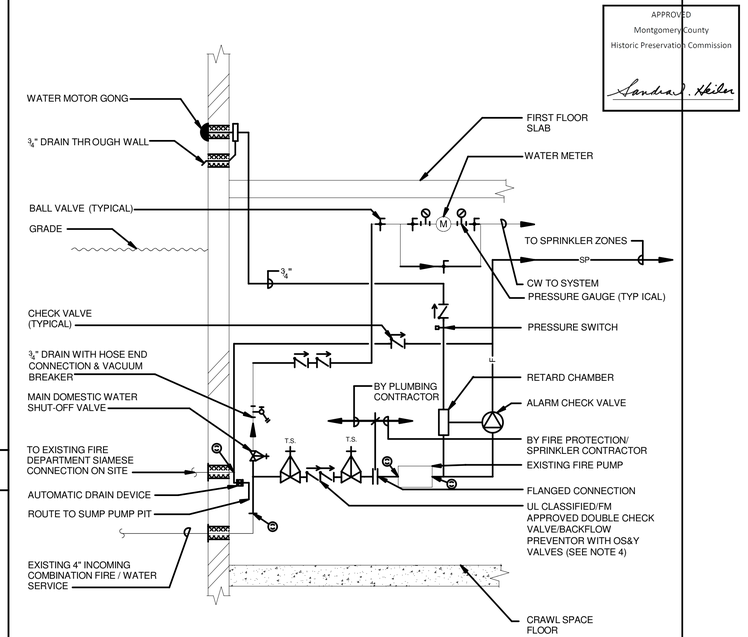


DETAIL - 3-COMPARTMENT SINK CONNECTION
NO SCALE



DETAIL - VENT PIPE THROUGH ROOF
NO SCALE



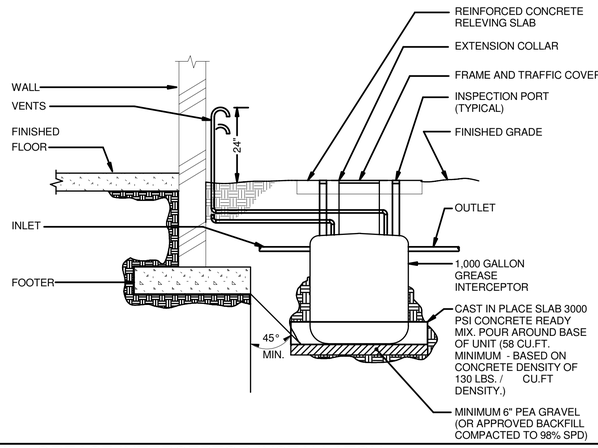
NOTES:

1) REFER TO FLOOR PLANS FOR PIPE SIZES. FINAL FIRE PROTECTION SYSTEM PIPE SIZE AND SYSTEM DETAILS TO BE DETERMINED BY FIRE PROTECTION/SPRINKLER CONTRACTOR.

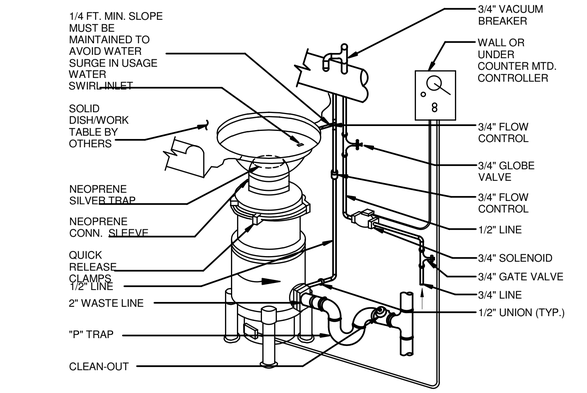
2) PLUMBING CONTRACTOR TO INSTALL INCOMING SERVICE UP TO AND INCLUDING UL CLASSIFIED/FM APPROVED DOUBLE CHECK VALVE ASSEMBLY/BACKFLOW PREVENTOR. PLUMBING CONTRACTOR TO PROVIDE FLANGED CONNECTION DOWNSTREAM OF DOUBLE CHECK VALVE ASSEMBLY/BACKFLOW PREVENTOR. FIRE PROTECTION/SPRINKLER CONTRACTOR TO INSTALL ALL PIPING, VALVES, EQUIPMENT ETC. DOWNSTREAM OF FLANGED CONNECTION.

3) BACKFLOW PREVENTOR ASSEMBLIES SHALL BE INSTALLED WITH A CENTERLINE HEIGHT FROM 30" ABOVE FINISHED FLOOR.

DETAIL - COMBINATION FIRE/DOMESTIC WATER SERVICE ENTRANCE PIPING SCHEMATIC
NO SCALE

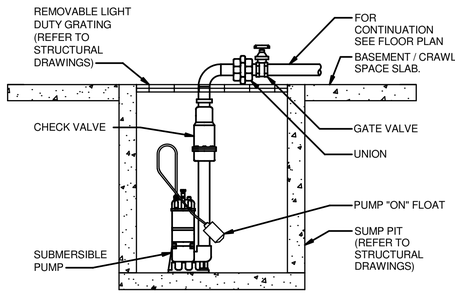


DETAIL - GREASE INTERCEPTOR INSTALLATON
NO SCALE



NOTE: DISPOSER PROVIDED BY KITCHEN EQUIPMENT CONTRACTOR.

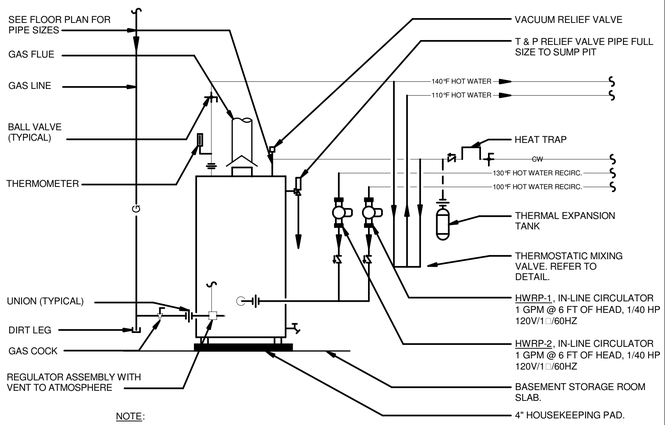
DETAIL - DISPOSER CONNECTION
NO SCALE



NOTE:

MINIMUM SUMP PUMP PIT SIZE SHALL BE 24"Lx24"Wx24"H.

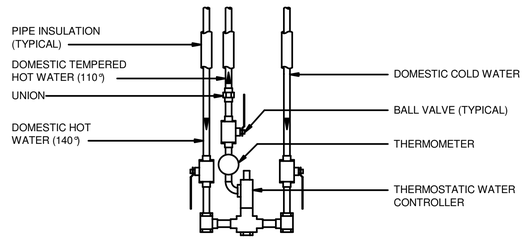
DETAIL - SUMP PUMP PIT
NO SCALE



NOTE:

1. REFER TO FLOOR PLANS FOR PIPE SIZES.

DETAIL - GAS FIRED WATER HEATER PIPING SCHEMATIC
NO SCALE



NOTE:

1) THERMOSTATIC MIXING VALVE SHALL BE SET AT 110°F.

DETAIL - THERMOSTATIC WATER CONTROLLER
NO SCALE

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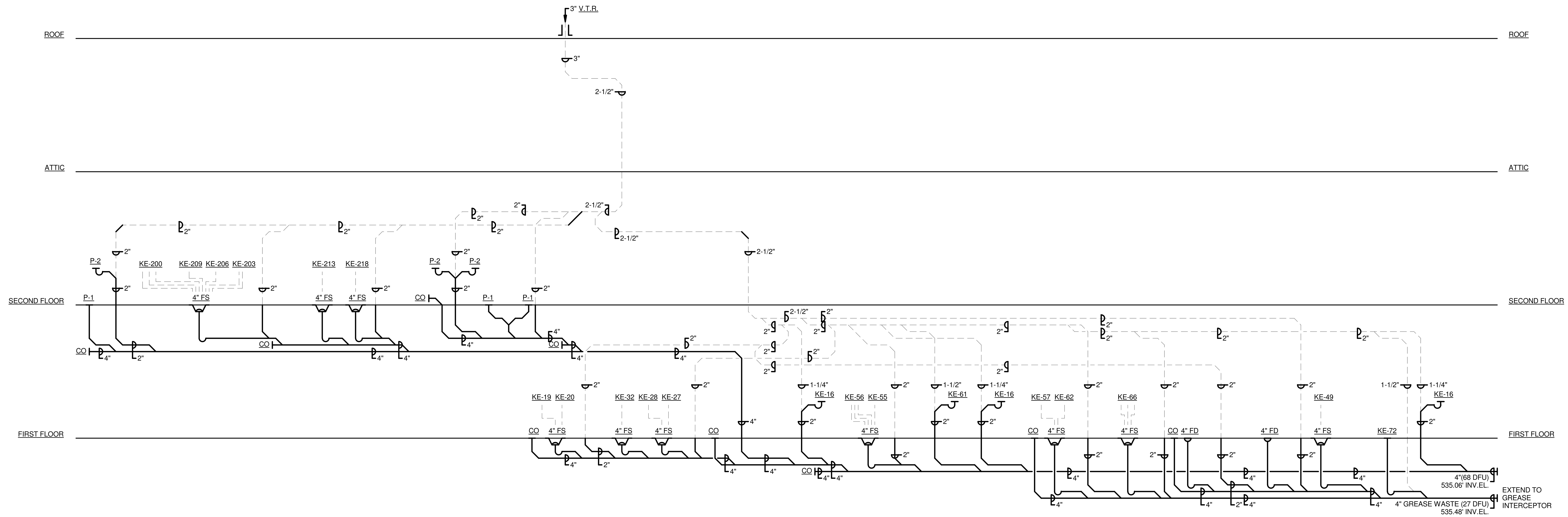

SANITARY RISER DIAGRAM

NO SCALE

NOTES:

1. SANITARY AND VENT PIPING SHALL BE SLOPED AT 1/8" PER FOOT.
2. REFER TO PLUMBING FIXTURE SCHEDULE AND KITCHEN EQUIPMENT SCHEDULE FOR ADDITIONAL CONNECTION PIPE SIZES.

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SANITARY RISER DIAGRAM

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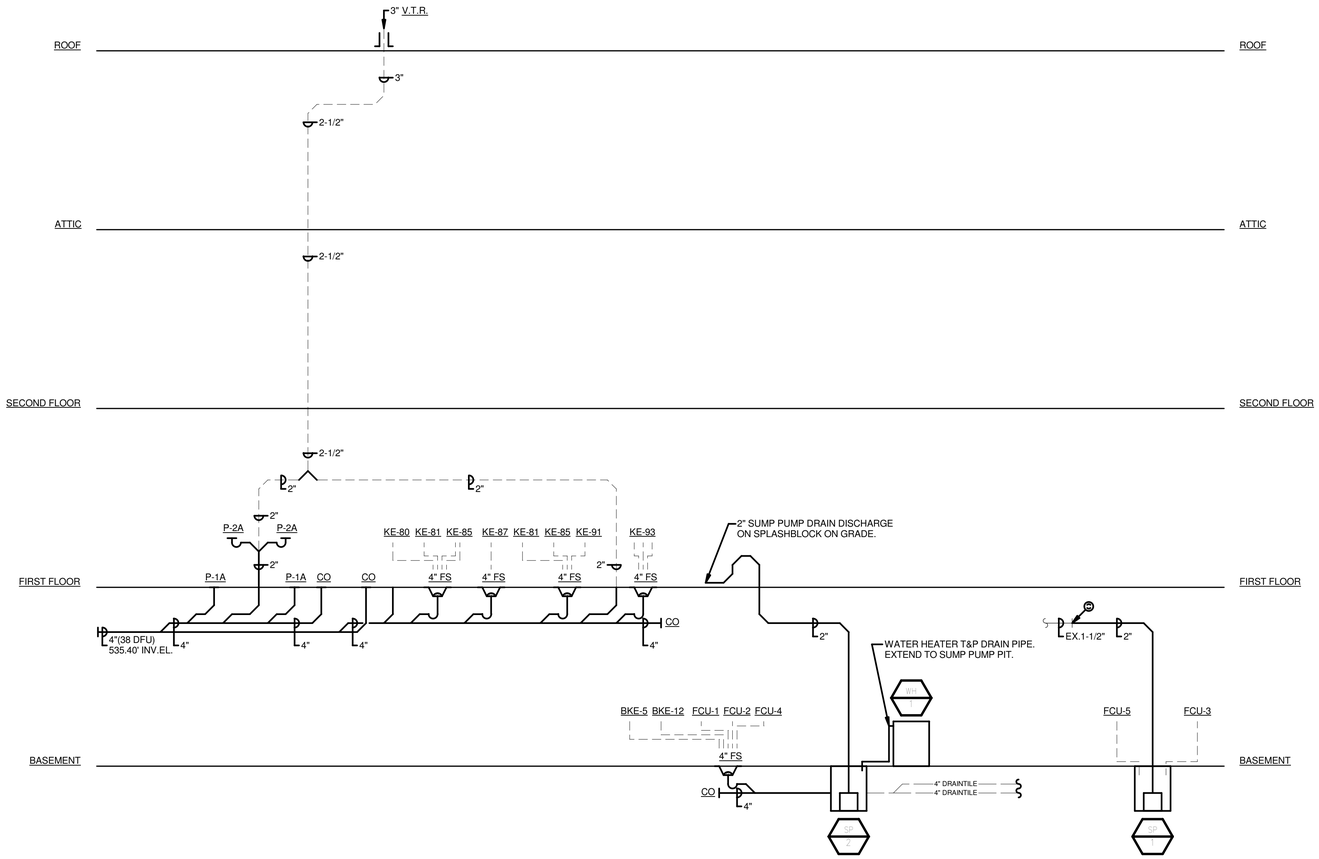

SANITARY RISER DIAGRAM

NO SCALE

NOTES:

1. SANITARY AND VENT PIPING SHALL BE SLOPED AT ¼" PER FOOT.
2. REFER TO PLUMBING FIXTURE SCHEDULE AND KITCHEN EQUIPMENT SCHEDULE FOR ADDITIONAL CONNECTION PIPE SIZES.

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SANITARY RISER DIAGRAM

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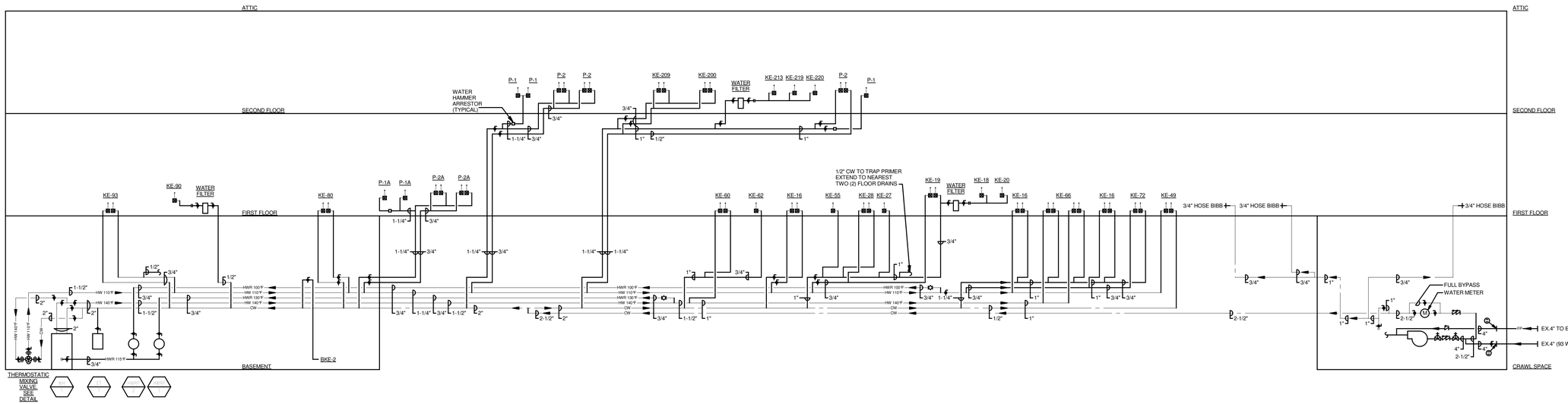
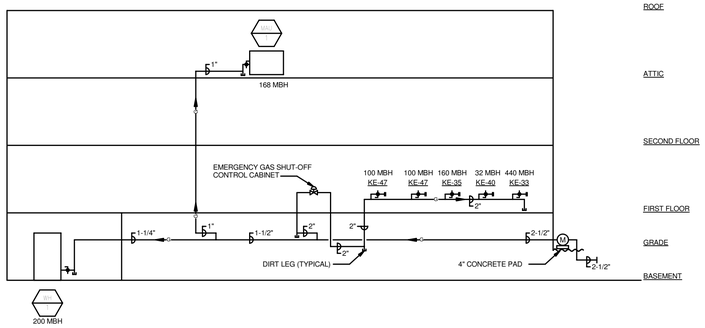


DOMESTIC WATER RISER DIAGRAM

NO SCALE



NATURAL GAS RISER DIAGRAM

NO SCALE

NOTES:

1. TOTAL NATURAL GAS LOAD = 1,200 CFH
2. NATURAL GAS SIZING BASED ON 9 IN.W.C. INCOMING PRESSURE.
3. LONGEST RUN TOTAL EQUIVALENT PIPE LENGTH 180 FEET (INCLUDING FITTINGS).
4. TOTAL ALLOWABLE PRESSURE DROP TO FURTHEST APPLIANCE = 2" W.C.
5. FURTHEST APPLIANCE (MAU-1) REQUIRES 7" W.C. TO 14" W.C.

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DOMESTIC WATER AND NATURAL GAS RISER DIAGRAMS

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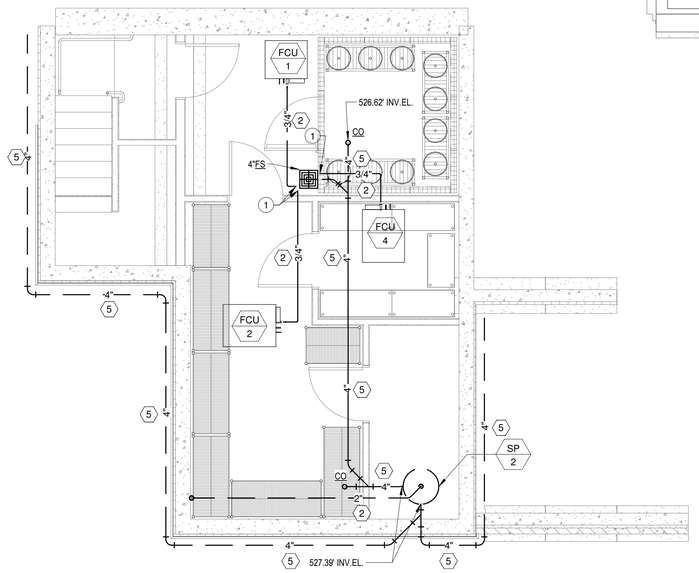

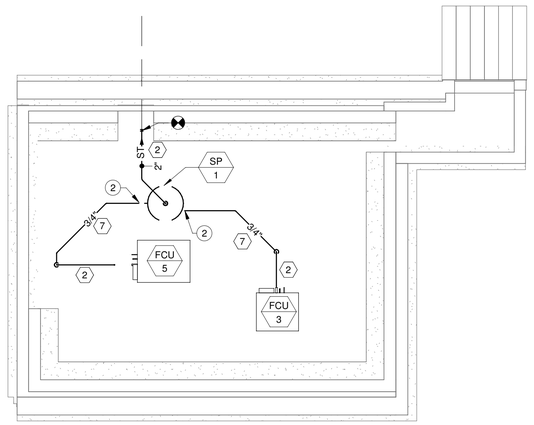

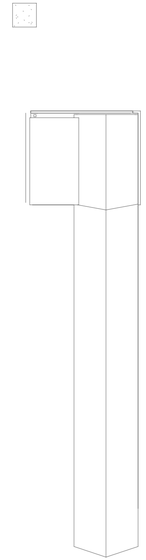

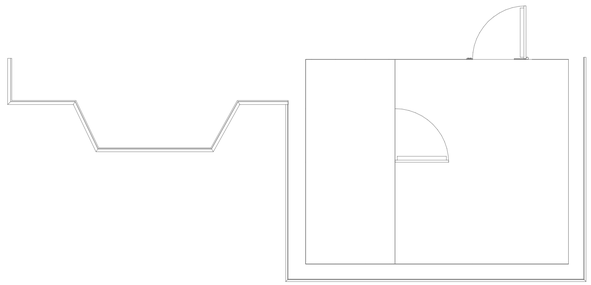

1 P1.01 **BASEMENT PLAN - DRAINAGE AND VENT**
1/4" = 1'-0"

DRAWING NOTES: (#)

1. EXTEND PUMPED CONDENSATE DRAIN PIPING DOWN TO FLOOR SINK.
2. EXTEND PUMPED CONDENSATE DRAIN PIPING TO SUMP PUMP PIT.

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. SANITARY, GREASE WASTE, PUMPED CONDENSATE DRAIN, CONDENSATE DRAIN AND VENT PIPING SHALL BE SLOPED AT 1/8" PER FOOT.

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BASEMENT PLAN - DRAINAGE AND VENT

P1.01

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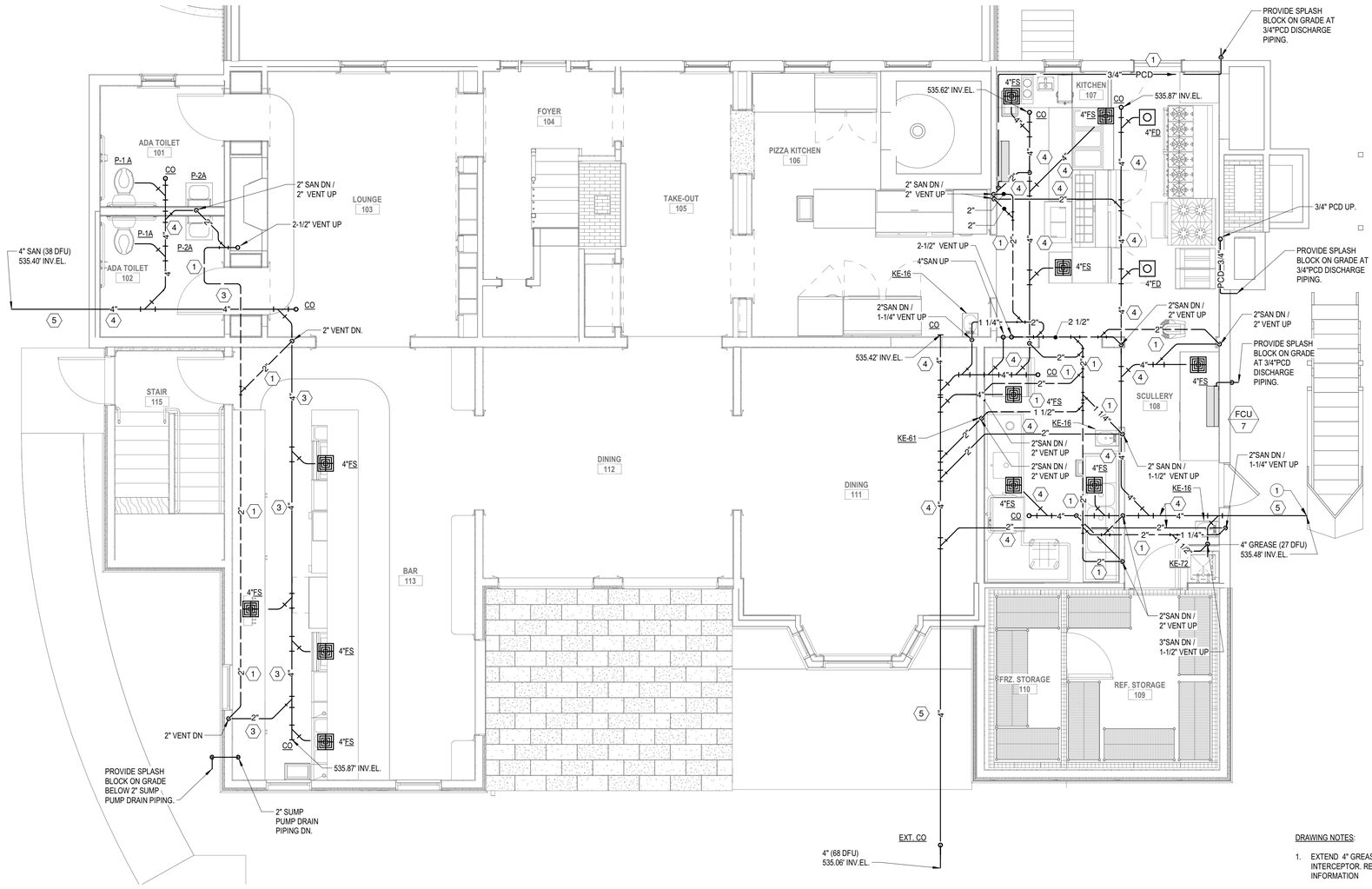

1 P1.11 **FIRST FLOOR PLAN - DRAINAGE AND VENT**
1/4" = 1'-0"

DRAWING NOTES: (#)

1. EXTEND 4" GREASE WASTE PIPING TO 1,000 GALLON GREASE INTERCEPTOR. REFER TO CIVIL DOCUMENTS FOR ADDITIONAL INFORMATION

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. SANITARY, GREASE WASTE, PUMPED CONDENSATE DRAIN, CONDENSATE DRAIN AND VENT PIPING SHALL BE SLOPED AT 1/8" PER FOOT.

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FIRST FLOOR PLAN - DRAINAGE AND VENT

P1.11

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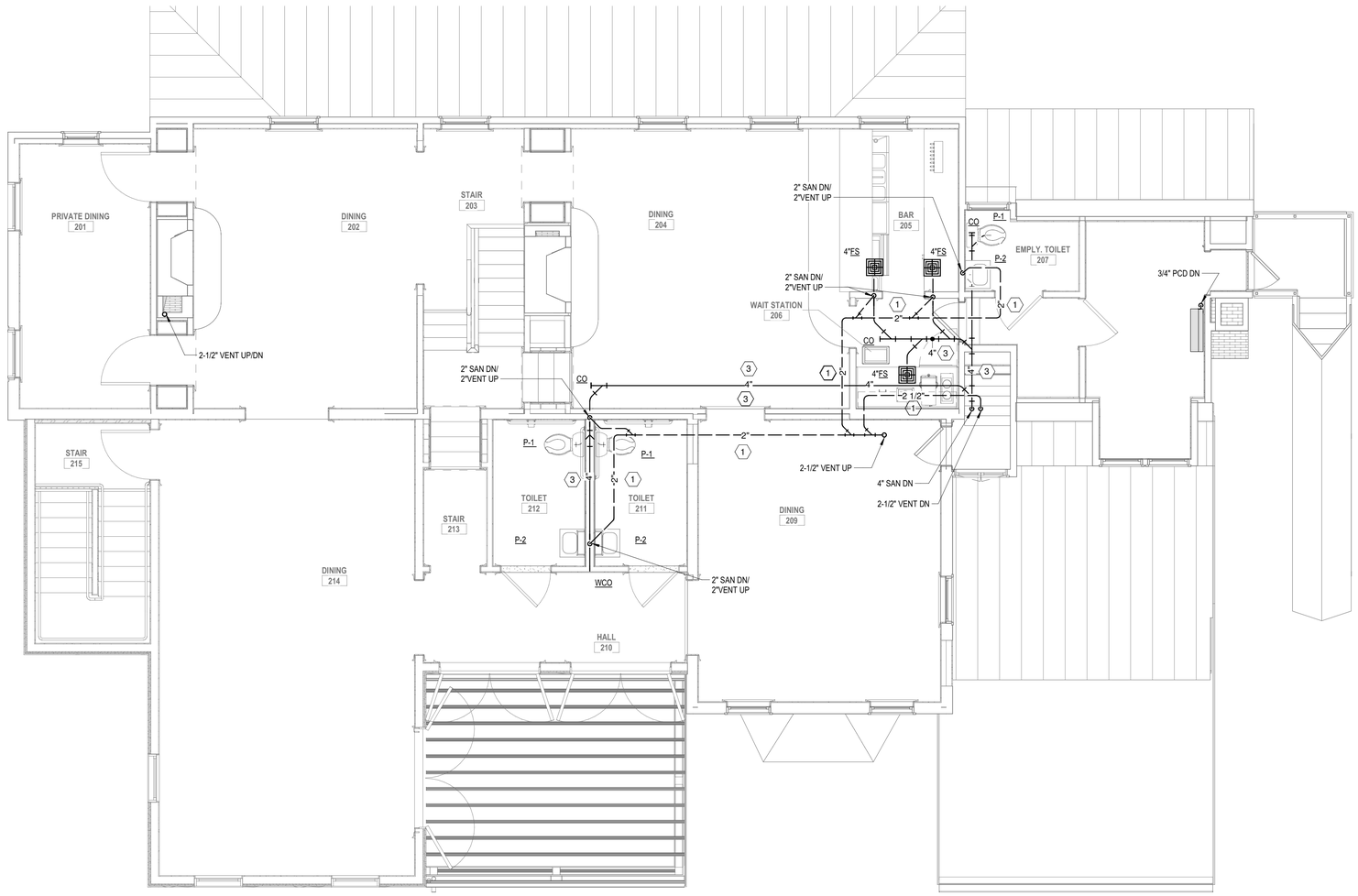

1 P1.21 **SECOND FLOOR PLAN - DRAINAGE AND VENT**
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. SANITARY, GREASE WASTE, PUMPED CONDENSATE DRAIN, CONDENSATE DRAIN AND VENT PIPING SHALL BE SLOPED AT 1/8" PER FOOT.

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SECOND FLOOR PLAN - DRAINAGE AND VENT

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By Michael Kyne at 1:59 am, Feb 19, 2021

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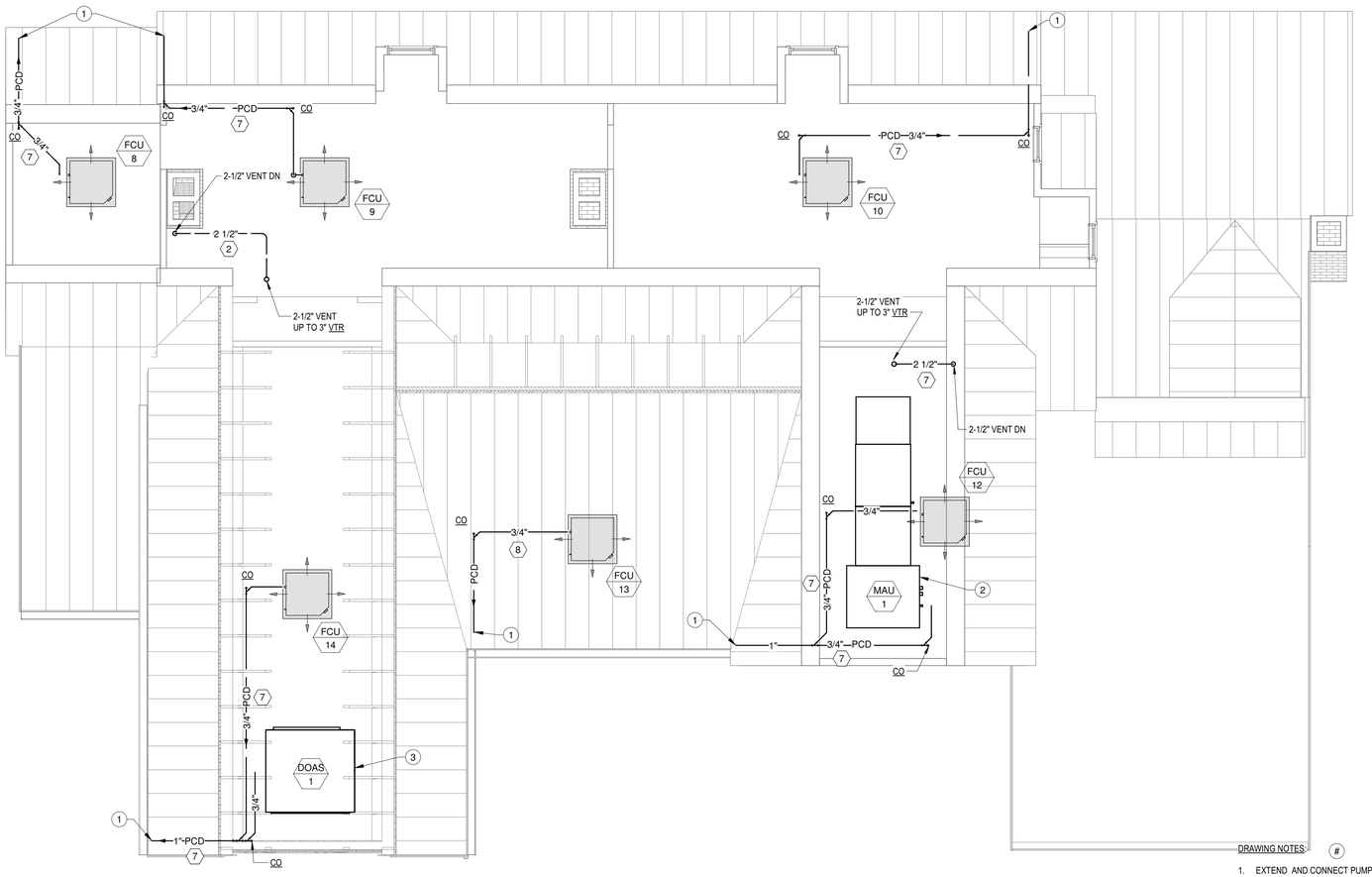

1 P1.31 **ATTIC FLOOR PLAN - DRAINAGE AND VENT**
1/4" = 1'-0"

DRAWING NOTES: (#)

1. EXTEND AND CONNECT PUMPED CONDENSATE DRAIN PIPING TO NEAREST VERTICAL RAIN LEADER.
2. CONTRACTOR SHALL PROVIDE A FULL SIZE DRAIN PAN BELOW ENTIRE MAKEUP AIR UNIT.
3. CONTRACTOR SHALL PROVIDE A FULL SIZE DRAIN PAN BELOW ENTIRE DEDICATED OUTSIDE AIR UNIT.

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. SANITARY, GREASE WASTE, PUMPED CONDENSATE DRAIN, CONDENSATE DRAIN AND VENT PIPING SHALL BE SLOPED AT 1/8" PER FOOT.

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Electronically signed by R. Stephen Spinazzola
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ATTIC FLOOR PLAN - DRAINAGE AND VENT

P1.31

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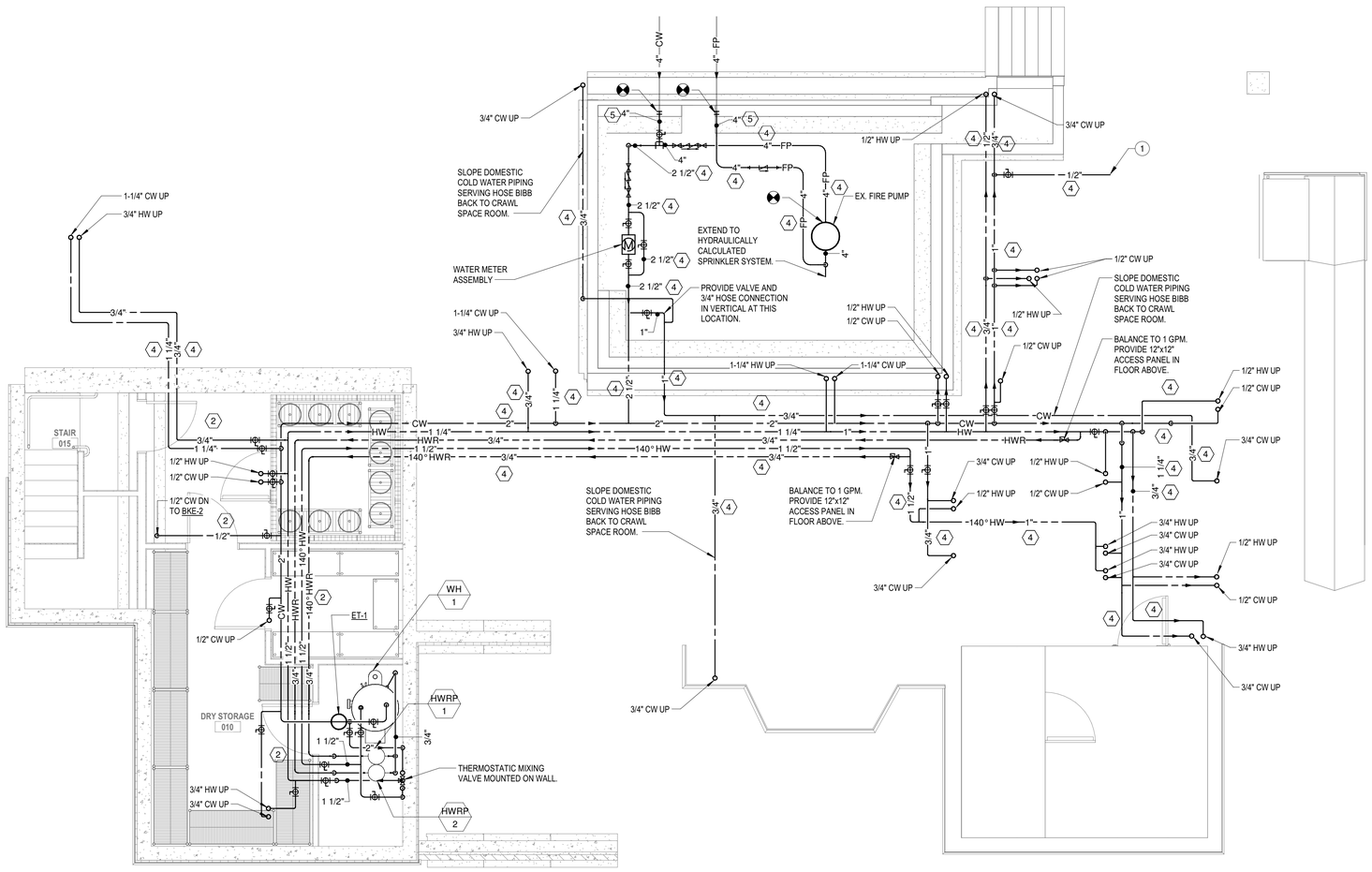

1 BASEMENT PLAN - DOMESTIC WATER
P2.01 1/4" = 1'-0"

DRAWING NOTES: (#)

1. EXTEND 1/2" DOMESTIC COLD WATER PIPING WITH TRAP PRIMER TO NEAREST TWO (2) FLOOR DRAINS P-TRAP.

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. PROVIDE 12"x12" ACCESS FLOOR HATCH AT ALL VALVES AND TRAP PRIMER LOCATIONS WHERE LOCATED WITHIN CRAWL SPACE.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
4. FIRE PROTECTION PIPING SHOWN TO BE DESIGNED AND INSTALLED BY SPRINKLER CONTRACTOR.

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BASEMENT PLAN - DOMESTIC WATER

P2.01

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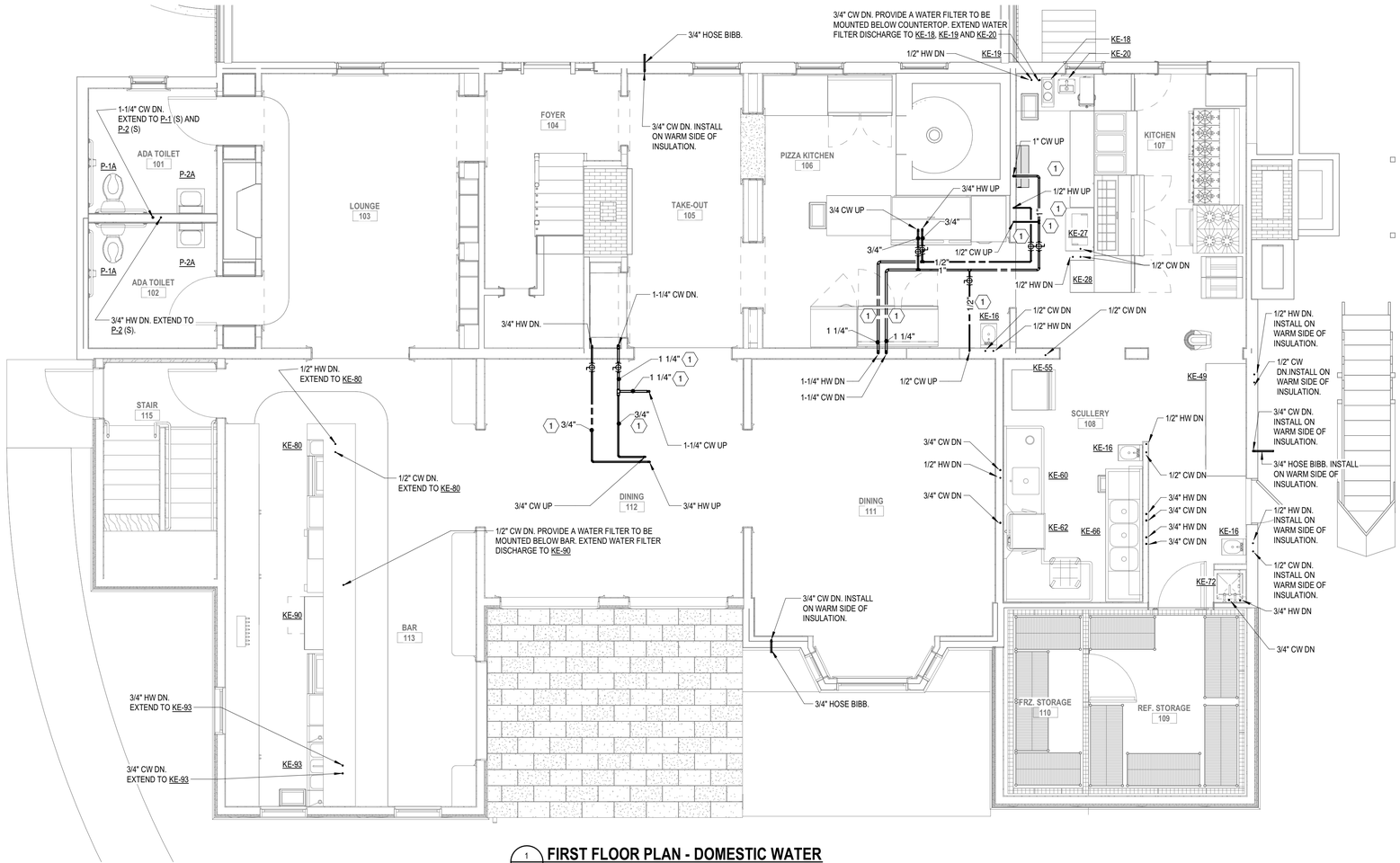

1 P2.11 **FIRST FLOOR PLAN - DOMESTIC WATER**
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. PROVIDE ACCESS DOOR AT ALL VALVE LOCATIONS WHERE LOCATED ABOVE A GYPSUM CEILING.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

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FIRST FLOOR PLAN - DOMESTIC WATER

P2.11

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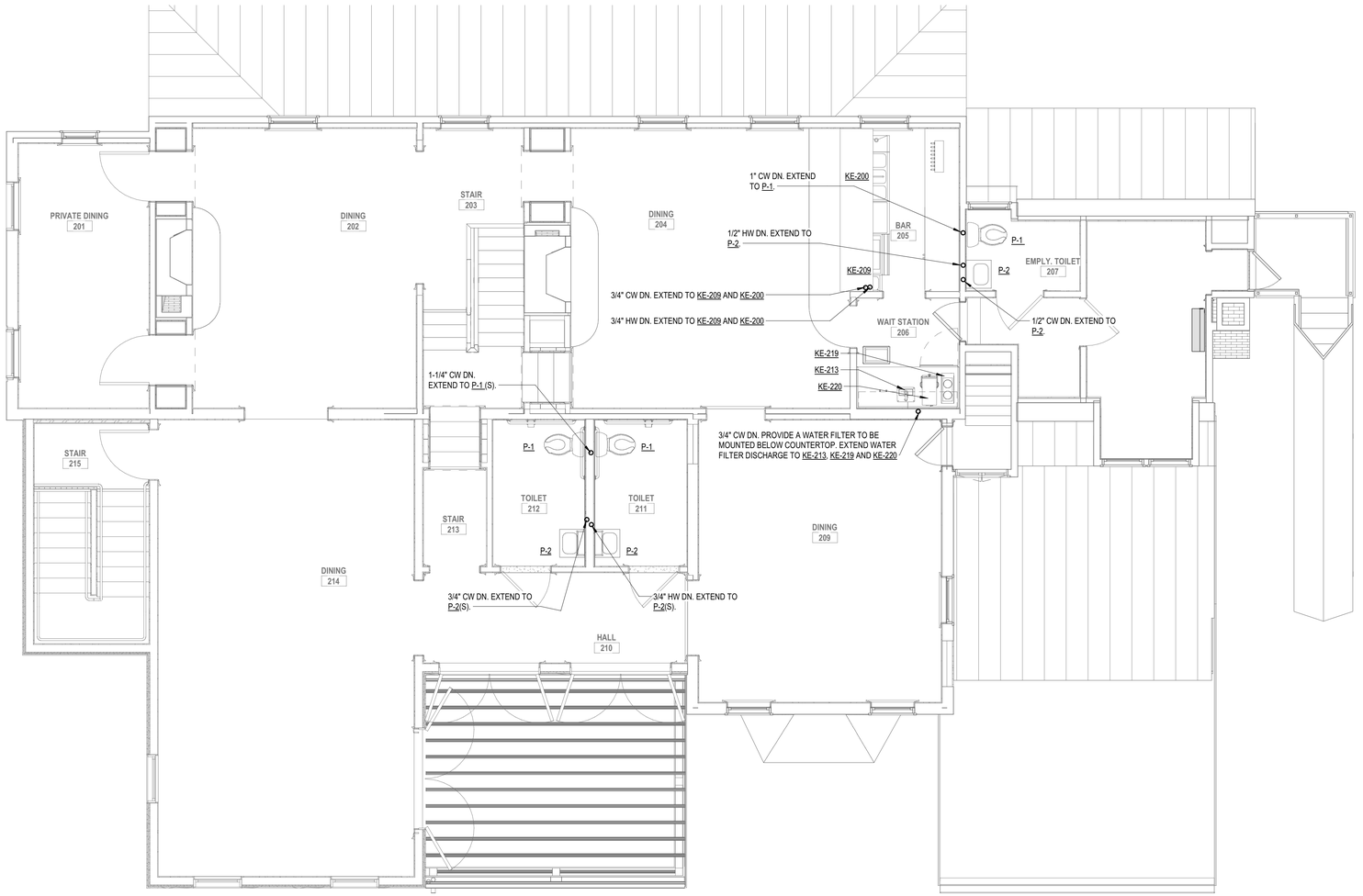

1 P2.21 **SECOND FLOOR PLAN - DOMESTIC WATER**
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

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SECOND FLOOR PLAN - DOMESTIC WATER

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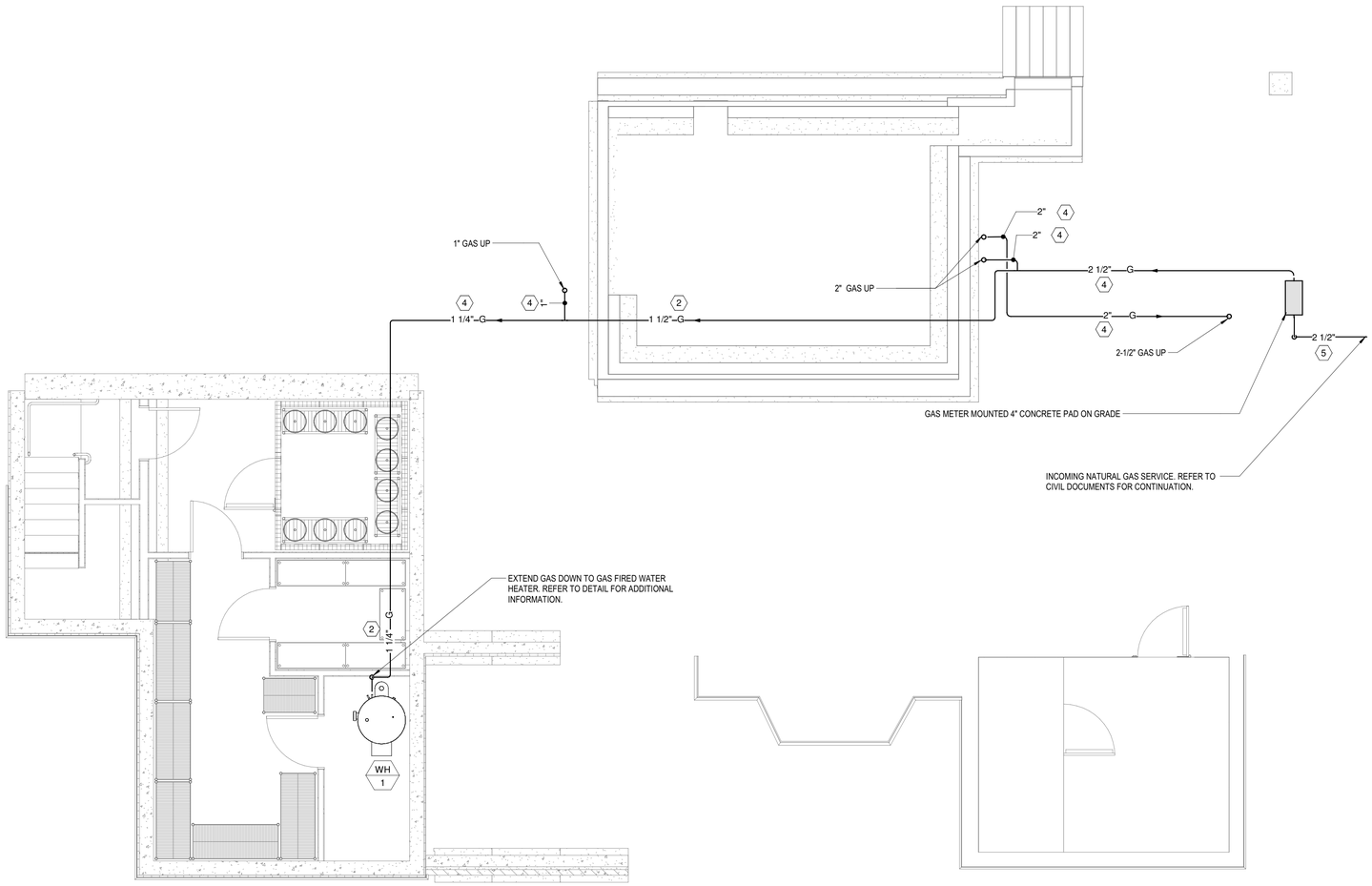

1 P3.01 **BASEMENT PLAN - NATURAL GAS**
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. NATURAL GAS PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE, HVAC, PLUMBING, ELECTRICAL AND FIRE PROTECTION WORK.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

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BASEMENT PLAN - NATURAL GAS

P3.01

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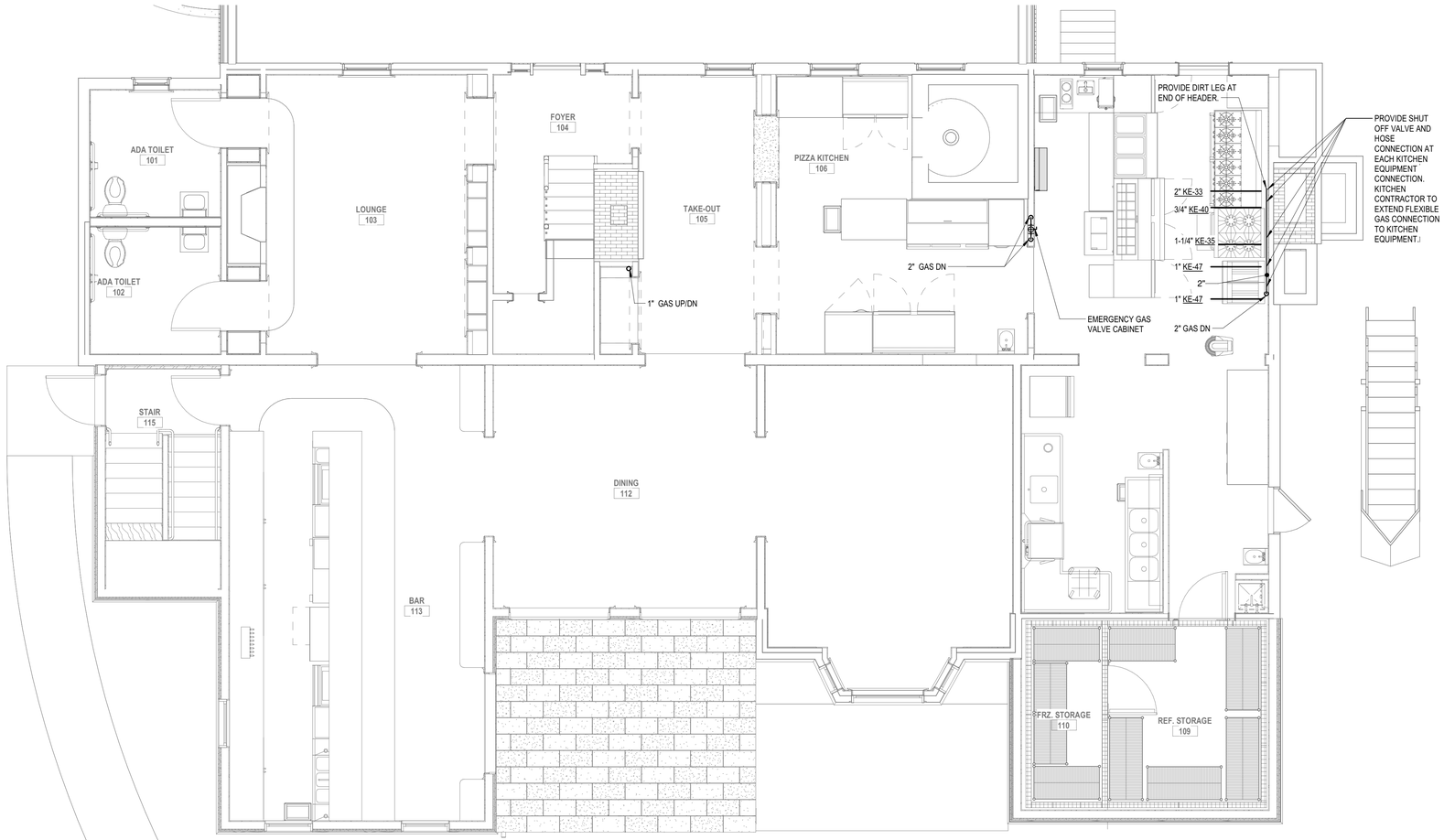

1 P3.11 **FIRST FLOOR PLAN - NATURAL GAS**
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. NATURAL GAS PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE, HVAC, PLUMBING, ELECTRICAL AND FIRE PROTECTION WORK.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

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FIRST FLOOR PLAN - NATURAL GAS

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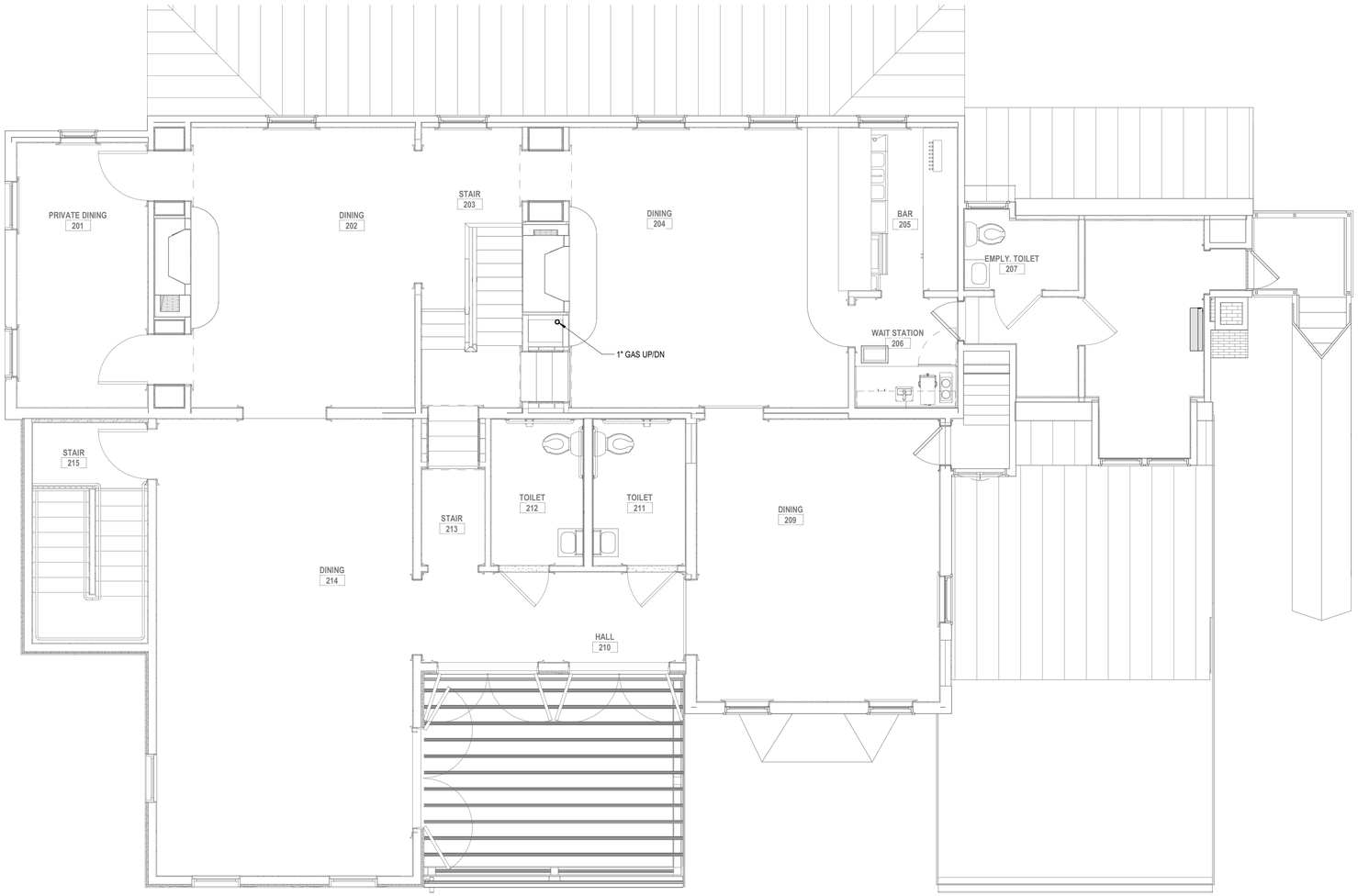

1 P3.21 **SECOND FLOOR PLAN - NATURAL GAS**
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. NATURAL GAS PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE, HVAC, PLUMBING, ELECTRICAL AND FIRE PROTECTION WORK.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

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SECOND FLOOR PLAN - NATURAL GAS

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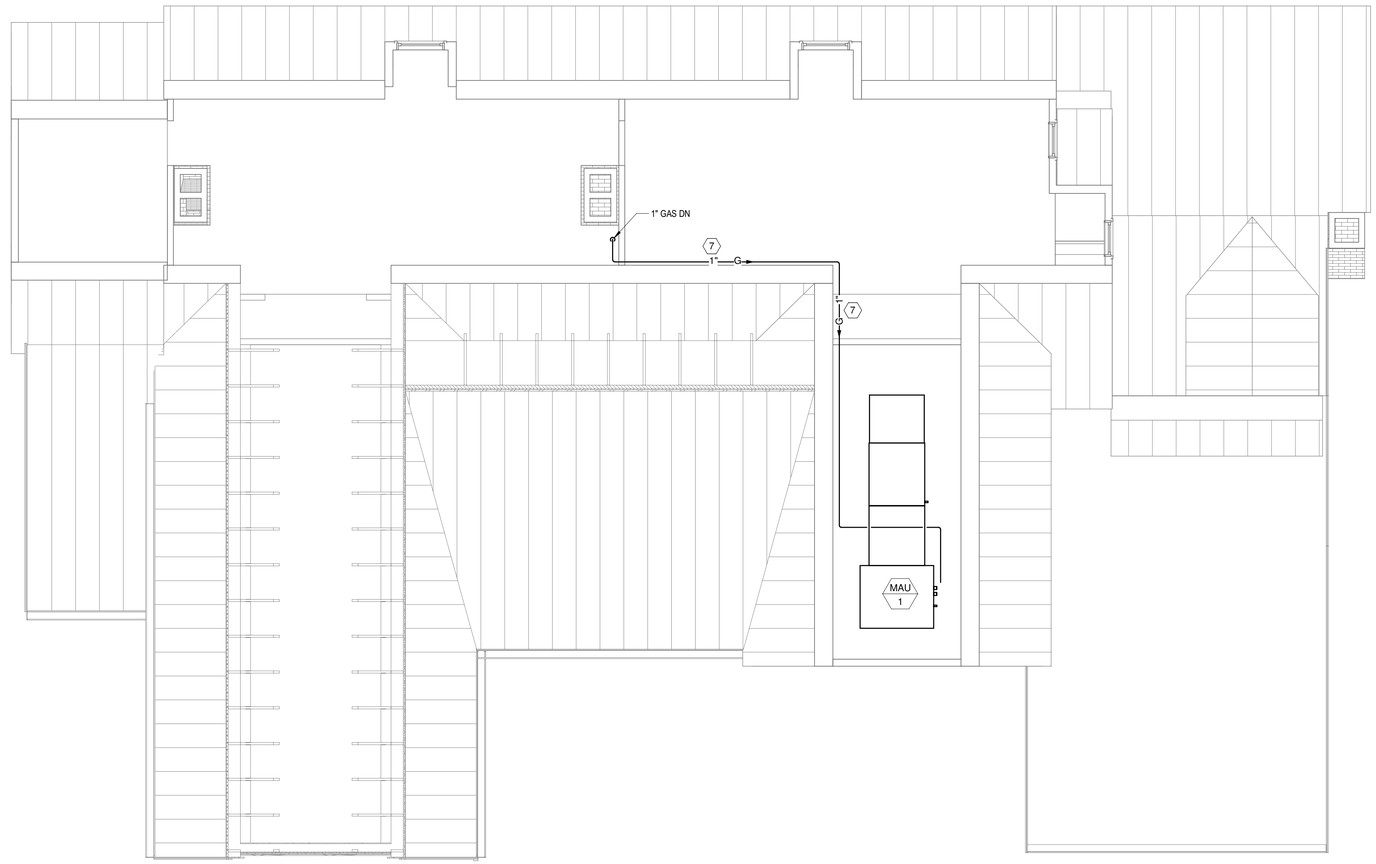

1 P3.31 **ATTIC FLOOR PLAN - NATURAL GAS**
1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO PLUMBING LEGEND, DETAILS, RISER DIAGRAMS AND SCHEDULES FOR ADDITIONAL INFORMATION.
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ATTIC FLOOR PLAN - NATURAL GAS

P3.31

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DUCTWORK SYMBOLS DOUBLE LINE

- 24 X 8 — RECTANGULAR DUCTWORK - FIRST DIMENSION IS SIZE SHOWN (IN)
- 24 Ø — ROUND DUCTWORK DIAMETER (IN)
- 24 X 8 Θ — FLAT OVAL DUCT
- 24 X 8 — CAPPED DUCT
- 24 X 8 — EXISTING DUCTWORK
- EXISTING DUCTWORK TO BE REMOVED
- 24X 8 — CAPPED ACOUSTICALLY LINED DUCTWORK
- 24X 8 — DOUBLE-WALL DUCTWORK
- SUPPLY/OUTSIDE AIR DUCTWORK UP
- SUPPLY/OUTSIDE AIR DUCTWORK DOWN
- RETURN AIR DUCTWORK UP
- RETURN AIR DUCTWORK DOWN
- EXHAUST AIR DUCTWORK UP
- EXHAUST AIR DUCTWORK DOWN
- FLEXIBLE EQUIPMENT CONNECTION
- FLEXIBLE DUCT
- R D — CHANGE OF ELEVATION IN DIRECTION OF AIR FLOW R=RISE & D=DROP
- 24X 8 / 18X 8 — RECTANGULAR TO RECTANGULAR TRANSITION
- 24X 8 / 12 Ø — RECTANGULAR TO ROUND TRANSITION
- MITERED ELBOW W/TURNING VANES
- MITERED ELBOW
- RADIUSED ELBOW
- SPIN COLLAR
- 90° SPLIT TEE WITH TURNING VANES
- BELL MOUTH BRANCH DUCT TAKE OFF
- BELL MOUTH BRANCH DUCT TAKE OFF WITH DAMPER
- BRANCH DUCT TAKE OFF

DUCTWORK SYMBOLS DOUBLE LINE

- BDD — BACK DRAFT DAMPER
- FSD / DS — COMBINATION FIRE SMOKE DAMPER WITH SMOKE DETECTOR
- FD — FIRE DAMPER
- M — MOTORIZED DAMPER
- SD / DS — SMOKE DAMPER WITH SMOKE DETECTOR
- VOLUME DAMPER
- DS — DUCT MOUNTED SMOKE DETECTOR
- SIDE WALL MOUNTED SUPPLY REGISTER
- SIDE WALL MOUNTED RETURN / EXHAUST REGISTER / GRILLE
- ELEVATION VIEW SIDE WALL MOUNTED EXHAUST REGISTER / GRILLE
- ELEVATION VIEW SIDE WALL MOUNTED RETURN REGISTER / GRILLE
- ELEVATION VIEW SIDE WALL MOUNTED SUPPLY REGISTER
- TRANSFER DUCT WITH ACOUSTICAL LINING
- SUPPLY / INTAKE OR DOOR UNDERCUT PRESSURIZATION
- EXHAUST / RETURN / TRANSFER
- LD — LOUVERED DOOR PRESSURIZATION
- SUPPLY DIFFUSER 4 - WAY THROW
- SUPPLY DIFFUSER 3 - WAY THROW
- SUPPLY DIFFUSER 2 - WAY THROW
- SUPPLY DIFFUSER 2 - WAY THROW 90 °
- SUPPLY DIFFUSER 1 - WAY THROW
- RETURN REGISTER \ GRILLE
- EXHAUST REGISTER \ GRILLE
- SUPPLY AIR DIFFUSER BELOW DUCT
- RETURN AIR DIFFUSER BELOW DUCT
- EXHAUST AIR DIFFUSER BELOW DUCT
- LINEAR DIFFUSER
- ACCESS DOOR IN CEILING
- AD AP — DUCT MOUNTED ACCESS DOOR - ACCESS PANEL

DESIGN CONDITIONS

TEMPERATURES AND HUMIDITIES		
WINTER: OUTDOOR AIR TEMPERATURE: 15°F (99.6%) INDOOR AIR TEMPERATURES: 70°F GENERAL SPACES	CITY, STATE	OLNEY, MARYLAND
	SUB-LOCATION	----------
	ELEVATION, AMSL	537 FEET
SUMMER: OUTDOOR AIR TEMPERATURE: 91.5°F db; 75.1°F wb*(0.4%) INDOOR AIR TEMPERATURES: 72°F; 55%RH** GENERAL SPACES		
* MEAN COINCIDENT WET BULB. ** INCIDENTAL RELATIVE HUMIDITY, UNLESS SPECIFIC HIGH-LIMIT HUMIDITY CONTROL IS REQUIRED. *** FOR EVAPORATIVE EQUIPMENT DESIGN.	WEATHER DATA BASED ON 2013 ASHRAE FUNDAMENTALS HANDBOOK, CHAPTER 14, APPENDIX AND IECC 2012, CLIMATE ZONE 4a.	

MECHANICAL PIPING LEGEND

BD	(BD) BLOW DOWN
BF	(BF) BOILER FEED
CA	(CA) COMPRESSED AIR
CD	(CD) CONDENSATE DRAIN
CF	(CF) CHEMICAL FEED
CHWR	(CHWR) CHILLED WATER RETURN
CHWS	(CHWS) CHILLED WATER SUPPLY
CLD	(CLD) CONDUIT TANK LEAK
COND	(COND) CONDENSATE
CTR	(CTR) COOLING TOWER RETURN
CTS	(CTS) COOLING TOWER SUPPLY
CW	(CW) COLD WATER CITY WATER MAKE UP
CWR	(CWR) CONDENSER WATER RETURN
CWS	(CWS) CONDENSER WATER SUPPLY
D	(D) DRAIN
DTR	(DTR) DUAL TEMP RETURN
DTS	(DTS) DUAL TEMP SUPPLY
(ED)	PIPING TO BE REMOVED
(E)	EXISTING PIPING
FOG	(FOG) FUEL OIL GAUGE
FOR	(FOR) FUEL OIL RETURN
FOS	(FOS) FUEL OIL SUPPLY
FOV	(FOV) FUEL OIL VENT
GR	(GR) GLYCOL WATER RETURN
GS	(GS) GLYCOL WATER SUPPLY
HG	(HG) REFRIG HOT GAS
HPR	(HPR) HIGH PRESS STEAM COND RETURN
HPS	(HPS) HIGH PRESS STEAM SUPPLY
HPWR	(HPWR) HEAT PUMP WATER RETURN
HPWS	(HPWS) HEAT PUMP WATER SUPPLY
HWR	(HWR) HOT WATER RETURN
HWS	(HWS) HOT WATER SUPPLY
LPR	(LPR) LOW PRESS COND RETURN
LPS	(LPS) LOW PRESS STEAM SUPPLY
MPR	(MPR) MED PRESS COND RETURN
MPS	(MPS) MED PRESS STEAM SUPPLY
NPW	(NPW) NON POTABLE WATER
PC	(PC) PUMPED CONDENSATE
PSC	(PSC) PUMPED STEAM CONDENSATE
PHWR	(PHWR) PRIMARY HOT WATER RETURN
PHWS	(PHWS) PRIMARY HOT WATER SUPPLY
RL	(RL) REFRIG LIQUID
RS	(RS) REFRIG SUCTION
SCHWR	(SCHWR) SECONDARY CHILLED WATER RETURN
SCHWS	(SCHWS) SECONDARY CHILLED WATER SUPPLY
SHWR	(SHWR) SECONDARY HOT WATER RETURN
SHWS	(SHWS) SECONDARY HOT WATER SUPPLY
TSTAT	(TSTAT) THERMOSTAT
V	(V) VENT

MECHANICAL VALVES AND ACCESSORIES

- ISOLATION VALVE SEE SPECIFICATIONS FOR TYPE
- 2-WAY CONTROL VALVE (DDC OR PNEUMATIC)
- M — 2-WAY CONTROL VALVE (MOTORIZED)
- 3-WAY CONTROL VALVE (DDC OR PNEUMATIC)
- M — 3-WAY CONTROL VALVE (MOTORIZED)
- TCV — THERMOSTIC CONTROL VALVE
- S — SOLENOID VALVE
- DIFFERENTIAL PRESSURE VALVE
- GATE VALVE
- GLOBE VALVE
- OSY VALVE
- PRESSURE REDUCING VALVE
- SAFETY RELIEF VALVE
- ANGLE VALVE
- BALL VALVE
- BALL VALVE WITH MEMORY STOP
- BUTTERFLY VALVE
- BALANCING VALVE WITH TEST PORTS
- CHECK VALVE (Left & Right)
- PRESSURE GAUGE
- PRESSURE GAUGE WITH COCK
- PRESSURE GAUGE WITH SYPHON AND COCK
- PRESSURE GAUGE WITH SNUBBER & COCK AND WELL
- P/T — PRESSURE TEMPERATURE GAUGE PORT
- FLOAT & THERMOSTATIC TRAP
- THERMOSTATIC TRAP
- STEAM TRAP SEE SPECIFICATION FOR TYPE
- SITE GLASS
- THERMOMETER
- F — THERMOMETER WITH WELL
- CONCENTRIC PIPE REDUCER
- A — ECCENTRIC PIPE REDUCER
- A — AUTOMATIC AIR VENT
- M — MANUAL AIR VENT
- T — THERMOSTATIC AIR VENT
- VB — VACUUM BREAKER
- PIPE CAP
- CONCENTRIC PIPE REDUCER PIPE RISING / OR RISING AND DROPPING
- PIPE CONNECTION TOP OF MAIN
- PIPE TURNING DOWN
- TEE CONNECTION
- UNION
- PIPE CONNECTION BOTTOM OF MAIN
- PIPE ANCHOR
- FLANGED CONNECTION
- PIPE GUIDE
- PIPE UP TO RADIATION
- STRAINER
- STRAINER AND DRAIN VALVE W HOSE END CONN AND CAP.
- FLEXIBLE CONNECTOR
- DIRECTION OF FLOW
- FLOW MEASURING DEVICE
- EXPANSION COMPENSATOR
- PIPE HEAT TRACE ELEMENT

ABBREVIATIONS

(E)	EXISTING ITEM
(ED)	EXISTING ITEM TO BE DEMOLISHED
(ER)	EXISTING ITEM TO BE RELOCATED
(F)	FUTURE
(N)	NEW
(RL)	RELOCATED ITEM
AAV	AUTOMATIC AIR VENT
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACD	AUTOMATIC CONTROL DAMPER
ACLC	AIR COOLED LIQUID CHILLER
AD	ACCESS DOOR
AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ARCH	ARCHITECT
AS	AIR SEPARATOR
ASC	APPLICABLE SECTION CONTRACTOR
ATC	AUTOMATIC TEMPERATURE CONTROL
B	BOILER
BDD	BACKDRAFT DAMPER
BE	BATHROOM EXHAUST
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
BVC	BOILER VENT AND COMBUSTION AIR
CA	COMBUSTION AIR
CAP	CAPACITY
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CM	CONSTRUCTION MANAGER
CO	CLEAN OUT
CONN	CONNECT
CP	CONDENSATE PUMP
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONVECTOR
CVB	CONSTANT VOLUME BOX
D	CONDENSATE DRAIN
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DE	DRYER EXHAUST
DF	DESTRATIFICATION FAN
DHW	DOMESTIC HOT WATER
DIA or Ø	DIAMETER
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECU	EVAPORATIVE CONDENSING UNIT
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EMS	EMERGENCY MANAGEMENT SYSTEM
ER	EXHAUST REGISTER
ERV	EXHAUST ROOF VENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FAN
F&TT	FLOAT & THERMOSTATIC TRAP
FA	FREE AREA
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FLR	FLOOR
FM	FLOW METER
FMS	FLOW MEASUREING STATION
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FP	FAN POWERED
FPB	FAN POWERED BOX
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FSD	FIRE SMOKE DAMPER
FT	FEET
FTR	FIN-TUBE RADIATION
FTU	FAN TERMINAL UNIT

ABBREVIATIONS

GAL	GALLONS
GC	GENERAL CONTRACTOR
GE	GENERAL EXHAUST
GPM	GALLONS PER MINUTE
H	HUMIDIFIER
HC	HEATING COIL
HE	HOOD EXHAUST
HF	HEPA FILTER
HP	HORSE POWER
HP	HEAT PUMP
HRB	HEAT RECOVERY BOX
HRC	HEAT RECOVERY COIL
HV	HEATING AND VENTILATING UNIT
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HX	HEAT EXCHANGER
HZ	HERTZ
ID	INSIDE DIAMETER
IN	INCHES
IRV	INTAKE ROOF VENT
KE	KITCHEN EXHAUST
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LBG	LINEAR BAR GRILLE
LD	LINEAR DIFFUSER, LOUVERED DOOR
LS	LOOSE STARTER
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MBH	THOUSAND BTUS PER HOUR
MC	MECHANICAL CONTRACTOR
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MOD	MOTOR OPERATED DAMPER
MUA	MAKE-UP AIR
MUAU	MAKE-UP AIR UNIT
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PS	PACKAGE STARTER
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RD	RETURN DIFFUSER
RF	RETURN FAN
RG	RETURN GRILLE
RIC	RETURN IN COVER
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SCT	SATURATED CONDENSING TEMPERATURE
SD	SMOKE DAMPER
SDA	SOUND ATTENUATOR
SDC	STAND ALONE DIGITAL CONTROLLER
SF	SQUARE FEET
SF	SUPPLY AIR FAN
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
SPD	SPEED
SR	SUPPLY REGISTER
SST	STATIC SUCTION TEMPERATURE
TA	TRANSFER AIR
TD	TRANSFER DUCT
TE	TOILET EXHAUST
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TOS	TOP OF STEEL
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UC	UNDERCUT DOOR
UF	UNDERFLOOR
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VI	VIBRATION ISOLATOR
VIF	VERIFY IN FIELD
VRF	VARIABLE REFRIGERANT FLOW
VSD	VARIABLE SPEED DRIVE
WB	WET BULB TEMPERATURE
WMS	WIRE MESH SCREEN
WSHP	WATER SOURCE HEAT PUMP

DRAWING LIST - MECHANICAL

DRAWING NUMBER	DRAWING TITLE	04/22/20 - DD SUBMISSION	05/15/20 - 95% CD REVIEW	07/13/20 PERMIT SUBMISSION
M0.01	MECHANICAL LEGENDS & ABBREVIATIONS	❍	●	●
M0.02	MECHANICAL LEGENDS AND GENERAL NOTES	❍	●	●
M0.10	MECHANICAL SPECIFICATIONS			●
M0.11	MECHANICAL SPECIFICATIONS			●
M0.12	MECHANICAL SPECIFICATIONS			●
M0.13	MECHANICAL SPECIFICATIONS			●
M0.20	MECHANICAL SCHEDULES		❍	●
M0.30	MECHANICAL DETAILS		❍	●
M0.31	MECHANICAL DETAILS		❍	●
M0.40	REFRIGERANT RISER DIAGRAM - HEAT RECOVERY UNIT		❍	●
M1.01	BASEMENT PLAN - HVAC	❍	●	●
M1.11	FIRST FLOOR PLAN - HVAC	❍	●	●
M1.21	SECOND FLOOR PLAN - HVAC	❍	●	●
M1.31	ATTIC FLOOR PLAN - HVAC	❍	●	●

REVISION LEGEND: ❍ NEW ISSUE | ● REVISED ISSUE | ♦ REVISED, NOT ISSUED | ☒ REMOVED FROM DRAWING SET | □ ISSUED, NOT REVISED

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Jandrad. Heiler

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STATE OF MARYLAND — ROBERT STEPHEN SPINAZZOLA — NO. 14749 — PROFESSIONAL ENGINEER

DocuSigned by:
R. Stephen Spinazzola
4FCA0E529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	04/22/20	DD SUBMISSION
2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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DRAWN: PJS | PROJECT 70-20-805
CHECKED: RSS
CAD FILE: C:\Users\PJS\Documents\7020805 - Salt and Vine - BALA MEP_pspiraco.rvt
DATE: 07.13.2020

MECHANICAL LEGENDS & ABBREVIATIONS

M0.01

DocuSign Envelope ID: E6460AFF-97F9-4BAA-8142-8BB6344F4EF4

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

MISC. LEGEND / TAGS

- 2-A / 12X12 / 500 — DIFFUSER, REGISTER, GRILLE DESIGNATION; NECK SIZE OR LENGTH IF LINEAR DIFFUSER; AIR QUANTITY - CFM
- AC / 1 — SCHEDULED EQUIPMENT TYPE; SCHEDULED REFERENCE NUMBER
- EQUIPMENT TYPE: FTR-1 / 7'-0" / 63.0 — EQUIPMENT TYPE; EQUIPMENT LENGTH; EQUIPMENT CAPACITY - MBH/kW
- SECTION SYMBOL: A / M-1 — SECTION DESIGNATION; DRAWING NUMBER LOCATION
- DETAIL SYMBOL: 1 / M-1 — DETAIL NUMBER; DRAWING NUMBER LOCATION
- POWERED DAMPER: FSD / HV-1-S / NO — DAMPER TYPE (FSD OR SD); ASSOCIATED FAN SYSTEM; NORMAL DAMPER (NON-ENERGIZED) POSITION
- CONNECT NEW TO EXISTING
- LIMIT OF REMOVAL
- AA — DISTANCE TO FINISH FLOOR (FEET & INCHES) FROM BOTTOM OF DUCT OR PIPE
- TE / # — RISER DESIGNATION TYPE; NUMBER
- X — DEMOLITION SHEET NOTE NUMBER X
- X — NEW WORK SHEET NOTE NUMBER X
- X — REVISION NUMBER X

INSTRUMENTATION SYMBOLS

- CO2 — CARBON DIOXIDE SENSOR
- CO2 — CARBON DIOXIDE SENSOR DUCT MOUNTED
- CO — CARBON MONOXIDE SENSOR
- CO — CARBON MONOXIDE SENSOR DUCT MOUNTED
- TC2 — COMBINATION TEMPERATURE AND CARBON DIOXIDE SENSOR
- CS — CURRENT SENSOR
- FS — FLOW SENSOR
- FZ — FREEZE STAT
- LD — LEAK DETECTOR
- H — HUMIDITY SENSOR
- H — HUMIDITY SENSOR DUCT MOUNTED
- H2 — HYDROGEN SENSOR
- R — REFRIGERANT LEAK SENSOR
- R — REFRIGERANT LEAK SENSOR DUCT MOUNTED
- DS — SMOKE DETECTOR
- DS — SMOKE DETECTOR DUCT MOUNTED
- SP — STATIC PRESSURE SENSOR
- T — TEMPERATURE SENSOR
- T — TEMPERATURE SENSOR DUCT MOUNTED
- T/H — COMBINATION TEMPERATURE RELATIVE HUMIDITY SENSOR
- T/H — COMBINATION TEMPERATURE RELATIVE HUMIDITY SENSOR DUCT MOUNTED
- E — EMERGENCY POWER REQUIRED
- S — SWITCH
- PS — PACKAGED STARTER BY MECHANICAL
- LS — LOOSE STARTER BY ELECTRICAL
- VFD — VARIABLE FREQUENCY DRIVE
- FM — FLOW MEASURING STATION

GENERAL NOTES

1. THE WORK TO BE DONE UNDER THESE SPECIFICATIONS AND THE DRAWINGS CONSISTS OF PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES AND PERFORMING ALL OPERATIONS TO COMPLETE THE CONSTRUCTION WORK FOR THIS PROJECT. ANY WORK NOT SPECIFICALLY COVERED BY THESE SPECIFICATIONS OR INDICATED ON THE CONTRACT DRAWINGS, BUT NECESSARY TO COMPLETE OR PERFECT ANY PART OF THIS INSTALLATION IN A SUBSTANTIAL MANNER, SHALL BE PROVIDED WITHOUT EXTRA COST TO THE OWNER.
2. THE WORK SHALL CONFORM TO THE MORE STRINGENT OF ALL APPLICABLE CODES & REGULATIONS, UL GUIDELINES, MANUFACTURER'S LITERATURE AND RECOMMENDATIONS AND TO THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL REGULATORY AGENCIES AND AUTHORITIES HAVING JURISDICTION.
3. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE EXTENT, GENERAL CHARACTER, LOCATION AND ARRANGEMENT OF THE WORK UNDER THIS CONTRACT. EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD AND BY THE ACTUAL BUILDING CONDITIONS. WHERE JOB CONDITIONS REQUIRE MINOR CHANGES OR ADJUSTMENTS IN THE INDICATED LOCATIONS OR ARRANGEMENT OF THE WORK, SUCH CHANGES SHALL BE PROVIDED WITHOUT EXTRA COST. THE CONTRACTOR SHALL RE-INSTALL EQUIPMENT THAT HAS INADEQUATE OR UNSAFE ACCESSIBILITY.
4. INSTALLATION OF WORK SHALL PROVIDE REASONABLE ACCESSIBILITY FOR OPERATION, INSPECTION AND MAINTENANCE OF EQUIPMENT AND ACCESSORIES. PROVIDE CLEARANCES REQUIRED BY MANUFACTURERS AND APPLICABLE CODES. ALL CEILING MOUNTED EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER THAT LIGHTS, PIPING, AND DUCTWORK DO NOT BLOCK ACCESS TO EQUIPMENT AND RELATED ACCESSORIES.
5. THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "MECHANICAL WORK", "ELECTRICAL WORK", "PLUMBING WORK", ETC. SHALL MEAN ALL LABOR, MATERIAL, EQUIPMENT, SCAFFOLDING, RIGGING, TOOLS, SUPERVISION, SERVICES AND OTHER INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULL COORDINATION EFFORT IN ORDER TO CREATE A FINALIZED COORDINATED LAYOUT OF ALL EQUIPMENT, SYSTEMS, DUCTWORK, PIPING AND ALL OTHER ITEMS WITHIN THEIR RESPECTIVE SCOPE. THE CONTRACTOR'S COORDINATION EFFORT SHALL INCLUDE COORDINATED INFORMATION FROM ALL OTHER TRADE CONTRACTOR'S INVOLVED IN THE PROJECT SCOPE IN ORDER TO PROVIDE COORDINATION BETWEEN TRADES AND ALL EXISTING CONDITIONS. ALL ERRORS MADE AS A RESULT OF A LACK OF COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND CORRECTED AT NO ADDITIONAL COST TO THE PROJECT. MINOR RELOCATIONS AND SHIFTS OF EQUIPMENT, DUCTWORK, AND PIPING WHICH DO NOT CHANGE THE DESIGN INTENT INDICATED ON THE CONTRACT DOCUMENTS, REQUIRED TO ACCOMMODATE FIELD CONDITIONS ARE AT THE CONTRACTORS DISCRETION AND DO NOT REQUIRE ENGINEER APPROVAL.
7. CONTRACTOR SHALL ARRANGE AND OBTAIN ALL PERMITS, INSPECTIONS AND APPROVALS, AND PAY ALL RELATED FEES.
8. FOR ANY DISCREPANCY BETWEEN DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL BASE THEIR BID UPON THE MOST STRINGENT REQUIREMENT (QUALITY, QUANTITY, SIZE, ETC.). THE CONTRACTOR SHALL IDENTIFY DISCREPANCIES AS PART OF THEIR BID.
9. WHERE BEAMS MAY BE PENETRATED WITH DUCTWORK AND/OR PIPING, CAREFULLY COORDINATE SIZES AND LOCATIONS OF THE ELEMENTS BEFORE FABRICATION. COORDINATE WITH FINAL LOCATION OF BEAM PENETRATIONS.
10. CONTRACTOR SHALL COORDINATE LOCATION OF ALL WALL, FLOOR AND ROOF OPENINGS WITH STRUCTURAL AND OTHER TRADES.
11. PROVIDE CUTTING AND PATCHING AS REQUIRED AND WHERE NECESSARY TO ACCOMMODATE NEW WORK.
12. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS PRIOR TO PURCHASING EQUIPMENT AND PRIOR TO CUTTING OPENINGS.
13. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS PER SPECIFICATIONS PRIOR TO PURCHASING OR INSTALLING EQUIPMENT AND SYSTEMS INDICATED ON CONTRACT DOCUMENTS. PRIOR TO SUBMITTAL, CONTRACTOR SHALL VERIFY THAT ADEQUATE SPACE EXISTS FOR THE SUBMITTED EQUIPMENT. SHOP DRAWINGS MUST BE REVIEWED BY ARCHITECT/ENGINEER.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY OTHER TRADES DUE TO SUBSTITUTION OF OTHER THAN SCHEDULED EQUIPMENT. WHEN EQUIPMENT FURNISHED IS DIFFERENT THAN INDICATED, THE COST OF ADDITIONAL ELECTRICAL SERVICE, STRUCTURAL AND RELATED WORK SHALL BE PAID BY THIS CONTRACTOR.
15. ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE DONE IN ACCORDANCE WITH GOOD TRADE PRACTICE AND IN CONFORMANCE WITH APPLICABLE MANUFACTURERS' RECOMMENDATIONS.
16. RESTORE ALL SURFACES (WALLS, CEILINGS, FLOORS AND ROOFS) THAT ARE DAMAGED BY THE WORK OF THIS CONTRACT TO THEIR ORIGINAL CONDITION AT NO EXTRA COST TO THE OWNER.
17. PRIOR TO EQUIPMENT STARTUP, CONTRACTOR SHALL PERFORM THE SPECIFIED STARTUP AND COMMISSIONING PROCEDURES.
18. IN THE ABSENCE OF OTHER SPECIFIC INSTRUCTIONS, ALL WORK AND MATERIALS SUPPLIED SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THEIR ACCEPTANCE BY THE OWNER.

MECHANICAL GENERAL NOTES

1. MECHANICAL CONTRACTOR SHALL EXAMINE THE DRAWINGS OF ALL TRADES AND COORDINATE THEIR WORK PRIOR TO ANY INSTALLATIONS TO AVOID INTERFERENCE WITH STRUCTURE, AND ALL EQUIPMENT ABOVE AND BELOW THE CEILING.THE MECHANICAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS AT THE SITE PRIOR TO BID AND PURCHASE OF EQUIPMENT/MATERIALS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER, ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WITH THE WORK.
2. THE MECHANICAL CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING OF EXISTING CONSTRUCTION REQUIRED BY THEIR WORK. ALL FINISHES SHALL MATCH EXISTING. STRUCTURAL MEMBERS SHALL NOT BE CUT UNLESS APPROVED BY OWNER'S REPRESENTATIVE. PAINTING SHALL BE BY GENERAL CONTRACTOR. WHERE EQUIPMENT IS REMOVED, CONTRACTOR TO REFINISH AREA TO MATCH EXISTING. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING INTEGRITY OF ALL STRUCTURAL ELEMENTS.
3. THE MECHANICAL CONTRACTOR SHALL EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.
4. ALL MATERIALS, EQUIPMENT AND INSTALLATIONS SHALL BE IN STRICT ACCORDANCE WITH SMACNA AND ASHARE GUIDELINES, UNLESS OTHERWISE NOTED.
5. EQUIPMENT INDICATED ON THE DRAWINGS, TOGETHER WITH ITS BASE AND/OR SUPPORT, DUCTWORK CONNECTIONS, SERVICE CLEARANCES, WALL FLOOR AND ROOF PENETRATIONS, AND ELECTRICAL REQUIREMENTS IS BASED ON THE MODEL INDICATED IN THE SCHEDULES. IF CONTRACTOR FURNISHES AN EQUIVALENT SUBSTITUTION, THE CONTRACTOR SHALL MAKE THE REQUIRED MODIFICATIONS IN THE WORK WITHOUT CHANGE IN CONTRACT AMOUNT.
6. COORDINATE MECHANICAL SYSTEM INSTALLATION WITH EXISTING CONDITIONS. VISIT SITE PRIOR TO BID AND INVESTIGATE REQUIREMENTS FOR MECHANICAL SYSTEM INSTALLATION. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. COORDINATE LOCATION OF ALL WALL, FLOOR AND ROOF OPENINGS WITH STRUCTURAL AND OTHER TRADES
8. COORDINATE LOCATION OF NEW DUCTWORK, AIR DEVICES AND EQUIPMENT WITH LIGHT FIXTURES, SPRINKLER PIPING AND REFRIGERANT PIPING.
9. COORDINATE THE LOCATIONS OF ALL EQUIPMENT AND REGISTERS WITH THE LATEST ARCHITECTURAL DRAWINGS PRIOR TO PERFORMING AND ROUGH-IN WORK FOR THE UTILITIES.
10. COORDINATE THERMOSTATS WITH FINAL DIFFUSER LOCATIONS. THERMOSTATS SHALL NOT BE MOUNTED IN THE THROW PATTERN OF DIFFUSERS.
11. FIELD VERIFY THE ACTUAL LOCATIONS AND EXACT DIMENSIONS OF ALL EQUIPMENT, DEVICES, FIXTURES, SWITCHES, SENSORS, STRUCTURAL ELEMENTS, ETC. DURING FIELD VISITS AND PRIOR TO PERFORMING ANY ROUGH-IN WORK FOR DUCTWORK, PIPING AND OTHER AND UTILITIES/SCOPE. MINOR CHANGES TO EQUIPMENT LOCATIONS OR DUCTWORK AND PIPING ROUTING AND DUCTWORK ASPECT RATIO, BASED ON THE FINAL COORDINATION EFFORT, ARE TO BE COMPLETED BY THE CONTRACTOR. REPORT DISCREPANCIES IMMEDIATELY TO ARCHITECT AND/OR ENGINEER.
12. EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM DUST, DIRT AND DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE ALL DUCT AND EQUIPMENT OPENINGS DURING CONSTRUCTION WITH SUITABLE PROTECTIVE COVERING BEFORE, DURING AND FOLLOWING INSTALLATION.
13. UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AND PIPING OVERHEAD, TIGHT TO UNDERSIDE OF STRUCTURE OR SLAB, WITH ADEQUATE SPACE FOR INSULATION AND GAP TO PREVENT TRANSMISSION OF VIBRATION TO STRUCTURE.
14. MECHANICAL WORK THAT IS TO REMAIN WHEN STRUCTURE ON WHICH IT IS INSTALLED IS TO BE MODIFIED OR REMOVED SHALL BE PROPERLY SUPPORTED IN PLACE UNTIL WORK OF ALL TRADES IS COMPLETED. REINSTALL MECHANICAL WORK ON NEW STRUCTURE.
15. ALL MATERIALS AND EQUIPMENT INSTALLED IN RETURN AIR PLENUMS SHALL BE NON-COMBUSTIBLE AND UL APPROVED FOR USE IN A RETURN AIR PLENUM SPACE. ALL WIRING SHALL BE NON-COMBUSTIBLE OR SHALL BE ENCLOSED IN METAL CONDUIT OR PROTECTED BY A SHEET METAL COVER SECURED WITH METAL FASTENERS.
16. PROVIDE ALL OFFSETS, FITTINGS, DOUBLE ELBOWS, RISES, DROPS, DUCTWORK, PIPING, INSULATION AND ALL DUCTWORK OR PIPING AROUND EXISTING CONDITIONS, DUCTWORK, PIPING, EXISTING STEEL, NEW CONSTRUCTION AND ALL OTHER TRADE WORK. COORDINATE WORK WITH ALL OTHER WORK AND ALL OTHER TRADE CONTRACTORS TO VERIFY LOCATIONS REQUIRING CHANGES IN ELEVATION.
17. VERIFY ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT AND PIPE TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.
18. INSTALL PIPING SUCH THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, AND OTHER ACCESSORIES ARE ACCESSIBLE.
19. PROVIDE ACCESS PANELS AS REQUIRED FOR ALL VALVES, DAMPERS, CONTROLS, OR OTHER EQUIPMENT. PROVIDE ACCESS PANELS IN NON-LAY-IN-CEILINGS FOR SERVICE AND MAINTENANCE OF ALL CONCEALED EQUIPMENT AND DEVICES, SUCH AS HEAT PUMPS, DX COILS, SMOKE DETECTORS, BALANCING DAMPERS AND FIRE DAMPERS.
20. CONTRACTOR SHALL NOT CONCEAL ANY WORK UNTIL INSPECTED BY MECHANICAL INSPECTOR AND/OR ARCHITECT/ENGINEER. CONTRACTOR SHALL NOTIFY A/E OF A SCHEDULED INSPECTION TIME WITHIN 72 HOURS. GENERAL CONTRACTOR SHALL NOT CONCEAL WORK UNTIL APPROVED, REGARDLESS OF SCHEDULE.
21. PROVIDE ALL ROOFING OPENINGS, FLASHING, CURBS, COUNTER FLASHING, ETC. REQUIRED FOR THE INSTALLATION OF ROOF MOUNTED EQUIPMENT OR CURBS. COORDINATE OPENING WITH ROOFING CONTRACTOR AND CM/GC. ALL ROOFING WORK SHALL BE PERFORMED BY AUTHORIZED ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
22. ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.
23. SHEETMETAL FITTINGS SHOWN SHALL BE PROVIDED. NO SUBSTITUTES WILL BE ALLOWED WITHOUT PRIOR CONSENT FROM ENGINEER.
24. PROVIDE BALANCING DAMPERS IN ALL DUCT BRANCHES AND TO AIR DEVICES.
25. DUCTWORK SHALL NOT BE ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH ELECTRICAL CONTRACTOR. DUCTWORK SHALL NOT COVER OR LIMIT ACCESS TO EXISTING J-BOXES.
26. PROVIDE HEAVY DUTY FLEXIBLE CONNECTIONS AT ALL FANS INLET AND OUTLET CONNECTIONS.

MECHANICAL GENERAL NOTES

36. PROVIDE ACOUSTICALLY LINED DUCTWORK 15 FEET DOWNSTREAM OF ALL FANS AND FAN COIL UNITS.
37. ALL OPEN-ENDED DUCTS IN CEILING PLENUMS OR EXPOSED SHALL BE UNOBSTRUCTED FOR A MINIMUM DISTANCE OF 24 INCHES FROM THE OPENING TO ALLOW FREE FLOW OF AIR. UNLESS OTHERSIES NOTED, EACH OPENING SHALL TERMINATE WITH ¾" WIRE MESH SCREEN.
38. LOCATE CEILING DIFFUSERS, GRILLES AND REGISTERS AS SHOWN ON THE ARCHITECURAL REFLECTED CEILING PLANS.
39. UNLESS OTHERWISE NOTED, ALL CONDENSATE DRAIN PIPING SHALL BE ¾".
40. PRIOR TO OPENING NATURAL GAS PIPING SYSTEM, THE ENTIRE SECTION OF NATURAL GAS PIPING SYSTEM AFFECTED BY SCOPE SHALL BE ISOLATED AND PURGED IN ACCORDANCE WITH THE APPLICABLE FUEL GAS CODE. UPON COMPLETION OF NATURAL GAS PIPING SYSTEM SCOPE WORK, PLACE SYSTEM INTO OPERATION IN ACCORDANCE WITH APPLICABLE FUEL GAS CODE.
41. CONTRACTOR SHALL PROVIDE FIRE STOPPING WHERE EQUIPMENT, DUCTWORK AND PIPING PENETRATE FIRE AND SMOKE RATED BARRIERS/PARTITIONS. INSTALL FIRE STOPPING IN ACCORDANCE WITH UL RATED ASSEMBLY REQUIREMENTS AFTER EQUIPMENT, DUCTWORK AND PIPING HAVE BEEN INSTALLED.
42. PROVIDE ALL MISCELLANEOUS STEEL, THREADED RODS, REINFORCEMENT, VIBRATION ISOLATORS, TURNBUCKLES, ETC. TO SUPPORT MECHANICAL EQUIPMENT ON OR FROM BUILDING STRUCTURE. ALL SUPPORTS AND ASSOCIATED ANCHORS SHALL BE SIZED BASED ON THE WEIGHT OF THE RESPECTIVE EQUIPMENT BEING SUPPORTED.
43. SUPPORT ALL EQUIPMENT, PIPING AND DUCTWORK FROM BUILDING STRUCTURE TO PROVIDE A VIBRATION FREE INSTALLATION. OTHERWISE ADHERE TO THE DETAILS IN THE CONTRACT DOCUMENTS. NOTIFY ARCHITECT AND/OR STRUCTURAL ENGINEER OF ALL WEIGHTS AND METHODS OF SUPPORT. PROVIDE DETAILS TO COORDINATE CONCRETE PADS AND STEEL PLATFORMS REQUIRED FOR MECHANICAL WORK.
44. PROVIDE VIBRATION ISOLATION FOR ROTATING, REVOLVING OR RECIPROCATING EQUIPMENT, INCLUDING DUCTWORK CONNECTIONS TO THIS EQUIPMENT TO PREVENT TRANSMISSION OF NOISE AND VIBRATION TO BUILDING STRUCTURE AND OCCUPIED SPACES. VIBRATION ISOLATION DEVICES SHALL INCLUDE SPRING VIBRATION ISOLATORS, NEOPRENE PADDING AND DUCT/PIPE FLEXIBLE CONNECTIONS.
45. CONTROL WIRE AND CONDUIT SHALL COMPLY WITH NEC, INTERNATIONAL BUILDING CODES AND ELECTRICAL SPECIFICATIONS. PLENUM RATED CABLE SHALL BE PROVIDED IN ALL PLENUM CEILINGS. CONTRACTOR TO COORDINATE LOCATION OF ALL PLENUM CEILINGS.
46. ALL WALL MOUNTED CONTROL DEVICES SHOWN ON DRAWINGS ARE DIAGRAMMATIC IN LOCATION AND SHOWN FOR GENERAL WIRING PURPOSES ONLY. ALL DEVICES SHALL BE MOUNTED 46" ABOVE FINISHED FLOOR. DEVICES INDICATED TO BE INSTALLED IN THE SAME LOCATIONS WITH DIFFERENT ELEVATIONS SHALL BE ALIGNED VERTICALLY AND HORIZONTALLY. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS OF SWITCHES, OUTLETS, FIRE ALARM STROBES, AUDIBLE AND VISUAL DEVICES, FIRE ALARM PULL STATION, CLOCKS, SECURITY DEVICES, CARD READERS, THERMOSTATS, SENSORS, ETC. COORDINATE FINAL LOCATIONS WITH EQUIPMENT, FURNITURE, TENANT, AND ARCHITECT PRIOR TO INSTALLATION.
47. REMOVE TEMPORARY AIR FILTERS AND PROVIDE NEW FILTERS IN ALL AIR CONDITIONING EQUIPMENT WITHIN THE SCOPE OF WORK UPON COMPLETION OF CONSTRUCTION AND BEFORE BALANCING.

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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STATE OF MARYLAND — ROBERT STEPHEN SPINAZZOLA — No. 14749 — PROFESSIONAL ENGINEER

DocuSigned by: R. Stephen Spinazzola 4FCA6D529238407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	04/22/20	DD SUBMISSION
2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
- ☐ REVIEW ☐ SD SET
- ☐ BID ☐ DD SET
- ☒ PERMIT ☐ CD SET

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DATE: 07.13.2020

MECHANICAL LEGENDS AND GENERAL NOTES

M0.02

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

MECHANICAL SPECIFICATIONS (1 OF 4)

1. SECTION 15010 - BASIC MECHANICAL REQUIREMENTS

A. THE WORK OF EACH OF THE MECHANICAL SECTIONS INCLUDES FURNISHING AND INSTALLING THE MATERIAL, EQUIPMENT, AND SYSTEMS COMPLETE AS SPECIFIED AND/OR INDICATED ON THE DRAWINGS. THE MECHANICAL INSTALLATIONS, WHEN FINISHED, SHALL BE COMPLETE AND COORDINATED, READY FOR SATISFACTORY SERVICE.

B. ALL WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, MONGOMERY COUNTY, NFPA, WASHINGTON SUBURBAN SANITATION COMMISSION (WSSC) AND INTERNATIONAL CODE COUNCIL (ICC) CODES THAT GOVERN EACH PARTICULAR TRADE.

C. THE CONTRACTOR SHALL MAKE APPLICATIONS AND PAY ALL CHARGES FOR ALL NECESSARY PERMITS, LICENSES AND INSPECTIONS AS REQUIRED UNDER THE ABOVE CODES. UPON COMPLETION OF THE WORK, THE CUSTOMARY CERTIFICATIONS OF APPROVAL SHALL BE FURNISHED.

D. NO MATERIALS OR EQUIPMENT SHALL BE USED IN THE WORK UNTIL APPROVED. BEFORE SUBMISSION OF THE SHOP DRAWINGS, AND NOT MORE THAN FIFTEEN (15) DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A COMPLETE LIST OF MATERIALS AND EQUIPMENT WHICH HE INTENDS TO FURNISH, GIVING MANUFACTURER AND CATALOG NUMBERS. A COMPLETE LIST OF PROPOSED SUB-CONTRACTORS SHALL ALSO BE SUBMITTED.

E. THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND SHALL INSPECT THE EXISTING CONDITIONS OF THE SITE. FAILURE TO COMPLY WITH THIS REQUIREMENT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLYING WITH THE INTENT OF THE CONTRACT DOCUMENTS.

F. THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE MECHANICAL INSTALLATIONS. DETAILS OF PROPOSED DEPARTURES DUE TO ACTUAL FIELD CONDITIONS OR OTHER CAUSES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. CONTRACTOR TO PROVIDE COORDINATION DRAWINGS FOR ALL INSTALLATIONS REQUIRING CAREFUL COORDINATION WITH SITE CONDITIONS AND OTHER TRADE INSTALLATIONS. REWORKING OF COMPLETED ITEMS DUE TO IMPROPER FIELD COORDINATION SHALL BE AT THE CONTRACTOR'S EXPENSE.

G. COORDINATED SHOP DRAWINGS:

1) THE CONTRACTOR SHALL PREPARE 1/4"=1'-0" SCALE COORDINATED SHOP DRAWINGS FOR THE FOLLOWING AREAS SHOWING ALL MECHANICAL SYSTEMS FULLY COORDINATED WITH THE WORK OF ALL OTHER TRADES:

A) BASEMENT CRAWL SPACE AND SURROUNDING AREAS
B) BREAKOUTS FROM SHAFTS
C) ATTIC
D) KITCHEN
E) OTHER CONGESTED AREAS REQUIRING CLOSE COORDINATION OF TRADES

2) COORDINATED SHOP DRAWINGS SHALL INCLUDE ALL ARCHITECTURAL AND STRUCTURAL COMPONENTS, EQUIPMENT, HVAC PIPING AND DUCTWORK, PLUMBING (INCLUDING INVERT ELEVATIONS), FIRE PROTECTION PIPING, AND ELECTRICAL AND SPECIAL SYSTEMS CONDUITS DRAWN TO SCALE AND FULLY COORDINATED MAINTAINING ALL REQUIRED ACCESS SPACE TO MEET CODE AND SERVICE REQUIREMENTS. SECTIONS SHALL BE DRAWN AS REQUIRED TO COORDINATE THE WORK.

3) COORDINATED SHOP DRAWINGS SHALL BE DRAWN ON FULL SIZE (24”x36” ARCH D) SHEETS. SKETCHES WILL NOT BE ACCEPTABLE. SHOP DRAWINGS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLING ANY WORK. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL NOT ALLEVIATE THE CONTRACTOR FROM COMPLYING WITH ANY CHANGES TO THE DRAWINGS MADE BY THE ENGINEER DURING HIS REVIEW.

H. PROVIDE SUFFICIENT ACCESS AND CLEARANCE FOR ALL ITEMS OF EQUIPMENT REQUIRING SERVICING AND MAINTENANCE, SUCH AS VALVES, DAMPERS, CONTROLS, DRIVES, DRAINS, VENTS, STARTERS, SWITCHES, FILTERS, TRAPS, AND MAJOR ITEMS OF EQUIPMENT.

I. THE CONTRACTOR SHALL PERFORM ALL NECESSARY CUTTING AND PATCHING AS REQUIRED TO COMPLETE THE INSTALLATION OF THE MECHANICAL WORK. PATCHING OF WALLS, FLOORS, CEILINGS, ROOF, ETC. SHALL MATCH THE ADJACENT SURFACES. CONTRACTOR SHALL COORDINATE ROOF WORK WITH THE OWNERS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.

J. THE CONTRACTOR SHALL ONE (1) ELECTRONIC COPY OF A RECORD AND INFORMATION DOCUMENT. THE DOCUMENT SHALL BE SAVED IN PDF FORMAT. PROVIDE THE FOLLOWING DATA IN THE DOCUMENT:

1) CATALOG DATA ON EACH PIECE OF EQUIPMENT FURNISHED.
2) APPROVED SHOP DRAWINGS ON EACH PIECE OF EQUIPMENT FURNISHED.
3) MAINTENANCE, OPERATION AND LUBRICATION INSTRUCTION ON EACH PIECE OF EQUIPMENT FURNISHED.
4) SIMPLIFIED TEMPERATURE CONTROL DIAGRAM.
5) MANUFACTURER'S AND CONTRACTOR'S GUARANTEES.
6) AIR AND WATER BALANCING REPORTS.
7) COMMISSIONING REPORTS.
8) SCHEDULE/DESCRIPTION OF ALL SERVICE WORK/MAINTENANCE INSPECTIONS REQUIRED BY PARAGRAPHS O, P AND Q OF THIS SECTION.

K. THE ENTIRE NEW PLUMBING SYSTEM SHALL BE TESTED HYDROSTATICALLY BEFORE INSULATION COVERING IS APPLIED AND PROVED TIGHT UNDER THE FOLLOWING GAUGE PRESSURES:

SANITARY AND STORM WATER PIPING	AS SPECIFIED BELOW
DOMESTIC WATER	100 PSIG
NATURAL GAS PIPING	MERCURY GAUGE
REFRIGERATION LIQUID AND SUCTION PIPING	225 PSIG/400 PSIG
FIRE PROTECTION	PER NFPA

L. ALL SOIL, WASTE AND VENT PIPING SHALL BE TESTED BY THE CONTRACTOR. THE ENTIRE NEW DRAINAGE SYSTEM AND VENTING SYSTEM SHALL HAVE ALL NECESSARY OPENINGS PLUGGED AND FILLED WITH WATER TO THE LEVEL OF TEN (10) FEET ABOVE THE MAIN OR BRANCH BEING TESTED. THE SYSTEM SHALL HOLD THIS WATER FOR THIRTY (30) MINUTES WITHOUT SHOWING A DROP GREATER THAN FOUR (4) INCHES.

NOTE: IF ANY CODE OR AUTHORITY REQUIRES TESTING WHICH IS DIFFERENT THAN THE TEST LISTED ABOVE, THE MORE STRINGENT TEST SHALL BE PERFORMED.

M. ALL PARTS OF THE HEATING, VENTILATING, AND AIR CONDITIONING AND EXHAUST SYSTEMS SHALL BE ADJUSTED, CHECKED, BALANCED, AND TESTED BY AN INDEPENDENT A.A.B.C. CERTIFIED TESTING & BALANCING CONTRACTOR APPROVED BY THE OWNER. THE CONTRACTOR SHALL PUT ALL SYSTEMS AND EQUIPMENT INTO FULL OPERATION AND SHALL TEST AND BALANCE ALL DEVICES TO WITHIN TEN (10) PERCENT OF CAPACITIES INDICATED ON THE DRAWINGS. SUBMIT COPIES OF THE BALANCING REPORTS AS REQUIRED BY THE CONTRACT. PERMANENTLY MARK THE POSITION OF EACH BALANCING DAMPER AND VALVE.

N. UPON COMPLETION OF THE MECHANICAL INSTALLATIONS, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS OF THE MECHANICAL CONTRACT DRAWINGS WHICH SHALL BE LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES AND DEPARTURES OF THE INSTALLATION AS COMPARED WITH THE ORIGINAL DESIGN. THEY SHALL BE SUITABLE FOR USE IN PREPARATION OF RECORD DRAWINGS.

O. ALL PIPING AND VALVE SYSTEMS SHALL BE IDENTIFIED WITH LABELS AND TAGS. MATERIALS SHALL BE AS MANUFACTURED BY SETON NAME PLATE CORPORATION.

P. ALL NEW MECHANICAL INSTALLATIONS, INCLUDING ALL MATERIALS AND LABOR SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF OWNER ACCEPTANCE. THE ABOVE SHALL NOT IN ANY WAY VOID OR ABROGATE EQUIPMENT MANUFACTURER'S GUARANTEE OR WARRANTY. CERTIFICATES OF GUARANTEE SHALL BE DELIVERED TO THE OWNER.

Q. CONTRACTOR SHALL ALSO PROVIDE ONE (1) YEAR SERVICE TO KEEP THE EQUIPMENT IN OPERATING CONDITION. THIS SERVICE SHALL BE PROVIDED PER THE FOLLOWING SCHEDULE AND RENDERED UPON REQUEST WHEN NOTIFIED OF ANY EQUIPMENT MALFUNCTION.

R. IN ADDITION TO THE FIRST YEAR WARRANTY PERIOD, THE CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST TO THE OWNER, A MINIMUM OF FOUR (4) SERVICE CALLS AND MAINTENANCE INSPECTIONS. A COMPLETE OUTLINE OF THE REQUIRED MAINTENANCE AND THE PROPOSED SCHEDULE SHALL BE INCLUDED IN THE "RECORD AND INFORMATION DOCUMENT" DETAILED IN SECTION 15010-BASIC MECHANICAL REQUIREMENTS, PARAGRAPH I, FOR REVIEW AND ACCEPTANCE BY THE OWNER/REPRESENTATIVE AND ENGINEER. THE INSPECTIONS ARE TO BE PERFORMED AT THREE (3) MONTH INTERVALS FOR A TOTAL OF FOUR (4) SERVICE CALLS AND INSPECTIONS DURING THE FIRST YEAR WARRANTY PERIOD (THREE (3) TIMES DURING THE YEAR PLUS THE ORIGINAL SYSTEM START-UP COMMISSIONING).

THE SERVICE WORK AND INSPECTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

-REPLACE ALL DISPOSABLE AIR FILTERS;
-CLEAN ALL PERMANENT AIR FILTERS;
-LUBRICATE ALL MOTOR AND FAN BEARINGS AS REQUIRED;
-CLEAN DRAIN PANS AND DRAIN LINES;
-CHECK AND TIGHTEN ALL ELECTRICAL CONNECTIONS;
-INSPECT ALL BELTS FOR ADJUSTMENT AND CONDITION AND REPLACE AS REQUIRED;
-CHECK OPERATING PRESSURES AND REFRIGERANT CHARGE;
-INSPECT ALL CONTROLS FOR CORRECT OPERATION AND CALIBRATE AS REQUIRED;
-PERFORM ALL MAINTENANCE AS OUTLINED IN THE EQUIPMENT MANUFACTURERS OPERATION AND MAINTENANCE MANUALS.

UPON COMPLETION OF EACH SCHEDULED INSPECTION, THE CONTRACTOR SHALL DELIVER TO THE BUILDING OWNER/OWNER'S REPRESENTATIVE WITHIN FORTY-EIGHT (48) HOURS OF COMPLETION, TWO (2) COPIES OF THE COMPLETED INSPECTION REPORT FOR RECORD PURPOSES.

S. THE MECHANICAL OR SERVICE CONTRACTOR SHALL, AT THE NINTH MONTH, ADVISE THE OWNER OF THE TERMINATION DATE OF THE ABOVE SERVICE. THIS CONTRACTOR SHALL ALSO PROVIDE THE OWNER WITH A DETAILED PROPOSAL, REFLECTING ANNUAL ESCALATION, FOR THE CONTINUATION OF THE SERVICE AND INSPECTIONS DESCRIBED ABOVE.

2. SECTION 15050 - BASIC MECHANICAL PIPING MATERIAL & METHODS

A. PROVIDE ALL LABOR AND MATERIALS NECESSARY TO FURNISH AND INSTALL ALL PIPING SYSTEMS ON THIS PROJECT, INCLUDING VENT, DOMESTIC WATER, CONDENSATE DRAINAGE, NATURAL GAS, REFRIGERANT PIPING SYSTEMS.

B. PIPING AND VALVES SHALL BE AS FOLLOWS:

1) SANITARY DRAINS BELOW GRADE OR UNDER BUILDING TO POINTS FIVE (5) FEET FROM BUILDING LINE:

PIPE	STANDARD WEIGHT CAST IRON HUB AND SPIGOT SOIL PIPE. CONFORMING TO ASTM A-74.
FITTINGS	STANDARD SERVICE WEIGHT CAST IRON BELL AND SPIGOT SOIL PIPE FITTINGS.
JOINTS	ELASTOMOR COMPRESSION GASKET, ASTM C-564 OR LEAD AND OAKUM.

2) SANITARY WASTES AND VENTS ABOVE FLOOR INSIDE BUILDING:

PIPE	CAST IRON NO-HUB SOIL PIPE CONFORMING TO ASTM A-888 AND CISPI STANDARD 301 AND/OR SCHEDULE 40 GALVANIZED STEEL PIPE AND/OR TYPE DWV COPPER.
FITTINGS	CAST IRON NO-HUB SOIL PIPE FITTINGS AND/OR GALVANIZED DRAINAGE FITTINGS AND/OR COPPER SOLDER JOINT CAST DRAINAGE FITTINGS.
JOINTS	STAINLESS STEEL GASKETED FITTINGS, CISPI STANDARD 310 GASKET SHALL CONFORM TO ASTM C-564, AND/OR SOLVENT SEALED AND/OR SOLDER TYPE WROUGHT COPPER.

3) WATER SERVICE BELOW GRADE:

PIPE	WWA CLASS C CAST IRON PIPE, CEMENT LINED.
FITTINGS	CLASS D MECHANICAL JOINTS.

4) DOMESTIC HOT, COLD, AND RECIRCULATING WATER PIPING INSIDE BUILDING:

PIPE	ALL WATER LINES - HARD COPPER, TYPE K BELOW GROUND, TYPE L ABOVE GROUND.
FITTINGS	SOLDER TYPE WROUGHT COPPER - LEAD FREE SOLDER.
BALL VALVES	TWO PIECE BODY, 600 PSI UP TO 2"; 400 PSI FROM 2½" TO 4" LEAD FREE STAINLESS STEEL BALL, FULL PORT, BRASS BODY, BRASS STEM, PTFE SEAT RINGS, NIBCO TFP600A-LF.
UNIONS	125 LB. WROUGHT COPPER, GROUND JOINT LEAD FREE SOLDER ENDS.

5) ATMOSPHERIC CONDENSATE DRAINS:

PIPE	TYPE DWV SEAMLESS COPPER TUBING OR SCHEDULE 40 PLASTIC PIPE.
FITTINGS	WROUGHT COPPER SOLDER DRAINAGE FITTINGS OR SOLVENT SEALED PLASTIC FITTINGS.

6) NATURAL GAS PIPING:

PIPE	ABOVE GRADE - SCHEDULE 40 BLACK STEEL. BELOW GRADE - SCHEDULE 80 BLACK STEEL MILL WRAPPED.
FITTINGS	LONG RADIUS WELDING.
FLANGES	CLASS 150 WELDING NECK, NIBCO CONVOLUTED FLANGE #271 OR APPROVED EQUAL.

7) REFRIGERANT PIPING:

PIPE	TYPE L HARD COPPER REFRIGERANT TUBE, DEHYDRATED AND SEALED.
FITTINGS	WROUGHT COPPER SOLDER TYPE WITH SILFOS.

8) FIRE PROTECTION: PIPING AND FITTINGS AS REQUIRED BY NFPA REGULATIONS AND AS HEREINAFTER SPECIFIED.

9) DRAIN TILE:

PIPE	PERFORATED SCHEDULE 40 PVC.
FITTINGS	SCHEDULE 40 PVC FITTINGS WITH PVC JOINT SOLVENT.

C. COPPER PIPE SHALL BE MUELLER INDUSTRIES, WIELAND COPPER PRODUCTS, OR CERRO FLOW PROUCTS, TYPES "L" AND "K" HARD DRAWN, WITH APPROVED SOLDER FITTINGS.

D. CAST IRON PIPING SHALL BE SERVICE WEIGHT DRAINAGE PIPING AND SHALL CONFORM TO THE REQUIREMENTS OF THE C.I.S.P.I. ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL. EACH LENGTH OF PIPE AND EACH FITTING SHALL BE CLEARLY MARKED WITH THE MANUFACTURER'S INITIALS AND PIPE CLASSIFICATIONS.

E. STEEL PIPING SHALL BE SIMILAR AND EQUAL TO NATIONAL TUBE COMPANY, REPUBLIC, OR WHEATLAND TUBE BLACK OR ZINC-COATED (GALVANIZED) STEEL AS HEREINBEFORE SPECIFIED. PIPE SHALL BE FREE FROM ALL DEFECTS WHICH MAY AFFECT THE DURABILITY OF THE INTENDED USE. EACH LENGTH OF PIPE SHALL BE STAMPED WITH THE MANUFACTURER'S NAME.

F. ALL HANGERS FOR COPPER PIPING SHALL BE COPPER CLAD, SPLIT RING SWIVEL TYPE, HAVING RODS WITH MACHINE THREADS AND THREADED COPPER CLAD CEILING FLANGE. CAST IRON AND STEEL PIPING SUPPORTS SHALL BE SIMILAR WITHOUT COPPER CLAD AND PRIME PAINT FINISH.

G. PROVIDE DIELECTRIC COUPLINGS WHERE NON-FERROUS METAL PIPING IS JOINED TO FERROUS METAL PIPING. THE GASKET MATERIAL SHALL BE CAPABLE OF WITHSTANDING THE TEMPERATURES AND PRESSURES WITHIN THE PIPING SYSTEM IN WHICH INSTALLED. SUBMIT DIELECTRIC COUPLING AND GASKET MATERIAL FOR APPROVAL.

H. PLASTIC PIPING SHALL BE SCHEDULE 40 POLYVINYL CHLORIDE (PVC). CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-2241 (PVC).

3. SECTION 15250 - MECHANICAL INSULATION

A. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK, DOMESTIC WATER, AND CONDENSATE PIPING SYSTEMS SHALL BE INSULATED.

B. DUCTWORK SHALL BE INSULATED WITH 2" FLEXIBLE DUCT WRAP, OWENS CORNING FIBERGLASS TYPE 100; FOIL FACED VAPOR BARRIER WITH AN INSTALLED MINIMUM "R" VALUE OF 6. INSULATION SHALL BE NEATLY INSTALLED.

C. PIPE INSULATION FOR INTERIOR PIPING EXCEPT REFRIGERANT SUCTION PIPING SHALL BE PREMOLDED FIBERGLASS INSULATION WITH AN ALL SERVICE JACKET, OWENS CORNING FIBERGLASS SSL-II PER THE SCHEDULE BELOW. FITTINGS SHALL BE INSULATED AND COVERED WITH PVC COVERS.

D. PIPE INSULATION FOR INTERIOR REFRIGERANT SUCTION PIPING SHALL BE EXPANDED CLOSED CELL ARMAFLEX SELF SEALING INSULATION; MODEL SS.

E. ALL EXTERIOR REFRIGERANT SUCTION PIPING SHALL BE INSULATED WITH SELF SEALING WHITE LAMINATED HEAVY DUTY 12 MIL FLEXIBLE ELASTOMERIC INSULATION; MODEL ARMATUFF OR APPROVED EQUAL.

DOMESTIC COLD WATER PIPING	1" THICKNESS
DOMESTIC HOT WATER PIPING ½" TO 1¼"	1" THICKNESS
DOMESTIC HOT WATER PIPING 1½" AND HIGHER	1½" THICKNESS
DOMESTIC HOT WATER RECIRCULATION PIPING ½" TO 1¼"	1" THICKNESS
AIR CONDITIONING CONDENSATE DRAINAGE PIPING (INCLUDING PVC PIPING)	1/2" THICKNESS
ALL REFRIGERANT PIPING	1" THICKNESS

F. INTERIOR DUCT LINING SHALL BE AS SPECIFIED UNDER SECTION 15880.

G. FIRE RESISTIVE DUCT WRAP

1) DUCT WRAP SHALL PROVIDE 2-HOUR FIRE RESISTIVE RATED DUCT ENCLOSURES AND A METHOD FOR PROVIDING ZERO INCH CLEARANCES AROUND COMMERCIAL KITCHEN GREASE DUCT EXHAUST SYSTEMS TO COMBUSTIBLE MATERIALS.

2) DUCT WRAP SHALL CONFIRM TO THE FOLLOWING TEST STANDARDS AND REPORTS FOR EVALUATING AND RATING PERFORMANCE OR FIRE RESISTIVE AND ZERO INCH CLEARANCE DUCT WRAP SYSTEMS: UL 723, UL 1978, UL 1479, AC101, ASTM E2336, ASTM E119, ASTM E814, ASTM C518, ASTM E84 AND NFPA 96.

3) DUCT WRAP SHALL CONSIST OF TWO (2) LAYERS OF 1-1/2" THICK 6-PCF DENSITY HIGH TEMPERATURE (2,192°F) CALCIUM-OXIDE, SILICA-OXIDE AND MAGNESIUM OXIDE FIBER, ENCAPSULATED WITH POLYPROPYLENE-FOIL SCRIM DUCT WRAP. DUCT WRAP SHALL PROVIDE A ZERO INCH CLEARANCE TO COMBUSTIBLE CONSTRUCTION AS A 2-HOUR FIRE RESISTIVE RATED ENCLOSURE SYSTEM, SHAFT ENCLOSURE, WHEN USED WITH A LISTED OR APPROVED THROUGH-PENETRATION PROTECTION SYSTEM.

4) 4" WIDE PRESSURE SENSITIVE ALUMINUM FOIL TAPE SHALL BE USED TO SEAL CUT EDGES OF BLANKETS.

5) BANDING MATERIAL SHALL BE A MINIMUM OF 1/2" WIDE, NO LESS THAN 0.015" THICK STAINLESS STEEL.

6) INSULATION PINS SHALL BE 10 GAUGE, 4" TO 5" LONG, COPPER COATED STEEL.

7) DUCT WRAP SHALL BE EQUAL TO 3M FIRE BARRIER DUCT WRAP; MODEL 615

4. SECTION 15300 - FIRE PROTECTION

A. ALL WORK, MATERIALS, EQUIPMENT, AND ACCESSORIES SHALL COMPLY WITH THE STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND ALL STATE AND LOCAL REGULATIONS.

B. DURING THE BIDDING PHASE, THE SPRINKLER CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION, AND THE OWNER'S INSURANCE COMPANY. THE SPRINKLER SYSTEM SHALL MEET ALL OF THESE REQUIREMENTS. NO ADDITIONAL COSTS WILL BE APPROVED FOR REVISIONS TO THE SPRINKLER SYSTEM RESULTING FROM THE SPRINKLER CONTRACTOR'S FAILURE TO FAMILIARIZE HIMSELF WITH THESE REQUIREMENTS.

C. ALL SPRINKLER HEADS FOR LIGHT HAZARD OCCUPANCIES SHALL BE QUICK RESPONSE.

D. MODIFY THE EXISTING WET PIPE SPRINKLER SYSTEM TO PROPERLY COVER/PROTECT THE NEW ARCHITECTURAL DESIGN. SYSTEM SHALL GENERALLY BE LIGHT HAZARD, EXCEPT ORDINARY HAZARD IN ALL STORAGE ROOMS, ELECTRICAL ROOMS, ETC.

E. THE MODIFICATIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO VALVES, FLOW SWITCHES, SPRINKLER HEADS AND ESCUTCHEONS, PIPING, FITTINGS, HANGERS AND SIGNS AND OTHER IDENTIFICATION MARKINGS, AS REQUIRED.

F. ALL ATTIC SPACES AND OTHER UNHEATED SPACES WILL BE SPRINKLERED WITH A DRY PIPE SPRINKLER SYSTEM. DRY PIPE SPRINKLER PIPING WILL BE GALVANIZED WITH GALVANIZED SCREW FITTINGS.

G. THE SPRINKLER CONTRACTOR SHALL CAREFULLY EXAMINE ALL DOCUMENTS DURING THE BIDDING PERIOD. HE SHALL FAMILIARIZE HIMSELF WITH PROJECT CONDITIONS SUCH AS BUILDING CONSTRUCTION AND PIPE AND DUCTWORK LOCATIONS AND ELEVATIONS.

H. THE CONTRACTOR SHALL ARRANGE FOR APPROVAL OF THE REVISED SPRINKLER SYSTEMS, AND CONDUCT TESTS IN ACCORDANCE WITH NFPA 13.

5. SECTION 15400 - PLUMBING

A. THE WORK COVERED BY THIS SECTION OF THE SPECIFICATIONS CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT AND MATERIALS IN CONNECTION WITH THE ROUGH-IN, FINAL SETTING AND CONNECTIONS TO ALL PLUMBING FIXTURES. THE CONTRACTOR SHALL CAREFULLY REVIEW THE CONDITIONS AT THE SITE AND ALL OF THE CONTRACT DRAWINGS TO DETERMINE THE EXTENT OF THE NEW AND RENOVATION PLUMBING WORK REQUIRED.

B. ALL PLUMBING FIXTURES SHALL BE COMPLETE IN EVERY DETAIL WITH ALL TRIMMINGS AND CONNECTIONS. ALL FIXTURES SHALL BE DESIGNED TO PREVENT THE BACKFLOW OF POLLUTED WATER OR WASTE INTO THE WATER SUPPLY SYSTEM. FIXTURES SHALL BE AMERICAN STANDARD OR APPROVED EQUAL AS FOLLOWS:

P-1 WATER CLOSET (HANDICAPPED): #2168.100 ELONGATED 17" HIGH, WATER SAVER CADET 1.6 GALLON FLUSH WITH VITREOUS CHINA CONSTRUCTION, SIPHON JET ACTION BOWL, CLOSE-COUPLED TANK, WATER SAVER TRIM, BOLT CAPS, CLOSET FLANGE, CHURCH-OPEN FRONT SEAT WITH COVER, RIGID SUPPLY WITH ANGLE STOP VALVE.

P-2 LAVATORY (HANDICAPPED): WALL HUNG #0355.012 LUCERNE WITH VITREOUS CHINA CONSTRUCTION, FRONT OVERFLOW, FAUCET LEDGE. LAVATORY TO BE FITTED WITH MOEN #8135 CENTERSET FAUCET AND BE COMPLETE WITH GRID DRAIN, TAILPIECE, CAST BRASS "P" TRAP, TUBING TO WALL ESCUTCHEON, KEY OPERATED SUPPLY VALVES WITH RIGID SUPPLIES AND CHAIR CARRIER. ALL EXPOSED WASTE PIPING AND HOT AND COLD WATER PIPING SHALL BE INSULATED WITH TRUEBRO HANDI LAV-GUARD MODEL 102 INSULATION KIT WITH WHITE FINISH.

C. SANITARY VENTS THROUGH ROOF SHALL BE FLASHED WITH SEAMLESS LEAD FLASHING ASSEMBLIES. FLASHING SHALL HAVE A CONICAL STEEL REINFORCED BOOT AND SHALL BE COMPLETE WITH A TOP CAST IRON COUNTERFLASHING.

D. THE WATER HEATER SHALL BE RHEEM OR AN APPROVED EQUAL. HEATER SHALL BE RATED AT VOLTS AND PHASE AS INDICATED ON DRAWINGS AND BE LISTED BY UNDERWRITERS' LABORATORIES. TANK SHALL BE FACTORY FIRED WITH GLASS LINING WITH 150 PSI WORKING PRESSURE AND EQUIPPED WITH EXTRUDED HIGH DENSITY MAGNESIUM ANODE AT T & P RELIEF VALVE. ELECTRIC HEATING ELEMENT SHALL BE SERIES 1- MEDIUM WATT DENSITY WITH ZINC PLATED COPPER SHEATH. THE CONTROLS SHALL INCLUDE A THERMOSTAT WITH EACH ELEMENT AND A HIGH TEMPERATURE CUTOFF. THE JACKET SHALL PROVIDE FULL SIZE CONTROL COMPARTMENTS FOR PERFORMANCE OF SERVICE AND MAINTENANCE THROUGH FRONT PANEL OPENINGS AND ENCLOSE THE TANK WITH INSULATION. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING. OUTER JACKET SHALL BE BAKED ENAMEL FINISH. HEATER SHALL HAVE A THREE (3) YEAR LIMITED WARRANTY FOR COMMERCIAL INSTALLATION, AS OUTLINED IN THE WRITTEN WARRANTY. FULLY ILLUSTRATED INSTRUCTION MANUAL SHALL BE INCLUDED. INSULATION MUST MEET ASHRAE STANDARD 90A-1980 FOR ENERGY EFFICIENCIES. REFER TO DRAWINGS FOR SIZE, CAPACITY AND VOLTAGE.

E. SUMP PUMP SHALL HAVE CAST IRON HOUSING WITH STAINLESS STEEL SHAFT AND BRONZE IMPELLER. PUMP SHALL BE COMPLETE WITH CONTROLS AND AS MANUFACTURED BY HYDROMATIC PUMP CO.

F. POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY AND CODE REQUIREMENTS.

6. SECTION 15500 - HEATING, VENTILATING & AIR CONDITIONING(HVAC)

A. THE WORK TO BE PERFORMED SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL COMPLETE, ALL HVAC MECHANICAL EQUIPMENT AS SHOWN ON DRAWINGS AND/OR HEREINAFTER SPECIFIED. IT IS THE INTENT THAT THE SYSTEMS BE INSTALLED COMPLETE WITH ALL ITEMS NECESSARY TO PROVIDE SATISFACTORY SERVICE.

B. ALL HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT WHICH CONTAINS COMPRESSORS SHALL BE PROVIDED WITH EXTENDED WARRANTIES (MINIMUM FOUR (4) YEARS) FOR THE COMPRESSORS.

C. DEDICATED OUTSIDE AIR HANDLING UNIT (DOAS):

1) DOAS UNIT SHALL BE MANUFACTURERED BY AAON (BASIS OF DESIGN), MAMMOTH, ENGINEERED AIRE OR VENMAR.

2) INDOOR AIR HANDLING UNIT SHALL INCLUDE FILTERS, SUPPLY FAN, DX EVAPORATOR COIL, REHEAT COIL, ELECTRIC HEATERS AND UNIT CONTROLS.

3) UNIT SHALL HAVE A DRAW-THROUGH SUPPLY FAN CONFIGURATION AND DISCHARGE AIR HORIZONTALLY.

4) UNIT SHALL BE FACTORY ASSEMBLED AND TESTED INCLUDING LEAK TESTING OF THE COILS AND RUN TESTING OF THE SUPPLY FANS AND FACTORY WIRED SYSTEM. RUN TEST REPORT SHALL BE SUPPLIED WITH THE UNIT IN THE CONTROL COMPARTMENT'S LITERATURE PACKET, AND ALSO AVAILABLE ELECTRONICALLY AFTER THE UNIT SHIPS.

5) UNIT SHALL HAVE DECALS AND TAGS TO INDICATE LIFTING AND RIGGING, SERVICE AREAS AND CAUTION AREAS FOR SAFETY AND TO ASSIST SERVICE PERSONNEL.

6) UNIT COMPONENTS SHALL BE LABELED, INCLUDING PIPE STUB OUTS, REFRIGERATION SYSTEM COMPONENTS AND ELECTRICAL AND CONTROLS COMPONENTS.

7) INSTALLATION, OPERATION AND MAINTENANCE MANUAL SHALL BE SUPPLIED WITHIN THE UNIT.

8) LAMINATED COLOR-CODED WIRING DIAGRAM SHALL MATCH FACTORY INSTALLED WIRING AND SHALL BE AFFIXED TO THE INTERIOR OF THE CONTROL COMPARTMENT'S HINGED ACCESS DOOR.

9) UNIT NAMEPLATE SHALL BE PROVIDED IN TWO LOCATIONS ON THE UNIT, AFFIXED TO THE EXTERIOR OF THE UNIT AND AFFIXED TO THE INTERIOR OF THE CONTROL COMPARTMENT'S HINGED ACCESS DOOR.

10) UNIT CONSTRUCTION SHALL INCLUDE ALL CABINET WALLS, ACCESS DOORS, AND ROOF SHALL BE FABRICATED OF DOUBLE WALL, IMPACT RESISTANT, RIGID POLYURETHANE FOAM PANELS.

11) UNIT INSULATION SHALL HAVE A MINIMUM THERMAL RESISTANCE R-VALUE OF 6.25. FOAM INSULATION SHALL HAVE A MINIMUM DENSITY OF 2 POUNDS/CUBIC FOOT AND SHALL BE TESTED IN ACCORDANCE WITH ASTM D1929-11 FOR A MINIMUM FLASH IGNITION TEMPERATURE OF 610°F.

12) UNIT CONSTRUCTION SHALL BE DOUBLE WALL WITH G90 GALVANIZED STEEL ON BOTH SIDES AND A THERMAL BREAK. DOUBLE WALL CONSTRUCTION WITH A THERMAL BREAK PREVENTS MOISTURE ACCUMULATION ON THE INSULATION, PROVIDES A CLEANABLE INTERIOR, PREVENTS HEAT TRANSFER THROUGH THE PANEL AND PREVENTS EXTERIOR CONDENSATION ON THE PANEL.

13) UNIT SHALL BE DESIGNED TO REDUCE AIR LEAKAGE AND INFILTRATION THROUGH THE CABINET. SEALING SHALL BE INCLUDED BETWEEN PANELS AND BETWEEN ACCESS DOORS AND OPENINGS TO REDUCE AIR LEAKAGE. PIPING AND ELECTRICAL CONDUIT THROUGH CABINET PANELS SHALL INCLUDE SEALING TO REDUCE AIR LEAKAGE.

14) ACCESS DOORS SHALL BE FLUSH MOUNTED TO CABINETRY.

15) UNITS WITH A COOLING COIL SHALL INCLUDE DOUBLE-SLOPED 304 STAINLESS STEEL DRAIN PAN. DRAIN PAN CONNECTION SHALL BE ON THE RIGHT HAND SIDE OF UNIT WITH A 1" MPT FITTING.

16) COOLING COIL SHALL BE MECHANICALLY SUPPORTED ABOVE THE DRAIN PAN BY MULTIPLE SUPPORTS THAT ALLOW DRAIN PAN CLEANING AND COIL REMOVAL.

17) UNIT SHALL INCLUDE FACTORY WIRED CONTROL PANEL COMPARTMENT LED SERVICE LIGHTS.

18) ELECTRICAL

I. UNIT SHALL BE PROVIDED WITH AN EXTERNAL CONTROL PANEL WITH SEPARATE LOW VOLTAGE CONTROL WIRING WITH CONDUIT AND HIGH VOLTAGE POWER WIRING WITH CONDUIT BETWEEN THE CONTROL PANEL AND THE UNIT. BOTH SIDE WALLS OF THE CONTROL PANEL SHALL INCLUDE LOUVERED VENTS. CONTROL PANEL SHALL BE FIELD MOUNTED AND SHALL INCLUDE A PIANO HINGED SERVICE ACCESS DOOR WITH TOOLED ENTRY.

II. UNIT SHALL BE PROVIDED WITH STANDARD POWER BLOCK FOR CONNECTING POWER TO THE UNIT.

APPROVED
Montgomery County
Historic Preservation Commission
Sandra I. Heiler

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CORY SLOAN COLASSARD
No. 20461

DocuSigned by:
Cory S Colassard
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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **20461**, expiration date **May 26, 2022**.

SALT & VINE

3308 OLNEY-SANDY
SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
3	07/13/20	PERMIT SUBMISSION
4	10/29/20	PERMIT COMMENTS

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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DATE: 10.29.20

MECHANICAL SPECIFICATIONS

M0.10

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APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Sandra I. Heiler

MECHANICAL SPECIFICATIONS (2 OF 4)

24) ACCESS TO SUPPLY FAN SHALL BE THROUGH AN ACCESS DOOR WITH REMOVABLE PIN HINGES AND LOCKABLE QUARTER TURN HANDLES.

25) ACCESS TO COOLING COIL SHALL BE THROUGH HINGED ACCESS DOOR WITH LOCKABLE QUARTER TURN HANDLES.

26) ACCESS TO REHEAT COIL SHALL BE THROUGH HINGED ACCESS DOOR WITH LOCKABLE QUARTER TURN HANDLES.

27) EVAPORATOR COIL SHALL BE DESIGNED FOR USE WITH R-410A REFRIGERANT AND CONSTRUCTED OF COPPER TUBES WITH ALUMINUM FINS MECHANICALLY BONDED TO THE TUBES AND ALUMINUM END CASINGS. FIN DESIGN SHALL BE SINE WAVE RIPPLED. COIL SHALL TWO CIRCUITS AND INTERLACED CIRCUITRY. COIL SHALL BE 6 ROW HIGH CAPACITY AND 12 FINS PER INCH. COIL SHALL BE HYDROGEN LEAK TESTED. COIL SHALL BE FURNISHED WITH FACTORY INSTALLED THERMOSTATIC EXPANSION VALVES. THE SENSING BULBS SHALL BE FIELD INSTALLED ON THE SUCTION LINE IMMEDIATELY OUTSIDE THE CABINET. COIL SHALL HAVE RIGHT HAND EXTERNAL PIPING CONNECTIONS. LIQUID AND SUCTION CONNECTIONS SHALL BE SWEAT CONNECTION. COIL CONNECTIONS SHALL BE LABELED, EXTEND BEYOND THE UNIT CASING, AND BE FACTORY SEALED ON BOTH THE INTERIOR AND EXTERIOR OF THE UNIT CASING TO MINIMIZE AIR LEAKAGE.

28) REFRIGERATION SYSTEM FOR AIR HANDLING UNIT AND MATCHING CONDENSING UNIT SHALL BE CAPABLE OF OPERATION AS AN R-410A SPLIT SYSTEM HEAT PUMP. EACH REFRIGERATION CIRCUIT SHALL BE EQUIPPED WITH THERMOSTATIC EXPANSION VALVE TYPE REFRIGERANT FLOW CONTROL. MODULATING HOT GAS REHEAT SHALL BE PROVIDED ON THE LEAD REFRIGERATION CIRCUIT. AIR HANDLING UNIT SHALL BE PROVIDED WITH HOT GAS REHEAT COIL, A CHECK VALVE ON THE LIQUID LINE, AND A CHECK VALVE ON THE HOT GAS REHEAT LINE. THE MATCHING CONDENSING UNIT MUST INCLUDE MODULATING 3-WAY REHEAT VALVE, LIQUID LINE RECEIVER, ELECTRONIC CONTROLLER, SUPPLY AIR TEMPERATURE SENSOR AND A DEHUMIDIFICATION CONTROL SIGNAL TERMINAL. THIS ALLOWS THE SYSTEM TO HAVE A DEHUMIDIFICATION MODE OF OPERATION AND INCLUDES SUPPLY AIR TEMPERATURE CONTROL TO PREVENT SUPPLY AIR TEMPERATURE SWINGS AND OVERCOOLING OF THE SPACE. REHEAT LINE CONNECTIONS SHALL BE LABELED, EXTEND BEYOND THE UNIT CASING AND BE LOCATED NEAR THE SUCTION AND LIQUID LINE CONNECTIONS FOR EASE OF FIELD CONNECTION. CONNECTIONS SHALL BE FACTORY SEALED ON BOTH THE INTERIOR AND EXTERIOR OF THE UNIT CASING TO MINIMIZE AIR LEAKAGE. UNIT SHALL BE CONFIGURED AS HEAT PUMP. REFRIGERATION CIRCUIT SHALL BE EQUIPPED WITH A THERMAL EXPANSION WITH AN EXTERNAL CHECK VALVE ON THE INDOOR COIL. REVERSING VALVE, OUTDOOR COIL THERMAL EXPANSION VALVE, BI-FLOW FILTER DRIER, AND LIQUID LINE RECEIVER SHALL BE FACTORY INSTALLED IN THE MATCHING AAON CONDENSING UNIT.

29) UNIT SHALL INCLUDE AN ELECTRIC HEATER CONSISTING OF ELECTRIC HEATING COILS, FUSES, CONTACTORS, AND A HIGH TEMPERATURE LIMIT SWITCH, WITH CAPACITIES AS SHOWN ON THE PLANS. ELECTRIC HEATING ACCESS SHALL BE THROUGH SERVICE ACCESS DOOR WITH REMOVABLE PIN HINGES AND LOCKABLE QUARTER TURN HANDLE. ELECTRIC HEATING COILS SHALL BE LOCATED IN THE REHEAT POSITION DOWNSTREAM OF THE SUPPLY FAN. ELECTRIC HEATER SHALL HAVE FULL MODULATION CAPACITY CONTROLLED BY AN SCR (SILICON CONTROLLED RECTIFIER). CONTROLLER SHALL PROVIDE THE HEATING CONTROL SIGNAL TO CONTROL THE AMOUNT OF HEATING.

30) UNIT FILTER ACCESS SHALL BE THROUGH SERVICE ACCESS DOOR WITH PIANO HINGES AND QUARTER TURN BUTTON FASTENERS.UNIT SHALL INCLUDE 2 INCH THICK, PLEATED PANEL FILTERS WITH MERV RATING OF 8, UPSTREAM OF THE COOLING COIL. PROVIDE A 4" MERV 13 FILTER FOLLOWING.

31) UNIT SHALL BE PROVIDED WITH A PROOF OF AIRFLOW SWITCH. WHEN AIRFLOW IS NOT DETECTED, THE SUPPLY FANS WILL SHUT DOWN. UNIT SHALL BE PROVIDED WITH AN EXTERNAL CONTROL PANEL WITH SEPARATE LOW VOLTAGE CONTROL WIRING WITH CONDUIT AND HIGH VOLTAGE POWER WIRING WITH CONDUIT BETWEEN THE CONTROL PANEL AND THE UNIT. CONTROL PANEL SHALL BE FIELD MOUNTED. ACCESS TO EXTERNAL CONTROL PANEL SHALL BE THROUGH HINGED ACCESS DOOR WITH TOOLED ENTRY. FACTORY INSTALLED AND FACTORY PROVIDED CONTROLLER.UNIT CONTROLLER SHALL BE CAPABLE OF CONTROLLING ALL FEATURES AND OPTIONS OF THE UNIT. CONTROLLER SHALL BE FACTORY INSTALLED IN THE UNIT CONTROLS COMPARTMENT AND FACTORY TESTED. CONTROLLER SHALL BE CAPABLE OF STAND ALONE OPERATION WITH UNIT CONFIGURATION, SETPOINT ADJUSTMENT, SENSOR STATUS VIEWING, UNIT ALARM VIEWING, AND OCCUPANCY SCHEDULING AVAILABLE WITHOUT DEPENDENCE ON A BUILDING MANAGEMENT SYSTEM. CONTROLLER SHALL HAVE AN ONBOARD CLOCK AND CALENDAR FUNCTIONS THAT ALLOW FOR OCCUPANCY SCHEDULING. CONTROLLER SHALL INCLUDE NON-VOLATILE MEMORY TO RETAIN ALL PROGRAMMED VALUES WITHOUT THE USE OF A BATTERY, IN THE EVENT OF A POWER FAILURE. MAKE UP AIR CONTROLLER UNIT SHALL MODULATE COOLING WITH CONSTANT AIRFLOW TO MEET VENTILATION OUTSIDE AIR LOADS. COOLING CAPACITY SHALL MODULATE BASED ON SUPPLY AIR TEMPERATURE. HOT GAS BYPASS SHALL BE REQUIRED ON THE LEAD REFRIGERATION CIRCUITS OF SYSTEMS WITHOUT VARIABLE CAPACITY COMPRESSORS. UNIT SHALL MODULATE HEATING WITH CONSTANT AIRFLOW TO MEET VENTILATION OUTSIDE AIR LOADS. HEATING CAPACITY SHALL MODULATE BASED ON SUPPLY AIR TEMPERATURE.UNIT CONFIGURATION, SETPOINT ADJUSTMENT, SENSOR STATUS VIEWING, UNIT ALARM VIEWING, AND OCCUPANCY SCHEDULING SHALL BE ACCOMPLISHED WITH CONNECTION TO INTERFACE MODULE WITH LCD SCREEN AND INPUT KEYPAD, INTERFACE MODULE WITH TOUCH SCREEN, OR WITH CONNECTION TO PC WITH FREE CONFIGURATION SOFTWARE. CONTROLLER SHALL BE CAPABLE OF CONNECTION WITH OTHER FACTORY INSTALLED AND FACTORY PROVIDED UNIT CONTROLLERS WITH INDIVIDUAL UNIT CONFIGURATION, SETPOINT ADJUSTMENT, SENSOR STATUS VIEWING, AND OCCUPANCY SCHEDULING AVAILABLE FROM A SINGLE UNIT. CONNECTION BETWEEN UNIT CONTROLLERS SHALL BE WITH A MODULAR CABLE. CONTROLLER SHALL BE CAPABLE OF COMMUNICATING AND INTEGRATING WITH A BACNET NETWORK.

D. DOAS AIR COOLED CONDENSING UNIT:

1) DOAS AIR COOLED CONDENSING UNIT SHALL BE MANUFACTURERED BY AAON (BASIS OF DESIGN), MAMMOTH, ENGINEERED AIRE OR VENMAR.

2) AIR-SOURCE HEAT PUMP CONDENSING UNIT SHALL INCLUDE COMPRESSORS, AIR-COOLED CONDENSER COILS, CONDENSER FANS, SUCTION AND LIQUID CONNECTION VALVES, ACCUMULATOR, RECEIVER, REVERSING VALVE, FILTER DRIERS WITH CHECK VALVES, AND THERMAL EXPANSION VALVES.

3) UNIT SHALL BE FACTORY ASSEMBLED AND TESTED INCLUDING LEAK TESTING OF THE COIL AND RUN TESTING OF THE COMPLETED UNIT. RUN TEST REPORT SHALL BE SUPPLIED WITH THE UNIT IN THE CONTROL COMPARTMENT.

4) UNIT SHALL HAVE DECALS AND TAGS TO INDICATE LIFTING AND RIGGING, SERVICE AREAS AND CAUTION AREAS FOR SAFETY AND TO ASSIST SERVICE PERSONNEL.

5) UNIT COMPONENTS SHALL BE LABELED, INCLUDING PIPE STUB OUTS, REFRIGERATION SYSTEM COMPONENTS AND ELECTRICAL AND CONTROLS COMPONENTS.

6) INSTALLATION, OPERATION AND MAINTENANCE MANUAL SHALL BE SUPPLIED WITHIN THE UNIT.

7) LAMINATED COLOR-CODED WIRING DIAGRAM SHALL MATCH FACTORY INSTALLED WIRING AND SHALL BE AFFIXED TO THE INTERIOR OF THE CONTROL COMPARTMENT'S ACCESS DOOR.

8) UNIT NAMEPLATE SHALL BE PROVIDED IN TWO LOCATIONS ON THE UNIT, AFFIXED TO THE EXTERIOR OF THE UNIT AND AFFIXED TO THE INTERIOR OF THE CONTROL COMPARTMENT'S ACCESS DOOR.

9) UNIT SHALL BE COMPLETELY FACTORY ASSEMBLED, PIPED, AND WIRED AND SHIPPED IN ONE SECTION. ALL CABINET WALLS, ACCESS DOORS, AND ROOF SHALL BE FABRICATED OF G90 GALVANIZED STEEL PANELS. UNIT SHALL BE SPECIFICALLY DESIGNED FOR OUTDOOR APPLICATION. ACCESS TO COMPRESSORS AND CONTROL COMPONENTS SHALL BE THROUGH HINGED ACCESS DOORS WITH QUARTER TURN, LOCKABLE HANDLES. ACCESS TO CONDENSER COILS AND FANS IS THROUGH REMOVABLE ACCESS PANELS. EXTERIOR PAINT FINISH SHALL BE CAPABLE OF WITHSTANDING AT LEAST 2,500 HOURS, WITH NO VISIBLE CORROSIVE EFFECTS, WHEN TESTED IN A SALT SPRAY AND FOG ATMOSPHERE IN ACCORDANCE WITH ASTM B 117-95 TEST PROCEDURE. UNIT SHALL INCLUDE LIFTING LUGS. UNIT SHALL INCLUDE FORKLIFT SLOTS.

10) UNIT SHALL BE PROVIDED WITH STANDARD POWER BLOCK FOR CONNECTING POWER TO THE UNIT. CONTROL CIRCUIT TRANSFORMER AND WIRING SHALL PROVIDE 24 VAC CONTROL VOLTAGE FROM THE LINE VOLTAGE PROVIDED TO THE UNIT. UNIT SHALL HAVE A 5KAIC SCCR. AIR-SOURCE HEAT PUMP SHALL INCLUDE AN OPTIMIZED START DEFROST CYCLE TO PREVENT FROST ACCUMULATION ON THE OUTDOOR COIL DURING HEAT PUMP HEATING OPERATION AND TO MINIMIZED DEFROST CYCLE ENERGY USAGE. IF THE TEMPERATURE OF THE OUTDOOR HEAT EXCHANGER AND/OR THE SUCTION LINE IS LESS THAN A PREDETERMINED VALUE, A DEFERRED DEFROST CYCLE IS INITIATED WHEREIN THE DEFROST CYCLE STARTS AFTER A VARIABLE, CONTINUOUSLY OPTIMIZING, TIME INTERVAL HAS ELAPSED. THE DEFROST CYCLE IS TERMINATED WHEN THE RELATIVE TEMPERATURES OF THE OUTDOOR HEAT EXCHANGER AND/OR THE SUCTION LINE INDICATE THAT SUFFICIENT FROST IS MELTED FROM THE HEAT EXCHANGER TO INSURE ADEQUATE TIME BETWEEN SUCCESSIVE DEFROST CYCLES FOR OPTIMIZING THE EFFICIENCY AND RELIABILITY OF THE SYSTEM, OR AFTER A PREDETERMINED TIME INTERVAL HAS ELAPSED, WHICHEVER CONDITION OCCURS FIRST. DURING DEFROST CYCLE ALL COMPRESSORS SHALL ENERGIZE, REVERSING VALVES SHALL ENERGIZE, AND AUXILIARY HEAT SHALL ENERGIZE. UNIT SHALL BE PROVIDED WITH FACTORY INSTALLED AND FACTORY WIRED, NON-FUSED DISCONNECT SWITCH. UNIT SHALL BE PROVIDED WITH PHASE AND BROWN OUT PROTECTION WHICH SHUTS DOWN ALL MOTORS IN THE UNIT IF THE ELECTRICAL PHASES ARE MORE THAN 10% OUT OF BALANCE ON VOLTAGE, THE VOLTAGE IS MORE THAN 10% UNDER DESIGN VOLTAGE, OR ON PHASE REVERSAL. UNIT SHALL BE PROVIDED WITH REMOTE STOP/START TERMINALS WHICH REQUIRE CONTACT CLOSURE FOR UNIT OPERATION. WHEN THESE CONTACTS ARE OPEN THE LOW VOLTAGE, CIRCUIT IS BROKEN AND THE UNIT WILL NOT OPERATE.

11) UNIT SHALL BE PROVIDED WITH TWO INDEPENDENTLY CIRCUITED R-410A SCROLL COMPRESSORS WITH THERMAL OVERLOAD PROTECTION. LEAD COMPRESSOR SHALL BE A VARIABLE CAPACITY SCROLL CAPABLE OF MODULATION FROM 10-100% OF ITS CAPACITY. EACH COMPRESSOR SHALL BE FURNISHED WITH A CRANKCASE HEATER. COMPRESSORS SHALL BE MOUNTED IN AN ISOLATED SERVICE COMPARTMENT WHICH CAN BE ACCESSED WITHOUT AFFECTING UNIT OPERATION. LOCKABLE HINGED ACCESS DOORS SHALL PROVIDE ACCESS TO THE COMPRESSORS. COMPRESSORS SHALL BE ISOLATED FROM THE BASE PAN WITH THE COMPRESSOR MANUFACTURER'S RECOMMENDED RUBBER VIBRATION ISOLATORS AND MOUNTED ON AN ELEVATED COMPRESSOR DECK, TO REDUCE ANY TRANSMISSION OF NOISE FROM THE COMPRESSORS INTO THE BUILDING AREA. EACH REFRIGERATION CIRCUIT SHALL BE EQUIPPED WITH AUTOMATIC RESET LOW PRESSURE AND MANUAL RESET HIGH PRESSURE REFRIGERANT SAFETY CONTROLS, SCHRADER TYPE SERVICE FITTINGS ON BOTH THE HIGH PRESSURE AND LOW PRESSURE SIDES, AND SERVICE VALVES FOR LIQUID AND SUCTION CONNECTIONS. LIQUID LINE FILTER DRIERS SHALL BE FACTORY PROVIDED AND INSTALLED. FIELD INSTALLED REFRIGERANT CIRCUITS SHALL INCLUDE THE LOW SIDE COOLING COMPONENTS, REFRIGERANT, THERMAL EXPANSION VALVE, LIQUID LINE, INSULATED HOT GAS REHEAT LINE, AND INSULATED SUCTION LINE. UNIT SHALL INCLUDE A FACTORY HOLDING CHARGE OF R-410A REFRIGERANT AND OIL. ADJUSTING THE CHARGE OF THE SYSTEM WILL BE REQUIRED DURING INSTALLATION. LEAD REFRIGERATION CIRCUIT SHALL BE PROVIDED WITH MODULATING HOT GAS REHEAT VALVE, ELECTRONIC CONTROLLER, LIQUID LINE RECEIVER, SUPPLY AIR TEMPERATURE SENSOR AND A DEHUMIDIFICATION CONTROL SIGNAL TERMINAL THAT ENABLES THE DEHUMIDIFICATION MODE OF OPERATION, AND INCLUDES SUPPLY AIR TEMPERATURE CONTROL TO PREVENT SUPPLY AIR TEMPERATURE SWINGS AND OVERCOOLING OF THE SPACE. THE MATCHING INDOOR AIR HANDLER MUST INCLUDE A HOT GAS REHEAT COIL AND A CHECK VALVE ON THE HOT GAS REHEAT LINE. UNIT SHALL BE CONFIGURED AS AN AIR-SOURCE HEAT PUMP. EACH REFRIGERATION CIRCUIT SHALL BE EQUIPPED WITH A BI-FLOW LIQUID LINE FILTER DRIER, REVERSING VALVE, SUCTION LINE ACCUMULATOR, LIQUID LINE RECEIVER, AND A BYPASS LOOP WITH CHECK VALVE AROUND A THERMAL EXPANSION VALVE. REVERSING VALVE SHALL DE-ENERGIZE DURING THE HEAT PUMP HEATING MODE OF OPERATION. THE MATCHING INDOOR AIR HANDLER MUST INCLUDE A BYPASS LOOP WITH CHECK VALVE AROUND THE THERMAL EXPANSION VALVE. UNITS SHALL BE PROVIDED WITH A SUCTION PRESSURE TRANSDUCER ON EACH REFRIGERATION CIRCUIT.EACH COMPRESSOR SHALL BE PROVIDED WITH A COMPRESSOR SOUND BLANKET.

12) CONDENSER FAN SHALL BE VERTICAL DISCHARGE, AXIAL FLOW, DIRECT DRIVE FANS.

13) CONDENSING UNIT SHALL BE PROVIDED WITH AN ELECTRICALLY COMMUTATED MOTOR (ECM) CONDENSER FAN, CONDENSER HEAD PRESSURE CONTROLLER, AND DISCHARGE PRESSURE TRANSDUCERS FOR MODULATING HEAD PRESSURE CONTROL TO ALLOW COOLING OPERATION DOWN TO 35°F.FAN MOTOR SHALL BE WEATHER PROTECTED, SINGLE PHASE, DIRECT DRIVE, AND TOTALLY ENCLOSED AIR OVER (TEAO) WITH ELECTRONIC PROTECTION.

14) COILS SHALL BE DESIGNED FOR USE WITH R-410A REFRIGERANT AND CONSTRUCTED OF COPPER TUBES WITH ALUMINUM FINS MECHANICALLY BONDED TO THE TUBES AND ALUMINUM END CASINGS. FIN DESIGN SHALL BE SINE WAVE RIPPLED. COILS SHALL BE DESIGNED FOR A MINIMUM OF 10°F OF REFRIGERANT SUB-COOLING. COILS SHALL BE HYDROGEN LEAK TESTED.

E. VARIABLE REFRIGERANT VOLUME SYSTEM

1) HEAT RECOVERY CONDENSING UNIT

a) THE CONDENSING UNIT SHALL BE FACTORY ASSEMBLED IN THE USA AND PRE-WIRED WITH ALL NECESSARY ELECTRONIC AND REFRIGERANT CONTROLS. THE REFRIGERATION CIRCUIT OF THE CONDENSING UNIT SHALL CONSIST OF DAIKIN INVERTER SCROLL COMPRESSORS, MOTORS, FANS, CONDENSER COIL, ELECTRONIC EXPANSION VALVES, SOLENOID VALVES, 4-WAY VALVE, DISTRIBUTION HEADERS, CAPILLARIES, FILTERS, SHUT OFF VALVES, OIL SEPARATORS, SERVICE PORTS, LIQUID RECEIVER AND SUCTION ACCUMULATOR.

b) HIGH/LOW PRESSURE GAS LINE, LIQUID AND SUCTION LINES MUST BE INDIVIDUALLY INSULATED BETWEEN THE CONDENSING AND INDOOR UNITS.

c) THE CONDENSING UNIT CAN BE WIRED AND PIPED WITH ACCESS FROM THE LEFT, RIGHT, REAR OR BOTTOM.

d) THE CONNECTION RATIO OF INDOOR UNITS TO CONDENSING UNIT SHALL BE PERMITTED UP TO 200%.

e) EACH CONDENSING SYSTEM SHALL BE ABLE TO SUPPORT THE CONNECTION OF UP TO 64 INDOOR UNITS DEPENDENT ON THE MODEL OF THE CONDENSING UNIT.

e) THE SOUND PRESSURE LEVEL STANDARD SHALL BE THAT VALUE AS LISTED IN THE DAIKIN ENGINEERING MANUAL FOR THE SPECIFIED MODELS AT 3 FEET FROM THE FRONT OF THE UNIT. THE CONDENSING UNIT SHALL BE CAPABLE OF OPERATING AUTOMATICALLY AT FURTHER REDUCED NOISE DURING NIGHT TIME OR VIA AN EXTERNAL INPUT.

f) THE SYSTEM WILL AUTOMATICALLY RESTART OPERATION AFTER A POWER FAILURE AND WILL NOT CAUSE ANY SETTINGS TO BE LOST, THUS ELIMINATING THE NEED FOR REPROGRAMMING.

g) THE UNIT SHALL INCORPORATE AN AUTO-CHARGING FEATURE. MANUAL CHANGING SHOULD BE SUPPORT WITH A MINIMUM OF 2 HOURS OF SYSTEM OPERATION DATA TO ENSURE CORRECT OPERATION.

h) THE CONDENSING UNIT SHALL BE MODULAR IN DESIGN AND SHOULD ALLOW FOR SIDE-BY-SIDE INSTALLATION WITH MINIMUM SPACING.

i) THE FOLLOWING SAFETY DEVICES SHALL BE INCLUDED ON THE CONDENSING UNIT; HIGH PRESSURE SENSOR AND SWITCH, LOW PRESSURE SENSOR, CONTROL CIRCUIT FUSES, CRANKCASE HEATERS, FUSIBLE PLUG, OVERLOAD RELAY, INVERTER OVERLOAD PROTECTOR, THERMAL PROTECTORS FOR COMPRESSOR AND FAN MOTORS, OVER CURRENT PROTECTION FOR THE INVERTER AND ANTI-RECYCLING TIMERS.

j) TO ENSURE THE LIQUID REFRIGERANT DOES NOT FLASH WHEN SUPPLYING TO THE VARIOUS INDOOR UNITS, THE CIRCUIT SHALL BE PROVIDED WITH A SUB-COOLING FEATURE.

k) OIL RECOVERY CYCLE SHALL BE AUTOMATIC OCCURRING 2 HOURS AFTER START OF OPERATION AND THEN EVERY 8 HOURS OF OPERATION. EACH SYSTEM SHALL MAINTAIN CONTINUOUS HEATING DURING OIL RETURN OPERATION.

l) THE CONDENSING UNIT SHALL BE CAPABLE OF HEATING OPERATION AT -13°F WET BULB AMBIENT TEMPERATURE WITHOUT ADDITIONAL LOW AMBIENT CONTROLS OR AN AUXILIARY HEAT SOURCE.

m) THE MULTIPLE CONDENSER SYSTEMS SHALL CONTINUE TO PROVIDE HEAT TO THE INDOOR UNITS IN HEATING OPERATION WHILE IN THE DEFROST MODE.

n) UNIT CABINET:

(1) THE CONDENSING UNIT SHALL BE COMPLETELY WEATHERPROOF AND CORROSION RESISTANT. THE UNIT SHALL BE CONSTRUCTED FROM RUST-PROOFED MILD STEEL PANELS COATED WITH A BAKED ENAMEL FINISH.

o) FAN:

(1) THE CONDENSING UNIT SHALL CONSIST OF ONE OR MORE PROPELLER TYPE, DIRECT-DRIVE 350 OR 750 W FAN MOTORS THAT HAVE MULTIPLE SPEED OPERATION VIA A DC (DIGITALLY COMMUTATING) INVERTER.
(2) THE CONDENSING UNIT FAN MOTOR SHALL HAVE MULTIPLE SPEED OPERATION OF THE DC (DIGITALLY COMMUTATING) INVERTER TYPE, AND BE OF HIGH EXTERNAL STATIC PRESSURE AND SHALL BE FACTORY SET AS STANDARD AT 0.12 IN. WG. A FIELD SETTING SWITCH TO A MAXIMUM 0.32 IN. WG PRESSURE IS AVAILABLE TO ACCOMMODATE FIELD APPLIED DUCT FOR INDOOR MOUNTING OF CONDENSING UNITS.
(3) THE FAN MOTOR SHALL HAVE INHERENT PROTECTION AND PERMANENTLY LUBRICATED BEARINGS AND BE MOUNTED.
(4) THE FAN MOTOR SHALL BE PROVIDED WITH A FAN GUARD TO PREVENT CONTACT WITH MOVING PARTS.

p) CONDENSER COIL:

(1) THE CONDENSER COIL SHALL BE MANUFACTURED FROM COPPER TUBES EXPANDED INTO ALUMINUM FINS TO FORM A MECHANICAL BOND.
(2) THE HEAT EXCHANGER COIL SHALL BE OF A WAFFLE LOUVER FIN AND RIFLED BORE TUBE DESIGN TO ENSURE HIGH EFFICIENCY PERFORMANCE.
(3) THE HEAT EXCHANGER ON THE CONDENSING UNITS SHALL BE MANUFACTURED FROM HI-X SEAMLESS COPPER TUBE WITH N-SHAPE INTERNAL GROOVES MECHANICALLY BONDED ON TO ALUMINUM FINS TO AN E-PASS DESIGN.
(4) THE FINS ARE TO BE COVERED WITH AN ANTI-CORROSION ULTA GOLD COATING AS STANDARD WITH A SALT SPRAY TEST RATING OF 1000HR (ASTM B117 & BLISTER RATING:10), ACETIC ACID SALT SPRAY TEST: 500HR (ASTM G85 & BLISTER RATING:10)
(5) THE PIPE PLATES SHALL BE TREATED WITH POWDERED POLYESTER RESIN FOR CORROSION PREVENTION. THE THICKNESS OF THE COATING MUST BE BETWEEN 2.0 TO 3.0 MICRONS.
(6) THE OUTDOOR COIL SHALL HAVE THREE-CIRCUIT HEAT EXCHANGER DESIGN ELIMINATING THE NEED FOR BOTTOM PLATE HEATER. THE LOWER PART OF THE COIL SHALL BE USED FOR INVERTER COOLING AND BE ON OR OFF DURING HEATING OPERATION ENHANCING THE DEFROST OPERATION.
(7) THE CONDENSING UNIT SHALL BE FACTORY EQUIPPED WITH CONDENSER COIL GUARDS ON ALL SIDES.

q) COMPRESSOR:

(1) THE DAIKIN INVERTER SCROLL COMPRESSORS SHALL BE VARIABLE SPEED (PVM INVERTER) CONTROLLED WHICH IS CAPABLE OF CHANGING THE SPEED TO FOLLOW THE VARIATIONS IN TOTAL COOLING AND HEATING LOAD AS DETERMINED BY THE SUCTION GAS PRESSURE AS MEASURED IN THE CONDENSING UNIT. IN ADDITION, SAMPLINGS OF EVAPORATOR AND CONDENSER TEMPERATURES SHALL BE MADE SO THAT THE HIGH/LOW PRESSURES DETECTED ARE READ EVERY 20 SECONDS AND CALCULATED. WITH EACH READING, THE COMPRESSOR CAPACITY (INV FREQUENCY) SHALL BE CONTROLLED TO ELIMINATE DEVIATION FROM TARGET VALUE. NON INVERTER-DRIVEN COMPRESSORS, WHICH MAY CAUSE STARTING MOTOR CURRENT TO EXCEED THE NOMINAL MOTOR CURRENT (RLA) AND REQUIRE LARGER WIRE SIZING, SHALL NOT BE ALLOWED.
(2) THE INVERTER DRIVEN COMPRESSOR IN EACH CONDENSING UNIT SHALL BE OF HIGHLY EFFICIENT RELUCTANCE DC (DIGITALLY COMMUTATING), HERMETICALLY SEALED SCROLL "G-TYPE" OR "J-TYPE".
(3) NEODYMIUM MAGNETS SHALL BE ADOPTED IN THE ROTOR CONSTRUCTION TO YIELD A HIGHER TORQUE AND EFFICIENCY IN THE COMPRESSOR INSTEAD OF THE NORMAL FERRITE MAGNET TYPE. AT COMPLETE STOP OF THE COMPRESSOR, THE NEODYMIUM MAGNETS WILL POSITION THE ROTOR INTO THE OPTIMUM POSITION FOR A LOW TORQUE START.
(4) THE CAPACITY CONTROL RANGE SHALL BE AS LOW AS 3% TO 100%.
(5) THE COMPRESSORS' MOTORS SHALL HAVE A COOLING SYSTEM USING DISCHARGE GAS, TO AVOID SUDDEN CHANGES IN TEMPERATURE RESULTING IN SIGNIFICANT STRESSES ON WINDING AND BEARINGS.
(6) EACH COMPRESSOR SHALL BE EQUIPPED WITH A CRANKCASE HEATER, HIGH PRESSURE SAFETY SWITCH, AND INTERNAL THERMAL OVERLOAD PROTECTOR.
(7) OIL SEPARATORS SHALL BE STANDARD WITH THE EQUIPMENT TOGETHER WITH AN INTELLIGENT OIL MANAGEMENT SYSTEM.
(8) THE COMPRESSOR SHALL BE SPRING MOUNTED TO AVOID THE TRANSMISSION OF VIBRATION ELIMINATING THE STANDARD NEED FOR SPRING INSOLATION.
(9) IN THE EVENT OF COMPRESSOR FAILURE, THE REMAINING COMPRESSORS SHALL CONTINUE TO OPERATE AND PROVIDE HEATING OR COOLING AS REQUIRED AT A PROPORTIONALLY REDUCED CAPACITY. THE MICROPROCESSOR AND ASSOCIATED CONTROLS SHALL BE DESIGNED TO SPECIFICALLY ADDRESS THIS CONDITION.

r) ELECTRICAL:

(1) THE POWER SUPPLY TO THE CONDENSING UNIT SHALL BE 460 VOLTS, 3 PHASE, 60 HERTZ +/- 10%.
(2) THE CONTROL VOLTAGE BETWEEN THE INDOOR AND CONDENSING UNIT SHALL BE 16VDC NON-SHIELDED, STRANDED 2 CONDUCTOR CABLE.
(3) THE CONTROL WIRING SHALL BE A TWO-WIRE MULTIPLEX TRANSMISSION SYSTEM, MAKING IT POSSIBLE TO CONNECT MULTIPLE INDOOR UNITS TO ONE CONDENSING UNIT WITH ONE 2-CABLE WIRE, THUS SIMPLIFYING THE WIRING INSTALLATION.

2) BRANCH SELECTOR BOXES:

a) BRANCH SELECTOR BOXES ARE DESIGNED SPECIFICALLY FOR USE WITH VRV HEAT RECOVERY SYSTEM COMPONENTS.

(1) THESE SELECTOR BOXES SHALL BE FACTORY ASSEMBLED, WIRED, AND PIPED.
(2) THESE BRANCH CONTROLLERS MUST BE RUN TESTED AT THE FACTORY.
(3) THESE SELECTOR BOXES MUST BE MOUNTED INDOORS.
(4) WHEN SIMULTANEOUSLY HEATING AND COOLING, THE UNITS IN HEATING MODE SHALL ENERGIZE THEIR SUBCOOLING ELECTRONIC EXPANSION VALVE.

b) UNIT CABINET:

(1) THESE UNITS SHALL HAVE A GALVANIZED STEEL PLATE CASING.
(2) EACH CABINET SHALL HOUSE 3 ELECTRONIC EXPANSION VALVES FOR REFRIGERANT CONTROL PER BRANCH.
(3) THE CABINET SHALL CONTAIN ONE SUBCOOLING HEAT EXCHANGER PER BRANCH.
(4) THE UNIT SHALL HAVE SOUND ABSORPTION THERMAL INSULATION MATERIAL MADE OF FLAME AND HEAT RESISTANT FOAMED POLYETHYLENE.
(5) NOMINAL SOUND PRESSURE LEVELS MUST BE MEASURED AND PUBLISHED ON THE SUBMITTALS BY THE MANUFACTURER. THESE SOUND LEVELS MUST NOT EXCEED THE VALUES BELOW.

c) REFRIGERANT VALVES:

(1) THE UNIT SHALL BE FURNISHED WITH 3 ELECTRONIC EXPANSION VALVES PER BRANCH TO CONTROL THE DIRECTION OF REFRIGERANT FLOW. THE USE OF SOLENOID VALVES FOR CHANGEOVER AND PRESSURE EQUALIZATION SHALL NOT BE ACCEPTABLE DUE TO REFRIGERANT NOISE.
(2) THE REFRIGERANT CONNECTIONS MUST BE OF THE BRAZE TYPE.
(3) IN MULTI-PORT UNITS, EACH PORT SHALL HAVE ITS OWN ELECTRONIC EXPANSION VALVES. IF COMMON EXPANSION/SOLENOID VALVES ARE USED, REDUNDANCY MUST BE PROVIDED.
(4) EACH CIRCUIT SHALL HAVE AT LEAST ONE (36,000 BTU/H INDOOR UNIT OR SMALLER FOR THE BSQ36TVJ BRANCH SELECTOR BOX.
(5) MULTIPLE INDOOR UNITS MAY BE CONNECTED TO A BRANCH SELECTOR BOX WITH THE USE OF A REFNET™ JOINT PROVIDED THEY ARE WITHIN THE CAPACITY RANGE OF THE BRANCH SELECTOR.

d) CONDENSATE REMOVAL:

(1) THE UNIT SHALL NOT REQUIRE PROVISIONS FOR CONDENSATE REMOVAL. A SAFETY DEVICE OR SECONDARY DRAIN PAN SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR TO COMPLY WITH THE APPLICABLE MECHANICAL CODE, IF AN ALTERNATE MANUFACTURER IS SELECTED.

e) ELECTRICAL:

(1) THE UNIT ELECTRICAL POWER SHALL BE 208/230 VOLTS, 1 PHASE, 60 HERTZ.
(2) THE UNIT SHALL BE CAPABLE OF OPERATION WITHIN THE LIMITS OF 187 VOLTS TO 255 VOLTS.
(3) THE MINIMUM CIRCUIT AMPS (MCA) SHALL BE 0.1 AND THE MAXIMUM OVERCURRENT PROTECTION AMPS (MOP) SHALL BE 15.
(4) THE CONTROL VOLTAGE BETWEEN THE INDOOR AND CONDENSING UNIT SHALL BE 16VDC NON-SHIELDED 2 CONDUCTOR CABLE.

3) WALL MOUNTED INDOOR UNIT:

a) THE INDOOR UNIT SHALL BE COMPLETELY FACTORY ASSEMBLED AND TESTED. THE UNIT SHALL INCLUDE FACTORY WIRING, PIPING, ELECTRONIC PROPORTIONAL EXPANSION VALVE, CONTROL CIRCUIT BOARD, FAN MOTOR THERMAL PROTECTOR, FLARE CONNECTIONS, CONDENSATE DRAIN PAN, SELF-DIAGNOSTICS, AUTO-RESTART FUNCTION, 3-MINUTE FUSED TIME DELAY, AND TEST RUN SWITCH. THE UNIT SHALL HAVE AN AUTO-SWING LOUVER TO ENSURE EFFICIENT AIR DISTRIBUTION. LOUVER SHALL CLOSE AUTOMATICALLY WHEN THE UNIT STOPS. THE MANUFACTURE PROVIDED CONTROLLER SHALL BE ABLE TO SET FIVE (5) STEPS OF DISCHARGE ANGLE. THE FRONT GRILLE SHALL BE EASILY REMOVED FOR WASHING. THE DISCHARGE ANGLE SHALL AUTOMATICALLY SET AT THE SAME ANGLE AS THE PREVIOUS OPERATION UPON RESTART. THE DRAIN PIPE SHALL BE CAPABLE OF BEING FITTED FROM EITHER LEFT OR RIGHT SIDES.

b) INDOOR UNIT AND REFRIGERANT PIPES SHALL BE CHARGED WITH DEHYDRATED AIR PRIOR TO SHIPMENT FROM THE FACTORY.

c) ALL REFRIGERANT LINES SHALL BE INSULATED FROM THE OUTDOOR UNIT.

d) RETURN AIR SHALL BE THROUGH A RESIN NET MOLD RESISTANT FILTER.

e) THE INDOOR UNITS SHALL BE EQUIPPED WITH A CONDENSATE PAN.

f) THE INDOOR UNITS SHALL BE EQUIPPED WITH A RETURN AIR THERMISTOR.

g) THE INDOOR UNIT SHALL BE SEPARATELY POWERED WITH 208~230V/1-PHASE/60HZ.

h) THE VOLTAGE RANGE SHALL BE 253 VOLTS MAXIMUM AND 187 VOLTS MINIMUM.

i) UNIT CABINET:

(1) THE CABINET SHALL BE AFFIXED TO A FACTORY SUPPLIED WALL MOUNTING TEMPLATE AND LOCATED IN THE CONDITIONED SPACE.
(2) THE CABINET SHALL BE CONSTRUCTED WITH SOUND ABSORBING FOAMED POLYSTYRENE AND POLYETHYLENE INSULATION.

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ROBERT STEPHEN SPINAZZOLA
No. 14749

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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

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OLNEY, MD 20832

#	DATE	DESCRIPTION
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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MECHANICAL
SPECIFICATIONS

M0.11

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APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date: 01/14/21

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

MECHANICAL SPECIFICATIONS (3 OF 4)

j) FAN:

(1) THE FAN SHALL BE A DIRECT-DRIVE CROSS-FLOW FAN, STATICALLY AND DYNAMICALLY BALANCED IMPELLER WITH HIGH AND LOW FAN SPEEDS AVAILABLE.
(2) THE FAN MOTOR SHALL OPERATE ON 208/230 VOLTS, 1 PHASE, 60 HERTZ WITH A MOTOR OUTPUT RANGE 0.054 TO 0.058 HP.
(3) THE AIRFLOW RATE SHALL BE AVAILABLE IN HIGH AND LOW SETTINGS.
(4) THE FAN MOTOR SHALL BE THERMALLY PROTECTED.

k) COIL:

(1) COILS SHALL BE OF THE DIRECT EXPANSION (DX) TYPE CONSTRUCTED FROM COPPER TUBES EXPANDED INTO ALUMINUM FINS TO FORM A MECHANICAL BOND.
(2) THE COIL SHALL BE OF A WAFFLE LOUVER FIN AND HIGH HEAT EXCHANGE, RIFLED BORE TUBE DESIGN TO ENSURE HIGHLY EFFICIENT PERFORMANCE.
(3) THE COIL SHALL BE A 2-ROW CROSS FIN COPPER EVAPORATOR COIL WITH 14 FPI DESIGN COMPLETELY FACTORY TESTED.
(4) THE REFRIGERANT CONNECTIONS SHALL BE FLARE CONNECTIONS AND THE CONDENSATE SHALL BE 11/16 INCH OUTSIDE DIAMETER PVC.
(5) A THERMISTOR SHALL BE LOCATED ON THE LIQUID AND GAS LINE.
(6) A CONDENSATE PAN SHALL BE LOCATED IN THE UNIT.

l) ELECTRICAL:

(1) A SEPARATE POWER SUPPLY SHALL BE REQUIRED OF 208/230 VOLTS, 1 PHASE, 60 HERTZ. THE ACCEPTABLE VOLTAGE RANGE SHALL BE 187 TO 253 VOLTS.
(2) TRANSMISSION (CONTROL) WIRING BETWEEN THE INDOOR AND OUTDOOR UNIT SHALL BE A MAXIMUM OF 3,280 FEET (TOTAL 6,560 FEET).
(3) TRANSMISSION (CONTROL) WIRING BETWEEN THE INDOOR UNIT AND MANUFACTURER PROVIDED CONTROLLER SHALL BE A MAXIMUM DISTANCE OF 1,640 FEET.

m) CONTROL:

(1) THE UNIT SHALL HAVE CONTROLS PROVIDED BY THE MANUFACTURER TO PERFORM INPUT FUNCTIONS NECESSARY TO OPERATE THE SYSTEM.
(2) THE UNIT SHALL BE COMPATIBLE WITH A MANUFACTURER PROVIDED ADVANCED MULTI-ZONE CONTROLLER.
(3) CONTROLLERS SHALL BE COMPATIBLE WITH THE INDOOR UNITS. THE CONTROLLER WIRING SHALL CONSIST OF A NON-POLAR TWO-WIRE CONNECTION TO THE INDOOR UNIT. THE LOCAL CONTROLLERS SHALL BE CAPABLE OF BEING WALL-MOUNTED AND ADJUSTED TO MAINTAIN THE OPTIMAL OPERATION OF THE CONNECTED INDOOR UNIT. TEMPERATURE SETPOINT MUST BE ABLE TO BE ADJUSTED IN INCREMENTS OF 1℉. IN THE CASES WHERE A SYSTEM OR UNIT ERROR MAY OCCUR, THE CONTROLLERS SHALL DISPLAY A TWO-DIGIT ERROR CODE AND THE UNIT ADDRESS.
(4) NAVIGATION REMOTE CONTROLLER.

4) 4 WAY CEILING CASSETTE UNIT INDOOR UNIT:

a) INDOOR UNIT

(1) THE INDOOR UNIT SHALL BE COMPLETELY FACTORY ASSEMBLED AND TESTED. INCLUDED IN THE UNIT IS FACTORY WIRING, PIPING, ELECTRONIC PROPORTIONAL EXPANSION VALVE, CONTROL CIRCUIT BOARD, FAN MOTOR THERMAL PROTECTOR, FLARE CONNECTIONS, CONDENSATE DRAIN PAN, CONDENSATE DRAIN PUMP, CONDENSATE SAFETY SHUTOFF AND ALARM, SELF-DIAGNOSTICS, AUTO-RESTART FUNCTION, 3-MINUTE FUSED TIME DELAY, AND TEST RUN SWITCH.
(2) INDOOR UNIT AND REFRIGERANT PIPES WILL BE CHARGED WITH DEHYDRATED AIR PRIOR TO SHIPMENT FROM THE FACTORY.
(3) ALL REFRIGERANT LINES SHALL BE INSULATED FROM THE OUTDOOR UNIT.
(4) THE 4-WAY SUPPLY AIR FLOW CAN BE FIELD MODIFIED TO 3-WAY AND 2-WAY AIRFLOW TO ACCOMMODATE VARIOUS INSTALLATION CONFIGURATIONS INCLUDING CORNER INSTALLATIONS.
(5) RETURN AIR SHALL BE THROUGH THE CONCENTRIC PANEL, WHICH INCLUDES A RESIN NET MOLD RESISTANT FILTER.
(6) THE INDOOR UNITS SHALL BE EQUIPPED WITH A CONDENSATE PAN AND CONDENSATE PUMP. THE CONDENSATE PUMP PROVIDES UP TO 21" OF LIFT AND HAS A BUILT IN SAFETY SHUTOFF AND ALARM.
(7) THE INDOOR UNITS SHALL BE EQUIPPED WITH A RETURN AIR THERMISTOR.
(8) ALL ELECTRICAL COMPONENTS ARE REACHED THROUGH THE DECORATION PANEL, WHICH REDUCES THE REQUIRED SIDE SERVICE ACCESS.
(9) THE INDOOR UNIT WILL BE SEPARATELY POWERED WITH 208~230V/1-PHASE/60HZ.
(10) THE VOLTAGE RANGE WILL BE 253 VOLTS MAXIMUM AND 187 VOLTS MINIMUM.

b) UNIT CABINET:

(1) THE CABINET SHALL BE SPACE SAVING AND SHALL BE LOCATED INTO THE CEILING.
(2) THREE AUTO-SWING POSITIONS SHALL BE AVAILABLE TO CHOOSE, WHICH INCLUDE STANDARD, DRAFT PREVENTION AND CEILING STAIN PREVENTION.
(3) THE AIRFLOW OF THE UNIT SHALL HAVE THE ABILITY TO SHUT DOWN ONE OR TWO SIDES ALLOWING FOR SIMPLER CORNER INSTALLATION.
(4) FRESH AIR INTAKE SHALL BE POSSIBLE BY WAY OF DIRECT DUCT INSTALLATION TO THE SIDE OF THE INDOOR UNIT CABINET.
(5) A BRANCH DUCT KNOCKOUT SHALL EXIST FOR BRANCH DUCTING SUPPLY AIR.
(6) THE CABINET SHALL BE CONSTRUCTED WITH SOUND ABSORBING FOAMED POLYSTYRENE AND POLYETHYLENE INSULATION.

c) FAN:

(1) THE FAN SHALL BE DIRECT-DRIVE TURBO FAN TYPE WITH STATICALLY AND DYNAMICALLY BALANCED IMPELLER WITH HIGH AND LOW FAN SPEEDS AVAILABLE.
(2) THE FAN MOTOR SHALL OPERATE ON 208/230 VOLTS, 1 PHASE, 60 HERTZ WITH A MOTOR OUTPUT RANGE FROM 0.06 TO 0.12 HP.
(3) THE AIRFLOW RATE SHALL BE AVAILABLE IN HIGH AND LOW SETTINGS.
(4) THE FAN MOTOR SHALL BE THERMALLY PROTECTED.

d) FILTER:

(1) THE RETURN AIR SHALL BE FILTERED BY MEANS OF A WASHABLE LONG-LIFE FILTER WITH MILDEW PROOF RESIN.

e) COIL:

(1) COILS SHALL BE OF THE DIRECT EXPANSION TYPE CONSTRUCTED FROM COPPER TUBES EXPANDED INTO ALUMINUM FINS TO FORM A MECHANICAL BOND.
(2) THE COIL SHALL BE OF A WAFFLE LOUVER FIN AND HIGH HEAT EXCHANGE, RIFLED BORE TUBE DESIGN TO ENSURE HIGHLY EFFICIENT PERFORMANCE.
(3) THE COIL SHALL BE A 2-ROW CROSS FIN COPPER EVAPORATOR COIL WITH 17 FPI DESIGN COMPLETELY FACTORY TESTED.
(4) THE REFRIGERANT CONNECTIONS SHALL BE FLARE CONNECTIONS AND THE CONDENSATE WILL BE 1 -1/32 INCH OUTSIDE DIAMETER PVC.
(5) A CONDENSATE PAN SHALL BE LOCATED UNDER THE COIL.
(6) A CONDENSATE PUMP WITH A 21 INCH LIFT SHALL BE LOCATED BELOW THE COIL IN THE CONDENSATE PAN WITH A BUILT IN SAFETY ALARM.
(7) A THERMISTOR WILL BE LOCATED ON THE LIQUID AND GAS LINE.

f) ELECTRICAL:

(1) A SEPARATE POWER SUPPLY WILL BE REQUIRED OF 208/230 VOLTS, 1 PHASE, 60 HERTZ. THE ACCEPTABLE VOLTAGE RANGE SHALL BE 187 TO 253 VOLTS.
(2) TRANSMISSION (CONTROL) WIRING BETWEEN THE INDOOR AND OUTDOOR UNIT SHALL BE A MAXIMUM OF 3,280 FEET (TOTAL 6,560 FEET).
(3) TRANSMISSION (CONTROL) WIRING BETWEEN THE INDOOR UNIT AND REMOTE CONTROLLER SHALL BE A MAXIMUM DISTANCE OF 1,640 FEET.

g) CONTROL:

(1) THE UNIT SHALL HAVE CONTROLS PROVIDED BY DAIKIN TO PERFORM INPUT FUNCTIONS NECESSARY TO OPERATE THE SYSTEM.
(2) NAVIGATION REMOTE CONTROLLER.

5) CONCEALED CEILING DUCTED INDOOR UNIT:

a) INDOOR UNIT:

(1) THE INDOOR UNIT SHALL BE COMPLETELY FACTORY ASSEMBLED AND TESTED. INCLUDED IN THE UNIT IS FACTORY WIRING, PIPING, ELECTRONIC PROPORTIONAL EXPANSION VALVE, CONTROL CIRCUIT BOARD, FAN MOTOR THERMAL PROTECTOR, FLARE CONNECTIONS, CONDENSATE DRAIN PAN, CONDENSATE DRAIN PUMP, CONDENSATE SAFETY SHUTOFF AND ALARM, SELF-DIAGNOSTICS, AUTO-RESTART FUNCTION, 3-MINUTE FUSED TIME DELAY, AND TEST RUN SWITCH. THE UNIT SHALL BE EQUIPMENT WITH AUTOMATICALLY ADJUSTING EXTERNAL STATIC PRESSURE LOGIC THAT IS SELECTABLE DURING COMMISSIONING. THIS ADJUSTS THE AIRFLOW BASED ON THE INSTALLED EXTERNAL STATIC PRESSURE.
(2) INDOOR UNIT AND REFRIGERANT PIPES WILL BE CHARGED WITH DEHYDRATED AIR PRIOR TO SHIPMENT FROM THE FACTORY.
(3) ALL REFRIGERANT LINES SHALL BE INSULATED FROM THE OUTDOOR UNIT.
(4) THE INDOOR UNITS SHALL BE EQUIPPED WITH A CONDENSATE PAN AND CONDENSATE PUMP. THE CONDENSATE PUMP PROVIDES UP TO 18-3/8" OF LIFT FROM THE CENTER OF THE DRAIN OUTLET AND HAS A BUILT IN SAFETY SHUTOFF AND ALARM.
(5) THE INDOOR UNITS SHALL BE EQUIPPED WITH A RETURN AIR THERMISTOR.
(6) THE INDOOR UNIT WILL BE SEPARATELY POWERED WITH 208~230V/1-PHASE/60HZ.
(7) THE VOLTAGE RANGE WILL BE 253 VOLTS MAXIMUM AND 187 VOLTS MINIMUM.

b) UNIT CABINET:

(1) THE CABINET SHALL BE LOCATED INTO THE CEILING AND DUCTED TO THE SUPPLY AND RETURN OPENINGS.
(2) THE CABINET SHALL BE CONSTRUCTED WITH SOUND ABSORBING FOAMED POLYSTYRENE AND POLYETHYLENE INSULATION.

c) FAN:

(1) THE FAN SHALL BE DIRECT-DRIVE DC (ECM) TYPE FAN, STATICALLY AND DYNAMICALLY BALANCED IMPELLER WITH THREE FAN SPEEDS AVAILABLE.
(2) THE UNIT SHALL BE EQUIPMENT WITH AUTOMATICALLY ADJUSTING EXTERNAL STATIC PRESSURE LOGIC SELECTABLE DURING COMMISSIONING.
(3) THE FAN MOTOR SHALL OPERATE ON 208/230 VOLTS, 1 PHASE, 60 HERTZ WITH A MOTOR OUTPUT RANGE OF 0.12 TO 0.47 HP RESPECTIVELY.
(4) THE AIRFLOW RATE SHALL BE AVAILABLE IN THREE SETTINGS.
(5) THE FAN MOTOR SHALL BE THERMALLY PROTECTED.
(6) THE FAN MOTOR SHALL BE EQUIPPED AS STANDARD WITH ADJUSTABLE EXTERNAL STATIC PRESSURE (ESP) SETTINGS.

d) COIL:

(1) COILS SHALL BE OF THE DIRECT EXPANSION TYPE CONSTRUCTED FROM COPPER TUBES EXPANDED INTO ALUMINUM FINS TO FORM A MECHANICAL BOND.
(2) THE COIL SHALL BE OF A WAFFLE LOUVER FIN AND HIGH HEAT EXCHANGE, RIFLED BORE TUBE DESIGN TO ENSURE HIGHLY EFFICIENT PERFORMANCE.
(3) THE COIL SHALL BE A 2-ROW CROSS FIN COPPER EVAPORATOR COIL WITH 17 FPI DESIGN COMPLETELY FACTORY TESTED.
(4) THE REFRIGERANT CONNECTIONS SHALL BE FLARE CONNECTIONS AND THE CONDENSATE WILL BE 1 -1/32 INCH OUTSIDE DIAMETER PVC.
(5) A CONDENSATE PAN SHALL BE LOCATED UNDER THE COIL.
(6) A CONDENSATE PUMP WITH A 21 INCH LIFT SHALL BE LOCATED BELOW THE COIL IN THE CONDENSATE PAN WITH A BUILT IN SAFETY ALARM.
(7) A THERMISTOR WILL BE LOCATED ON THE LIQUID AND GAS LINE.

e) ELECTRICAL:

(1) A SEPARATE POWER SUPPLY WILL BE REQUIRED OF 208/230 VOLTS, 1 PHASE, 60 HERTZ. THE ACCEPTABLE VOLTAGE RANGE SHALL BE 187 TO 253 VOLTS.
(2) TRANSMISSION (CONTROL) WIRING BETWEEN THE INDOOR AND OUTDOOR UNIT SHALL BE A MAXIMUM OF 3,280 FEET (TOTAL 6,560 FEET).
(3) TRANSMISSION (CONTROL) WIRING BETWEEN THE INDOOR UNIT AND REMOTE CONTROLLER SHALL BE A MAXIMUM DISTANCE OF 1,640 FEET.

f) CONTROL:

(1) THE UNIT SHALL HAVE CONTROLS PROVIDED BY DAIKIN TO PERFORM INPUT FUNCTIONS NECESSARY TO OPERATE THE SYSTEM.
(2) NAVIGATION CONTROLLER WALL MOUNTED IN THE SPACE.

F. FAN FORCED WALL HEATER:

1) THE HEATING EQUIPMENT SHALL INCLUDE AN ELECTRIC, AUTOMATIC FAN FORCED ELECTRIC AIR HEATER SUITABLE FOR SMALL AREA HEATING AS MANUFACTURED BY BERKO ELECTRIC, MARLEY, QMARK OR APPROVED EQUAL.
2) THE HEATER SHALL BE DESIGNED FOR WALL RECESS OR SURFACE MOUNTING.
3) HEATERS SHALL BE UL LISTED.
4) THE HEATER ASSEMBLY WHICH FITS INTO THE BACK BOX SHALL CONSIST OF A FAN PANEL UPON WHICH IS MOUNTED ALL OF THE OPERATIONAL PARTS OF THE HEATER.
5) THE HEATING ELEMENT SHALL BE OF THE NON-GLOWING DESIGN CONSISTING OF A SPECIAL RESISTANCE WIRE ENCLOSED IN A STEEL SHEATH TO WHICH STEEL PLATE FINS ARE COPPER BRAZED. IT SHALL BE WARRANTED FOR 5 YEARS.
6) FAN SHALL BE FIVE-BLADED ALUMINUM. FAN MOTOR SHALL BE TOTALLY ENCLOSED.
7) FAN CONTROL SHALL BE OF BI-METALLIC, SNAP ACTION TYPE AND SHALL ACTIVATE FAN AFTER HEATING ELEMENT REACHES OPERATING TEMPERATURE. THE FAN SHALL CONTINUE TO OPERATE AFTER THE THERMOSTAT IS SATISFIED AND UNTIL THE HEATING ELEMENT IS COOL.
8) THE TAMPERPROOF THERMOSTAT SHALL BE OF THE BI-METALLIC SNAP ACTION TYPE WITH ENCLOSED CONTACTS. IT SHALL BE COMPLETELY CONCEALED BEHIND THE FRONT COVER TO BECOME TAMPER PROOF.
9) A THERMAL CUTOUT SHALL BE BUILT INTO THE SYSTEM TO AUTOMATICALLY SHUT OFF THE HEATER IN THE EVENT OF OVERHEATING AND REACTIVATE THE HEATER WHEN TEMPERATURES RETURN TO NORMAL.
10) A DOUBLE POLE, SINGLE THROW DISCONNECT SWITCH SHALL BE MOUNTED ON THE BACK BOX FOR POSITIVE DISCONNECT OF POWER SUPPLY. IT WILL BE COMPLETELY CONCEALED BEHIND THE FRONT GRILLE PANEL.
11) THE BACK BOX SHALL BE DESIGNED FOR DUTY AS A RECESSED ROUGH-IN BOX IN EITHER MASONRY OR FRAME INSTALLATIONS AND IS ALSO USED WITH THE SURFACE MOUNTING FRAME IN SURFACE MOUNTED INSTALLATIONS. THE BACK BOX SHALL BE 20 GAUGE GALVANIZED STEEL AND SHALL CONTAIN KNOCKOUTS THROUGH WHICH POWER LEADS ARE BROUGHT.
12) THE FRONT PANEL SHALL BE OF THE BAR GRILLE TYPE AND SHALL BE CONSTRUCTED OF 16 GAUGE COLD-ROLLED STEEL, WELDED INTO A UNIFORM GRILLE TO DIRECT THE WARMED AIR TOWARD THE FLOOR. THE FRONT GRILLE SHALL BE SURROUNDED BY A DECORATIVE SATIN-FINISH ALUMINUM "PICTURE" FRAME.
13) THE HEATER SHALL BE MADE UP OF A BACK BOX, A HEATER ASSEMBLY AND A FRONT PANEL.

G. ELECTRIC CABINET HEATER:

1) THE ELECTRIC CABINET UNIT HEATERS SHALL BE AS MANUFACTURED BY BERKO ELECTRIC, MARLEY OR QMARK.
2) HEATERS SHALL BE UL APPROVED, DESIGNED FOR MOUNTING IN ANY POSITION, INCLUDING ON-END, FULLY RECESSED, SEMI-RECESSED OR SURFACE MOUNTED.
3) SILENT RELAYS, NIGHT SETBACK RELAYS, DAMPER OPERATOR AND CONTROLS, REMOTE AND BUILT-IN THERMOSTATS SHALL OPERATE ON 24 VOLT CIRCUITS.
4) THE CABINET SHALL BE OF HEAVY DUTY 16 GAUGE COLD-ROLLED STEEL. THE HEATER SHALL HAVE A HINGED FRONT DOOR FOR EASY ACCESS TO THE CONTROL PANEL. THE HEATER FRONT PANEL SHALL BE EASILY REMOVABLE FOR ACCESS TO ELEMENTS, MOTOR-BLOWER ASSEMBLY, FILTERS AND ALL INTERNAL COMPONENTS. THE CABINET SHALL BE FINISHED IN DESERT TAN BAKED ENAMEL.
5) THE HEATING ELEMENT SHALL BE WARRANTED FOR FIVE (5) YEARS AND SHALL BE OF NONGLOWING DESIGN CONSISTING OF A SPECIAL RESISTANCE WIRE ENCLOSED IN A STEEL SHEATH TO WHICH STEEL PLATE FINS ARE BRAZED. THE HEATING ELEMENTS SHALL BE LOCATED DIRECTLY IN FRONT OF THE BLOWER DISCHARGE AIR FOR UNIFORM HEATING.
6) THERMAL SAFETY CUTOUTS SHALL BE BUILT INTO THE SYSTEM TO AUTOMATICALLY SHUT OFF HEATER IN EVENT OF OVERHEATING DUE TO ANY CAUSE. THE SAFETY CUTOUTS SHALL DIRECTLY INTERRUPT POWER TO THE ELEMENTS AND NOT DEPEND ON RELAYS TO INTERRUPT THE POWER.
7) THE MOTORS AND BLOWERS SHALL BE DIRECT DRIVE AND RESILIENTLY MOUNTED ON A RIGID HEAVY GAUGE FRAME FOR QUIET OPERATION AND LONG LIFE. THE MOTOR SHALL BE 1/8 H.P. THREE-SPEED, PERMANENT SPLIT CAPACITOR TYPE WITH BUILT-IN AUTOMATIC RESET OVERLOAD PROTECTION. THE MOTOR SHALL BE VENTED AND MOUNTED IN THE AIR STREAM TO PROVIDE MAXIMUM COOLING OF THE MOTOR. THE BLOWERS SHALL BE FORWARD CURVED DOUBLE INLET CENTRIFUGAL TYPE WHICH DISCHARGE DIRECTLY ON THE FULL LENGTH OF THE ELEMENTS TO PROVIDE UNIFORM DISCHARGE AIR TEMPERATURES.
8) THE FILTER SHALL BE LOCATED AHEAD OF THE MOTOR AND BLOWER ASSEMBLY TO ASSURE CLEAN AIR CIRCULATION. THE FILTER SHALL FILTER THE RETURNING ROOM AIR. IT SHALL BE EASILY REMOVED FOR CHANGING OR CLEANING BY REMOVING THE FRONT PANEL AND PULLING ON THE FILTER. A DISPOSABLE FILTER IS STANDARD AND A WASHABLE FILTER IS OPTIONAL.
9) FAN CONTROL SHALL BE BI-METALLIC SNAP ACTION TYPE AND SHALL ACTIVATE FAN AFTER HEATING ELEMENTS REACH OPERATING TEMPERATURE AND CONTINUE TO OPERATE FAN AFTER THE THERMOSTAT IS SATISFIED AND UNIT HEATING ELEMENTS ARE COOL.
10) INTEGRAL LOW VOLTAGE THERMOSTAT CONTROL IS STANDARD AND CONSISTS OF FACTORY BUILT-IN, SNAP ACTION THERMOSTAT WITH REMOTE BULB SENSOR. THE THERMOSTAT HAS AN ADJUSTMENT RANGE OF FROM 40℉ TO 120℉. OPTIONAL ONE AND TWO-STAGE WALL MOUNTED, LOW VOLTAGE THERMOSTATS (IN LIEU OF BUILT-IN THERMOSTATS), ARE AVAILABLE WITH THE 24 VOLT POWER SUPPLIED WITHIN THE HEATER. THE RANGE OF SINGLE-STAGE IS 60℉ TO 90℉ AND THE TWO-STAGE IS 44℉ TO 86℉ WITH 1.9° DIFFERENTIAL BETWEEN STAGES. AN OPTIONAL BUILT-IN TWO-STAGE THERMOSTAT IS ALSO AVAILABLE.
11) THREE FAN SPEEDS AND CONTINUOUS OR AUTOMATIC FAN SHALL BE SELECTABLE BY MEANS OF PUSH-BUTTON SWITCHES.
12) TWENTY-FOUR VOLT NIGHT SETBACK RELAYS ARE OPTIONAL, PERMITTING REMOTE TIME LOCK CONTROL OF DAYTIME COMFORT AND NIGHT SETBACK TEMPERATURE. TWENTY-FOUR VOLT POWER SHALL BE PROVIDED EXTERNALLY.

H. ELECTRIC UNIT HEATER:

1) FURNISH AND INSTALL A HORIZONTAL UNIT HEATER AS MANUFACTURED BY BERKO, QMARK OR MARLEY WITH HEATING AND AIR DELIVERY CAPACITIES AS INDICATED ON THE CONTRACT DRAWINGS.
2) THE CABINET SHALL BE MADE OF 18 GAUGE DIE FORMED FURNITURE GRADE STEEL. INDIVIDUAL ADJUSTABLE LOUVERS WITH 30 DEGREES DOWNWARD STOPS SHALL BE FURNISHED TO PROVIDE DESIRED CONTROL OF DISCHARGE AIR. ALL METAL SURFACES OF THE ENCLOSURE SHALL BE PHOSPHATE COATED TO RESIST CORROSION AND FINISHED IN A DECORATIVE BAKED ENAMEL.
3) HEATERS SHALL BE OF THE DRAW-THROUGH AIR FLOW DESIGN TO ELIMINATE THE ELEMENT HOT SPOTS AND EXTEND DESIGN LIFE.
4) FANS SHALL BE ALUMINUM, DIRECTLY CONNECTED TO FAN MOTOR, AND DESIGNED SPECIFICALLY FOR UNIT HEATER APPLICATION.
5) ALL HEATERS SHALL BE UL LISTED AND MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.
6) FOR SAFETY, THE ELECTRIC HEATING BANK SHALL CONSIST OF METAL SHEATH HEATING ELEMENTS. THE ELEMENTS SHALL CONSIST OF 80/20 NICHROME WIRE AND HAVE A COPPER CLAD STEEL SHEATH FOR STRENGTH AND CORROSION RESISTANCE, AND ALUMINUM FINS FOR FASTER HEAT TRANSFER. AUTOMATIC RESET THERMAL OVERHEAT PROTECTION SHALL BE OF THE LINEAR CAPILLARY TYPE WIRED FOR INSTANTANEOUS DE-ENERGIZING IN CASE OF THE THERMAL OVERLOAD. HEATING BANK TO HAVE PROTECTIVE AIR INLET LOUVERS.
7) ALL HEATERS DRAWING IN EXCESS OF 48 AMPERES SHALL BE PROVIDED WITH FACTORY INSTALLED SUBDIVIDED AND FUSED CIRCUITS OF 48 AMPS OR LESS.
8) MOTORS SHALL BE TOTALLY ENCLOSED, DESIGNED FOR CONTINUOUS HEAVY DUTY ALL-ANGLE OPERATION AND EQUIPPED WITH BUILT-IN THERMAL OVERLOAD PROTECTION. MOTORS USED ON 25 THRU 50 KW MODELS SHALL BE RATED FOR TWO SPEED OPERATION.
9) ALL CONTROLS AND CONTROLLERS SHALL BE 120 VOLT/1 PHASE UNLESS OTHERWISE NOTED.

7. SECTION 15880 - AIR DISTRIBUTION

A. FURNISH ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE SHEET METAL WORK ASSOCIATED WITH THE HEATING, VENTILATING, AIR CONDITIONING AND EXHAUST SYSTEMS, AND OTHER MISCELLANEOUS ITEMS SHOWN AND REQUIRED.

B. THIS PROJECT IS A RENOVATION PROJECT AND AS SUCH, DUCTWORK SIZES AND ROUTING MUST BE COORDINATED WITH EXISTING CONDITIONS. CONTRACTOR SHALL FIELD MEASURE EXISTING CONDITIONS PRIOR TO FABRICATING DUCTWORK.

C. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) STANDARDS, ASHRAE STANDARDS AND INTERNATIONAL CODE COUNCIL (ICC) STANDARDS.

D. FLEXIBLE DUCTWORK SHALL BE HART & COOLEY TYPE F216 OR APPROVED EQUAL. FLEXIBLE DUCT SHALL COMPLY WITH NFPA BULLETIN 90A AND SHALL BE U.L. LISTED AS CLASS 1 AIR DUCT AND CONNECTOR, STANDARD 181.

E. DUCTWORK FROM KITCHEN HOODS TO EXHAUST FANS SHALL BE CONSTRUCTED OF MINIMUM 18 GAUGE STAINLESS STEEL OR 16 GAUGE BLACK IRON ALL WELDED CONSTRUCTION WITH WELDED JOINTS AND INSTALLED IN ACCORDANCE WITH THE MARYLAND STATE HEALTH DEPARTMENT CODE. PROVIDE HINGED ACCESS DOORS AS INDICATED AND REQUIRED BY CODE.

F. DUCTWORK FROM DISHWASHER HOOD TO EXHAUST FAN SHALL BE CONSTRUCTED OF MINIMUM 0.71 INCH ALUMINUM, CONSTRUCTED IN ACCORDANCE WITH THE SMACNA DUCT MANUAL. SEAL ALL JOINTS AND SEAMS WATERTIGHT AND PITCH TOWARD HOOD IN ACCORDANCE WITH HEALTH DEPARTMENT REQUIREMENTS.

G. SUPPORT HORIZONTAL DUCTS WITH HANGERS SPACED NOT MORE THAN FOUR (4) FEET APART. USE STRAPHANGERS FOR DUCTS UP TO THIRTY (30) INCHES WIDE. STRAPHANGERS TO BE ONE (1) INCH WIDE, 20 GAUGE MINIMUM; FASTEN TO SIDES AND BOTTOM OF DUCT WITH SHEET METAL SCREWS.

H. DUCTS SHALL BE STRAIGHT AND SMOOTH ON THE INSIDE, WITH JOINTS NEATLY FINISHED. DUCTS SHALL BE SUSPENDED FROM THE CONSTRUCTION AND SHALL BE FREE FROM VIBRATION. CURVED ELBOWS SHALL HAVE A CENTER RADIUS EQUAL TO ONE AND ONE-HALF (1½) TIMES THE WIDTH OF THE DUCT. ALL SQUARE TURNS SHALL BE VANED. VANES CONSISTING OF CURVED METAL BLADES SHALL PERMIT THE AIR TO MAKE ABRUPT TURNS WITHOUT TURBULENCE.

I. ALL JOINTS IN THE HEATING, VENTILATING, AND AIR CONDITIONING AND EXHAUST SYSTEM DUCTWORK SHALL BE SEALED.

SEALANT SHALL BE AS MANUFACTURED BY HARD CAST INC, OR APPROVED EQUAL AND SHALL CONSIST OF A MINERAL IMPREGNATED WOVEN FIBER TAPE AND AN ACTUATOR ADHESIVE. SEALANT SHALL BE SMACNA AND UL APPROVED, WITH A FLAME SPREAD OF 10 AND A SMOKE DEVELOPED OF 0, NON-TOXIC AND NON-FLAMMABLE. SEALANT SHALL BE APPROVED FOR OPERATING TEMPERATURES FROM 0 DEGREES F. TO 200 DEGREES F.

SEALANT SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND WHEN APPLIED SHALL PROVIDE A PERMANENT SEAL WITHOUT ANY DETERIORATION.

J. ALL SUPPLY AND RETURN AIR DUCTWORK WITHIN TEN (10) FEET OF EACH FAN COIL UNIT SHALL BE LINED ON THE INTERIOR FOR SOUND ATTENUATION. LINING SHALL HAVE A ONE (1) INCH THICKNESS AND SHALL BE GLUED WITH ONE HUNDRED (100) PERCENT COVERAGE AND ADDITIONALLY SECURED WITH PINS. LINING SHALL BE AEROFLEX DUCT LINER TYPE 150 AS MANUFACTURED BY OWENS CORNING OR APPROVED EQUAL BY MANVILLE, KNAUF OR CERTAINTEED. INCREASE DUCT SIZES INDICATED TWO (2) INCHES IN EACH DIRECTION TO ACCOMMODATE THE INTERIOR LINING.

K. SUPPLY AIR FLOOR REGISTERS SHALL A HONEYCOMB BRASS FLUSH MOUNTED REGISTER AS MANUFACTURED BY SIGNITURE HARDWARE.

L. OUTSIDE AIR WALL REGISTERS SHALL A HONEYCOMB BRASS FLUSH MOUNTED REGISTER AS MANUFACTURED BY SIGNITURE HARDWARE.

M. RETURN AIR OUTSIDE AIR WALL FLUSH MOUNTED REGISTERS SHALL A HONEYCOMB BRASS REGISTER AS MANUFACTURED BY SIGNITURE HARDWARE.

N. PROVIDE TITUS MODEL AG-35B VOLUME DAMPERS OR EQUAL BY PRICE INDUSTRIES AT EACH BRANCH DUCT AND ELSEWHERE WHERE SHOWN. DAMPERS SHALL BE OPPOSED BLADE, MULTI-BLADE TYPE WITH LOCKING QUADRANT. DAMPERS SHALL ALSO BE INSTALLED AT EACH RETURN AND OUTSIDE AIR INTAKE CONNECTION TO EACH FAN COIL UNIT.

O. CEILING EXHAUST FAN:

1) FAN SHALL HAVE ACOUSTICALLY INSULATED GALVANIZED STEEL HOUSINGS AND SHALL NOT EXCEED SOUND LEVEL OF 4.6 SONES.
2) FAN SHALL BE PROVIDED WITH CORD, PLUG, AND RECEPTACLE INSIDE THE HOUSING. THE ENTIRE FAN, MOTOR, AND WHEEL ASSEMBLY SHALL BE REMOVABLE WITHOUT DISTURBING THE HOUSING.

APPROVED
Montgomery County
Historic Preservation Commission

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STATE OF MARYLAND · ROBERT STEPHEN SPINAZZOLA · No. 14749 · PROFESSIONAL ENGINEER
Docusigned by: R. Stephen Spinazzola 4FCA6D529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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MECHANICAL SPECIFICATIONS

M0.12

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APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

MECHANICAL SPECIFICATIONS (4 OF 4)

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3) FAN SHALL HAVE TRUE CENTRIFUGAL WHEEL OR WHEELS.

4) FAN SHALL HAVE A CHATTERPROOF INTEGRAL BACKDRAFT DAMPER.

5) FACE GRILLE SHALL BE OF AERODYNAMIC WHITE EGG-CRATE DESIGN AND PROVIDE 85% FREE AREA.

6) FAN SHALL BE DIRECT DRIVEN AND MOTOR SPEEDS SHALL NOT EXCEED 1600 RPM.

7) FAN MOTORS SHALL BE SUITABLY GROUNDED AND MOUNTED ON VIBRATION ISOLATORS.

8) FAN SHALL BEAR THE AMCA CERTIFIED RATINGS SEAL AND U.L. LABEL.

9) MANUFACTURER SHALL SUBMIT VIBRATION AMPLITUDES AND MAGNETIC MOTOR HUM IN DECIBELS.

10) FANS SHALL BE MANUFACTURERED BY GREENHECK OR APPROVED EQUAL.

P. PROPELLER VENTILATION FAN:

1) FAN MOTORS AND DRIVES SHALL BE SUPPORTED BY HEAVY, TUBULAR STEEL FRAMES WELDED TO A STEEL PANEL.

2) THE PANEL SHALL INCLUDE A ROLLED VENTURI INLET AND CONTINUOUSLY WELDED CORNERS AND SHALL BE GIVEN A PERMANENT COAT OF FACTORY ENAMEL.

3) ALL MOTORS SHALL BE CONTINUOUS DUTY, BALL BEARING TYPE.

4) BLADES SHALL BE STATICALLY AND DYNAMICALLY BALANCED AT THE SPECIFIED RPM.

5) FANS SHALL BE MANUFACTURERED BY GREENHECK OR APPROVED EQUAL.

Q. LOUVER:

1) FURNISH AND INSTALL WHERE INDICATED ON DRAWINGS, AN EXTRUDED ALUMINUM DRAINABLE HEAD LOUVER.

2) LOUVER SHALL BE 4" DEEP AND FABRICATED FROM 0.081" THICK EXTRUDED ALUMINUM. ASSEMBLY OF MEMBERS SHALL BE BY STAINLESS STEEL FASTENERS. HEADPIECE AND JAMBS SHALL HAVE INTEGRAL GUTTERS FOR DRAINAGE OF WATER. BLADES SHALL BE POSITIONED AT 37° AND 45° ANGLES APPROXIMATELY ON 4" CENTERS.

3) LOUVER SHALL BE EQUIPPED WITH A FRAMED, REMOVABLE, REAR-MOUNTED BIRD SCREEN OF 3/4" X 0.051" EXPANDED FLATTENED ALUMINUM.

4) EACH FACTORY-ASSEMBLED LOUVER SECTION SHALL BE DESIGNED TO WITHSTAND WIND LOADINGS OF 25 POUNDS PER SQUARE FOOT (100 MPH EQUIVALENT).

5) LOUVER PERFORMANCE DATA SHALL BE LICENSED UNDER THE AMCA CERTIFIED RATINGS PROGRAM AND SHALL BEAR THE AMCA CERTIFIED RATINGS SEAL. THIS CERTIFIED PERFORMANCE DATA SHALL INCLUDE AIRFLOW PRESSURE LOSS AND WATER PENETRATION.

6) LOUVERS SHALL BE SUPPLIED WITH A KYNAR FINISH APPLIED FOLLOWING A THOROUGH CLEANING AND PRETREATMENT OF THE METAL SURFACE. DRY FILM THICKNESS OF THE KYNAR SHALL BE APPROXIMATELY 1.2 MILS AFTER BAKING AT 450°F. COLOR (DARK BRONZE) SHALL MATCH EXISTING LOUVERS IN BUILDING.

7) LOUVER SHALL BE MANUFACTURERED BY GREENHECK OR APPROVED EQUAL.

8. SECTION 15950 - CONTROLS

A. THE CONTRACTOR UNDER THIS HEADING SHALL FURNISH AND INSTALL ALL WIRING NECESSARY FOR A COMPLETE ELECTRIC SYSTEM OF AUTOMATIC TEMPERATURE CONTROL. THE SYSTEM SHALL INCLUDE ALL NECESSARY THERMOSTATS, RELAYS, SWITCHES, ETC. REQUIRED FOR SUCCESSFUL OPERATION. ELECTRICAL WORK IN CONNECTION WITH THE TEMPERATURE CONTROL SYSTEM SHALL BE PERFORMED BY THE CONTROL CONTRACTOR.

B. THE AUTOMATIC TEMPERATURE CONTROL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMMISSIONING OF THE PROJECT TO ASSURE A FULLY FUNCTIONAL, FINE-TUNED HVAC SYSTEM UPON OCCUPANCY.

THE COMMISSIONING OF THE PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS, INC. (ASHRAE) GUIDELINE FOR COMMISSIONING OF HVAC SYSTEMS.

COMMISSIONING IS DEFINED AS VERIFICATION OF THE PROPER OPERATION OF ALL EQUIPMENT, ALARMS, SAFETIES AND CONTROL AND ENERGY MANAGEMENT SYSTEMS SERVING MECHANICAL SYSTEMS INSTALLED OR MODIFIED ON THIS PROJECT AS DEFINED WITHIN THE SPECIFICATIONS AND INDICATED ON THE CONTRACT DRAWINGS.

PROPER OPERATION IS DEFINED AS THE ACTIVATION OF ALL CONTROLS, FIELD OR FACTORY INSTALLED, TO ASSURE THE CORRECT SEQUENCING OF EQUIPMENT AND SYSTEMS, INCLUDING ACTIVATION OF ALL OPERATING AND SAFETY CONTROLS, AS HEREINBEFORE DESCRIBED.

THE AUTOMATIC TEMPERATURE CONTROL CONTRACTOR SHALL REPORT ALL SYSTEM DEFICIENCIES TO THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL INSTRUCT THE PROPER TRADE TO CORRECT ANY DEFICIENCIES REPORTED BY THE AUTOMATIC TEMPERATURE CONTROL CONTRACTOR SO THAT THE PROJECT COMMISSIONING CAN BE COMPLETED.

PRIOR TO THE COMMENCEMENT OF ANY COMMISSIONING WORK, THE AUTOMATIC TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COMMISSIONING REPORT FORMAT FOR REVIEW AND APPROVAL. THE REPORT FORMAT SHALL BE DELIVERED TO THE ENGINEER NOT MORE THAN FIFTEEN (15) DAYS AFTER AWARD OF THE ATC CONTRACT OR NOT LESS THAN THIRTY (30) DAYS PRIOR TO START OF ATC WORK, WHICHEVER IS EARLIER.

COMMISSIONING REPORT FORMAT SHALL INCLUDE A LIST OF ALL ITEMS TO BE VERIFIED, WITH THE INITIALS OF THE MECHANIC WHO VERIFIED THE PARTICULAR ITEM/CONTROL AND THE DATE ON WHICH EACH ITEM/CONTROL OPERATION WAS VERIFIED.

ONE (1) COMMISSIONING REPORT IS REQUIRED. THE REPORT SHALL BE COMPLETED DURING THE INITIAL COMMISSIONING OF THE PROJECT PRIOR TO OCCUPANCY/ACCEPTANCE BY THE OWNER. ALL CONTROLS/SAFETIES SHALL BE VERIFIED IN THE PRESENCE OF THE OWNER/OWNER'S REPRESENTATIVE. THE REPORT SHALL ALSO CONTAIN THE SIGNATURE OF THE OWNER OR OWNER'S REPRESENTATIVE FOR EACH ITEM VERIFIED.

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STATE OF MARYLAND
ROBERT STEPHEN SPINAZZOLA
No. 14749
PROFESSIONAL ENGINEER

Digitally signed by R. Stephen Spinazzola
4FCA6D529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
- ☐ REVIEW
- ☐ SD SET
- ☐ BID
- ☐ DD SET
- ☒ PERMIT
- ☐ CD SET

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DRAWN: PJS | PROJECT 70-20-805
CHECKED: RSS
CAD FILE: C:\Users\PJS\Documents\7020805 - Salt and Vine - BALA MEP_pspiraco.rvt
DATE: 07.13.2020

MECHANICAL SPECIFICATIONS

M0.13

DocuSign Envelope ID: 347056E5-834B-4214-9B33-07FBC09F2B2A

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

DEDICATED 100% OUTSIDE AIR UNIT SCHEDULE — DOAS / ACCU

ITEM	AREA SERVED	TYPE OF CONTROLLER	SUPPLY AIR (CFM)	SUPPLY AIR FAN (ECM)					DIRECT EXPANSION COIL DATA											REHEAT COIL DATA				PRIMART HEATING DATA										AUXILIARY HEATING DATA											WEIGHT (LBS.)		DIMENSIONS (LxHxW)		MANUAL SHUTDOWN PER NFPA 90A (YES/NO)	INTEGRAL DISCONNECT (YES/NO)	ELECTRICAL DATA						MANUFACTURER/ MODEL #		REMARKS
				QTY.	HP	BHP	SPEED (RPM)	ESP (IN.)	TOTAL (MBH)	SENS. (MBH	LAT. (MBH)	MIXED AIR TEMP.		ENTERING AIR TEMP.		LEAVING AIR TEMP (COIL)		LEAVING AIR TEMP (UNIT)		EVAP. SUCTION TEMP (°F)	REF.	TOTAL (MBH)	LEAVING AIR TEMP.		R.H.%	TYPE	TOTAL (MBH)	OUTSIDE AIR TEMP.		RETURN AIR TEMP.		ENTERING AIR TEMP.		LEAVING AIR TEMP.		HEATING CFM	TOTAL (MBH)	OUTSIDE AIR TEMP.		RETURN AIR TEMP.		ENTERING AIR TEMP.		LEAVING AIR TEMP.		KW	HTR QTY.	ELEC. HEAT FLA	DOAS-1	ACCU-1	DOAS-1	ACCU-1			DOAS-1							
												db (°F)	wb (°F)	db (°F)	wb (°F)	db (°F)	wb (°F)	db (°F)	wb (°F)			db (°F)	wb (°F)				db (°F)	wb (°F)	db (°F)	wb (°F)	db (°F)	wb (°F)	db (°F)	wb (°F)			db (°F)	wb (°F)	db (°F)	wb (°F)	db (°F)	wb (°F)	db (°F)	wb (°F)									V/PH/HZ	FLA	MCA	V/PH/HZ	FLA	MCA			
DOAS-1	ENTIRE BUILDING	ECM	2,600	1	2.30	1.66	2,383	1.00	199.56	98.67	70.89	91.5°F	75.1°F	91.0°F	75.1°F	54.8°F	54.5°F	56.5°F	55.2°F	43.31°F	R-410A	48.0	72.0°F	61.6°F	54.00%	HEAT PUMP	189.70	47.0°F	40.0°F	70.0°F	53.0°F	15.0°F	10.0°F	75.9°F	48.7°F	2600	143.30	47.0°F	40.0°F	70.0°F	53.0°F	15.0°F	10.0°F	66.1°F	42.0°F	42.0	8	116.6	725	1,112	73.75"x27"x60.25"	94"x52"x46.75"	YES	NO	208V/3ø/60HZ	121.8	152	208V/3ø/60HZ	63	69	AAON / H3-CRB-B-0-162C-3HS	AAON / CFA-015-B-A-S-DJ06K	

MAKE-UP AIR UNIT SCHEDULE (FOR REFERENCE ONLY) — MAU / ACCU

ITEM	AREA SERVED	SERVICE	AIRFLOW (CFM)	E.S.P. (IN. W.C.)	RPM	WHEEL DIAMETER (IN.)	H.P / WATTS	CONTROL/ INTERLOCK	HEATING DATA					COOLING DATA								SONES	MANUAL SHUTDOWN PER NFPA 90A (YES/NO)	INDOOR UNIT				OUTDOOR UNIT				REMARKS
									TYPE	INPUT (MBH)	OUTPUT (MBH)	E.A.T. (°F)	L.A.T. (°F)	NO. STAGES	TOTAL (MBH)	SENSIBLE (MBH)	LATENT (MBH)	E.A.T. (°F) (DB)	E.A.T. (°F) (WB)	L.A.T. (°F) (DB)	L.A.T. (°F) (WB)			VOLTS / PHASE	FLA	WEIGHT (LBS)	MANUFACTURER/ MODEL #	VOLTS / PHASE	RLA	WEIGHT (LBS)	MANUFACTURER/ MODEL #	
MAU-1 / ACCU-2	KITCHEN EXHAUST	MAKE-UP	2,569	1.00"	1,349	30"ø	2 HP	EXHAUST FAN HOOD SWITCH	NATURAL GAS	168	154	0.0°F	57.0°F	MODULATING	98.40	64.60	33.80	92.0°F	76.0°F	67.8°F	65.4°F	12.3	YES	208V/3ø/60HZ	6.10	1216.00	CAPTIVEAIRE / A2-D.25K-200	208V/3ø/60HZ	34.80	499.00	CAPTIVEAIRE / 38AUD12	PROVIDED BY KITCHEN CONSULTANT; MECHANICAL CONTRACTOR SHALL INSTALL THIS UNIT.

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REFRIGERANT VOLUME CALCULATION

TERM	VALUE	UNITS
TOTAL SYSTEM REFRIGERANT CHARGE	34.4	LBS
CRITICAL SPACE	2000	FT^2
CEILING HEIGHT	7.25	FT
CRITICAL SPACE VOLUME	14645	FT^3
ALLOWABLE VOLUME	25	LBS/1000FT^3
CRITICAL SPACE CONCENTRATION	2.3	LBS/1000FT^3

AIR COOLED HEAT RECOVERY UNIT SCHEDULE — HRU

ITEM	EQUIPMENT SERVED	TYPE OF CONTROLLER	FAN DATA				COMPRESSOR DATA		COOLING DATA				HEAT RECOVERY HEATING DATA			HEAT RECOVERY UNIT			INTEGRAL DISCONNECT (YES/NO)
			TYPE	QUANTITY	ESP (IN.)	AIRFLOW	TYPE	QUANTITY	MBH	KW	IEER	REF.	MBH	KW	COP	MANUFACTURER/ MODEL #	WEIGHT (LBS.)	ELECTRICAL DATA	
HRU-1	FCU-1, FCU-2, FCU-3, FCU-4, FCU-5, FCU-6, FCU-7, FCU8, FCU-9, FCU-10, FCU-11, FCU-12, FCU-13, FCU-14.	INTERLOCK WITH VRF CONTROL SYSTEM	PROPELLER	2	0.00"	7,980	INVERTER	2	120.0	9.01	26.50	410A	135.0	10.50	3.8	DAIKIN / REYQ120XATJA	727	208V/3ø/60HZ	NO

AIR DEVICE SCHEDULE — EF, VF

SYMBOL	NECK SIZE (IN.)	AIR VOLUME (CFM)	FINISH COLOR	SERVICE	MOUNTING	CONSTRUCTION MATERIAL	ACCESSORIES	MANUFACTURER	MODEL NUMBER	REMARKS
A	SEE PLANS	SEE PLANS	ANTIQUE BRASS	SUPPLY AIR REGISTER	FLOOR MOUNTED	BRASS	-	SIGNITURE HARDWARE	HONEYCOMB BRASS FLOOR REGISTER	
B	SEE PLANS	SEE PLANS	ANTIQUE BRASS	RETURN AIR REGISTER	FLOOR MOUNTED	BRASS	-	SIGNITURE HARDWARE	HONEYCOMB BRASS FLOOR REGISTER	
C	SEE PLANS	SEE PLANS	ANTIQUE BRASS	OUTSIDE AIR REGISTER	WALL MOUNTED	BRASS	-	SIGNITURE HARDWARE	HONEYCOMB BRASS WALL REGISTER	

FAN SCHEDULE — EF, VF

ITEM	AREA SERVED	SERVICE	AIRFLOW (CFM)	E.S.P. (IN. W.C.)	RPM	H.P./ WATTS	SOUND LEVEL (SONES)	CONTROL/ INTERLOCK	MANUAL SHUTDOWN PER NFPA 90A (YES/NO)	VFD/2-SPEED MOTOR	ELECTRICAL DATA		MANUFACTURER/ MODEL #	REMARKS
											V / PH / HZ	FLA		
EF-1	ADA TOILET 101	EXHAUST	130	0.50"	931	128 WATTS	2.5	LIGHT SWITCH	NO	DIRECT DRIVE	120V/1ø/60HZ	1.80	GREENHECK / SP-B150	NOTE 1
EF-2	ADA TOILET 102	EXHAUST	130	0.50"	931	128 WATTS	2.5	LIGHT SWITCH	NO	DIRECT DRIVE	120V/1ø/60HZ	1.80	GREENHECK / SP-B150	NOTE 1
EF-3	TOILET 211	EXHAUST	130	0.50"	931	128 WATTS	2.5	LIGHT SWITCH	NO	DIRECT DRIVE	120V/1ø/60HZ	1.80	GREENHECK / SP-B150	NOTE 2
EF-4	TOILET 212	EXHAUST	130	0.50"	931	128 WATTS	2.5	LIGHT SWITCH	NO	DIRECT DRIVE	120V/1ø/60HZ	1.80	GREENHECK / SP-B150	NOTE 2
EF-5	EMPLOYEE TOILET 207	EXHAUST	130	0.50"	931	128 WATTS	2.5	LIGHT SWITCH	NO	DIRECT DRIVE	120V/1ø/60HZ	1.80	GREENHECK / SP-B150	NOTE 1
KEF-1	KITCHEN HOOD	KITCHEN EXHAUST	3,211	1.60"	1,393	3 HP	22.0	INTERLOCKED WITH KITCHEN HOOD	YES	DIRECT DRIVE	208V/3ø/60HZ	9.50	CAPTIVEAIRE/ DU180HFA	PROVIDED BY KITCHEN CONSULTANT; MECHANICAL CONTRACTOR SHALL INSTALL THIS UNIT.
VF-1	ATTIC	VENTILATION	6,600	0.55"	968	1.5 HP	26.0	WALL MOUNTED TEMPERATURE / HUMIDITY STAT	YES	BELT DRIVE	208V/3ø/60HZ	V/7ø/50HZ	GREENHECK / SBE-3H30	NOTE 3

NOTES:

1) FAN SHALL COME COMPLETE WITH GRAVITY OPERATED BACKDRAFT DAMPER, BIRDSCREEN, FACTORY MOUNTED DISCONNECT SWITCH. FACTORY MOUNTED SOLID STATE SPEED CONTROL AND A WALL CAP.

2) FAN SHALL COME COMPLETE WITH GRAVITY OPERATED BACKDRAFT DAMPER, FACTORY MOUNTED DISCONNECT SWITCH AND FACTORY MOUNTED SOLID STATE SPEED CONTROL.

3) FAN SHALL COME COMPLETE WITH GRAVITY OPERATED BACKDRAFT DAMPER, BIRDSCREEN, FACTORY MOUNTED DISCONNECT SWITCH AND FACTORY MOUNTED SOLID STATE SPEED CONTROL.

ELECTRIC CABINET UNIT HEATER SCHEDULE — CUH

ITEM	AREA SERVED	TYPE	AIRFLOW (CFM)	KW	FINAL AIR TEMP. (°F)	STEPS OF CONTROL	INTEGRAL DISCONNECT	UNIT DIMENSIONS (LENGTH" x DEPTH" x HEIGHT")	WEIGHT (LBS.)	ELECTRICAL DATA		MANUFACTURER/ MODEL #	REMARKS
										V / PH / HZ	FLA		
CUH-1	STAIRS 015	FLOOR MOUNTED	250	4.0	111.0°F	1	YES	35" x 9-3/4" x 26-3/8"	25	208V/3ø/60HZ	12.00	BERKO / CUH935	NOTE 1

NOTE:

1) ELECTRIC CABINET UNIT HEATER SHALL COME COMPLETE WITH BUILT IN 2 STAGE THERMOSTAT. MANUAL RESET. DEAD FRONT DISCONNECT SWITCH. SUMMER FAN SWITCH, ON-OFF SWITCH. NIGHT SET-BACK RELAY AND KEY LOCK FOR FRONT COVER

ELECTRIC WALL HEATER SCHEDULE — EWH

ITEM	AREA SERVED	TYPE	AIRFLOW (CFM)	KW	TEMP. RISE (°F)	STEPS OF CONTROL	INTEGRAL DISCONNECT	UNIT DIMENSIONS (LENGTH" x DEPTH" x HEIGHT")	WEIGHT (LBS.)	ELECTRICAL DATA		MANUFACTURER/ MODEL #	REMARKS
										V / PH / HZ	FLA		
EWH-1	ADA TOILET 101	RECESSED	100	2.0	19.0°F	1	NO	15-3/4" x 3-3/4" x 18-1/4"	10	208V/1ø/60HZ	9.60	BERKO / FRC4020F	NOTE 1
EWH-2	ADA TOILET 102	RECESSED	100	2.0	19.0°F	1	NO	15-3/4" x 3-3/4" x 18-1/4"	10	208V/1ø/60HZ	9.60	BERKO / FRC4020F	NOTE 1

NOTE:

1) ELECTRIC WALL HEATER SHALL COME COMPLETE WITH TAMPER PROOF FRONT COVER, INTEGRAL THERMOSTAT AND A SEMI-RECESSED INSTALLATION KIT.

ELECTRIC UNIT HEATER SCHEDULE — UH

ITEM	AREA SERVED	TYPE	AIRFLOW (CFM)	KW	TEMP. RISE (°F)	STEPS OF CONTROL	INTEGRAL DISCONNECT	WEIGHT (LBS.)	ELECTRICAL DATA		MANUFACTURER/ MODEL #	REMARKS
									V / PH / HZ	FLA		
UH-1	ATTIC	VERTICAL	350	3.0	27.0°F	1.0	NO	27	208V/1ø/60HZ	14.50	QMARK / MUH03-81	NOTE 1
UH-2	ATTIC	VERTICAL	350	3.0	27.0°F	1.0	NO	27	208V/1ø/60HZ	14.50	QMARK / MUH03-81	NOTE 1

NOTE:

1) ELECTRIC UNIT HEATER SHALL BE CONTROLLED VIA A WALL MOUNTED THERMOSTAT

AIR BALANCE SCHEDULE

AREA SERVED	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	RETURN AIR (CFM)	CONTINUOUS EXHAUST AIR (CFM)	RELIEF AIR (CFM)	SPACE PRESSURIZATION (CFM)
KITCHEN, SCULLEY	2,570	2,570	0	3,210	0	-640
FIRST FLOOR FRONT OF HOUSE	2,110	1,225	885	0	0	1,225
SECOND FLOOR FRONT OF HOUSE	2,765	1,385	1,380	0	0	1,385
TOTALS	**7,445**	**5,180**	**2,265**	**3,210**	**0**	**1,970**

NOTES:

1) SUPPLY AIR = OUTSIDE AIR + RETURN AIR

2) SPACE PRESSURIZATION = OUTSIDE AIR - EXHAUST AIR - RELIEF AIR

VRF INDOOR FAN COIL UNITS SCHEDULE — FCU, BS

ITEM	AREA SERVED	TYPE OF CONTROLLER	FAN DATA			COOLING DATA			HEATING DATA		FAN COIL UNIT					BRANCH SELECTOR				REMARKS
			CFM	OA CFM	ESP (IN.)	TOTAL MBH	SENS. MBH	TYPE	MBH	KW	MANUFACTURER/ MODEL #	WEIGHT (LBS.)	ELECTRICAL DATA	INTEGRAL DISCONNECT (YES/NO)	OUTDOOR UNIT	ITEM	WEIGHT (LBS.)	ELECTRICAL DATA	MANUFACTURER/ MODEL #	
FCU-1	LOUNGE-103	NAVIGATION REMOTE CONTROLLER	315	0	0.40"	7.2	6.4	AIR COOLED	8.5	2.49	DAIKIN / FXMQ07PBVJU	55	208V/1ø/60HZ	NO	HRU-VRF-1	BS-1	49	208V/1ø/60HZ	DAIKIN / BS4Q54TVJ	NOTE 2, 3
FCU-2	BAR-113	NAVIGATION REMOTE CONTROLLER	535	0	0.80"	18.0	15.8	AIR COOLED	26.0	5.86	DAIKIN / FXMQ18PBVJU	80	208V/1ø/60HZ	NO	HRU-VRF-1	BS-1				NOTE 2, 3
FCU-3	DINING-111	NAVIGATION REMOTE CONTROLLER	560	0	0.40"	7.2	6.4	AIR COOLED	8.5	2.49	DAIKIN / FXMQ07PBVJU	55	208V/1ø/60HZ	NO	HRU-VRF-1	BS-2	27	208V/1ø/60HZ	DAIKIN / BSQ36TVJ	NOTE 2, 3
FCU-4	DINING-112	NAVIGATION REMOTE CONTROLLER	315	0	0.80"	14.2	12.0	AIR COOLED	17.0	4.98	DAIKIN / FXMQ15PBVJU	80	208V/1ø/60HZ	NO	HRU-VRF-1	BS-1				NOTE 2, 3
FCU-5	TAKE OUT-105, PIZZA KITCHEN-106	NAVIGATION REMOTE CONTROLLER	560	0	0.80"	14.2	12.0	AIR COOLED	17.0	4.98	DAIKIN / FXMQ15PBVJU	80	208V/1ø/60HZ	NO	HRU-VRF-1	BS-3	27	208V/1ø/60HZ	DAIKIN / BSQ36TVJ	NOTE 2, 3
FCU-6	KITCHEN-107	NAVIGATION REMOTE CONTROLLER	280	0	N/A	7.5	6.4	AIR COOLED	8.5	2.49	DAIKIN / FXAQ07PVJU	26	208V/1ø/60HZ	NO	HRU-VRF-1	BS-4	27	208V/1ø/60HZ	DAIKIN / BSQ36TVJ	NOTE 2
FCU-7	SCULLERY-108	NAVIGATION REMOTE CONTROLLER	280	0	N/A	7.5	6.4	AIR COOLED	8.5	2.49	DAIKIN / FXAQ07PVJU	26	208V/1ø/60HZ	NO	HRU-VRF-1	BS-5	27	208V/1ø/60HZ	DAIKIN / BSQ36TVJ	NOTE 2
FCU-8	PRIVATE DINING-201	NAVIGATION REMOTE CONTROLLER	420	100	N/A	7.2	6.7	AIR COOLED	8.5	2.49	DAIKIN / FXFQ07TVJU	42	208V/1ø/60HZ	NO	HRU-VRF-1	BS-6	58	208V/1ø/60HZ	DAIKIN / BS6Q54TVJ	NOTE 1, 4
FCU-9	DINING-202	NAVIGATION REMOTE CONTROLLER	435	100	N/A	9.5	8.5	AIR COOLED	10.5	3.08	DAIKIN / FXFQ09TVJU	42	208V/1ø/60HZ	NO	HRU-VRF-1	BS-6				NOTE 1, 4
FCU-10	DINING 204, BAR-205	NAVIGATION REMOTE CONTROLLER	740	100	N/A	18.0	16.0	AIR COOLED	20.0	5.86	DAIKIN / FXFQ18TVJU	51	208V/1ø/60HZ	NO	HRU-VRF-1	BS-6				NOTE 1, 4
FCU-11	OFFICE-206	NAVIGATION REMOTE CONTROLLER	435	0	N/A	7.5	6.4	AIR COOLED	8.5	2.49	DAIKIN / FXAQ07PVJU	26	208V/1ø/60HZ	NO	HRU-VRF-1	BS-7	27	208V/1ø/60HZ	DAIKIN / BSQ36TVJ	NOTE 2
FCU-12	DINING-209	NAVIGATION REMOTE CONTROLLER	435	100	N/A	12.0	9.7	AIR COOLED	13.5	3.96	DAIKIN / FXFQ12TVJU	42	208V/1ø/60HZ	NO	HRU-VRF-1	BS-6				NOTE 1, 4
FCU-13	HALL-210	NAVIGATION REMOTE CONTROLLER	740	100	N/A	12.0	9.7	AIR COOLED	13.5	3.96	DAIKIN / FXFQ12TVJU	42	208V/1ø/60HZ	NO	HRU-VRF-1	BS-6				NOTE 1, 4
FCU-14	DINING-214	NAVIGATION REMOTE CONTROLLER	260	100	N/A	18.0	16.0	AIR COOLED	20.0	5.86	DAIKIN / FXFQ18TVJU	51	208V/1ø/60HZ	NO	HRU-VRF-1	BS-6				NOTE 1, 4

NOTES:

1. UNIT SHALL COME COMPLETE WITH A SELF-CLEANING DECORATION PANEL MODEL BYCQ125EBGW1.
2. UNIT SHALL COME COMPLETE WITH INTEGRAL CONDENSATE PUMP.
3. UNIT SHALL COME COMPLETE WITH SHEET METAL RETURN AIR PLENUM BOX AND CUSTOM FILTER REMOVAL SECTION.
4. UNIT SHALL COME COMPLETE WITH A FRESH AIR INTAKE KIT.

LOUVER SCHEDULE — IL, EL

ITEM	LOCATION	SERVICE	TYPE	CFM	PRESSURE DROP IN.W.G.	FREE AREA VELOCITY (FT/MIN)	FREE AREA (FT²)	AIR DENSITY (LBS/FT³)	NOMINAL SIZE (W" x H")	ACTUAL SIZE (W" x H")	BLADE DEPTH (IN.)	BLADE ORIENTATION	WEIGHT	MANUFACTURER/ MODEL #	REMARKS
IL-1	ATTIC	ATTIC INTAKE AIR	DRAINABLE BLADE LOUVER	1650.0	0.12	894.0	1.8	0.075	20"x28"	19.75"x27.75"	6"	HORIZONTAL	15.00	GREENHECK / ESD-635-20x28	
IL-2	ATTIC	ATTIC INTAKE AIR	DRAINABLE BLADE LOUVER	1650.0	0.12	894.0	1.8	0.075	20"x28"	19.75"x27.75"	6"	HORIZONTAL	15.00	GREENHECK / ESD-635-20x28	
IL-3	ATTIC	ATTIC INTAKE AIR	DRAINABLE BLADE LOUVER	1650.0	0.12	894.0	1.8	0.075	20"x28"	19.75"x27.75"	6"	HORIZONTAL	15.00	GREENHECK / ESD-635-20x28	
IL-4	ATTIC	ATTIC INTAKE AIR	DRAINABLE BLADE LOUVER	1650.0	0.12	894.0	1.8	0.075	20"x28"	19.75"x27.75"	6"	HORIZONTAL	15.00	GREENHECK / ESD-635-20x28	
IL-5	ATTIC	DOAS UNIT OUTSIDE AIR	DRAINABLE BLADE LOUVER	2600.0	0.00	97.0	9.7	0.075	62"x62"	61.75"x61.75"	4"	HORIZONTAL	91.00	GREENHECK / EAD-401-62x62	
IL-6	ATTIC	MAKEUP AIR UNIT OUTSIDE AIR	DRAINABLE BLADE LOUVER	2570.0	0.00	127.0	7.3	0.075	54"x54"	53.75"x53.75"	4"	HORIZONTAL	69.00	GREENHECK / EAD-401-54x54	
EL-1	ATTIC	ATTIC EXHAUST	DRAINABLE BLADE LOUVER	6600.0	0.22"	1380.0	4.8	0.075	36"x36"	35.75"x35.75"	6"	HORIZONTAL	37.00	GREENHECK / EAD-635-36x36	

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REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Sandra J. Heiler

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STATE OF MARYLAND
ELLEN COLASSITO
No. 20481
PROFESSIONAL ENGINEER

DocuSigned by:
Cory S Colassard
4F CA6D529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **20481**, expiration date **May 26, 2022**.

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION
4	10/29/20	PERMIT COMMENTS

ISSUED FOR:
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DATE: 10.29.20

MECHANICAL SCHEDULES

M0.20

DocuSign Envelope ID: 347056E5-834B-4214-9B33-07FBC09F2B2A

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

System name and number	DOAS-1 (Heating)
Condition analyzed (impacts Ez)	Heating

Zone Name and Number	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz (people)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Zone Outdoor Airflow Provided (measured or design) (cfm)
FCU-1 - Lounge-103	Bars / cocktail lounges	244	No	20.00	1.00	193.92	194
FCU-2 - Bar-113	Bars / cocktail lounges	468	No	50.00	1.00	459.24	460
FCU-3 - Dining-111	Restaurant dining rooms	310	No	24.00	1.00	235.80	236
FCU-4 - Dining-112	Restaurant dining rooms	258	No	16.00	1.00	166.44	167
FCU-5 - Pizza Kitchen-106	Kitchen (cooking)	507	No	3.00	1.00	83.34	84
FCU-6 - Kitchen-107	Kitchen (cooking)	244	No	4.00	1.00	59.28	60
FCU-7 - Scullery-108	Kitchen (cooking)	247	No	3.00	1.00	52.14	53
FCU-8 - Private Dining-201	Restaurant dining rooms	143	No	12.00	1.00	115.74	116
FCU-9 - Dining-202	Restaurant dining rooms	384	No	20.00	1.00	219.12	220
FCU-10 - Dining-204	Restaurant dining rooms	451	No	50.00	1.00	456.18	457
FCU-11 - Storage-208	Storage rooms	159	No	0.00	1.00	19.08	20
FCU-12 - Dining-209	Restaurant dining rooms	290	No	20.00	1.00	202.20	203
FCU-13 - Hall-210	Common corridors	131	No	0.00	1.00	7.86	8
FCU-14 - Dining-214	Restaurant dining rooms	462	No	32.00	1.00	323.16	324

Add Rows | Delete Rows

System area (sq ft)	As	(sq ft)	4,298.00
System population	Ps	(people)	254.00
Outdoor air intake flow (required by 62.1)	Vot	(cfm)	2,593
Outdoor air intake flow provided (measured or design)		(cfm)	2,600

System name and number	DOAS-1 (Cooling)
Condition analyzed (impacts Ez)	Cooling

Zone Name and Number	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz (people)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Zone Outdoor Airflow Provided (measured or design) (cfm)
FCU-1 - Lounge-103	Bars / cocktail lounges	244	No	20.00	1.00	193.92	194
FCU-2 - Bar-113	Bars / cocktail lounges	468	No	50.00	1.00	459.24	460
FCU-3 - Dining-111	Restaurant dining rooms	310	No	24.00	1.00	235.80	236
FCU-4 - Dining-112	Restaurant dining rooms	258	No	16.00	1.00	166.44	167
FCU-5 - Pizza Kitchen-106	Kitchen (cooking)	507	No	3.00	1.00	83.34	84
FCU-6 - Kitchen-107	Kitchen (cooking)	244	No	4.00	1.00	59.28	60
FCU-7 - Scullery-108	Kitchen (cooking)	247	No	3.00	1.00	52.14	53
FCU-8 - Private Dining-201	Restaurant dining rooms	143	No	12.00	1.00	115.74	116
FCU-9 - Dining-202	Restaurant dining rooms	384	No	20.00	1.00	219.12	220
FCU-10 - Dining-204	Restaurant dining rooms	451	No	50.00	1.00	456.18	457
FCU-11 - Storage-208	Storage rooms	159	No	0.00	1.00	19.08	20
FCU-12 - Dining-209	Restaurant dining rooms	290	No	20.00	1.00	202.20	203
FCU-13 - Hall-210	Common corridors	131	No	0.00	1.00	7.86	8
FCU-14 - Dining-214	Restaurant dining rooms	462	No	32.00	1.00	323.16	324

Add Rows | Delete Rows

System area (sq ft)	As	(sq ft)	4,298.00
System population	Ps	(people)	254.00
Outdoor air intake flow (required by 62.1)	Vot	(cfm)	2,593
Outdoor air intake flow provided (measured or design)		(cfm)	2,600

System name and number	MAU-1 (Heating)
Condition analyzed (impacts Ez)	Heating

Zone Name and Number	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz (people)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Zone Outdoor Airflow Provided (measured or design) (cfm)
Kitchen-107 - Kitchen Hood	Kitchen (cooking)	100	Yes	2.00	1.00	27.00	2,569
						0.00	
						0.00	

Add Rows | Delete Rows

System area (sq ft)	As	(sq ft)	100.00
System population	Ps	(people)	2.00
Outdoor air intake flow (required by 62.1)	Vot	(cfm)	27
Outdoor air intake flow provided (measured or design)		(cfm)	2,569

System name and number	MAU-1 (Cooling)
Condition analyzed (impacts Ez)	Cooling

Zone Name and Number	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz (people)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Zone Outdoor Airflow Provided (measured or design) (cfm)
Kitchen-107 - Kitchen Hood	Kitchen (cooking)	100	Yes	2.00	1.00	27.00	2,569
						0.00	
						0.00	

Add Rows | Delete Rows

System area (sq ft)	As	(sq ft)	100.00
System population	Ps	(people)	2.00
Outdoor air intake flow (required by 62.1)	Vot	(cfm)	27
Outdoor air intake flow provided (measured or design)		(cfm)	2,569

Summary

Note: All information on this tab is READ-ONLY. To edit, see the previous tab(s).

Refresh Systems

System Name and Number	System Type	All zones included in the VRP calculation?	Condition Analyzed	System Floor Area As (sq ft)	System Population Ps (people)	Outdoor Air Intake Flow (required by 62.1) Vot (cfm)	Outdoor Air Intake Flow Provided (measured or design) (cfm)	Outdoor air intake flow provided meets or exceeds Vot?	Zone outdoor airflow provided meets or exceeds Voz for all zones?
Multiple Zone Systems									
100% Outdoor Air Systems									
DOAS-1 (Heating)	100% Outdoor air	n/a	Heating	4,298	254.00	2,593	2,600	Yes	Yes
DOAS-1 (Cooling)	100% Outdoor air	n/a	Cooling	4,298	254.00	2,593	2,600	Yes	Yes
MAU-1 (Heating)	100% Outdoor air	n/a	Heating	100	2.00	27	2,569	Yes	Yes
MAU-1 (Cooling)	100% Outdoor air	n/a	Cooling	100	2.00	27	2,569	Yes	Yes
Totals				8,796	512.00	5,240	10,338		

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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STATE OF MARYLAND
CORY SLOAN COLASSARD
No. 20461
PROFESSIONAL ENGINEER

DocuSigned by:
Cory S Colassard
4FCA6D529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **20461**, expiration date **May 26, 2022.**

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VENTILATION AIR SCHEDULES

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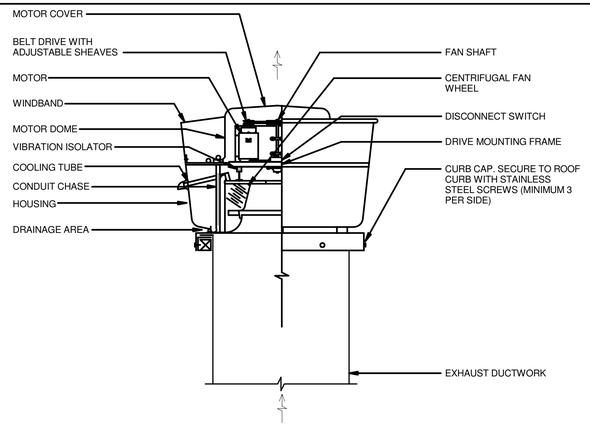
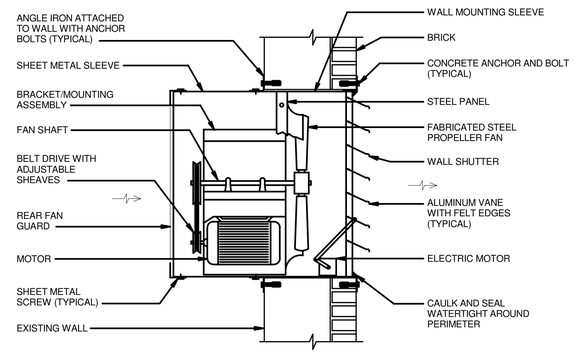
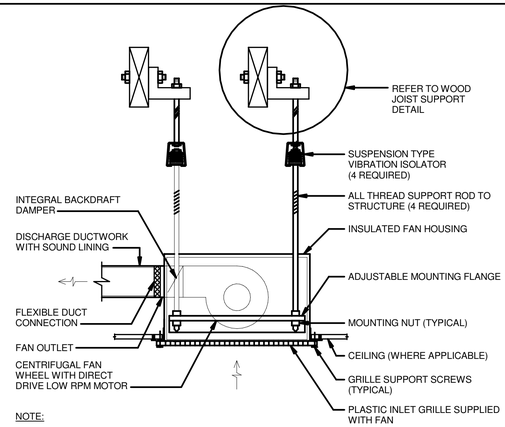
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21



DETAIL - UPBLAST EXHAUST FAN
NO SCALE



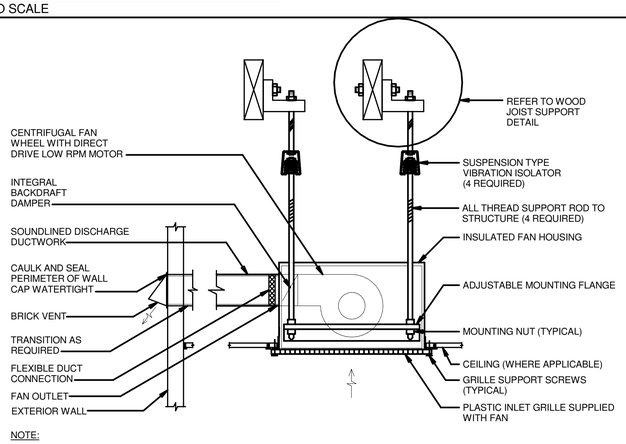
DETAIL - WALL MOUNTED PROPELLER VENTILATION FAN
NO SCALE



NOTE:

1. PROVIDE VARIABLE SPEED SWITCH ON THE SIDE OF THE FAN HOUSING FOR FINAL AIR BALANCING.

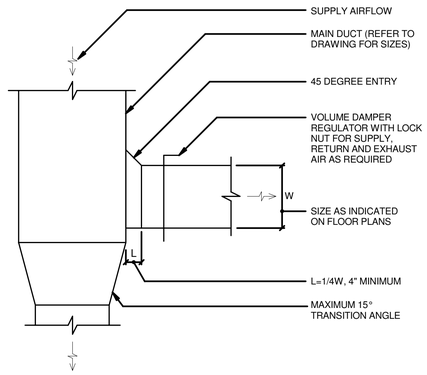
DETAIL - CEILING MOUNTED EXHAUST FAN
NO SCALE



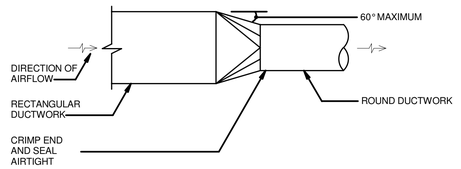
NOTE:

1. PROVIDE VARIABLE SPEED SWITCH ON THE SIDE OF THE FAN HOUSING FOR FINAL AIR BALANCING.

DETAIL - CEILING MOUNTED EXHAUST FAN
NO SCALE



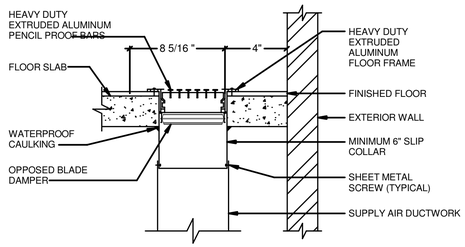
DETAIL - DUCTWORK BRANCH TAKE-OFF
NO SCALE



DETAIL - RECTANGULAR TO ROUND DUCTWORK TRANSITION
NO SCALE

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission



NOTE:

1. FLOOR RETURN AIR GRILLE INSTALLATION IS SIMILIAR.

DETAIL - FLOOR SUPPLY AIR REGISTER
NO SCALE

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STATE OF MARYLAND · ROBERT STEPHEN JOHNSTON · No. 14749 · PROFESSIONAL ENGINEER
Docusigned by: R. Stephen Spinazzola 4FCA6D529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

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DATE: 07.13.2020

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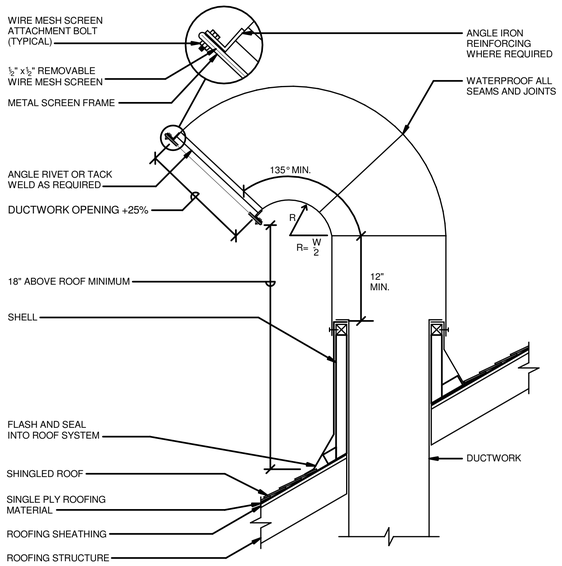
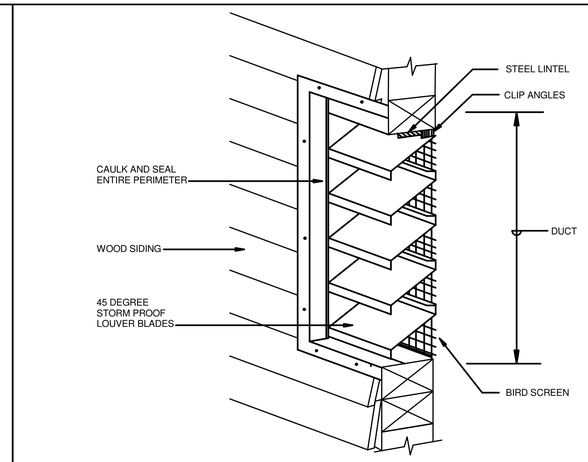
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21



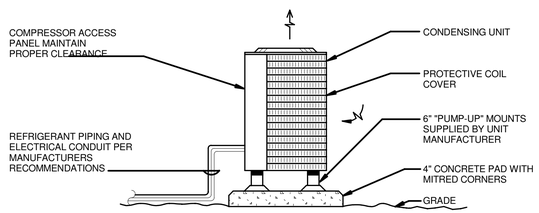
NOTE:

1. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF CONSTRUCTION AND FLASHING REQUIREMENTS/DETAILS.

DETAIL - GOOSENECK THROUGH SLOPED ROOF
NO SCALE



DETAIL - WALL LOUVER WITH FRONT FLANGE
NO SCALE

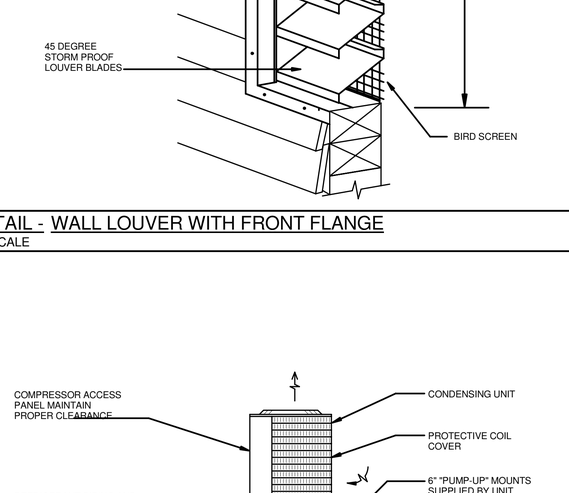


DETAIL - GRADE MOUNTED CONDENSING UNIT
NO SCALE

NOTE:

1. WHERE WOOD TRUSSES ARE USED, ANGLE SUPPORT SHALL BE LOCATED AT THE TOP CHORD.

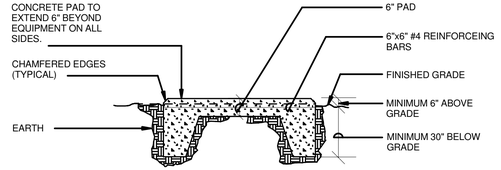
DETAIL - WOOD JOIST/TRUSS SUPPORT
NO SCALE



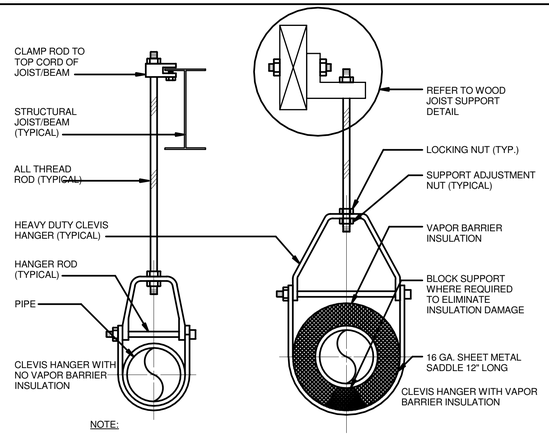
NOTES:

1. AT THE CONTRACTORS' OPTION A U.L. LISTED/APPROVED FIRE STOP PIPE SLEEVE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL.
2. FOR EXISTING POURED CONCRETE WALLS, CORE DRILL OR STAR DRILL OPENING THROUGH EXISTING WALL FOR PIPE SLEEVES AS DIRECTED.
3. PIPE SLEEVE FOR BARE PIPE THROUGH WALL IS SIMILIAR.

DETAIL - PIPE SLEEVE FOR INSULATED PIPE THROUGH WALL
NO SCALE



DETAIL - CONCRETE EQUIPMENT PAD
NO SCALE



NOTE:

1. ALL HANGERS FOR COPPER PIPING SHALL BE COPPER COATED.

DETAIL - PIPE SUPPORT
NO SCALE

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

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R. Stephen Spinazzola
6FCA6C529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

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DATE: 07.13.2020

MECHANICAL DETAILS

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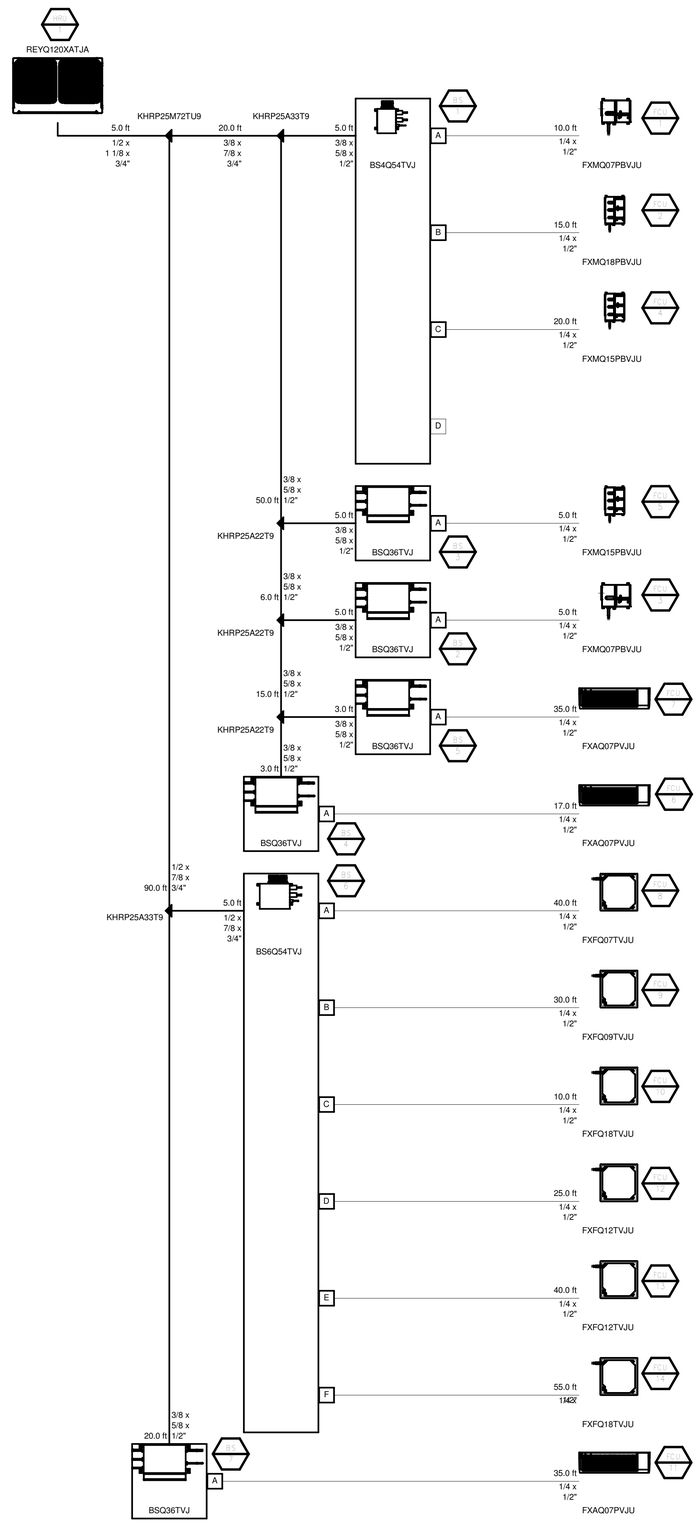
Permit # COMBUILD-921463
Date 01/14/21



REFRIGERANT SCHEMATIC DIAGRAM HEAT RECOVERY UNIT NO SCALE

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

GENERAL NOTE:

1. CONTRACTOR SHALL FIELD VERIFY EXACT PIPING LENGTHS. PIPE LENGTHS SHOWN ON THIS DIAGRAM ARE ESTIMATES ONLY.

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STATE OF MARYLAND · ROBERT STEPHEN SPINAZZOLA · NO. 14749 · PROFESSIONAL ENGINEER

DocuSigned by:
R. Stephen Spinazzola
4FCAED529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

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REFRIGERANT RISER DIAGRAM - HEAT RECOVERY UNIT

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Permit # COMBUILD-921463
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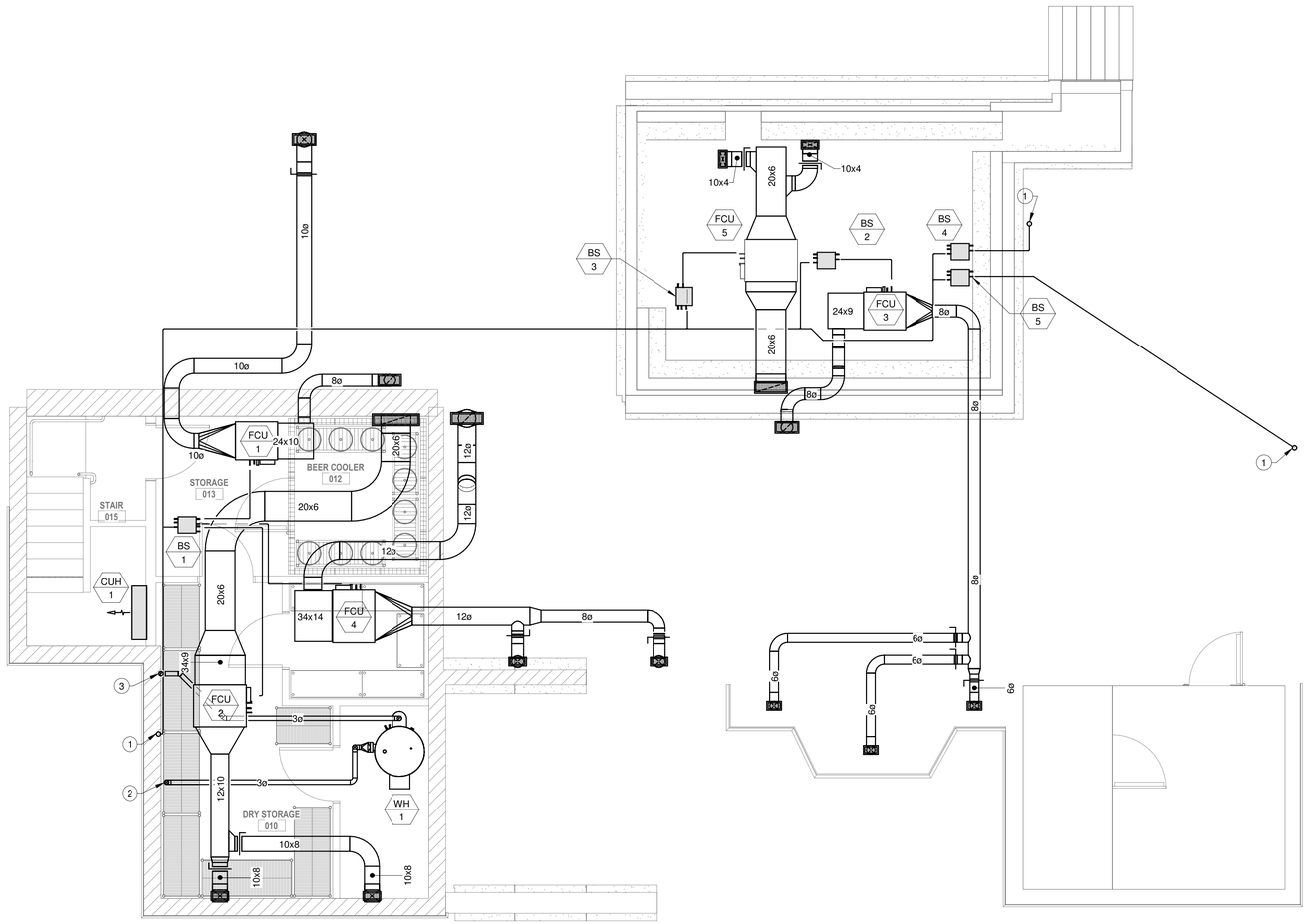

BASEMENT PLAN - HVAC

1 / M1.01 — 1/4" = 1'-0"

DRAWING NOTE: (#)

1. REFRIGERANT PIPING UP TO FLOOR ABOVE. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
2. GAS FIRED WATER HEATER 3"Ø COMBUSTION AIR INTAKE UP.
3. GAS FIRED WATER HEATER 3"Ø EXHAUST AIR FLUE UP.

GENERAL NOTES:

1. REFER TO HVAC LEGEND, DETAILS AND SCHEDULES FOR ADDITIONAL INFORMATION.
2. REFER TO PLUMBING DRAWINGS FOR AIR CONDITIONING CONDENSATE DRAIN PIPE ROUTING.
3. HORIZONTAL FAN COIL S AND BRANCH SELECTOR BOXES SHALL BE MOUNTED AS HIGH AS POSSIBLE.
4. DUCTWORK PENETRATING EXISTING FOUNDATION WALLS SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER.
5. EARTH SHALL BE REMOVED TO ACCOMODATE ALL DUCTWORK ROUTING ACCORDINGLY.
6. HVAC AND REFRIGERANT PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE, PLUMBING, ELECTRICAL AND FIRE PROTECTION WORK.
7. REFRIGERANT PIPING ROUTED IN CRAWL SPACE SHALL BE INSTALLED IN PVC PIPING CARRIER.
8. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
10. GAS FIRED DOMESTIC WATER HEATER COMBUSTION AIR AND FLUE VENT SHALL BE SIZED PER MANUFACTURE'S RECOMMENDATION AND PIPE MATERIAL USED.

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STATE OF MARYLAND — ROBERT STEPHEN SPINAZZOLA — NO. 14749 — PROFESSIONAL ENGINEER

DocuSigned by: R. Stephen Spinazzola 4FCAED529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

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BASEMENT PLAN - HVAC

M1.01

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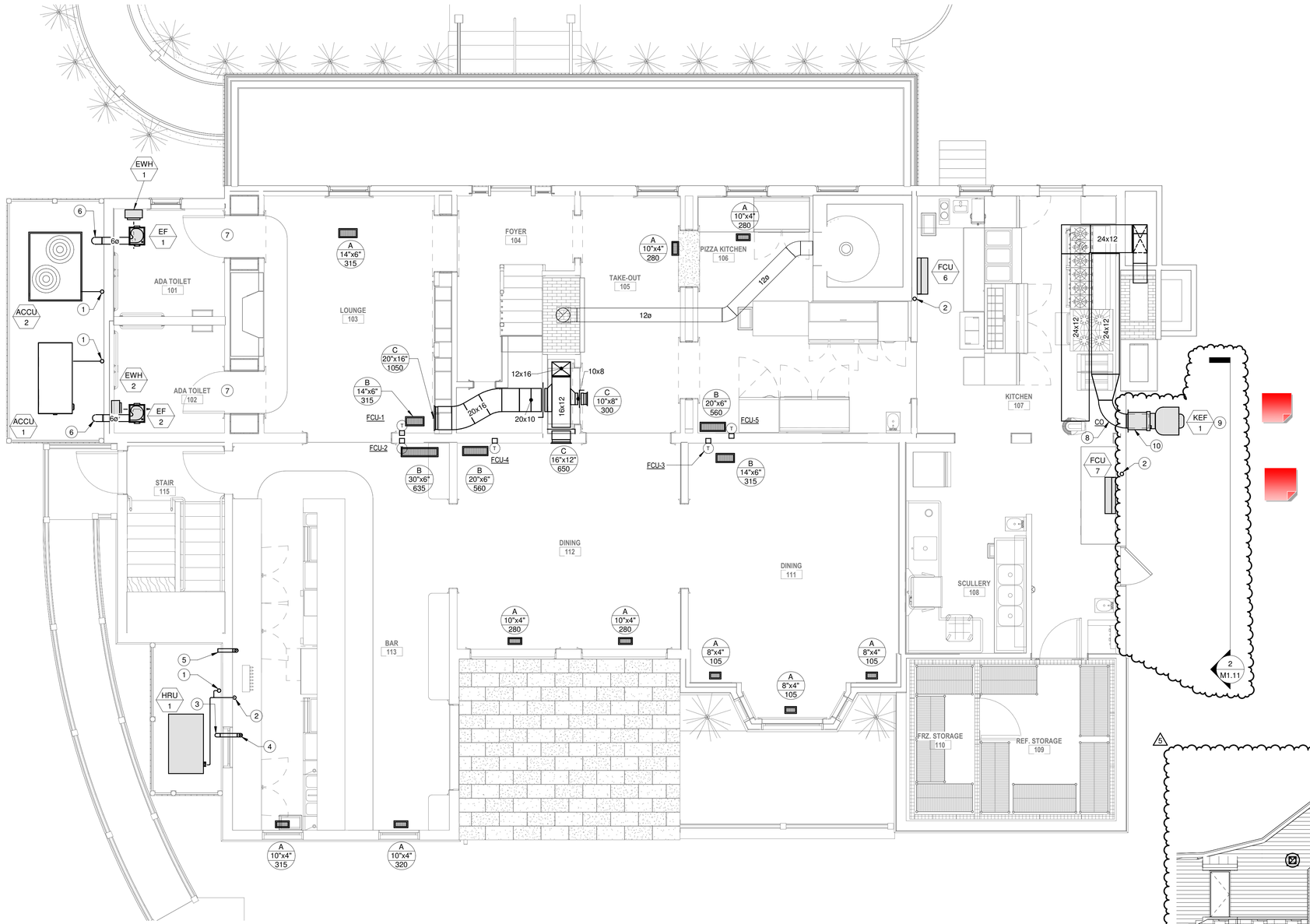
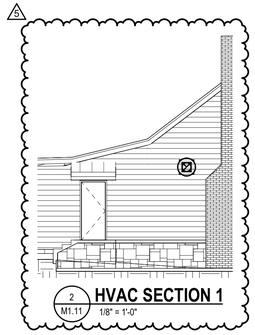
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission



1 M1.11 **FIRST FLOOR PLAN - HVAC**
1/4" = 1'-0"



2 M1.11 **HVAC SECTION 1**
1/8" = 1'-0"

DRAWING NOTES: (#)

1. REFRIGERANT PIPING UP TO FLOOR ABOVE. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
2. REFRIGERANT PIPING DOWN WITHIN WALL TO BASEMENT PLAN. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
3. GAS FIRED WATER HEATER COMBUSTION AIR INTAKE. PROVIDE WIRE MESH SCREEN OVER OPENING.
4. GAS FIRED WATER HEATER COMBUSTION AIR INTAKE DISCHARGE. REFER TO MANUFACTURER RECOMMENDATIONS FOR TERMINATION. PROVIDE A WIRE MESH SCREEN OVER OPENING.
5. GAS FIRED WATER HEATER FLUE VENT DISCHARGE. REFER TO MANUFACTURER RECOMMENDATIONS FOR TERMINATION. PROVIDE A WIRE MESH SCREEN OVER OPENING.
6. EXHAUST AIR WALL CAP WITH FLAPPER DAMPER.
7. 3/4" DOOR UNDERCUT.
8. PROVIDE CLEANOUT IN GREASE EXHAUST AIR DUCTWORK.
9. KITCHEN GREASE EXHAUST FAN SHALL BE MOUNTED A MAXIMUM OF 10'-0" ABOVE GRADE.
10. DOUBLE WALL EXHAUST DUCTWORK.

GENERAL NOTES:

1. REFER TO HVAC LEGEND, DETAILS AND SCHEDULES FOR ADDITIONAL INFORMAITON.
2. HVAC AND REFRIGERANT PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE, PLUMBING, ELECTRICAL AND FIRE PROTECTION WORK.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
4. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
5. GAS FIRED DOMESTIC WATER HEATER COMBUSTION AIR AND FLUE VENT SHALL BE SIZED PER MANUFACTURE'S RECOMMENDATION AND PIPE MATERIAL USED.

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STATE OF MARYLAND · CORY SCOTT COLASSARD · No. 20461 · PROFESSIONAL ENGINEER

DocuSigned by:
Cory S Colassard
4FCA8D529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **20461**, expiration date **May 26, 2022**.

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FIRST FLOOR PLAN - HVAC

M1.11

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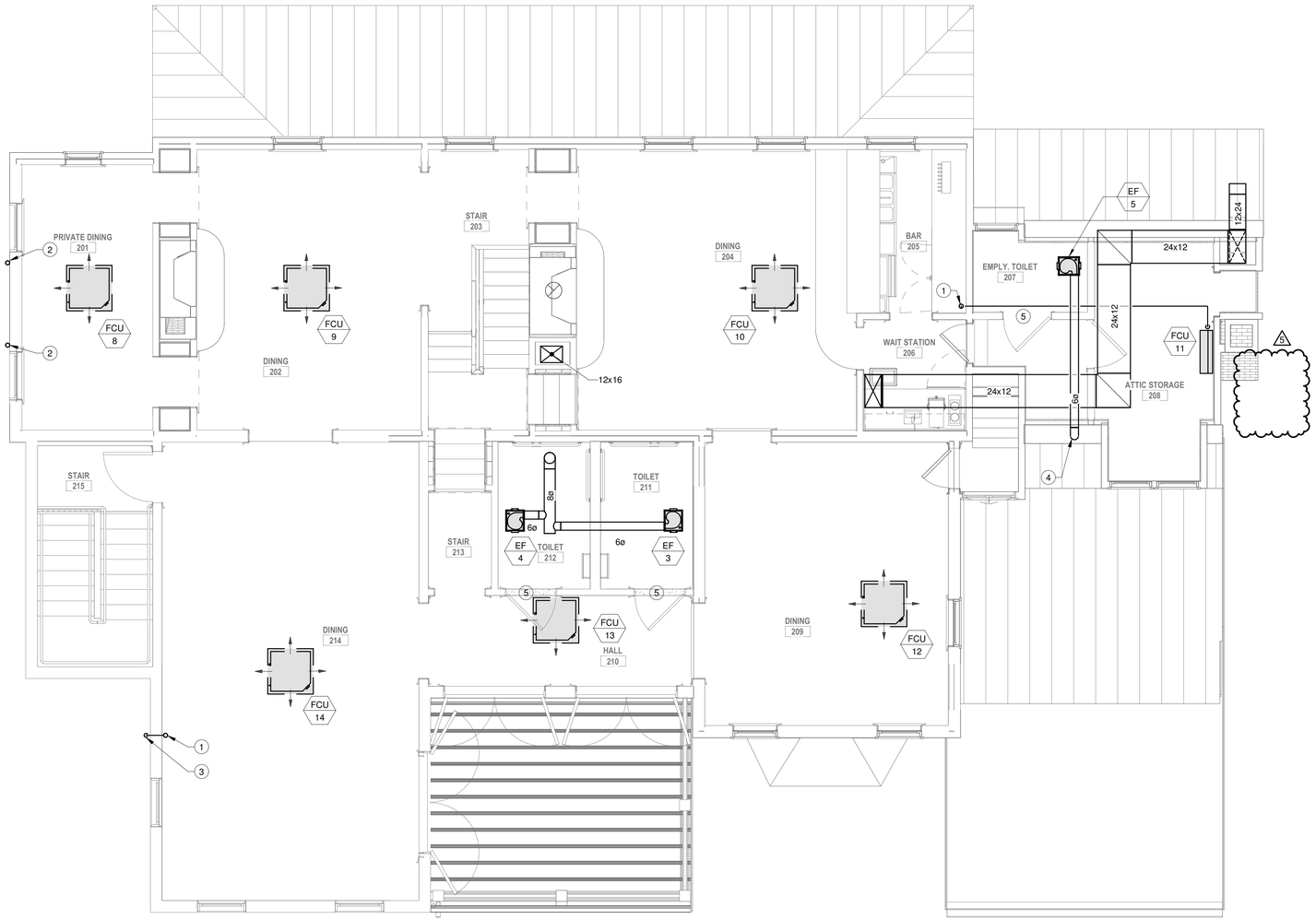
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission



1 M1.21 **SECOND FLOOR PLAN - HVAC**
1/4" = 1'-0"

DRAWING NOTES: (#)

1. REFRIGERANT PIPING UP. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
2. REFRIGERANT PIPING UP AND DOWN. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
3. REFRIGERANT PIPING DOWN EXTERIOR WALL TO HEAT RECOVERY UNIT MOUNTED ON GRADE. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
4. EXHAUST AIR WALL CAP WITH FLAPPER DAMPER.
5. 3/4" DOOR UNDERCUT.

GENERAL NOTES:

1. REFER TO HVAC LEGEND, DETAILS AND SCHEDULES FOR ADDITIONAL INFORMAITON.
2. HVAC AND REFRIGERANT PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE, PLUMBING, ELECTRICAL AND FIRE PROTECTION WORK.
3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
4. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
5. GAS FIRED DOMESTIC WATER HEATER COMBUSTION AIR AND FLUE VENT SHALL BE SIZED PER MANUFACTURE'S RECOMMENDATION AND PIPE MATERIAL USED.
6. FAN COIL UNIT'S REMOTE THERMOSTAT CONTROLLER SHALL BE TURNED OVER TO OWNER LABELED FAN COIL UNIT # TAG.

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STATE OF MARYLAND
CORY SCOTT COLASSARD
No. 20461
PROFESSIONAL ENGINEER

DocuSigned by:
Cory S Colassard
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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **20461**, expiration date **May 26, 2022**.

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SECOND FLOOR PLAN - HVAC

M1.21

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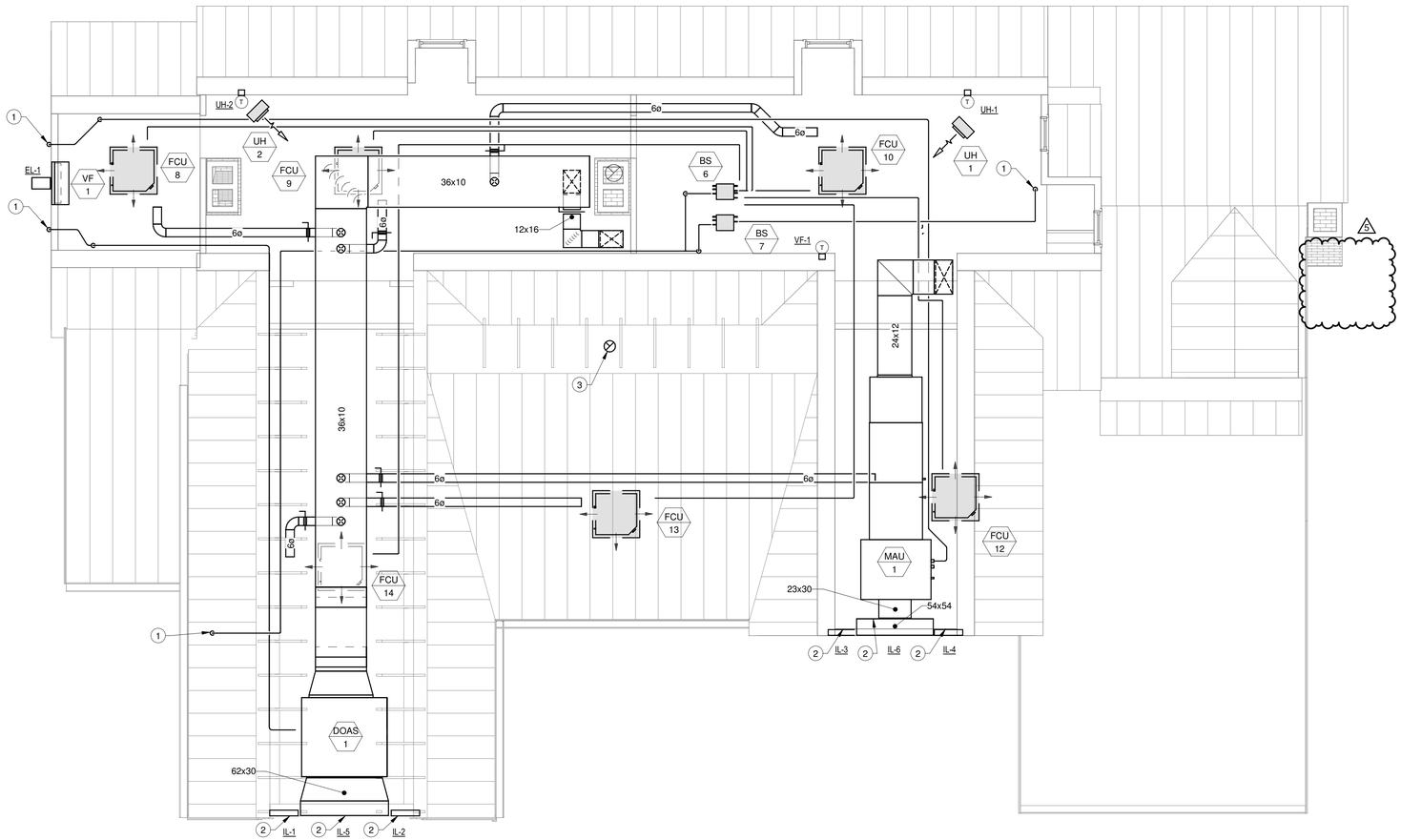

1 M1.31 **ATTIC FLOOR PLAN - HVAC**
1/4" = 1'-0"

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

DRAWING NOTES: (#)

1. REFRIGERANT PIPING DOWN. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
2. CONTRACTOR SHALL BLANK OFF ANY UNUSED PORTION OF LOUVER WITH INSULATED SHEET METAL PANELS.
3. EXHAUST AIR DUCT WORK UP TO GOOSENECK. REFER TO DETAIL FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

1. REFER TO HVAC LEGEND, DETAILS AND SCHEDULES FOR ADDITIONAL INFORMAITON.
2. REFER TO PLUMBING DRAWINGS FOR AIR CONDITIONING CONDENSATE DRAIN PIPE ROUTING.
3. HVAC AND REFRIGERANT PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE, PLUMBING, ELECTRICAL AND FIRE PROTECTION WORK.
4. BRANCH SELECTOR BOXES SHALL BE MOUNTED AS HIGH AS POSSIBLE IN ATTIC SPACE.
5. FAN COIL CASSETTE UNITS ARE LOCATED IN SECOND FLOOR CEILING AND SHOWN FOR COORDINATION ONLY.
6. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION.
8. GAS FIRED DOMESTIC WATER HEATER COMBUSTION AIR AND FLUE VENT SHALL BE SIZED PER MANUFACTURE'S RECOMMENDATION AND PIPE MATERIAL USED.

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ATTIC FLOOR PLAN - HVAC

M1.31

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ABBREVIATIONS

(B)	EXISTING TO BE BLANKED
(E)	EXISTING DEVICE OR EQUIPMENT
(ED)	EXISTING TO BE REMOVED
(ER)	EXISTING TO BE RELOCATED
(F)	FUTURE DEVICE OR EQUIPMENT
(N)	NEW DEVICE OR EQUIPMENT
(PL)	OUTLET BLANKED WITH PLATE ONLY
(RL)	EXISTING SHOWN RELOCATED
A	AMP, AMPERE
AC	AIR CONDITIONING
AF / AT	AMP FRAME / AMP TRIP
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPS INTERUPPTING CURRENT
AL	ALUMINUM
ARF	ABOVE RAISED FLOOR
AS / AFU	AMP SWITCH / AMP FUSE
ATS	AUTOMATIC TRANSFER SWITCH
AV, A/V	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CENTER LINE
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CONTR	CONTRACTOR
CONV	CONVENIENCE
CT	CURRENT TRANSFORMER
CU	COPPER
D.O.	DRAWOUT
DC	DOOR CONTACT
DISC	DISCONNECT
DIST	DISTRIBUTION
DW	DISHWASHER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRICAL
EM, EMERG	EMERGENCY
EM/NL	EMERGENCY NIGHT LIGHT
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FDR	FEEDER
FIXT	FIXTURE
FL	FLOOR
FP	FIRE PROTECTION
G, GND	GROUND
GEN	GENERATOR
GF	GROUND FAULT
GFI	GROUND FAULT INTERRUPTOR
HOA	HAND OFF AUTOMATIC SWITCH
HP	HORSE POWER
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HWH	HOT WATER HEATER
HZ	HERTZ
IG	ISOLATED GROUND
kAIC	KILO AMPERE INTERRUPTING CURRENT
KCMILS	THOUSAND CIRCULAR MILS
kVA	KILOVOLT AMPS
KW	KILOWATTS
LC	LIGHTING CONTROLLER
LCP	LIGHTING CONTROL OR RELAY PANEL

ABBREVIATIONS

LSIG	LONG, SHORT, INSTANTANEOUS AND GROUND FAULT TRIP FUNCTION
LTG	LIGHTING
MAX	MAXIMUM
MB	MOTORIZED BACKBOARD
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFG	MANUFACTURER
MH	MOUNTING HEIGHT
MI	MINERAL INSULATED
MLO	MAIN LUGS ONLY
MOD	MOTORIZED OVERHEAD DOOR
MP	MOTORIZED PARTITION
MPS	MOTORIZED PROJECTION SCREEN
MS	MOTORIZED SHADES
MTD	MOUNTED
MW	MICROWAVE
N	NEUTRAL
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
No	NUMBER
NTS	NOT TO SCALE
OFE	OWNER FURNISHED EQUIPMENT
P	POLES
PB	PULL BOX
PC	PLUMBING CONTRACTOR
PH	PHASE
PNL	PANEL
PPE	PRE-PURCHASED EQUIPMENT
PRI	PRIMARY
PRT	PRINTER
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
QUAD	QUADRUPLEX RECEPTACLE
REC	RECESSED
RECEPT	RECEPTACLE
REF	REFRIGERATOR
RF	RETURN FAN
RGS	RIGID GALVANIZED STEEL
RM	ROOM
SB	SCORE BOARD
SEC	SECONDARY
SF	SUPPLY FAN
SKRU	SOLENOID KEY RELEASE UNIT
SPD	SURGE PROTECTION DEVICE
SSCAF	SHORT CIRCUIT COORDINATION ARC FLASH
ST	SHUNT TRIP
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	(TEL/COM) TELECOMMUNICATIONS
TDR	TIME DELAY RELAY
TEL	TELEPHONE
TF	TRANSFER FAN
TP	TAMPER PROOF
TPS	TWISTED PAIR SHIELDED
TYP	TYPICAL
UC	UNDERCOUNTER
UCR	UNDER COUNTER REFRIGERATOR
UF	UNDER FLOOR
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT AMPS
W	WATTS
WP	WEATHER PROOF
XFMR	TRANSFORMER

POWER DISTRIBUTION

- (M) MOTOR
- MS MANUAL MOTOR SWITCH WITH THERMAL OVERLOAD
- 30A NON FUSED DISCONNECT SWITCH (AMPERE RATING SHOWN)
- 30A FUSED DISCONNECT SWITCH (AMPERE RATING SHOWN)
- 30A ENCLOSED CIRCUIT BREAKER (AMPERE RATING SHOWN)
- MAGNETIC MOTOR STARTER .
- COMBINATION MAGNETIC MOTOR STARTER DISCONNECT
- VFD VARIABLE FREQUENCY DRIVE (COORDINATE FURNISHED EQUIPMENT WITH MECHANICAL SCHEDULES) (REFER TO SPECIFICATIONS FOR VFD AND STARTER REQUIREMENTS)
- (J) JUNCTION BOX OR DIRECT CONNECTION POINT.
- EPO EMERGENCY POWER OFF STATION
- INDICATES CONDUIT UP
- INDICATES CONDUIT DOWN
- CONCEALED CONDUIT / WIRING IN OR UNDER FLOOR SLAB OR RAISED FLOOR
- FLEXIBLE METAL CONDUIT OR CABLE
- LH1;1,3 HOMERUN TO PANEL "LH1", CIRCUITS 1 AND 3.
- SURFACE MOUNTED 208 / 120V PANEL BOARD
- SURFACE MOUNTED 480 / 277V PANEL BOARD
- FLUSH MOUNTED 208 / 120V PANEL BOARD
- FLUSH MOUNTED 480 / 277V PANEL BOARD
- AHU 1 POWERED MECHANICAL EQUIPMENT TAG FOR ELECTRICAL CONNECTION, SEE POWERED MECHANICAL EQUIPMENT SCHEDULE AND DISTRIBUTION SCHEDULES.
- T TRANSFORMER

ELECTRICAL OUTLETS

CENTERLINE 18" AFF EXCEPT AS NOTED, REFER TO SPECIFICATIONS FOR MANUFACTURER AND CATALOG NUMBER. NUMERAL INDICATES BRANCH CIRCUIT DESIGNATION.

OUTLET DESIGNATION
- \+ RECEPTACLE MOUNTED HIGHER THAN STANDARD 18" AFF
- GF RECEPTACLE PROTECTED WITH GROUND FAULT CIRCUIT BREAKER
- IG RECEPTACLE, ISOLATED GROUND
- SP RECEPTACLE WITH SURGE PROTECTION
- TR RECEPTACLE, TAMPER RESISTANT
- EP RECEPTACLE, EXPLOSION PROOF
- P RECEPTACLE, PEDESTAL MOUNTED
- WP RECEPTACLE, WEATHER RESISTANT TYPE IN WEATHER PROOF IN-USE ENCLOSURE
- UF RECEPTACLE, UNDER FLOOR

- CEILING MOUNTED RECEPTACLE
- FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE
- STANDARD DUPLEX RECEPTACLE
- STANDARD QUADRAPLEX RECEPTACLE
- GFCI DUPLEX RECEPTACLE
- GFCI QUADRAPLEX RECEPTACLE
- DUPLEX RECEPTACLE WITH INTEGRAL USB
- DUPLEX RECEPTACLE - ONE OUTLET SWITCHED
- DUPLEX RECEPTACLE - ALL OUTLETS SWITCHED
- QUAD RECEPTACLE - ONE DUPLEX SWITCHED
- QUAD RECEPTACLE - ALL OUTLETS SWITCHED
- SIMPLEX SINGLE RECEPTACLE
- USB ONLY RECEPTACLE
- RECESSED CLOCK RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE WITH NEMA DESIGNATION
- AV FLAT PANEL DISPLAY WALL BOX WITH POWER, TELECOM AND/OR AV CONNECTIVITY
- FF FLUSH WALL MOUNTED JUNCTION BOX WITH CONDUIT OPENINGS FOR FURNITURE FEED WHIPS (POWER AND TELECOM)
- D / F / T SINGLE POINT OUTLET: 'D'-DATA OUTLET, 'T'-TELEPHONE OUTLET, 'F'-FIRE FIGHTERS CALL STATION, 'CATV'-CABLE TV OUTLET, 'AV'-AV OUTLET
  CONDUIT/BACKBOX REQUIREMENTS (UNLESS OTHERWISE NOTED)
  CATV 'D' 1" CONDUIT, 1-GANG BACKBOX
  AV 'F' 1" CONDUIT, 1-GANG BACKBOX
  'T' 1" CONDUIT, 1-GANG BACKBOX
  'CATV' 1-1/4" CONDUIT, 2-GANG BACKBOX WITH 1-GANG REDUCER
  'AV' COORDINATE WITH AV CONTRACTOR REQUIREMENTS
- COMBINATION TELEPHONE/DATA OUTLET
  CONDUIT/BACKBOX REQUIREMENTS (UNLESS OTHERWISE NOTED)
  1-1/4" CONDUIT, 2-GANG BACKBOX WITH 1-GANG REDUCER
- OVERHEAD POWER CONNECTION RECEPTACLE AND EXTENSION ARM. HUBBELL HBL45123R20 EXTENSION CORD REEL 45 FEET 12 GAUGE NEMA 5-20 RECEPTACLE OR APPROVED EQUAL.
- AV CEILING MOUNTED OR ABOVE CEILING MOUNTED MONITOR DISPLAY OR PROJECTOR BOX WITH POWER, TELECOM AND/OR AV CONNECTIVITY
- 1 FLUSH FLOOR BOX ASSEMBLY WITH CONDUIT OPENINGS FOR FURNITURE FEEDS (POWER TEL/COM AND AV) COORDINATE COLOR WITH ARCHITECT.
- 2 FLUSH FLOOR BOX WITH QUAD RECEPTACLE. PROVISIONS FOR TEL/COM OUTLETS COORDINATE COLOR WITH ARCHITECT.
- 3 FLUSH FLOOR BOX WITH QUAD RECEPTACLE. PROVISIONS FOR VOICE / DATA AND A/V OUTLETS COORDINATE COLOR WITH ARCHITECT.
- CONDUIT STUB-UPS INTO TABLE LEG FOR POWER, VOICE/DATA AND AV. DATA AND AV CONDUIT SHALL RUN IN CEILING SPACE OF FLOOR BELOW TO BEHIND WALL MOUNTED DISPLAY. POWER SHALL RUN TO NEAREST WALL AND EXTEND TO JUNCTION BOX OR PANELBOARD NOTED. PROVIDE 3/4" CONDUIT FOR POWER, 1-1/2" CONDUIT FOR VOICE/DATA AND 1-1/2" CONDUIT FOR AV. SIZE OF HOLE SHALL BE BASED ON FIREPROOF MANUFACTURERS INSTRUCTIONS AND UL GUIDELINES. PROVIDE PROTECTIVE BUSHING AT EACH END OF CONDUIT AND INTERIOR FIREPROOFING MATERIAL AT THE TOP OF CONDUITS ABOVE PENETRATION
- 1 4" FLUSH POKE THRU ASSEMBLY WITH CONDUIT OPENINGS FOR FURNITURE FEEDS (POWER TEL/COM AND AV) (COORDINATE COLOR WITH ARCHITECT)
- 2 4" FLUSH POKE THRU ASSEMBLY WITH SURFACE MOUNTED QUAD RECEPTACLE. AND PROVISIONS FOR TEL/COM CONNECTIVITY (COORDINATE COLOR WITH ARCHITECT)
- 3 4" FLUSH POKE THRU ASSEMBLY WITH RECESSED RECEPTACLE. AND PROVISIONS FOR TEL/COM CONNECTIVITY (COORDINATE COLOR WITH ARCHITECT)
- 4 6" LARGE CAPACITY FLUSH POKE THRU ASSEMBLY WITH CONDUIT OPENINGS FOR FURNITURE FEEDS (POWER TEL/COM AND AV) (COORDINATE COLOR WITH ARCHITECT)
- 5 6" LARGE CAPACITY FLUSH POKE THRU ASSEMBLY WITH QUAD RECEPTACLE AND PROVISIONS FOR TEL/COM CONNECTIVITY (COORDINATE COLOR WITH ARCHITECT)
- 6 8" LARGE CAPACITY FLUSH POKE THRU ASSEMBLY WITH QUAD RECEPTACLE AND PROVISIONS FOR VOICE / DATA AND A/V CONNECTIVITY. (COORDINATE COLOR WITH ARCHITECT)

LIGHTING CONTROLS

CENTERLINE 4'-0" A.F.F., REFER TO SPECIFICATIONS FOR MANUFACTURER AND CATALOG NUMBERS.

- $a SINGLE POLE SWITCH, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE.
- $2a TWO POLE SWITCH, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE.
- $3a THREE WAY SWITCH, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE.
- $4a FOUR WAY SWITCH, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE.
- $Da WALL MOUNTED DIMMER SWITCH/ CONTROLLER, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE
- $KS KEY OPERATED SWITCH
- $OR WALL MOUNTED LOW VOLTAGE LIGHTING CONTROL SWITCH FOR LIGHTING CONTROL ZONE OVERRIDE
- $OS WALL MOUNTED OCCUPANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, SINGLE POLE, 277/120V
- $OS2 WALL MOUNTED OCCUPANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, TWO POLE, 277/120V
- $OSD WALL MOUNTED OCCUPANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, SINGLE POLE, 277/120V, 0-10 DIMMING
- $PE PHOTO CONTROL SWITCH, WEATHER PROOF, 277/120V.
- $PL WALL SWITCH WITH PILOT LIGHT.
- $SS WALL MOUNTED, LOW VOLTAGE LIGHTING CONTROL SWITCH FOR SCENE SELECTION, PROVIDE WITH FIVE (5) SCENE SELECTIONS AND RAISE / LOWER.
- $TS TIME SWITCH (WITH DIGITAL COUNTDOWN AND VISUAL WARNING)
- $VS WALL MOUNTED VACANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, SINGLE POLE, 277/120V
- $VS2 WALL MOUNTED VACANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, TWO POLE, 277/120V
- $VSD WALL MOUNTED VACANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, SINGLE POLE, 277/120V, 0-10 DIMMING
- X LIGHTING CONTROL SCENARIO KEY SYMBOL
- LC MULTI-ZONE PRESET SCENE CONTROLLER / DIMMER WITH USER PROGRAMMABLE ZONE AND SCENE NAMES, TEMPORARY LOCAL OVERRIDES. INDIVIDUAL RAISE / LOWER BUTTONS TO ALLOW ZONES TO BE ADJUSTED WITHOUT ALTERING SCENE VALUES STORED IN MEMORY
- LCP LIGHTING CONTROL PANEL WITH PROGRAMMABLE SWITCHING AND DIMMING FOR LIGHTING CIRCUITS, INTEGRAL TIME CLOCK, SYSTEM INPUTS FOR REMOTE ACTUATION AND SCHEDULE OVERRIDES, CAPABLE OF CONTROLLING RECEPTACLE LOADS, OPTIONAL BAS INTEGRATION, CAN BE PART OF A DISTRIBUTED CONTROL STRATEGY
- DS CEILING MOUNTED DAYLIGHT SENSOR
- OS1 / VS1 CEILING MOUNTED OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) (MANUAL ON) WITH PASSIVE INFRARED(PIR) MOTION SENSOR TO COVER RANGE UP TO 450 SQ.FT., 277 / 120V POWER PACK
- OS2 / VS2 CEILING MOUNTED OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) (MANUAL ON) WITH DUAL TECHNOLOGY INFRARED (PIR AND ULTRASONIC) MOTION SENSOR TO COVER RANGE UP TO 2000 SQ.FT.WITH INTEGRAL CONTRACT CLOSURE FOR INTEGRATION WITH HVAC OR SECURITY SYSTEM, 277 / 120V POWER PACK
- OS1 / VS1 WALL MOUNTED OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) (MANUAL ON) WITH DUAL TECHNOLOGY INFRARED (PIR AND ULTRASONIC) MOTION SENSOR TO COVER RANGE UP TO 1600 SQ.FT.WITH INTEGRAL CONTRACT CLOSURE FOR INTEGRATION WITH HVAC OR SECURITY SYSTEM, 277 / 120V POWER PACK

LUMINAIRES

- 1X4 RECESSED TROFFER
- 2X4 RECESSED TROFFER
- 2X2 RECESSED TROFFER
- 1X4 INDUSTRIAL STRIP LIGHT LUMINAIR
- A a RECESSED OR PENDANT DOWN LIGHT
- A a RECESSED WALL WASH LUMINAIR
- A a WALL MOUNTED LUMINAIR
- A a PENDANT LUMINAIR
- TRACK LIGHTING
- RBB ELU REMOTE BATTERY BACK UP
- BATTERY BACK UP ELU
- REMOTE BATTERY BACK UP ELU
- WALL MOUNTED EXIT SIGN ARROW DESIGNATES DIRECTION
- CEILING MOUNTED EXIT SIGN ARROW DESIGNATES DIRECTION

POWER AND LIGHTING CIRCUIT DESIGNATIONS

- TRPA5;2 — TYPICAL CIRCUIT DESIGNATION ADJACENT TO DEVICE NOTING PANELBOARD ID AND CIRCUIT NUMBER
- TRPA5;2 — TYPICAL CIRCUIT DESIGNATION NOTING PANELBOARD ID AND CIRCUIT NUMBER FOR ALL DEVICES IN A ROOM OR SPACE
- TRPA5 — TYPICAL CIRCUIT DESIGNATION NOTING PANELBOARD ID AND CIRCUIT NUMBER FOR ALL DEVICES IN A ROOM OR SPACE. CIRCUIT NUMBER IS SHOWN ONLY WITH DEVICE

LIGHTING ID AND CIRCUIT DESIGNATIONS

- LR3 — LUMINAIRE TYPE
- LH1;8 — BRANCH CIRCUIT DESIGNATION
- a — SWITCH CONTROL OR LIGHTING CONTROL ZONE

MOUNTING HEIGHTS - ELECTRICAL EQUIPMENT

9" BELOW FINISH CEILING	• WALL MOUNTED BELLS AND FIRE ALARM SOUNDING DEVICE OR AS SHOWN ON ARCHITECTURAL DETAILS) • TV MONITOR OUTLET AND SERVICE RECEPTACLE FOR SHELF MOUNTED TV
CENTERED ABOVE DOOR OR WINDOW OPENING	• WARNING AND SIGNALING FIXTURES / SIGNS
6'-8"	• FIRE ALARM STROBES OR COMBINATION DEVICES WITH STROBES SHALL BE MOUNTED SO THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE FINISHED FLOOR. IF CEILING DOES NOT PERMIT A MOUNTING HEIGHT OF AT LEAST 80" ABOVE FINISHED FLOOR, THE LENS OF THE DEVICE SHALL BE 6" OFF THE FINISHED CEILING.
6'-6"	• TOP OF FLUSH AND SURFACE MOUNTED ELECTRICAL LIGHTING OR POWER PANEL BOARDS AND TELEPHONE CABINETS.
6'-6"	• TOP OF BACK MOUNTED WALL EXIT FIXTURES (NOT MOUNTED ABOVE DOORS)
6'-0"	• TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES ,MAGNETIC STARTERS, COMBINATION STARTERS, VFD'S AND CONTACTORS
4'-6"	• TOP OF WALL MOUNTED TELEPHONE AND PAY STATIONS. WALL MOUNTED INTERCOM, NURSE CALL STATIONS AND CLOCK CONTROL PANELS (3'-6" AT ADA LOCATIONS)
4'-0" TO TOP OF BOX	• WALL MOUNTED ELECTRICAL DEVICES SUCH AS: LIGHTING SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, AND FIRE ALARM PULL STATIONS, • GFI OUTLETS IN TOILET ROOMS, • LOAD CENTERS IN DWELLING UNITS, • INCLUDE ALL FLOOR EQUIPMENT IN LABS AND EQUIPMENT ROOMS.
1'-6"	• ELECTRICAL RECEPTACLES INCLUDING THOSE USED WITHIN MECHANICAL SPACES AND ELEVATOR ROOMS • TELEPHONE, DATA AND COMMUNICATION OUTLETS • CATV AND A/V JUNCTION BOXES.

MOUNTING HEIGHT NOTES

1. MOUNTING HEIGHTS SHALL BE 18" TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IF ELECTRICAL OUTLET HEIGHT OR ANGLE VARIES, COORDINATE WITH GC FOR INSTALLATION. IF IN MASONRY CONSTRUCTION, THE ABOVE HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
2. MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE ARCHITECTURE DRAWING OR SPECIFICATIONS.
3. A "+" BESIDE A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE COUNTER OR CASEWORK. COORDINATE THE MOUNTING HEIGHT WITH ARCHITECTURAL DETAILS AND CASEWORK CONTRACTOR.
4. ALL DEVICES SHOWN ON DRAWINGS ARE DIAGRAMMATIC IN LOCATION AND SHOWN FOR GENERAL WIRING PURPOSES ONLY. ALL DEVICES INDICATED TO BE INSTALLED IN THE SAME LOCATIONS WITH DIFFERENT ELEVATIONS SHALL BE ALIGNED VERTICALLY AND HORIZONTALLY. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS OF SWITCHES, OUTLETS, FIRE ALARM NOTIFICATION DEVICES, FIRE ALARM PULL STATIONS, CLOCKS, CARD READERS AND OTHER SECURITY DEVICES, THERMOSTATS, SENSORS, ETC.
5. COORDINATE ALL LOCATIONS AND MOUNTING HEIGHTS WITH AHU, ADA REQUIREMENTS AND OTHER TRADES.

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Sandra A. Heiler

NOT ALL DEVICES AND EQUIPMENT SHOWN IN LEGENDS ARE REQUIRED. REVIEW ALL ELECTRICAL SHEETS FOR ITEMS WHICH APPLY TO THIS PROJECT.

DRAWING LIST - ELECTRICAL

DRAWING NUMBER	DRAWING TITLE	04/22/20 - DD SUBMISSION	05/15/20 - 95%CD REVIEW	07/13/20 - PERMIT SUBMISSION
E0.01	ELECTRICAL LEGENDS AND ABBREVIATIONS	❍	●	●
E0.02	ELECTRICAL SPECIFICATIONS	❍	●	●
E0.11	PANEL SCHEDULES		❍	●
E0.12	SCHEDULE OF KITCHEN EQUIPMENT CONNECTIONS - ELECTRICAL		❍	●
E0.21	LIGHTING FIXTURE SCHEDULE	❍	●	●
E0.22	PANEL SCHEDULES AND POWER RISER DIAGRAM	❍	●	●
E1.0	POWER AND SYSTEMS BASEMENT PLAN	❍	●	●
E1.1	POWER AND SYSTEMS FIRST FLOOR PLAN	❍	●	●
E1.2	POWER AND SYSTEMS SECOND FLOOR PLAN	❍	●	●
E1.3	POWER AND SYSTEMS ATTIC PLAN	❍	●	●
E2.0	LIGHTING BASEMENT PLAN	❍	●	●
E2.1	LIGHTING FIRST FLOOR PLAN	❍	●	●
E2.2	LIGHTING SECOND FLOOR PLAN	❍	●	●
E2.3	LIGHTING ATTIC PLAN	❍	●	●

REVISION LEGEND: ❍ NEW ISSUE; ● REVISED ISSUE; ♦ REVISED, NOT ISSUED; ☒ REMOVED FROM DRAWING SET; ☐ ISSUED, NOT REVISED

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STATE OF MARYLAND — ROBERT STEPHEN SPINAZZOLA — No. 14749 — PROFESSIONAL ENGINEER
R. Stephen Spinazzola

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

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#	DATE	DESCRIPTION
1	04/22/20	DD SUBMISSION
2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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DATE: 07.13.2020

ELECTRICAL LEGENDS AND ABBREVIATIONS

E0.01

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

ELECTRICAL SPECIFICATIONS

1. SECTION 260000 – GENERAL REQUIREMENTS FOR ELECTRICAL

A. THE WORK OF EACH OF THE ELECTRICAL SECTIONS INCLUDES FURNISHING AND INSTALLING THE MATERIAL, EQUIPMENT, AND SYSTEMS COMPLETE AS SPECIFIED AND/OR INDICATED ON THE DRAWINGS. THE ELECTRICAL INSTALLATIONS, WHEN FINISHED, SHALL BE COMPLETE AND COORDINATED, READY FOR SATISFACTORY SERVICE.

B. THE WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, AND OTHER LOCAL CODES, THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE, AND THE LATEST EDITION OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG).

C. THE CONTRACTOR SHALL MAKE APPLICATION AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS AS REQUIRED UNDER THE ABOVE CODES.

D. THE GENERAL ARRANGEMENT OF CONDUIT, WIRING AND EQUIPMENT SHALL BE AS IDENTIFIED ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE SITE, STRUCTURAL, AND FINISH CONDITIONS AFFECTING HIS WORK AND SHALL ARRANGE SUCH WORK ACCORDINGLY, PROVIDING SUCH FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.

E. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SERVICES NECESSARY FOR AND REASONABLY INCIDENTAL TO THE COMPLETE INSTALLATION OF THE ELECTRICAL WORK AND RELATED SYSTEMS AS INDICATED ON THE DRAWINGS OR AS NECESSARY TO PROVIDE A COMPLETE SYSTEM.

F. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY WIRING, LIGHTING AND CONSTRUCTION POWER FOR ALL TRADES AS REQUIRED TO COMPLETE THE PROJECT.

G. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED AND COMPLETED IN A FIRST-CLASS WORKMANLIKE MANNER. ALL MATERIALS SHALL BE NEW AND THE BEST OF THEIR RESPECTIVE KINDS. ALL EQUIPMENT AND SYSTEMS SHALL BE APPROVED BY UL OR SIMILAR NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL).

H. A THOROUGH TEST SHALL BE MADE PRIOR TO ENERGIZING THE SYSTEM TO DEMONSTRATE THAT THE SYSTEM IS ENTIRELY FREE FROM GROUND FAULTS, SHORT CIRCUITS, AND OPEN CIRCUITS; THAT THE RESISTANCE TO GROUND ALL NON-GROUNDED CIRCUITS, BEFORE AND AFTER CONNECTION OF EQUIPMENT MEETS THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND IEEE STANDARDS/RECOMMEND-ATIONS.

I. IDENTIFY ALL MOTOR STARTERS, SWITCHES, CONTROLS, PANELBOARDS, TERMINAL BOARDS, CONTROL CENTERS AND OTHER EQUIPMENT. IDENTIFICATION PLATES SHALL BE LAMINATED PLASTIC, BLACK AND WHITE ENGRAVED LETTERS. LETTERING FOR CONTROL CENTERS, CONTROL PANELS, METERING AND INSTRUMENT PANELS SHALL BE 3/8" HIGH.

J. PROVIDE UPDATED DIRECTORIES FOR EACH PANELBOARD (EXISTING AND NEW) INDICATING THE TYPE LOAD (LIGHTING, RECEPTACLE, HEATER, ETC.) SERVED BY EACH CIRCUIT BREAKER, AS WELL AS THE ROOM IN WHICH THE LOAD IS LOCATED. VERIFY ALL EXISTING LOADS, AND PROVIDE SAME INFORMATION FOR EACH CIRCUIT, INCLUDING EXISTING LOADS, AS INDICATED HEREINBEFORE. PROVIDE ELECTRONIC COPIES OF EACH PANELBOARD DIRECTORY, ON EITHER COMPUTER DISKETTE OR CD-ROM, WITH THE OPERATION AND MAINTENANCE MANUALS.

K. THE MATERIAL AND WORKMANSHIP OF ALL PARTS OF THE ELECTRICAL INSTALLATION SPECIFIED HEREIN SHALL BE GUARANTEED UNCONDITIONALLY FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.

L. UPON COMPLETION OF THE ELECTRICAL INSTALLATION, THE CONTRACTOR SHALL DELIVER TO THE OWNER ONE (1) SET OF PRINTS OF ELECTRICAL CONTRACT DRAWINGS WHICH SHALL BE LEGIBLY MARKED IN RED PENCIL TO SHOW ALL ADDITIONS, CHANGES AND DEPARTURES OF THE INSTALLATION AS COMPARED WITH THE ORIGINAL DESIGN. THEY SHALL BE SUITABLE FOR USE IN PREPARATION OF RECORD DRAWINGS.

M. THE CONTRACTOR SHALL PREPARE THREE (3) COPIES OF A RECORD AND INFORMATION MANUAL. THE MANUAL SHALL BE BOUND IN A THREE-RING LOOSE-LEAF BINDER. PROVIDE THE FOLLOWING DATA IN THE BOOKLET:

1. CUTS OF ALL EQUIPMENT WITH TECHNICAL SPECIFICATIONS.
2. OPERATION AND MAINTENANCE PROCEDURES.
3. SERVICING INSTRUCTIONS.
4. COPIES OF PANELBOARDS DIRECTORIES.
5. COPIES OF WARRANTIES.
6. LIST OF LAMPS SHOWING QUANTITY, TYPE, WATTAGE, MANUFACTURER, CATALOG NUMBER, ETC., FOR EACH FIXTURE TYPE.
7. COPIES OF TEST REPORTS.

N. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES. THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ALL OTHER DRAWINGS AND SPECIFICATIONS SHALL BE CONSULTED AND COORDINATED WITH PRIOR TO ROUGH-IN. SWITCHES SHALL BE LOCATED ON THE LATCH SIDE OF THE DOOR OPENING AS INDICATED ON THE ARCHITECTURAL DRAWINGS. COORDINATE MOUNTING OF ALL DEVICES WITH CASEWORK, CHALK OR MARKER BOARDS, TACKBOARDS, TOILET ACCESSORIES, ETC.

O. PROVIDE A DISCONNECT FOR EACH MOTOR AS SHOWN ON THE DRAWINGS SIZED AS REQUIRED TO MEET THE NEC AND PROVIDE ALL WIRING CONNECTIONS FROM SOURCE. PROVIDE REQUIRED VOLTAGE.

P. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS AND FLOORS TO MAINTAIN RATING INTEGRITY. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE AND SMOKE RATINGS OF WALLS, FLOORS, CEILINGS, ETC.

Q. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDULET SEALING FITTINGS WITH APPROVED SEALING COMPOUND ON ALL CONDUITS PASSING FROM INTERIOR TO EXTERIOR OF A BUILDING, OR BETWEEN AREAS OF WIDELY DIFFERING TEMPERATURES (SUCH AS A REFRIGERATED UNIT OR AIR HANDLING SYSTEM) WITHIN THE BUILDING. FITTINGS FOR REFRIGERATED UNITS OR AIR HANDLING SYSTEMS SHALL BE INSTALLED ON THE EXTERIOR OF THE UNIT, WITHIN 6" OF THE UNIT. ALL UNIT WALL/CEILING PENETRATIONS SHALL BE SEALED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS WITH AN INSULATING SEALANT.

R. ELECTRICAL CONTRACTOR SHALL VERIFY ALL ELECTRICAL CHARACTERISTICS (VOLTAGE, PHASE, HORSEPOWER, FULL LOAD AMPERES, ETC.) OF MECHANICAL, ARCHITECTURAL, AND OTHER EQUIPMENT TO BE INSTALLED ON THIS PROJECT WITH MECHANICAL OR OTHER APPROPRIATE CONTRACTOR PRIOR TO ROUGH-IN. WHEREVER POSSIBLE, THE CONTRACTOR SHALL OBTAIN ROUGH-IN DRAWINGS FOR THE ACTUAL ITEM OF EQUIPMENT TO BE INSTALLED PRIOR TO ROUGH-IN. THIS SHALL APPLY TO ALL EQUIPMENT, WHETHER IT IS TO BE INSTALLED BY THE CONTRACTOR OR BY THE OWNER.

S. CONTRACTOR SHALL NOTE THAT BRANCH CIRCUIT WIRING IS NOT SHOWN: HOWEVER, CIRCUIT NUMBERS ARE SHOWN ADJACENT TO ALL OUTLETS/FIXTURES. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BRANCH WIRING BASED ON THE CIRCUIT NUMBERS SHOWN TO COMPLETE THE WIRING SYSTEM.

T. SHORT CIRCUIT, COORDINATION AND ARC FLASH STUDY:

1. AN INDEPENDENT FIRM, QUALIFIED AND EXPERIENCED IN SHORT CIRCUIT/COORDINATION AND ARC FLASH CALCULATION STUDIES, SHALL PERFORM A PROTECTIVE SHORT CIRCUIT STUDY FOLLOWING THE APPROVAL OF CIRCUIT PROTECTIVE DEVICES. THE STUDY SHALL BE PERFORMED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER (P.E.).

2) THE STUDY SHALL BE IN ACCORDANCE WITH APPLICABLE ANSI AND IEEE STANDARDS. THE STUDY SHALL INCLUDE THE UTILITY COMPANY'S SHORT-CIRCUIT SINGLE AND THREE PHASE CONTRIBUTION, WITH THE X/R RATIO, THE RESISTANCE COMPONENTS OF EACH BRANCH IMPEDANCE, MOTOR AND GENERATOR CONTRIBUTIONS, BASE QUANTITIES SELECTED, AND ALL OTHER APPLICABLE CIRCUIT PARAMETERS. SHORT-CIRCUIT MOMENTARY DUTIES AND INTERRUPTING DUTIES SHALL BE CALCULATED ON THE BASIS OF MAXIMUM AVAILABLE FAULT CURRENT AT EACH DISTRIBUTION PANELBOARD, BRANCH CIRCUIT PANELBOARDS, AND OTHER SIGNIFICANT LOCATIONS THROUGH THE SYSTEM. PROVIDE A TABLE OF TABULATED DATA INCLUDING BUS, MAXIMUM AVAILABLE FAULT CURRENT AND DEVICE RATING.

3) PROVIDE A COORDINATION STUDY OF ALL UNIQUE OVERCURRENT PROTECTIVE DEVICE PATHS ON FULL SIZE LOG-LOG PAPER INCLUDING FUSES, RELAYS, CIRCUIT BREAKERS, TRANSFORMERS AND MOTOR STARTING CHARACTERISTICS. PROVIDE FULL RANGE OF OPERATION FOR ALL DEVICES. INCLUDE COORDINATION OF GROUND FAULT INTERRUPTING DEVICES. TABULATE THE RECOMMENDED SETTINGS OF ALL ADJUSTABLE DEVICES. THE ENTIRE SYSTEM SHALL PROVIDE GOOD SELECTIVITY AND ANY POORLY OR NON-COORDINATED DEVICES SHALL BE REPLACED WITH PROPERLY COORDINATED DEVICES.

4) THE STUDY SHALL INCLUDE A ONE-LINE DIAGRAM OF THE ENTIRE ELECTRICAL DISTRIBUTION EQUIPMENT.

5) THE STUDY SHALL INCLUDE RECOMMENDATIONS OF SUBSTITUTE EQUIPMENT AS REQUIRED TO MEET THE CALCULATED FAULT CURRENTS AND TO PROVIDE PROPER SELECTIVE COORDINATION OF OVERCURRENT PROTECTIVE DEVICES.

6) THE CONTRACTOR SHALL INCLUDE AN ALLOWANCE IN THE CONTRACT AMOUNT TO UPGRADE 10% OF THE OVERCURRENT PROTECTIVE DEVICES AND POWER DISTRIBUTION EQUIPMENT TO A HIGHER A.I.C. RATING AS REQUIRED BY THE RESULTS OF THE SHORT CIRCUIT STUDY. CHANGES REQUIRED TO MEET PROPER COORDINATION SHALL BE MADE AT NO ADDITIONAL EXPENSE TO THE OWNER.

7) THE STUDY SHALL INCLUDE ARC FLASH CALCULATIONS AND A FLASH HAZARD ANALYSIS IN ACCORDANCE WITH IEEE STD 1584, "GUIDE FOR PERFORMING ARC FLASH HAZARD CALCULATIONS," OSHA – 9CFR PART 1910, AND THE LATEST EDITION OF NFPA-70E, "STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE."

8) PROVIDE ARC FLASH WARNING SIGN ON EACH PANELBOARD, OR OTHER EQUIPMENT REQUIRED BY NFPA-70E. WARNING SIGNS SHALL PROVIDE INFORMATION AND WARNINGS AS REQUIRED BY OSHA AND NFPA-70E, AND WILL INCLUDE THE CALCULATED ARC FLASH DATA FOR EACH SPECIFIC INSTALLATION/LOCATION INCLUDING:

a. FLASH PROTECTION BOUNDARY
b. INCIDENT ENERGY EXPOSURE
c. PERSONNEL PROTECTIVE EQUIPMENT HAZARD RISK CATEGORY]

2. SECTION 260525 - BASIC ELECTRICAL MATERIALS AND METHODS

A. INSTALL ALL WIRING IN CONDUIT EXCEPT AS OTHERWISE INDICATED. MINIMUM CONDUIT SIZE SHALL BE 3/4" MINIMUM. INSTALL ALL CONDUIT CONCEALED UNLESS ON UNFINISHED WALLS, ON UNFURRED CEILINGS OR MECHANICAL EQUIPMENT SPACES, OR AS NOTED. PROVIDE CONDUIT AS FOLLOWS:

1. RIGID STEEL CONDUIT FOR WORK EXPOSED TO WEATHER OR EMBEDDED IN CONCRETE OR MASONRY.

2) GALVANIZED ELECTRICAL METALLIC TUBING (EMT) FOR INTERIOR EXPOSED WORK, CONCEALED WORK ABOVE SUSPENDED CEILINGS, AND WITHIN INTERIOR PARTITIONS OR NON-MASONRY WALLS.

3) FLEXIBLE METAL CONDUIT IN SHORT LENGTHS (6' MAXIMUM) FOR THE CONNECTION OF RECESSED LIGHTING FIXTURES AND MOTORS.

4) LIQUID TIGHT FLEXIBLE METAL CONDUIT WHEREVER MOISTURE MAY BE PRESENT AND MOTORS IN MECHANICAL EQUIPMENT SPACES.

5) POLYVINYLCHLORIDE (PVC) SCHEDULE 40 CONDUIT WITH GROUND CONDUCTOR FOR UNDERGROUND OUTSIDE OF BUILDING (SITE) INSTALLATION.

B. INSTALL CONDUITS PARALLEL AND PERPENDICULAR TO WALLS AND INTERIOR SURFACES. CLEAN AND PLUG AND PROVIDE A PULL LINE IN EACH CONDUIT TO BE LEFT EMPTY. USE MANUFACTURED ELBOWS AND SCREW JOINTED CONDUIT FITTINGS. USE CAPPED BUSHINGS OR "PUSH PENNY" PLUGS.

C. ALL OUTLET, SWITCH AND JUNCTION BOXES, SHALL BE SHERARDIZED OR GALVANIZED STAMPED STEEL BY STEEL CITY, RACO, APPLETON, VALEN, OR EQUIVALENT. OUTLET BOXES IN CONCRETE CONSTRUCTION SHALL BE OCTAGONAL. NO "THRU-WALL" BOXES SHALL BE USED IN PARTITIONS. ALL BOXES WILL BE FURNISHED WITH APPROPRIATE COVERS.

D. JUNCTION AND PULL BOXES SHALL BE FURNISHED AND INSTALLED AS INDICATED OR WHERE REQUIRED TO FACILITATE PULLING OF WIRES OR CABLES. BOXES FOR EXTERIOR WORK SHALL BE CAST ALUMINUM OR GALVANIZED CAST IRON TYPE WITH THREADED HUBS, UNLESS OTHERWISE DIRECTED. GASKETED COVER PLATES SHALL BE FURNISHED FOR OUTDOOR INSTALLATIONS.

E. BUILDING WIRE, UNLESS OTHERWISE INDICATED, SHALL BE COPPER, 600 VOLT, TYPE THWN/THHN INSULATION, #12 AWG MINIMUM, FOR INTERIOR AND EXTERIOR USE. THE WIRE SIZE INDICATED IN THE HOMERUN SHALL BE USED THROUGHOUT THE CIRCUIT.

1. AT THE CONTRACTOR'S OPTION, COMPACT STRANDED ALUMINUM ALLOY CONDUCTORS, MAY BE UTILIZED FOR FEEDERS IN SIZES #2 AWG AND LARGER. ALUMINUM ALLOY CONDUCTORS SHALL BE COMPACT STRANDED CONDUCTORS OF STABILOY ® (AA-8030) AS MANUFACTURED BY ALCAN CABLE OR APPROVED EQUAL. AA-8000 SERIES ALUMINUM ALLOY CONDUCTOR MATERIAL SHALL BE RECOGNIZED BY THE ALUMINUM ASSOCIATION. ALUMINUM CONDUCTORS SHALL BE INSULATED WITH TYPE XHHW-2 INSULATION, AND SHALL BE SUITABLE FOR OPERATION AT 600 VOLTS OR LESS AT A MAXIMUM OPERATING TEMPERATURE OF 90°C MAXIMUM IN WET OR DRY LOCATIONS. CONDUCTORS SHALL BE MARKED AS SUNLIGHT RESISTANT.

2) NOTE THAT CONDUCTOR SIZES INDICATED ON THE DRAWINGS ARE BASED ON THE USE OF COPPER CONDUCTORS FOR ALL SIZES. SHOULD THE CONTRACTOR ELECT TO UTILIZE ALUMINUM CONDUCTORS AS PERMITTED HEREIN, ALUMINUM CONDUCTORS OF EQUIVALENT OR GREATER AMPACITY AS THE COPPER CONDUCTORS INDICATED SHALL BE PROVIDED. CONDUIT SIZES SHALL BE MODIFIED BY THE CONTRACTOR AS REQUIRED TO MAINTAIN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA-70).

F. FOR BRANCH CIRCUITS (UNDER 50 AMPS) INSTALLED ABOVE DROPPED CEILINGS AND WITHIN DRYWALL PARTITIONS, TYPE MC (METAL CLAD) CABLE MAY BE USED WHERE PERMITTED BY THE NEC AND LOCAL CODES. NO ROMEX OR BX CABLE SHALL BE PERMITTED.

G. MINIMUM WIRE SIZE SHALL BE NUMBER TWELVE (12) AWG. NO SPLICES SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES. WIRES NUMBER EIGHT (8) AWG AND LARGER SHALL BE STRANDED. WIRES AND CABLES SHALL BE AS MANUFACTURED BY PIRELLI, ROYAL, TRIANGLE OR EQUIVALENT.

H. NO SHARING OF NEUTRAL CONDUCTORS SHALL BE PERMITTED. EACH CIRCUIT REQUIRING A NEUTRAL CONDUCTOR CONNECTION SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR FOR EACH PHASE CONDUCTOR. NEUTRAL CONDUCTOR SHALL BE SIZED AT 100% OF THE AMPACITY OF THE PHASE CONDUCTORS.

I. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL BRANCH CIRCUITS AND FEEDERS SIZED IN ACCORDANCE WITH THE NEC.

J. THE COLOR CODING SYSTEM LISTED BELOW SHALL BE USED THROUGHOUT THE BUILDING:

SYSTEM

120/208V

PHASE A - BLACK
PHASE B - RED
PHASE C - BLUE
NEUTRAL - WHITE
GROUND - GREEN
ISOLATED GROUND CONDUCTORS SHALL BE GREEN WTH YELLOW STRIPE.

K. ALL BRANCH CIRCUITS SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING GRID SYSTEM. PROVIDE SUPPORTS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

L. PROVIDE DISCONNECT SWITCHES WHERE INDICATED AND AS REQUIRED. SWITCHES SHALL BE OF SIZE, NUMBER OF POLES AND FUSED OR NON-FUSED, AS REQUIRED FOR JOB CONDITIONS AND THE NATIONAL ELECTRICAL CODE. ALL SAFETY SWITCHES SHALL BE NEMA 1 ENCLOSURE TYPE "HD" WITH INTERLOCKING COVER AND HANDLE, MANUFACTURED BY SQUARE "D" OR APPROVED EQUAL. PROVIDE NEMA 3R ENCLOSURES WHERE REQUIRED.

M. PROVIDE STARTERS AND CONTROL WIRING AS INDICATED ON THE DRAWINGS, OR SPECIFIED HEREIN. ALL TEMPERATURE CONTROL WIRING AND COMPONENTS SHALL BE BY THE MECHANICAL CONTRACTOR.

N. PROVIDE THERMAL MANUAL MOTOR STARTING SWITCHES FOR FRACTIONAL HORSEPOWER, SINGLE PHASE MOTORS. THE STARTERS SHALL BE SQUARE D COMPANY, CLASS 2510, ALLEN BRADLEY BULLETIN 600, OR APPROVED EQUAL FOR SINGLE SPEED MOTORS. ENCLOSURES SHALL BE NEMA 1 FOR INTERIOR USE AND NEMA 3R FOR EXTERIOR USE.

O. THREE PHASE MOTOR STARTERS SHALL BE 3 POLE, FULL-VOLTAGE, MAGNETIC TYPE. ENCLOSURES SHALL BE NEMA 1 FOR INTERIOR USE AND NEMA 3R FOR EXTERIOR USE. PROVIDE HOA SWITCH WHEN AUTOMATICALLY CONTROLLED, HIGH-LOW SWITCH FOR TWO-SPEED MOTORS, PILOT INDICATING LIGHT, CONTROL TRANSFORMER, AND NO/NC AUXILIARY CONTACTS. STARTERS SHALL BE SQUARE D COMPANY, CLASS 8536 AND CLASS 8538 COMBINATION TYPE OR APPROVED EQUAL.

P. PRIOR TO PURCHASE AND INSTALLATION OF ANY MOTOR CONTROL EQUIPMENT (STARTERS, ETC.), THE CONTRACTOR WILL VERIFY THE ACTUAL MOTOR ELECTRICAL CHARACTERISTICS. STARTER OVERLOADS SHALL BE SIZED IN ACCORDANCE WITH ACTUAL MOTOR NAMEPLATE RUNNING LOAD AMPERES.

Q. WIRING DEVICES SHALL BE INDUSTRIAL SPECIFICATION GRADE, BY PASS & SEYMOUR OR APPROVED EQUAL BY ARROW HART, GENERAL ELECTRIC, HUBBELL OR LEVITON. DEVICE COLOR SHALL BE AS SELECTED BY THE ARCHITECT FROM THE MANUFACTURERS STANDARD COLORS. WIRING DEVICES SHALL BE EQUAL TO THE FOLLOWING PASS & SEYMOUR CATALOG NUMBERS:

1. WALL SWITCHES SHALL BE OF THE HEAVY DUTY COMMERCIAL SPECIFICATION GRADE, SILENT MECHANICAL TYPE RATED 20 AMPERE, 120/277 VOLT A.C. SINGLE POLE SWITCHES SHALL BE PASS & SEYMOUR PS20AC1. THREE AND FOUR-WAY SWITCHES SHALL BE OF THE SIMILAR MANUFACTURER AND GRADE.

2) RECEPTACLES: RECEPTACLES SHALL BE RATED 20 AMPERE, 125 VOLTS, DUPLEX, THREE-WIRE WITH THIRD POLE GROUNDED. RECEPTACLES SHALL BE PASS & SEYMOUR PS5362

3) GFI (GFCI) PROTECTED RECEPTACLES:

a. PROVIDE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTED RECEPTACLES WHEREVER REQUIRED BY THE NATIONAL ELECTRICAL CODE, WHETHER INDICATED ON THE DRAWINGS OR NOT.

b) WHERE GFCI PROTECTION IS REQUIRED FOR A DEVICE WHICH IS NORMALLY CONCEALED WHILE IN SERVICE, SUCH AS ELECTRIC WATER COOLERS, REFRIGERATORS, FREEZERS, VENDING MACHINES, AND SIMILAR INSTALLATIONS, GFCI PROTECTION SHALL BE PROVIDED BY A GFCI TYPE CIRCUIT BREAKER AT THE PANELBOARD. DO NOT INSTALL GFCI TYPE RECEPTACLES WHERE DEVICE IS CONCEALED BY THE EQUIPMENT SERVED IN NORMAL OPERATION.

c) GROUND FAULT CIRCUIT INTERRUPTER DEVICES SHALL MEET ALL REQUIREMENTS OF UL STANDARD 943 – "GROUND-FAULT CIRCUIT-INTERRUPTERS," LATEST EDITION. GROUND FAULT CIRCUIT INTERRUPTER TYPE RECEPTACLES SHALL BE PASS & SEYMOUR 2095 RATED 20 AMPERE, 125 VOLTS.

d) WHERE GFCI RECEPTACLES ARE SHOWN IN THE SAME ROOM AND ON THE SAME CIRCUIT, ONE GFCI TYPE RECEPTACLE MAY BE UTILIZED FOR PROTECTION TO THE OTHERS DOWN THE LINE. GFCI RECEPTACLE SHALL NOT DE-ENERGIZE RECEPTACLES DOWN LINE ON THE SAME CIRCUIT IF NOT IDENTIFIED AS GFCI/GFP (GROUND FAULT PROTECTED) TYPE RECEPTACLES.

e) PROVIDE DEDICATED NEUTRAL CONDUCTORS FOR EACH PHASE CONDUCTOR FOR ALL GFCI PROTECTED CIRCUITS. SHARING OF NEUTRAL CONDUCTORS FOR GFCI PROTECTED CIRCUITS SHALL NOT BE PERMITTED.

f) TEST ALL GROUND FAULT CIRCUIT INTERRUPTER DEVICES IN ACCORDANCE WITH MANUFACTURER'S AND INTERNATIONAL ELECTRICAL TESTING ASSOCIATION REQUIREMENTS IMMEDIATELY PRIOR TO OWNER/TENANT OCCUPANCY TO VERIFY THEIR PROPER OPERATION. REPLACE ANY DEFECTIVE DEVICES PRIOR TO OCCUPANCY.

4) SPECIAL WIRING DEVICES: SHALL BE INDUSTRIAL SPECIFICATION GRADE AS MANUFACTURED BY PASS & SEYMOUR, ARROW HART, GENERAL ELECTRIC, HUBBELL OR LEVITON. DEVICE CONFIGURATION SHALL BE AS INDICATED ON THE DRAWINGS OR AS REQUIRED TO SUIT THE EQUIPMENT SERVED. VERIFY DEVICE CONFIGURATIONS PRIOR TO ORDERING OF DEVICES.

R. MOUNT WEATHERPROOF DEVICES IN CAST METAL BOXES WITH WEATHERPROOF COVERS WHICH ARE U.L. LISTED AS "SUITABLE FOR WET LOCATIONS WITH OUTLET IN USE." WEATHERPROOF COVERS SHALL BE HIGH-IMPACT POLYCARBONATE CONSTRUCTION, AND SHALL BE SUITABLE FOR INSTALLATION OF AN OWNER FURNISHED PADLOCK TO PREVENT TAMPERING OR UNAUTHORIZED USE OF THE OUTLET PROTECTED. IN USE TYPE WEATHERPROOF OUTLET COVERS SHALL BE HUBBELL/RACO RAYNTITE II SERIES COVERS IN CONFIGURATION TO SUIT OUTLET ARRANGEMENT.

S. THE ENTIRE ELECTRICAL SYSTEM SHALL BE SOLIDLY GROUNDED INCLUDING MAIN SERVICE EQUIPMENT, DISCONNECT SWITCHES, WIRING TROUGHS AND PULL BOXES, CONDUIT SYSTEM, OUTLET BOXES, MOTORS, ELECTRIC HEATING EQUIPMENT, LIGHTING FIXTURES, EMERGENCY SYSTEMS, AND FIRE ALARM SYSTEMS.

T. THE MAIN SERVICE GROUNDING SYSTEM SHALL CONSIST OF THREE BRANCHES PER NEC ARTICLE 250. THE GROUND SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS.

U. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT ALL ELECTRICAL WORK TO BE INSTALLED IN FINISHED AREAS BE INSTALLED CONCEALED WITHIN NEW OR EXISTING WALLS, FLOORS OR CEILINGS. ANY AND ALL CUTTING AND PATCHING OF SURFACES SHALL BE INCLUDED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECTURAL DRAWINGS TO DETERMINE WHICH WALLS ARE NEW AND WHICH WALLS ARE EXISTING TO REMAIN. EXISTING WALLS SHALL BE PATCHED READY TO RECEIVE NEW FINISHES WHERE APPLICABLE, OR SHALL BE PATCHED TO MATCH SURROUNDING SURFACES WHERE NEW FINISHES ARE NOT INDICATED. ALL PATCHING SHALL BE DONE TO THE COMPLETE SATISFACTION AND APPROVAL OF THE ARCHITECT. SURFACE METAL RACEWAYS SHALL BE PERMITTED IN FINISHED AREAS ONLY WHERE SPECIFICALLY APPROVED IN THE FIELD BY THE ARCHITECT.

V. GROUND, PHASE AND NEUTRAL CONDUCTORS SHALL BE PIG-TAILED IN OUTLET BOXES OR MULTI-OUTLET ASSEMBLY FOR RECEPTACLES SO THAT GROUND AND ELECTRICAL SERVICE SHALL NOT BE DISTURBED TO OTHER RECEPTACLES ON THE SAME MULTI-WIRE CIRCUIT IF RECEPTACLE IS REMOVED.

3. SECTION 264000 - SERVICE AND DISTRIBUTION

A. ELECTRICAL SERVICE SHALL BE BY THE POWER COMPANY. PROVIDE SCHEDULE 40 PVC SERVICE CONDUITS WHERE INDICATED FOR THE INCOMING SERVICE. COORDINATE ALL WORK WITH THE POWER COMPANY.

B. DISTRIBUTE POWER AT 120/208V, 3 PHASE, 4 WIRE, FOR AIR CONDITIONING, ELECTRIC HEATING, MOTOR CIRCUITS, AND 120/208V FOR RECEPTACLES, LED LIGHTS AND SMALL MOTORS.

C. PANELBOARDS SHALL BE 120/208 VOLT, THREE PHASE EMPLOYING BREAKERS MINIMUM 10,000 SYMMETRICAL A.I.C. AT 120 VOLTS OR 240 VOLTS. FURNISH PANELBOARDS AS INDICATED:

MANUFACTURER	120/208V
SQUARE D	NQOD
CUTLER HAMMER	POW-R-LINE 1
SIEMENS	SENTRON S1 SERIES

D. PANELBOARDS SHALL BE FACTORY ASSEMBLED WITH BOLT-ON TYPE CIRCUIT BREAKERS. BUSS SHALL BE ALUMINUM. PANELS 600 AMPS OR LARGER SHALL BE SQUARE-D I-LINE TYPE OR EQUAL. PROVIDE 50% GROUND BUS BAR.

E. CIRCUIT NUMBERS ARE FOR GUIDANCE ONLY, BALANCE LOADS AS CLOSELY AS POSSIBLE. PROVIDE THREE (3) 3/4 (3/4) INCH SPARE CONDUITS FROM EACH RECESSED PANEL TO THE CEILING SPACE.

F. FUSES FOR SERVICE ENTRANCE EQUIPMENT SHALL BE U.L. LISTED CLASS L, J, OR RK1. FUSES FOR FEEDER CIRCUITS AND PANELBOARDS SHALL BE U.L CLASS RK1 FAST-ACTING TYPE. FUSES FOR MOTOR OVERCURRENT, MOTOR CONTROLLER, AND TRANSFORMER PROTECTION SHALL BE DUAL-ELEMENT, U.L. CLASS RK1 TIME-DELAY TYPE.

G. SURGE PROTECTIVE DEVICES:

1. SCOPE:

a. SERVICE ENTRANCE:

1. PROVIDE SURGE PROTECTIVE DEVICE (SPD) ON THE LOAD SIDE OF MAIN CIRCUIT BREAKER. THE CONNECTION SHALL BE MADE AS CLOSE AS POSSIBLE TO THE PANELBOARD MAIN CONNECTION AS POSSIBLE. ARRANGE BREAKERS WITHIN DISTRIBUTION SECTION(S) TO PLACE SPD OVERCURRENT PROTECTIVE DEVICE NEAREST MAIN.

(2) MOUNT SPD UNIT IN SEPARATE NEMA 1 ENCLOSURE DIRECTLY ADJACENT TO THE MAIN DISTRIBUTION PANEL. THE MOUNTING POSITION OF THE SUPPRESSOR SHALL PERMIT A STRAIGHT AND SHORT (LESS THAN 36") LEAD LENGTH CONNECTION BETWEEN THE SUPPRESSOR AND THE POINT OF CONNECTION TO THE SWITCHBOARD.

b) POWER DISTRIBUTION PANEL SPD PROTECTION:

1. PROVIDE SURGE PROTECTIVE DEVICE (SPD) ON POWER DISTRIBUTION PANELBOARDS AS INDICATED ON THE DRAWINGS.

(2) MOUNT SPD IN SEPARATE NEMA 1 ENCLOSURE DIRECTLY ADJACENT TO THE PANELBOARD. EXTERNAL MOUNTED PANELBOARD SPD SHALL BE DESIGNED FOR CLOSE NIPPLE INSTALLATION]. THE MOUNTING POSITION OF THE SUPPRESSOR SHALL PERMIT A STRAIGHT AND SHORT (LESS THAN 36") LEAD LENGTH CONNECTION BETWEEN THE SUPPRESSOR AND THE POINT OF CONNECTION TO THE PANELBOARD.

(3) EXCEPT WHERE THE SPD IS PROVIDED WITH AN INTEGRAL UL LISTED DISCONNECT SWITCH AND OVERCURRENT PROTECTION, PROVIDE A DEDICATED CIRCUIT BREAKER IN EACH BRANCH CIRCUIT OR DISTRIBUTION PANELBOARD PROTECTED BY A SPD TO SERVE THE SPD. THE CIRCUIT BREAKER SHALL BE RATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SPD SYSTEM MANUFACTURER.

c) BRANCH CIRCUIT PANEL SPD PROTECTION:

1. PROVIDE SURGE PROTECTIVE DEVICE (SPD) ON BRANCH CIRCUIT PANELBOARDS INDICATED ON THE DRAWINGS.

(2) MOUNT SPD IN SEPARATE NEMA 1 ENCLOSURE DIRECTLY ADJACENT TO EACH PANELBOARD. EXTERNAL MOUNTED PANELBOARD SPD SHALL BE DESIGNED FOR CLOSE NIPPLE INSTALLATION]. THE MOUNTING POSITION OF THE SUPPRESSOR SHALL PERMIT A STRAIGHT AND SHORT (LESS THAN 36") LEAD LENGTH CONNECTION BETWEEN THE SUPPRESSOR AND THE POINT OF CONNECTION TO THE PANELBOARD.

(3) EXCEPT WHERE THE SPD IS PROVIDED WITH AN INTEGRAL UL LISTED DISCONNECT SWITCH AND OVERCURRENT PROTECTION, PROVIDE A DEDICATED CIRCUIT BREAKER IN EACH BRANCH CIRCUIT OR DISTRIBUTION PANELBOARD PROTECTED BY A SPD TO SERVE THE SPD. THE CIRCUIT BREAKER SHALL BE RATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SPD SYSTEM MANUFACTURER.

2) STANDARDS:

a. SURGE PROTECTIVE DEVICES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE MOST RECENT EDITIONS OF THE FOLLOWING STANDARDS:

1. UL1449, "STANDARD FOR SURGE PROTECTIVE DEVICES" – 3RD EDITION, EFFECTIVE 9/2009
2. UL 1283, "STANDARD FOR ELECTROMAGNETIC INTERFERENCE FILTERS"
3. UL 96A "STANDARD FOR INSTALLATION REQUIREMENTS FOR LIGHTNING PROTECTION SYSTEMS,"
4. ANSI/IEEE C62.41.1-2002, "IEEE GUIDE ON THE SURGE ENVIRONMENT IN LOW-VOLTAGE (1000V AND LESS) AC POWER CIRCUITS"
5. ANSI/IEEE C62.41.2-2002, "IEEE RECOMMENDED PRACTICE ON CHARACTERIZATION OF SURGES IN LOW-VOLTAGE (1000V AND LESS) AC POWER CIRCUITS"
6. ANSI/IEEE C62.45-2002, "IEEE RECOMMENDED PRACTICE ON SURGE TESTING FOR EQUIPMENT CONNECTED TO LOW-VOLTAGE (1000V AND LESS) AC POWER CIRCUITS"
7. NFPA-70, "NATIONAL ELECTRICAL CODE," ARTICLE 285, "SURGE PROTECTIVE DEVICES (SPDS), 1 KV OR LESS"
8. NFPA 780, "STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS"
9. NEMA LS-1, "LOW-VOLTAGE SURGE-PROTECTION (LVSP) DEVICES"

3) SUBMITTAL REQUIREMENTS:

a. SUBMITTALS SHALL INCLUDE UL 1449 3RD EDITION LISTING DOCUMENTATION VERIFYING:
1. SHORT CIRCUIT CURRENT RATING (SCCR)
2. VOLTAGE PROTECTION RATINGS (VPRS) FOR ALL MODES
3. MAXIMUM CONTINUOUS OPERATING VOLTAGE RATING (MCOV)
4. I-NOMINAL RATING (I-N)
5. TYPE 1 DEVICE LISTING
6. DIMENSIONAL DRAWINGS OF EACH TYPE SPD AND ENCLOSURE FOR SURFACE MOUNTED DEVICES.

4) SPECIAL WARRANTY REQUIREMENTS:

a. EACH SPD SHALL BE WARRANTED BY THE EQUIPMENT MANUFACTURER FOR A MINIMUM OF FIVE (5) YEARS FROM DATE OF PROJECT SUBSTANTIAL COMPLETION. THIS SHALL BE A FULL REPLACEMENT COST WARRANTY.

5) MANUFACTURERS:

a. THE CATALOG NUMBERS USED ARE THOSE OF ADVANCED PROTECTION TECHNOLOGIES (APT), WHICH IS THE PROJECT BASIS OF DESIGN AND CONSTITUTES THE TYPE AND QUALITY OF EQUIPMENT TO BE FURNISHED.
1. SPDS FOR SERVICE ENTRANCE/TRANSFER SWITCH APPLICATIONS SHALL BE APT MODEL TE XWS.
2. SPDS FOR POWER DISTRIBUTION PANEL APPLICATIONS SHALL BE APT MODEL TE XWS.
3. SPDS FOR BRANCH CIRCUIT PANELBOARD APPLICATIONS SHALL BE APT MODEL TE XRL.

b) ALTERNATIVE MANUFACTURERS: PRODUCTS BY ONE OF THE FOLLOWING MANUFACTURERS MAY BE ACCEPTABLE, SUBJECT TO COMPLIANCE WITH ALL REQUIREMENTS SPECIFIED HEREIN:

1. SIEMENS
2. SQUARE D SURGELOGIC®

6) REQUIREMENTS:

a. SPD SHALL BE UL LABELED WITH 200,000 AMPERE SHORT CIRCUIT CURRENT RATING (SCCR). FUSE RATINGS WILL NOT BE CONSIDERED IN LIEU OF DEMONSTRATED WITHSTAND TESTING OF SPD, PER NEC 285.6.

b) SPD SHALL BE UL LABELED AS TYPE 1, INTENDED FOR USE WITHOUT NEED FOR EXTERNAL OR SUPPLEMENTAL OVERCURRENT DEVICES. EVERY SUPPRESSION COMPONENT OF EVERY MODE, INCLUDING N-G, SHALL BE PROTECTED BY INTERNAL OVERCURRENT AND THERMAL OVER-TEMPERATURE CONTROLS.

c) SPD SHALL BE UL LABELED WITH 20,000 AMPERE NOMINAL (I-N) FOR COMPLIANCE WITH UL 96A "STANDARD FOR INSTALLATION REQUIREMENTS FOR LIGHTNING PROTECTION SYSTEMS," LIGHTNING PROTECTION MASTER LABEL AND NFPA 780, "STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS."

d) MINIMUM SURGE CURRENT CAPABILITY (SINGLE PULSE RATED) PER PHASE SHALL BE:

1. SERVICE ENTRANCE OR TRANSFER SWITCH – 300,000 AMPERES
2. DISTRIBUTION PANELBOARDS – 200,000 AMPERES
3. BRANCH CIRCUIT PANELBOARDS – 100,000 AMPERES

e) UL 1449 LISTED VOLTAGE PROTECTION RATINGS (VPRS) SHALL NOT EXCEED THE FOLLOWING:

SYSTEM VOLTAGE	L-N	L-G	L-L	N-G
208Y/120	800V	800V	1,000V	800V

f) UL 1449 LISTED MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV):

SYSTEM VOLTAGE	ALLOWABLE SYSTEM VOLTAGE FLUCTUATION (%)	MCOV
208Y/120	25%	150V

g) EACH SERVICE ENTRANCE/TRANSFER SWITCH OR DISTRIBUTION PANELBOARD CLASS SPD SHALL INCLUDE A SERVICEABLE, REPLACEABLE MODULE.

h) EACH SPD SHALL HAVE UL 1283 EMI/RFI FILTERING WITH MINIMUM ATTENUATION OF -50DB AT 100KHZ.

i) EACH SPD SHALL INCLUDE VISUAL LED DIAGNOSTICS INCLUDING A MINIMUM OF ONE GREEN LED INDICATOR PER PHASE, AND ONE RED SERVICE LED.

j) EACH SERVICE ENTRANCE/TRANSFER SWITCH OR DISTRIBUTION PANELBOARD/MOTOR CONTROL CENTER CLASS SPD SHALL INCLUDE AN AUDIBLE ALARM WITH ON/OFF SILENCE FUNCTION AND DIAGNOSTIC TEST FUNCTION (EXCLUDING BRANCH).

k) PROVIDE ONE (1) SET OF NORMALLY OPEN (NO) / AND ONE (1) SET NORMALLY CLOSED (NC) DRY CONTACTS TOP ALLOW CONNECTION TO A REMOTE MONITORING OR OTHER SYSTEM. CONTACTS SHALL BE RATED 5 AMPERES AT 240 VOLTS.

l) SURGE EVENT COUNTER LOCATED ON THE DIAGNOSTIC PANEL ON THE FRONT COVER OF THE ENCLOSURE. THE COUNTER SHALL BE EQUIPPED WITH A MANUAL RESET, AND SHALL INCLUDE PROVISIONS TO RETAIN MEMORY UPON LOSS OF AC POWER.

m) EACH SPD SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH LEAD LENGTHS AS SHORT (LESS THAN 36") AND STRAIGHT AS POSSIBLE. GENTLY TWIST CONDUCTORS TOGETHER.

H. POWER COMPANY METERING AND SERVICE EQUIPMENT:

A. SECONDARY ELECTRIC SERVICE TO THIS FACILITY SHALL BE SUPPLIED BY PEPCO AT 208Y/120V 3-PHASE, 4-WIRE SYSTEM.

B. PROVIDE CURRENT TRANSFORMER CABINETS, METER SOCKETS, EQUIPMENT PADS, ETC. IN ACCORDANCE WITH THE POWER COMPANY'S PUBLISHED STANDARDS AND DETAILS INDICATED ON THESE DRAWINGS. PURCHASE EQUIPMENT DIRECTLY FROM THE POWER COMPANY OR FROM THEIR APPROVED VENDOR.

4. SECTION 265000 - LIGHTING

A. PROVIDE A COMPLETE LIGHTING FIXTURE AT EACH LOCATION INDICATED ON THE DRAWINGS. FIXTURES SHALL BE AS SPECIFIED ON THE LIGHTING FIXTURE SCHEDULE ON THE DRAWINGS.

B. EACH FIXTURE SHALL BE COMPLETELY EQUIPPED WITH LAMPS OF THE SIZE, TYPE, WATTAGE AND SHAPE INDICATED AND SPECIFIED. ALL LAMPS SHALL BE MANUFACTURED BY THE GENERAL ELECTRIC CO., PHILIPS LIGHTING CO., VENTURE LIGHTING INTERNATIONAL OR SYLVANIA/OSRAM CORPORATION. LUMEN OUTPUT AND LIFE OF LAMPS SHALL BE EQUIVALENT TO THE GENERAL ELECTRIC LAMP OF THAT TYPE AND WATTAGE. EXACT VOLTAGE SHALL BE CHECKED BEFORE ORDERING LAMPS.

C. REFER TO THE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

D. ALL INCANDESCENT LAMPS SHALL BE INSIDE FROSTED, 125-130 VOLT, UNLESS OTHERWISE SPECIFIED.

E. ALL PLASTIC DIFFUSERS SHALL BE 100 PERCENT VIRGIN ACRYLIC (NOMINAL 1/8 INCH THICK) AND ALL LEXAN DIFFUSERS WILL BE LEXAN TYPE MR-4000, OR EQUAL.

F. THE CONTRACTOR SHALL CONSULT THE CEILING CONTRACTOR AND ARCHITECT'S DRAWINGS FOR APPROVED REFLECTED CEILING PLANS BEFORE ORDERING FIXTURES TO INSURE THAT ALL ARE COMPATIBLE WITH THE CEILING SYSTEM AND PROPERLY LOCATED. VERIFY THAT ADEQUATE CLEARANCE FOR INSTALLATION, MAINTENANCE, AND HEAT DISSIPATION IS AVAILABLE.

G. PROVIDE A MINIMUM OF TWO (2) GALVANIZED STEEL #12 GAUGE HANGER WIRES (ALTERNATE CORNERS) ON ALL RECESSED FIXTURES.

H. DIMMER SWITCHES SHALL BE LUTRON 'NOVA T-STAR' SERIES OR APPROVED EQUAL, IN TYPE AND CAPACITY RATING TO SERVE THE LOADS INDICATED ON THE DRAWINGS. VERIFY CONNECTED LOAD, AND LOAD TYPE (INCANDESCENT, MAGNETIC LOW VOLTAGE, ELECTRONIC LOW VOLTAGE, FLUORESCENT, LED, ETC., AND PROVIDE PROPER DIMMER CONFIGURATION TO SUIT ACTUAL PROJECT CONDITIONS FOR EACH DIMMER SWITCH INSTALLATION.

I. OCCUPANCY SENSORS FOR LIGHTING CONTROL:

1. OCCUPANCY SENSORS – GENERAL

a. LOCATE AND AIM THE OCCUPANCY SENSOR IN THE CORRECT LOCATION REQUIRED FOR A COMPLETE AND PROPER VOLUMETRIC COVERAGE WITHIN THE RANGE OF COVERAGE(S) OF CONTROLLED AREAS PER THE MANUFACTURER'S RECOMMENDATIONS. ROOMS SHALL HAVE ONE HUNDRED PERCENT (100%) COVERAGE TO COMPLETELY COVER THE CONTROLLED AREA TO ACCOMMODATE ALL OCCUPANCY HABITS OF SINGLE OR MULTIPLE OCCUPANTS AT ANY LOCATION WITHIN THE ROOMS. THE LOCATIONS AND QUANTITIES OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE ONLY THE ROOMS WHICH ARE TO BE PROVIDED WITH SENSORS. PROVIDE ADDITIONAL SENSORS AS REQUIRED TO PROPERLY AND COMPLETELY COVER THE ROOM SERVED.

b) PROVIDE ALL EQUIPMENT, RELAYS, INTERFACES, MISCELLANEOUS MATERIALS, LABOR, SYSTEM SETUP AND OTHER SERVICES NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE OCCUPANCY SENSORS.

2) CEILING MOUNTED OCCUPANCY SENSORS:

a. PROVIDE CEILING MOUNTED OCCUPANCY SENSORS FOR CONTROL OF LIGHTING FIXTURES WHERE INDICATED ON THE DRAWINGS. CEILING MOUNTED OCCUPANCY SENSORS SHALL OPERATE ON THE ULTRASONIC PRINCIPLE AND SHALL BE CAPABLE OF DETECTING PRESENCE IN THE FLOOR AREA TO BE CONTROLLED BY DETECTING DOPPLER SHIFTS IN TRANSMITTED ULTRASOUND. ULTRASONIC SENSING SHALL BE VOLUMETRIC IN COVERAGE.

b) CEILING MOUNTED OCCUPANCY SENSORS SHALL PROVIDE FULL 360° COVERAGE. PROVIDE SENSOR WITH PROPER AREA COVERAGE TO SUIT THE ROOM INTO WHICH IT IS INSTALLED. PROVIDE WATT STOPPER MODEL WT-600, WT-605, WT-1100, WT-1105, WT-2200, WT-2205 FOR INDIVIDUAL ROOM USE, OR MODEL WT-2250 OR WT-2255 FOR USE IN CORRIDORS OR ROOMS WITH A LINEAR FOOTPRINT, AS REQUIRED.

3) WALL MOUNTED OCCUPANCY SENSORS:

a. PROVIDE WALL MOUNTED OCCUPANCY SENSORS FOR CONTROL OF LIGHTING FIXTURES WHERE INDICATED ON THE DRAWINGS. WALL MOUNTED OCCUPANCY SENSORS SHALL OPERATE ON THE PASSIVE INFRARED PRINCIPLE, AND MOUNT IN PLACE OF A STANDARD WALL SWITCH.

b. WALL MOUNTED OCCUPANCY SENSORS SHALL OPERATE AT EITHER 120 VAC OR 277 VAC. SENSOR SHALL HAVE NO MINIMUM LOAD REQUIREMENT AND SHALL BE CAPABLE OF SWITCHING 0 TO 800 WATT INCANDESCENT, FLUORESCENT OR 1/6 HP @ 120 VOLTS, 60 HZ; 0 TO 1200 WATTS FOR FLUORESCENT OR 1/3 HP @ 277 VOLTS, 60 HZ.

c. WALL MOUNTED OCCUPANCY SENSORS SHALL BE WATT STOPPER MODEL WS-120/277 OR APPROVED EQUAL.

J. EXIT SIGNS SHALL HAVE A UNIVERSAL, FIELD SELECTABLE, MOUNT. SPECIFIC MOUNTING ARRANGEMENT SHALL BE AS INDICATED BY THE SYMBOL ON THE PLANS OR AS REQUIRED BY FIELD CONDITIONS. WALL MOUNTED EXIT SIGNS SHALL BE CENTERED BETWEEN CEILING AND TOP OF DOOR (UP TO 1'-0" ABOVE DOOR).

K. CONTRACTOR SHALL PROVIDE ADDITIONAL EXIT LIGHTS AND EMERGENCY BATTERY PACK WITH DUAL HEADS AS NEEDED TO MEET FIRE MARSHAL'S WALK-THROUGH AND ACCEPTANCE.

L. CONNECT EXIT LIGHTS, EMERGENCY BATTERY UNITS AND NIGHT LIGHTS (NL) TO UNSWITCHED PORTION OF LIGHTING CIRCUIT SERVING RESPECTIVE AREA.

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
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Historic Preservation Commission
Sandra I. Heiler

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ROBERT STEPHEN SPINAZZOLA
No. 14749

R. Stephen Spinazzola

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY
SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	04/22/20	DD SUBMISSION
2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
☒ PERMIT ☐ CD SET

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DRAWN: JDG
PROJECT 70-20-805
CHECKED: RNM
CAD FILE: C:\Users\PJS\Documents\7020805 - Salt and Vine - BALA MEP_psparaco.rvt
DATE: 07.13.2020

ELECTRICAL
SPECIFICATIONS

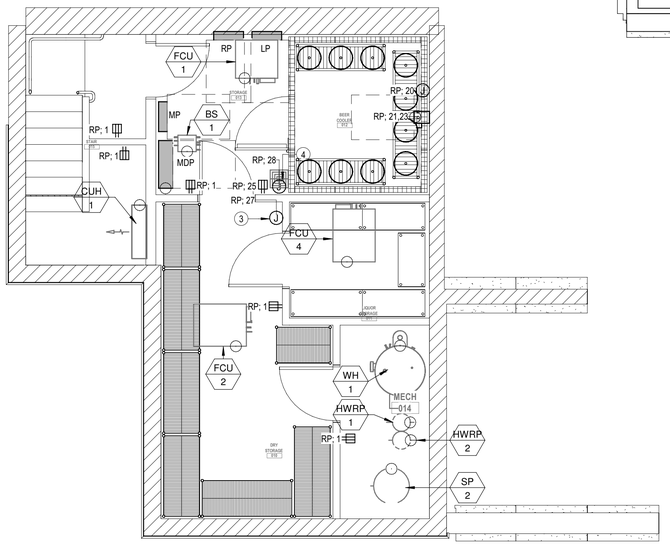
DocuSign Envelope ID: 4B817505-99A2-423D-BED8-1E2BFC817818

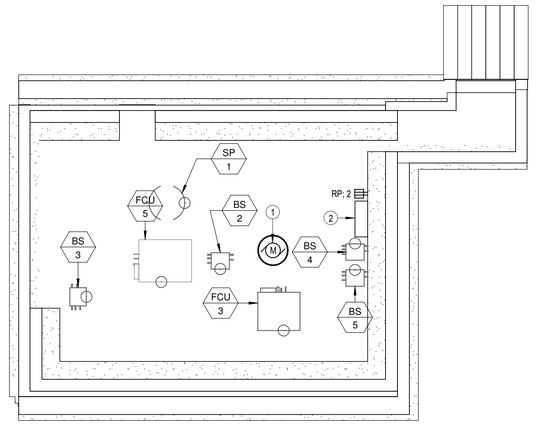
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

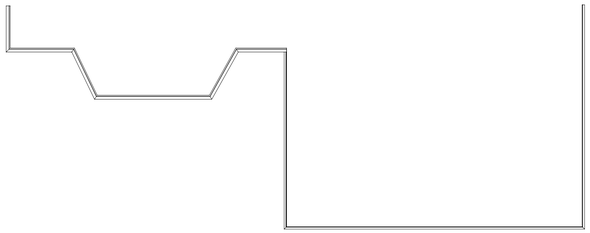
SCHEDULE OF MECHANICAL EQUIPMENT CONNECTIONS

CONNECTION NO.	VOLTS - PHASE	ELECTRICAL CAPACITIES			DEVICE	CIRCUIT NO.
		MOTOR (HP)	HEAT (KW)	FLA		
BS-1	208-1Ø	-	-	0.32	⅜ MS(2P)	MP-1,3
BS-2	208-1Ø	-	-	0.08	⅜ MS(2P)	MP-1,3
BS-3	208-1Ø	-	-	0.08	⅜ MS(2P)	MP-1,3
BS-4	208-1Ø	-	-	0.08	⅜ MS(2P)	MP-1,3
BS-5	208-1Ø	-	-	0.08	⅜ MS(2P)	MP-1,3
CUH-1	208-3Ø	-	4.0	11.10	□	MP-8,10,12
FCU-1	208-1Ø	0.13	-	0.48	⅜ MS(2P)	MP-5,7
FCU-2	208-1Ø	0.36	-	1.28	⅜ MS(2P)	MP-5,7
FCU-3	208-1Ø	0.13	-	0.48	⅜ MS(2P)	MP-5,7
FCU-4	208-1Ø	0.33	-	1.20	⅜ MS(2P)	MP-5,7
FCU-5	208-1Ø	0.77	-	1.20	⅜ MS(2P)	MP-5,7
HWRP-1	120-1Ø	0.03	-	0.52	⅜ MS	MP-32
HWRP-2	120-1Ø	0.03	-	0.52	⅜ MS	MP-32
SP-1	120-1Ø	0.50	-	9.50	⅜ MS	MP-26
SP-2	120-1Ø	0.50	-	9.50	⅜ MS	MP-28
WH-1	120-1Ø	-	-	7.00	⅜ MS	MP-30

NOTE: MAKE ALL FINAL CONNECTIONS TO EQUIPMENT AS REQUIRED.







1 E1.0 **POWER AND SYSTEMS BASEMENT**
1/4" = 1'-0"

GENERAL NOTES:

A. REFER TO SHEET E0.01 - ELECTRICAL LEGEND AND ABBREVIATION FOR ADDITIONAL INFORMATION.

B. REFER TO SHEET E0.02 - ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

C. REFER TO THE MECHANICAL HVAC AND PLUMBING PLANS FOR ADDITIONAL INFORMATION.

DRAWING NOTE: (#)

1. EXISTING FIRE PUMP TO BE REUSED. RECONNECT TO THE NEW ELECTRICAL SERVICE. REFER TO THE POWER RISER DIAGRAM ON SHEET E0.22 FOR ADDITIONAL INFORMATION.
2. EXISTING FIRE PUMP CONTROLLER TO BE REUSED. RECONNECT TO THE NEW ELECTRICAL SERVICE. REFER TO THE POWER RISER DIAGRAM ON SHEET E0.22 FOR ADDITIONAL INFORMATION.
3. PROVIDE JUNCTION BOX PROVISION FOR DRAFT BEER POWER PAK. COORDINATE FINAL LOCATION WITH THE KITCHEN CONSULTANT AND CONNECT EQUIPMENT.
4. PROVIDE JUNCTION BOX PROVISION FOR THE FIRE ALARM CONTROL PANEL AND CONNECT EQUIPMENT.

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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STATE OF MARYLAND · ROBERT STEPHEN SPRAZYDA · NO. 14749 · PROFESSIONAL ENGINEER
R. Stephen Sprazyda

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

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CHECKED: RJW
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POWER AND SYSTEMS BASEMENT PLAN

E1.0

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APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

SCHEDULE OF MECHANICAL EQUIPMENT CONNECTIONS

CONNECTION NO.	VOLTS - PHASE	ELECTRICAL CAPACITIES			DEVICE	CIRCUIT NO.
		MOTOR (HP)	HEAT (KW)	FLA		
ACCU-1	208-3Ø	17	-	63.00	[3]	MP-2,4,6
ACCU-2	208-3Ø	10.00	-	34.80	[3]	KP-2, 21,23,25
EF-1	120-1Ø	0.13	-	1.14	MS	LP-4
EF-2	120-1Ø	0.13	-	1.14	MS	LP-4
EWH-1	208-1Ø	-	2.0	9.62	[2]	MP-13,15
EWH-2	208-1Ø	-	2.0	9.62	[2]	MP-17,19
FCU-6	208-1Ø	0.07	-	0.24	MS(2P)	MP-21,23
FCU-7	208-1Ø	0.07	-	0.24	MS(2P)	MP-21,23
HRU-1	208-3Ø	-	10.2	28.20	MS(2P)	MP-14,16,18

NOTE: MAKE ALL FINAL CONNECTIONS TO EQUIPMENT AS REQUIRED.

DRAWING NOTES: (#)

1. MAKE ALL FINAL CNNECTIONS TO TRAP PRIMING CONTROL CABINET.
2. CONNECT TO THE TOILET LIGHTING CIRCUIT. EXHAUST FAN CONTROL WILL BE BY THE LIGHTING OCCUPANCY SENSOR.
3. PROVIDE CURRENT TRANSFORMER CABINET (CTC). SEE E0.22 EXISTING/NEW POWER RISER DIAGRAM FOR ADDITIONAL INFORMATION.
4. COORDINATE EXACT LOCATION FOR FIREPLACE SWITCH WITH OWNER.
5. COORDINATE EXACT LOCATION OF THE WALK-IN COOLER OUTDOOR UNIT (COMPRESSOR) WITH THE KITCHEN CONSULTANT.

GENERAL NOTES:

A. REFER TO SHEET E0.01 - ELECTRICAL LEGEND AND ABBREVIATION FOR ADDITIONAL INFORMATION.

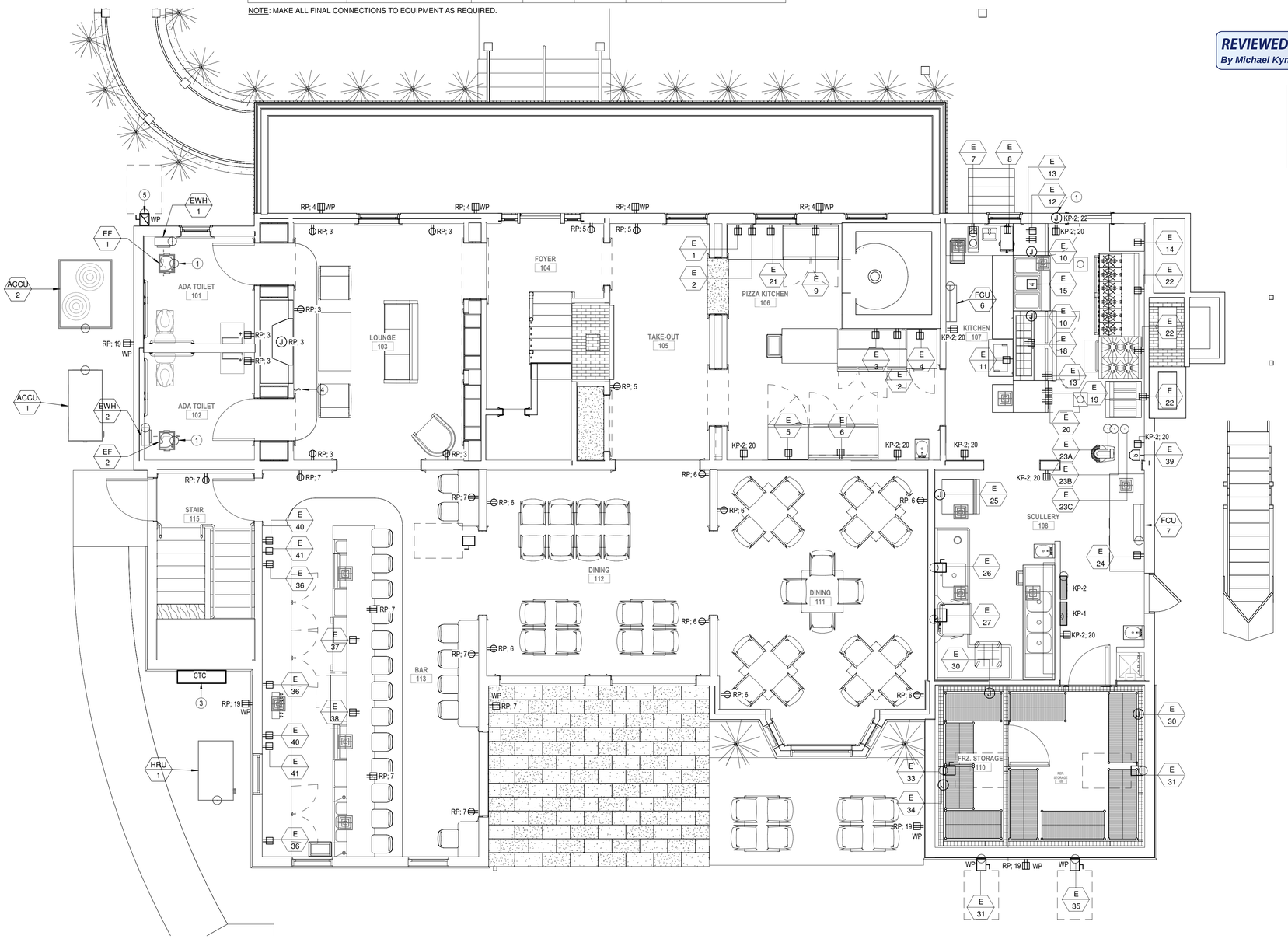
B. REFER TO SHEET E0.02 - ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

C. REFER TO THE MECHANICAL HVAC AND PLUMBING PLANS FOR ADDITIONAL INFORMATION.

D. REFER TO THE KITCHEN CONSULTANT PLANS FOR ADDITIONAL INFORMATION.

E. ALL SINGLE-PHASE RECEPTACLES, 50 AMPERES OR LESS AND THREE-PHASE RECEPTACLES, 100 AMPERES OR LESS INSTALLED IN THE KITCHEN (INCLUDING SCULLERY) LOCATION SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION FOR P ERSONNEL. PROVIDE GFCI CIRCUIT BREAKER FOR RECEPTACLES WHERE LOCATION IS NOT READILY ACCESSIBLE.

F. REFER TO "SCHEDULE OF KITCHEN EQUIPMENT CONNECTIONS" ON SHEET E0.12.



1 E1.1 **POWER AND SYSTEMS FIRST FLOOR**
1/4" = 1'-0"

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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R. Stephen Sprazzola

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CHECKED: RJW
CAD FILE: C:\Users\PJS\Documents\7020805 - Salt and Vine - BALA MEP_pdpravco.rvt
DATE: 07.13.2020

POWER AND SYSTEMS FIRST FLOOR PLAN

E1.1

DocuSign Envelope ID: 4B817505-99A2-423D-BED8-1E2BFC817818

APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

Panelboard: MDP

Location: STORAGE 013 | **Supply From:** | **Mounting:** SURFACE | **Enclosure:** TYPE 1
Distribution System: 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **Modifications:**
A.I.C. Rating: 18kAIC | **Mains Type:** MLO | **Mains Rating:** 600 A | **MCB Rating:**

Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1				14627 / 20095						2		
1	175E	3	DOAS-1	175 A	3		14627 / 18394		3	225 A	MP	4	225F	1
		5						14627 / 15710				6		
		7				11857 / 2527						8		
1	100F	9	RP	100 A	3		11947 / 3008		3	100 A	LP	10	125F	1
		11						7055 / 697				12		
		13				30897 / 0			1	20 A	SPARE	14	--	--
1	400F	15	KP-1, KP-2	400 A	3		33435 / 0		1	20 A	SPARE	16	--	--
		17						29801 / 0	1	20 A	SPARE	18	--	--
--	--	19	SPACE AND HARDWARE	--	--	0 / 0			--	--	SPACE AND HARDWARE	20	--	--
--	--	21	SPACE AND HARDWARE	--	--		0 / 0		--	--	SPACE AND HARDWARE	22	--	--
--	--	23	SPACE AND HARDWARE	--	--			0 / 0	--	--	SPACE AND HARDWARE	24	--	--
--	--	25	SPACE AND HARDWARE	--	--	0 / 60						26		
--	--	27	SPACE AND HARDWARE	--	--		0 / 60		3	30 A	SURGE PROTECTIVE DEVICE (SPD)	28	30E	1,2
--	--	29	SPACE AND HARDWARE	--	--			0 / 60				30		
				Load Per...		80062 VA	81470 VA	67950 VA						

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
Lighting	4226 VA	100.00%	4226 VA	TOTAL CONNECTED LOAD:	229482 VA
Motor	2343 VA	112.16%	2628 VA	TOTAL ESTIMATED DEMAND:	202330 VA
Other	710 VA	100.00%	710 VA	TOTAL CONNECTED CURRENT:	637 A
HVAC	130161 VA	100.00%	130161 VA	TOTAL ESTIMATED DEMAND CURRENT	562 A
EXIT SIGNS	96 VA	100.00%	96 VA		
EQUIPMENT	15746 VA	75.00%	11810 VA		
RECEPT	57002 VA	58.77%	33501 VA		
KITCHEN EQUIP - COMMERCIAL	3819 VA	100.00%	3819 VA		
MISC	360 VA	100.00%	360 VA		
EQUIP	14180 VA	100.00%	14180 VA		

NOTES:
1. REFER TO CONDUIT AND FEEDER SCHEDULE.
PROVIDE SERVICE ENTRANCE RATED SPD. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION. 2.

Panelboard: MP

Location: | **Supply From:** MDP | **Mounting:** SURFACE | **Enclosure:** TYPE 1
Distribution System: 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **Modifications:**
A.I.C. Rating: 18kAIC | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:**

Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
1	20C	1	BS-1, BS-2, BS-3, BS-4, BS-5	15 A	2	68 / 7566						2		
		3					68 / 7566		3	90 A	ACCU-1	4	90E	1
1	20C	5	FCU-1, FCU-2, FCU-3, FCU-4, FCU-5	15 A	2			483 / 7566				6		
		7				483 / 1333						8		
		9					0 / 1333		3	20 A	CUH-1	10	20E	1
		11						0 / 1333				12		
1	20C	13	EWH-1	20 A	2	1000 / 3387						14		
		15					1000 / 3387		3	50 A	HRU-1	16	50E	1
1	20C	17	EWH-2	20 A	2			1000 / 3387				18		
		19				1000 / 793						20		
1	20C	21	FCU-6, FCU-7	15 A	2		50 / 793		3	20 A	VF-1	22	20E	1
		23						50 / 793				24		
		25				0 / 1140			1	20 A	SP-1	26	20A	1
		27					0 / 1140		1	20 A	SP-2	28	20A	1
1	20C	29	FCU-8, FCU-9, FCU-10, FCU-11, FCU-12,	15 A	2			200 / 840	1	20 A	WH-1	30	20A	1
		31	FCU-13, FCU-14			200 / 126			1	15 A	HWRP-1, HWRP-2	32	20A	1
1	20C	33	BS-6, BS-7	15 A	2		59 / 0		1	20 A	SPARE	34	--	--
		35						59 / 0	1	20 A	SPARE	36	--	--
1	20C	37	UH-1	20 A	2	1500 / 1500			2	20 A	UH-2	38	20C	1
		39					1500 / 1500					40		
--	--	41	SPARE	20 A	1			0 / 0	1	20 A	SPARE	42	--	--
				Load Per...		20095 VA	18394 VA	15710 VA						

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
Motor	2343 VA	112.16%	2628 VA	TOTAL CONNECTED LOAD:	54199 VA
HVAC	51016 VA	100.00%	51016 VA	TOTAL ESTIMATED DEMAND:	54484 VA
				TOTAL CONNECTED CURRENT:	150 A
				TOTAL ESTIMATED DEMAND CURRENT	151 A

NOTES:
1. REFER TO CONDUIT FEEDER AND SCHEDULE.

Panelboard: LP

Location: STORAGE 013 | **Supply From:** MDP | **Mounting:** SURFACE | **Enclosure:** TYPE 1
Distribution System: 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **Modifications:**
A.I.C. Rating: 10kAIC | **Mains Type:** MLO | **Mains Rating:** 100 A | **MCB Rating:**

Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
1	20A	1	LIGHTING-111	20 A	1	567 / 718			1	20 A	LIGHTING-107, 108	2	20A	1
1	20A	3	LIGHTING-106	20 A	1		298 / 1203		1	20 A	LIGHTING-101, 102, 103, EF-1, EF-2	4	20A	1
1	20A	5	LIGHTING-STAIR	20 A	1			299 / 398	1	20 A	LIGHTING-201, 202, 203	6	20A	1
1	20A	7	LIGHTING-204, 205, 206, 207, 208, EF-5	20 A	1	874 / 367			1	20 A	LIGHTING-ATTIC	8	20A	1
1	20A	9	LIGHTING-209, 210, 211, 212, 213, 214, EF-3,...	20 A	1		1095 / 412		1	20 A	LIGHTING-BASEMENT	10	20A	1
--	--	11	SPARE	20 A	1			0 / 0	1	20 A	SPARE	12	--	--
--	--	13	SPARE	20 A	1	0 / 0			1	20 A	SPARE	14	--	--
--	--	15	SPARE	20 A	1		0 / 0		1	20 A	SPARE	16	--	--
--	--	17	SPARE	20 A	1			0 / 0	1	20 A	SPARE	18	--	--
--	--	19	SPARE	20 A	1	0 / 0			1	20 A	SPARE	20	--	--
--	--	21	SPARE	20 A	1		0 / 0		1	20 A	SPARE	22	--	--
--	--	23	SPARE	20 A	1			0 / 0	1	20 A	SPARE	24	--	--
--	--	25	SPARE	20 A	1	0 / 0			1	20 A	SPARE	26	--	--
--	--	27	SPARE	20 A	1		0 / 0		1	20 A	SPARE	28	--	--
--	--	29	SPARE	20 A	1			0 / 0	1	20 A	SPARE	30	--	--
--	--	31	SPARE	20 A	1	0 / 0			1	20 A	SPARE	32	--	--
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0			1	20 A	SPARE	38	--	--
--	--	39	SPARE	20 A	1		0 / 0		1	20 A	SPARE	40	--	--
--	--	41	SPARE	20 A	1			0 / 0	1	20 A	SPARE	42	--	--
				Load Per...		2527 VA	3008 VA	697 VA						

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
Lighting	4226 VA	100.00%	4226 VA	TOTAL CONNECTED LOAD:	6232 VA
Other	710 VA	100.00%	710 VA	TOTAL ESTIMATED DEMAND:	6232 VA
HVAC	1200 VA	100.00%	1200 VA	TOTAL CONNECTED CURRENT:	17 A
EXIT SIGNS	96 VA	100.00%	96 VA	TOTAL ESTIMATED DEMAND CURRENT	17 A

NOTES:
1. REFER TO CONDUIT AND FEEDER SCHEDULE.

Panelboard: RP

Location: STORAGE 013 | **Supply From:** MDP | **Mounting:** SURFACE | **Enclosure:** TYPE 1
Distribution System: 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **Modifications:**
A.I.C. Rating: 18kAIC | **Mains Type:** MLO | **Mains Rating:** 100 A | **MCB Rating:**

Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
1	20A	1	RECEPT (BASEMENT)	20 A	1	2100 / 180			1	20 A	RECEPT (BASEMENT)	2	20A	1
1	20A	3	RECEPT (1ST FLOOR)	20 A	1		1620 / 720		1	20 A	RECEPT (1ST FLOOR)	4	20A	1
1	20A	5	RECEPT (1ST FLOOR)	20 A	1			540 / 1440	1	20 A	RECEPT (1ST FLOOR)	6	20A	1
1	20A	7	RECEPT (1ST FLOOR)	20 A	1	1440 / 1940			1	20 A	RECEPT (2ND FLOOR)	8	20A	1
1	20A	9	RECEPT (2ND FLOOR)	20 A	1		1940 / 600		1	20 A	RECEPT (E-3 & E-6 REFRIGERATOR-2ND...	10	20A	1, 2
1	20A	11	RECEPT (E-1 & E-4 POS SYSTEM-2ND FLR)	20 A	1			720 / 1200	1	20 A	RECEPT (E-2 PRINTER, E-5 PRINTER-2ND...	12	20A	1
1	20A	13	RECEPT (E-8 ICED TEA BREWER-2ND FLR)	20 A	1	1700 / 1800			1	20 A	RECEPT (E-7 COFFEE BREWER-2ND FLR)	14	20A	1
1	20A	15	RECEPT (2ND FLOOR)	20 A	1		900 / 1260		1	20 A	RECEPT (2ND FLOOR)	16	20A	1
1	20A	17	RECEPT (2ND FLOOR)	20 A	1			1260 / 720	1	20 A	RECEPT (ATTIC)	18	20A	1
1	20A	19	RECEPT	20 A	1	720 / 500			1	20 A	JB FOR WALK-IN COOLER LIGHTS, SWITCH,...	20	20A	1
1	20C	21	JB PROVISION FOR WALK-IN COOLER	20 A	2		479 / 697					22		
		23	EVAPORATOR CONNECTION					479 / 697	3	20 A	WALK-IN COOLER OUTDOOR UNIT (COMPRESSOR)	24	20E	1
1	20A	25	RECEPT-CARBONATOR	20 A	1	780 / 697						26		
1	20A	27	JB DRAFT BEER POWER PAK	20 A	1		1812 / 1920		1	20 A	JB FOR FIRE ALARM CIRCUIT	28	20A	1,3
--	--	29	SPARE	20 A	1			0 / 0	1	20 A	SPARE	30	--	--
--	--	31	SPARE	20 A	1	0 / 0			1	20 A	SPARE	32	--	--
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0			1	20 A	SPARE	38	--	--
--	--	39	SPARE	20 A	1		0 / 0		1	20 A	SPARE	40	--	--
--	--	41	SPARE	20 A	1			0 / 0	1	20 A	SPARE	42	--	--
				Load Per...		11857 VA	11947 VA	7055 VA						

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
HVAC	3047 VA	100.00%	3047 VA	TOTAL CONNECTED LOAD:	30859 VA
RECEPT	22220 VA	72.50%	16110 VA	TOTAL ESTIMATED DEMAND:	24749 VA
EQUIP	5592 VA	100.00%	5592 VA	TOTAL CONNECTED CURRENT:	86 A
				TOTAL ESTIMATED DEMAND CURRENT	69 A

NOTES:
1. REFER TO CONDUIT AND FEEDER SCHEDULE. 2.
PROVIDE GFCI CIRCUIT BREAKER. 3.
PROVIDE CIRCUIT BREAKER LOCK PER NFPA 72 10.6.5.4. PROVIDE RED IDENTIFICATION LABEL "FIRE ALARM CIRCUIT".

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

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STATE OF MARYLAND · ROBERT STEPHEN SPINAZZOLA · No. 14749 · PROFESSIONAL ENGINEER

R. Stephen Spinazzola

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

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3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

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2	05/15/20	95% CD Review
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PANEL SCHEDULES

E0.11

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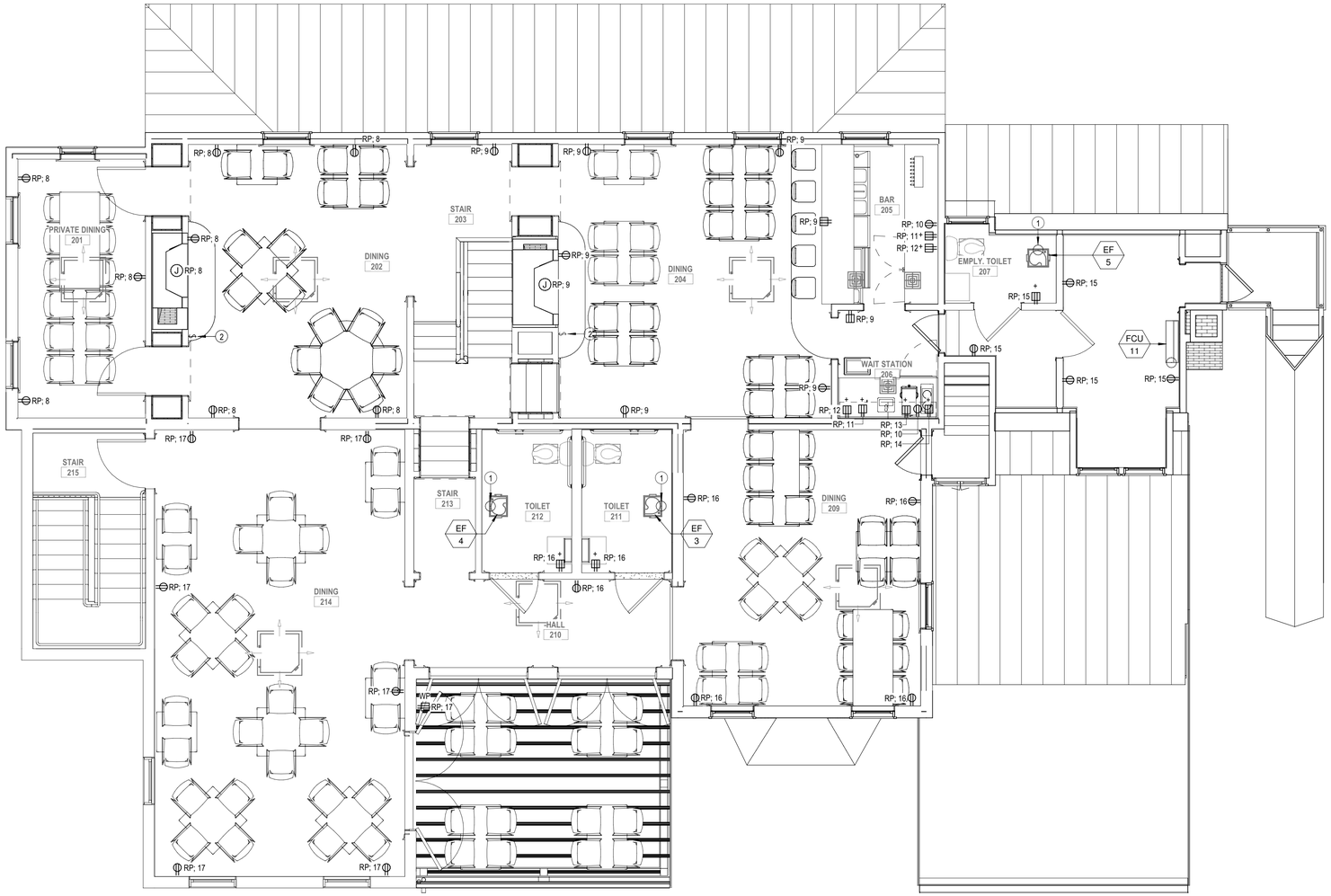
Permit # COMBUILD-921463
Date 01/14/21

SCHEDULE OF MECHANICAL EQUIPMENT CONNECTIONS

CONNECTION NO.	VOLTS - PHASE	ELECTRICAL CAPACITIES			DEVICE	CIRCUIT NO.
		MOTOR (HP)	HEAT (KW)	FLA		
EF-3	120-1Ø	0.13	-	1.14	[illegible]	LP-9
EF-4	120-1Ø	0.13	-	1.14	[illegible]	LP-9
EF-5	120-1Ø	0.13	-	1.14	[illegible]	LP-7
FCU-11	208-1Ø	0.07	-	0.24	[illegible]	MP-29,31

NOTE: MAKE ALL FINAL CONNECTIONS TO EQUIPMENT AS REQUIRED.



1 / E1.2 **POWER AND SYSTEMS SECOND FLOOR**
1/4" = 1'-0"

GENERAL NOTES:

A. REFER TO SHEET E0.01 - ELECTRICAL LEGEND AND ABBREVIATION FOR ADDITIONAL INFORMATION.

B. REFER TO SHEET E0.02 - ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DRAWING NOTE: (#)

1. CONNECT TO THE TOILET LIGHTING CIRCUIT. EXHAUST FAN CONTROL WILL BE BY THE LIGHTING OCCUPANCY SENSOR.
2. COORDINATE EXACT LOCATION FOR FIREPLACE SWITCH WITH ONWER.

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

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STATE OF MARYLAND · ROBERT STEPHEN WILLIAMSON · NO. 14749 · PROFESSIONAL ENGINEER
R. Stephen Spinazzola

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POWER AND SYSTEMS SECOND FLOOR PLAN

E1.2

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SCHEDULE OF KITCHEN EQUIPMENT CONNECTIONS

EQUIP No.	ITEM DESCRIPTION	QTY	VOLTS	PHASE	HP	AMPS	KW		BREAKER		WIRE	CONDUIT	CIRCUIT NO.	PROVISIONS	NOTES
							EACH	TOTAL	POLE	AMP					
E-1	P.O.S. SYSTEMS	1	120	1	-	20.00	-	-	1	20	2#12+2#12GRD	3/4"	KP-1 - 1	NEMA 5-20R (DUPLEX RECEPTACLE)	
E-2	PRINTERS	1	120	1	-	5.00	-	-	1	20	2#12+2#12GRD	3/4"	KP-1 - 2	NEMA 5-20R (DUPLEX RECEPTACLE)	
E-3	PIZZA PREP UNIT	1	120	1	1/2	13.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 3	NEMA 5-20R	
E-4	REACH-IN REFRIGERATOR	1	120	1	1/4	5.20	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 4	NEMA 5-20R DUPLEX RECEPTACLE	
E-5	DRY AGING CABINET	1	120	1	1/3	5.00	0.60	0.60	1	20	2#12+1#12GRD	3/4"	KP-1 - 5	NEMA 5-20R DUPLEX RECEPTACLE	
E-6	WORKTOP W/ REF. BASE	1	120	1	1/5	2.46	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 6	NEMA 5-20R DUPLEX RECEPTACLE	
E-7	3-POT COFFEE BREWER	1	120	1	-	15.00	1.80	1.80	1	20	2#12+1#12GRD	3/4"	KP-1 - 7	NEMA 5-20R DUPLEX RECEPTACLE	
E-8	ICED TEA BREWER	1	120	1	-	-	0.32	0.32	1	20	2#12+1#12GRD	3/4"	KP-1 - 8	NEMA 5-20R DUPLEX RECEPTACLE	
E-9	WORKTOP W/ REF. BASE	1	120	1	1/5	2.46	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 9	NEMA 5-20R DUPLEX RECEPTACLE	
E-10	HEAT LAMPS	2	120	1	-	9.20	1.10	2.20	1	25	2#12+1#12GRD	3/4"	KP-1 - 10	JUNCTION BOX-HARDWIRED CONNECTION	
E-11	ICE CREAM DIP CABINET	1	120	1	1/4	2.40	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 11	NEMA 5-20R DUPLEX RECEPTACLE	
E-12	WORKTOP W/ REF. BASE	1	120	1	1/5	2.46	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 12	NEMA 5-20R DUPLEX RECEPTACLE	
E-13	PRINTERS	2	120	1	-	5.00	0.60	1.20	1	20	3#12+2#12GRD	3/4"	KP-1 - 13	NEMA 5-20R (DUPLEX RECEPTACLE)	
E-14	PASTA COOKER	1	120	1	-	15.00	1.20	1.20	1	20	2#12+1#12GRD	3/4"	KP-1 - 14	NEMA 5-20R DUPLEX RECEPTACLE	
E-15	3-WELL HOT FOOD TABLE	1	208	1	-	11.90	2.85	2.85	1	20	2#12+1#12GRD	3/4"	KP-1 - 15,17	NEMA 6-20R SINGLE RECEPTACLE	
E-16	SPARE NO.	-	-	-	-	-	-	-	-	-	-	-	-	-	
E-17	SPARE NO.	-	-	-	-	-	-	-	-	-	-	-	-	-	
E-18	SANDWICH UNIT	1	120	1	1/3	5.80	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 16	NEMA 5-20R DUPLEX RECEPTACLE	
E-19	WORKTOP W/ FREEZER BASE	1	120	1	1/4	4.80	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 18	NEMA 5-20R DUPLEX RECEPTACLE	
E-20	MICROWAVE	1	120	1	-	13.00	1.50	1.50	1	20	2#12+1#12GRD	3/4"	KP-1 - 19	NEMA 5-20R DUPLEX RECEPTACLE	
E-21	CONVENIENCE RECEPTACLE	1	120	1	-	20.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 20	NEMA 5-20R DUPLEX RECEPTACLE	
E-22	CONVENIENCE RECEPTACLE	3	120	1	-	20.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 21	NEMA 5-20R DUPLEX RECEPTACLE	
E-23A	CONTROL PANEL-EXHAUST HOOD	1	120	1	-	15.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 22	JUNCTION BOX-HARDWIRED CONNECTION	
E-23B	CONTROL PANEL-EXHAUST FAN	1	208	3	-	11.90	-	-	3	20	3#12+1#12GRD	3/4"	KP-1 - 23,25,27	JUNCTION BOX-HARDWIRED CONNECTION	
E-23C	CONTROL PANEL-SUPPLY FAN	1	208	3	-	4.80	-	-	3	20	3#12+1#12GRD	3/4"	KP-1 - 24,26,28	JUNCTION BOX-HARDWIRED CONNECTION	
E-23D	EXHAUST FAN (KEF-1)	1	208	3	3	10.60	-	-	3	20	3#12+1#12GRD	3/4"	KP-1 - 30,32,34	NEMA 3R DISCONNECT SWITCH	
E-23E	SUPPLY FAN (MAU-1)	1	208	3	2	7.50	-	-	3	15	3#12+1#12GRD	3/4"	KP-1 - 29,31,33	NEMA 3R DISCONNECT SWITCH	
E-24	FOOD PROCESSOR	1	120	1	1	7.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 35	NEMA 5-20R DUPLEX RECEPTACLE	
E-25	ICE CUBER	1	120	1	-	12.50	-	-	1	20	2#12+1#12GRD	3/4"	KP-1 - 36,38	JUNCTION BOX-HARDWIRED CONNECTION	
E-26	DISPOSAL	1	208	1	2	7.70	-	-	2	15	2#12+1#12GRD	3/4"	KP-1 - 37,39	DISCONNECT SWITCH	
E-27	CONVEYOR DISHWASHER	1	208	1	-	68.00	-	-	2	90	2#3+1#8GRD	1-1/4"	KP-1 - 40,42	NEMA 4X DISCONNECT SWITCH	
E-28	SPARE NO.	-	-	-	-	-	-	-	-	-	-	-	-	-	
E-29	SPARE NO.	-	-	-	-	-	-	-	-	-	-	-	-	-	
E-30	LIGHTS, SWITCH AND ALARM WALK-IN COOLER/FREEZER	2	120	1	-	10.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-2 - 1, KP-2 - 2	JUNCTION BOX-HARDWIRED CONNECTION	
E-31	EVAPORATOR COIL	1	120	1	0.07	2.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-2 - 3	FUSED DISCONNECT SWITCH	
E-32	COMPRESSOR	1	208	3	1	9.10	-	-	3	20	3#12+1#12GRD	3/4"	KP-2 - 6,8,10	FUSED DISCONNECT SWITCH	
E-33	EVAPORATOR COIL	1	120	1	0.07	2.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-2 - 4	DISCONNECT SWITCH	
E-34	EVAPORATOR COIL - RECEPT - DRAIN LINE HEAT TAPE	1	120	1	-	10.00	-	-	1	20	2#12+1#12GRD	3/4"	KP-2 - 5	JUNCTION BOX	
E-35	COMPRESSOR	1	208	3	2	9.60	-	-	3	20	3#12+1#12GRD	3/4"	KP-2 - 7,9,11	FUSED DISCONNECT SWITCH	
E-36	BACK BAR REFRIGERATORS	3	120	1	1/5	2.50	-	-	1	20	2#12+1#12GRD	3/4"	KP-2 - 12	NEMA 5-20R DUPLEX RECEPTACLE	
E-37	BOTTLE COOLER	1	120	1	1/5	3.10	-	-	1	20	2#12+1#12GRD	3/4"	KP-2 - 13	NEMA 5-20R DUPLEX RECEPTACLE	

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By Michael Kyne at 1:59 am, Feb 19, 2021

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STATE OF MARYLAND
ROBERT STEPHEN MCNAMARA
No. 14749
PROFESSIONAL ENGINEER

R. Stephen Spurgeon

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

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SCHEDULE OF KITCHEN EQUIPMENT CONNECTIONS - ELECTRICAL

E0.12

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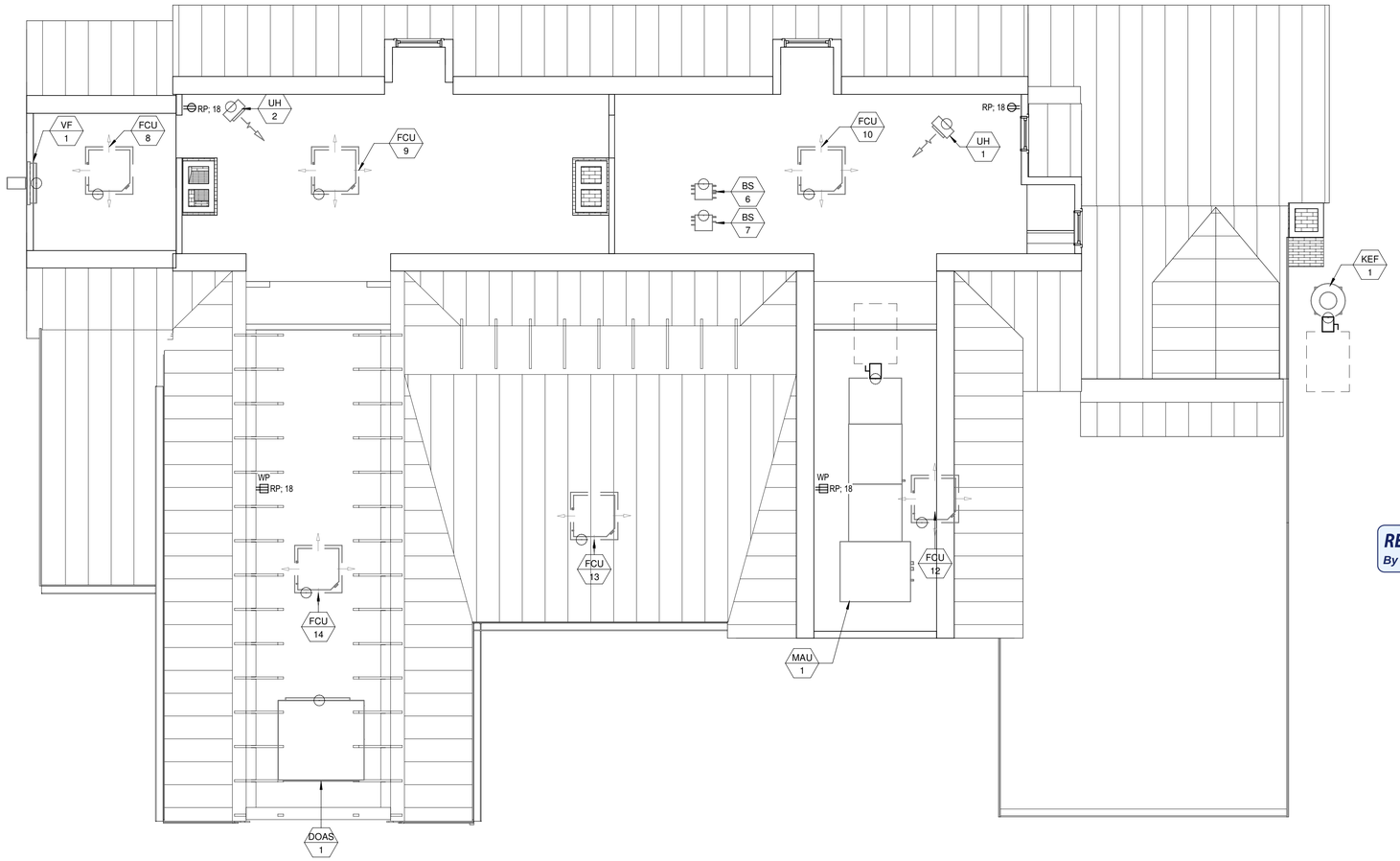
Permit # COMBUILD-921463
Date 01/14/21

SCHEDULE OF MECHANICAL EQUIPMENT CONNECTIONS

CONNECTION NO.	VOLTS - PHASE	ELECTRICAL CAPACITIES			DEVICE	CIRCUIT NO.
		MOTOR (HP)	HEAT (KW)	FLA		
BS-6	208-1Ø	0.13	-	0.48	MS(2P)	MP-33,35
BS-7	208-1Ø	0.02	-	0.08	MS(2P)	MP-33,35
DOAS-1	208-3Ø	2.30	42.0	121.80	J	MDP-1,3,5
FCU-8	208-1Ø	0.07	-	0.24	MS(2P)	MP-29,31
FCU-9	208-1Ø	0.07	-	0.24	MS(2P)	MP-29,31
FCU-10	208-1Ø	0.13	-	0.48	MS(2P)	MP-29,31
FCU-12	208-1Ø	0.07	-	0.24	MS(2P)	MP-29,31
FCU-13	208-1Ø	0.07	-	0.24	MS(2P)	MP-29,31
FCU-14	208-1Ø	0.13	-	0.24	MS(2P)	MP-29,31
KEF-1	208-3Ø	3.00	-	10.60	J	MP-26,28,30
MAU-1	208-1Ø	2.00	-	7.50	J	MP-32,34,36
UH-1	208-1Ø	-	3.0	14.42	J	MP-37,39
UH-2	208-1Ø	-	3.0	14.42	J	MP-38,40
VF-1	208-3Ø	1.50	-	6.60	J	MP-20,22,24

NOTE: MAKE ALL FINAL CONNECTIONS TO EQUIPMENT AS REQUIRED.



1 E1.3 **POWER AND SYTEMS ATTIC FLOOR**
1/4" = 1'-0"

GENERAL NOTES:

A. REFER TO SHEET E0.01 - ELECTRICAL LEGEND AND ABBREVIATION FOR ADDITIONAL INFORMATION.

B. REFER TO SHEET E0.02 - ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DRAWING NOTES: (#)

1. NOT USED.

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By Michael Kyne at 1:59 am, Feb 19, 2021

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POWER AND SYSTEMS ATTIC PLAN

E1.3

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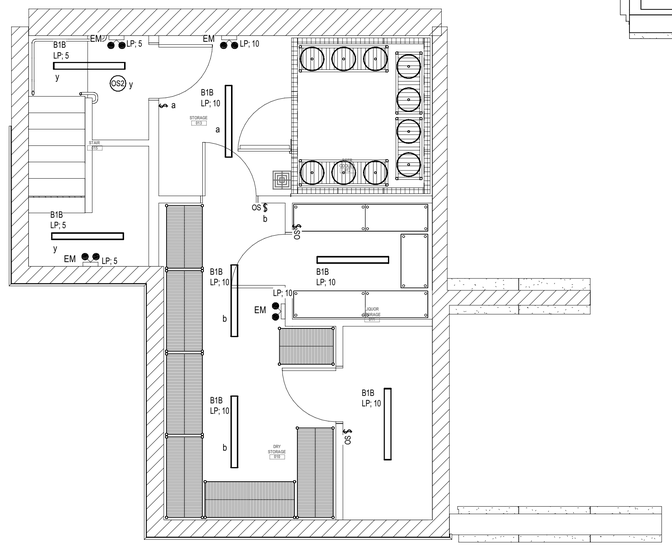

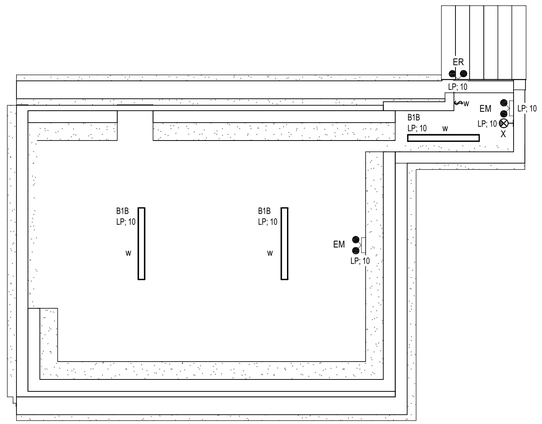

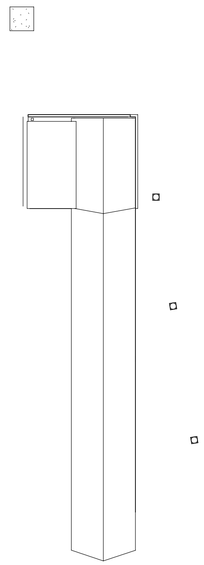

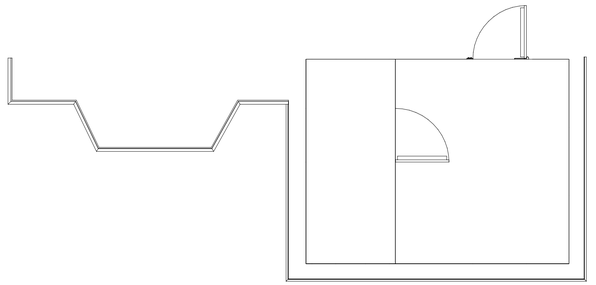

1 E2.0 **LIGHTING BASEMENT**
1/4" = 1'-0"

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DATE: 07.13.2020

LIGHTING BASEMENT PLAN

E2.0

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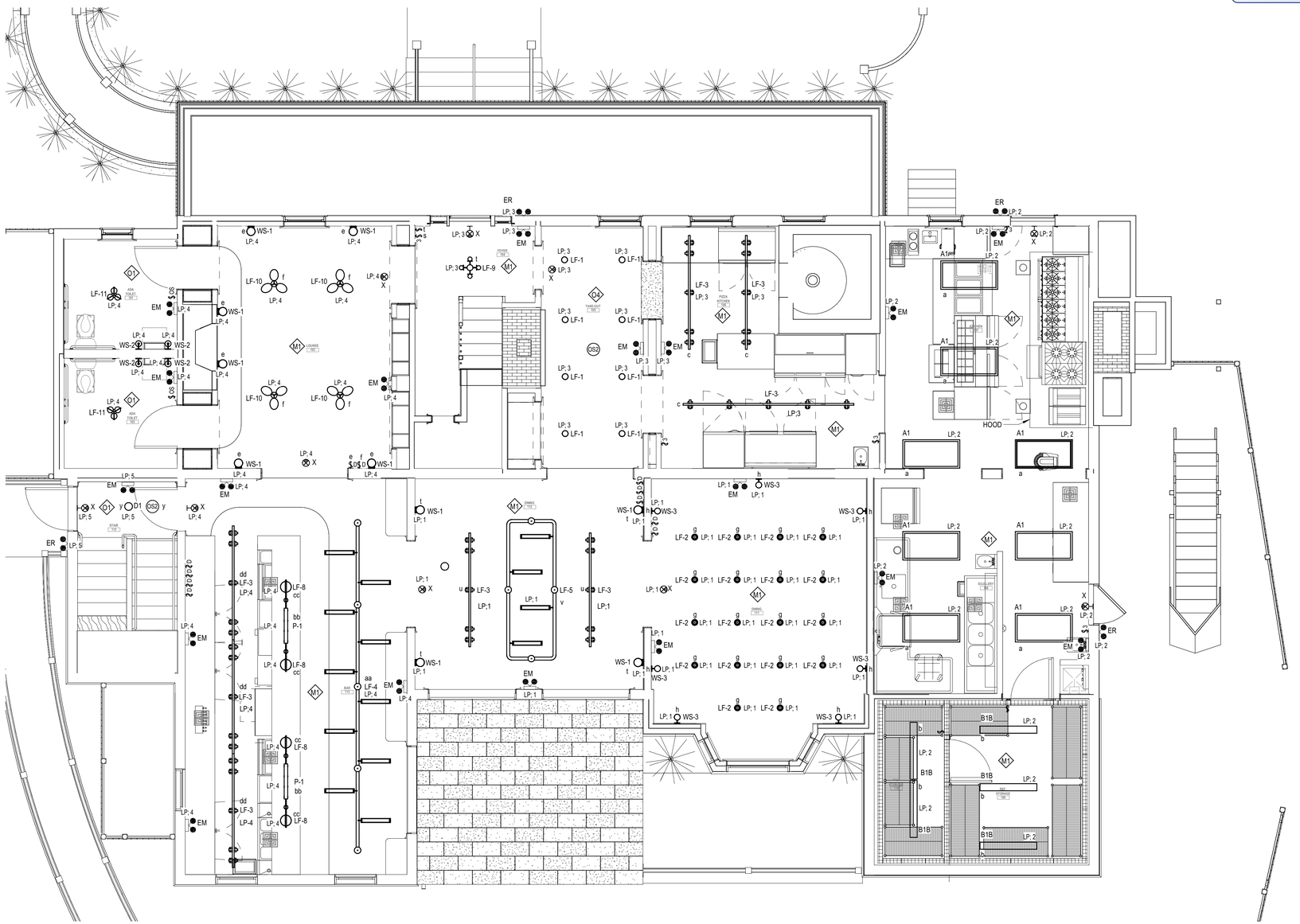
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission



1 E2.1 **LIGHTING FIRST FLOOR**
1/4" = 1'-0"

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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
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APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
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FRONT-OF-HOUSE LIGHTING FIXTURE SCHEDULE (PROVIDED BY THE INTERIOR DESIGNER)

FIXTURE TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMP QUANTITY	LAMP TYPE	LAMP WATTS	FIXTURE WATTS	VOLTS	MOUNTING	ADDITIONAL NOTES
CH-1	DECORATIVE VIAGGIO LINEAR CHANDELIER	TECH LIGHTING	700LSVGO	25	LED 2850 LUMENS 3000K	2W	50W	120	CEILING SUSPENDED	
CH-2	DECORATIVE SPHERE CHANDELIER WITH LED REPLACEMENT LAMP	HUDSON VALLEY LIGHTING	MDS751-AGB	3	LED 3000K	12W	36W	120	CEILING SUSPENDED	
LF-1	DECORATIVE 5.5" ROUND FLUSH MOUNT LIGHT FIXTURE	CIRCA LIGHTING	TOB-4062BZ/HAB-WG	1	LED 1000 LUMENS	11W	11W	120	CEILING SURFACE	
LF-2	DECORATIVE SURFACE MOUNT LIGHT FIXTURE	MITZI HUDSON VALLEY LIGHTING	H120601-AGB	1	LED 3000K	10W	10W	120V	CEILING SURFACE	
LF-3A	LED VERTICAL SPOT	EDGE LIGHTING	TJ-CVS3-21W-30K-WH	1	LED 1600 LUMENS 3000K	21W	21W	120V	CEILING SURFACE	
LF-3B	MINIATURE SINGLE CIRCUIT TRAC SYSTEM, LENGTH AS INDICATED ON PLAN.	COOPER LIGHTING	"TRAC" - LENGTH AND FINISHED AS SELECTED BY THE INTERIOR DESIGNER	1	-	-	-	120V	CEILING SURFACE	
LF-4	23' LONG PIPE CUSTOM LIGHT SUSPENSION	RENAISSANCE LIGHTING	TBC	10	LED 3000K	7W	70W	120V	CEILING SUSPENDED	
LF-5	RECTANGULAR PIPED SUSPENSION PENDANT	RENAISSANCE LIGHTING	TBC	6	LED 3000K	7W	42W	120V	CEILING SUSPENDED	
LF-6	WIT LINEAR SUSPENSION	TECH LIGHTING	700LSWIT	1	LED 3800 LUMENS 48000 LUMENS 5800 LUMENS 3000K	54W 68W 82W	54W 68W 82W	120V	CEILING SUSPENDED	
LF-7	20' LONG PIPE CUSTOM LIGHT SUSPENSION	RENAISSANCE LIGHTING	TBC	8	LED 3000K	7W	56W	120V	CEILING SUSPENDED	
LF-8	DECORATIVE WALL SCONCE WITH LED REPLACEMENT LAMP, BRUSHED ANTIQUE BRASS ALL METAL	TBC	STYLE-MID-CENTURY MODERN	1	LED 3000K	10W	10W	120V	WALL SURFACE	
LF-9	DECORATIVE SURFACE LIGHT FIXTURE	GENERATION LIGHTING	KF1034MBK	4	LED	4.5W	18W	120V	CEILING SURFACE	
LF-10	DECORATIVE SURFACE LIGHT FIXTURE	GENERATION LIGHTING	EF1023MBK	3	LED 3000K	5.5W	16.5W	120V	CEILING SURFACE	
LF-11	DECORATIVE SURFACE LIGHT FIXTURE	HUDSON VALLEY LIGHTING	9823-AGB	3	LED	4W	12W	120V	CEILING SURFACE	
P-1	DECORATIVE PENDANT LIGHTING	SEED DESIGN LIGHTING	SLD-80PF6	6	LED 1270 LUMENS 3000K	6W	36W	120V	CEILING SUSPENDED	
WS-1	WALL SCONCE, AKOVA WALL	TECH LIGHTING	700WSAKV	1	LED 556 LUMENS 2700K	14W	14W	120V	WALL SURFACE	
WS-2	WALL SCONCE WITH LED REPLACEMENT LAMP	ELK LIGHTING	14430/1	1	LED	5.5W	5.5W	120V	WALL SURFACE	
WS-3	WALL SCONCE WITH LED REPLACEMENT LAMP	MITZI HUDSON VALLEY LIGHTING	ASIME-H120102-AGB	2	LED	5W	10W	120V	WALL SURFACE	
WS-4	WALL SCONCE	WAC LIGHTING	WS-26014	1	LED 410 LUMENS 3000K	8W	8W	120V	WALL SURFACE	
WS-5	WALL BRACKET WITH LED REPLACEMENT LAMP	HICKS LIBRARY LIGHT	TOB-2090BZ/HAB-WG	1	LED 3000K	10W	10W	120V	WALL BRACKET	
WS-6	WALL SCONCE	TECH LIGHTING	700BCLNG 2-LIGHT VANITY	1	LED 3000K	17.4W	17.4W	120V	WALL SURFACE	

BACK-OF-HOUSE LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMP QUANTITY	LAMP TYPE	LAMP WATTS	FIXTURE WATTS	VOLTS	MOUNTING	ADDITIONAL NOTES
A1	2'x4' VOLUMETRIC SURFACE MOUNT LOW PROFILE LED TROFFER WITH COLD-ROLLED STEEL HOUSING, SOFT OPAL LINEAR DIFFUSERS, WHITE POLYESTER POWDER COAT FINISH, 0-10V LED DIMMING DRIVER.	DAY-BRITE	2SDL73L835-4-D-UNV-DIM	1	LED 7300 LUMENS 3500K	57.3W	57.3W	MVOLT	CEILING SURFACE	
B1B	4' LED VAPOR TIGHT WITH FULLLY GASKETTED POLYCARBONATE HOUSING, POLYCARBONATE LENS AND 0-10V LED DIMMING DRIVER. WET LISTED AND LABELED "WET LISTED"	LITHONIA LIGHTING	XVML-L48-3500LM-MVOLT-40K-80CRI	1	LED 3558 LUMENS 4000K	33W	33W	MVOLT	CEILING SURFACE	
B2ML	2' LED CEILING SURFACE LOW-PROFILE WRAPAROUND	LITHONIA LIGHTING	BLWP2-20L-ADP-EZ1-LP835	1	LED 2000 LUMENS 3500K	16W	16W	MVOLT	CEILING SURFACE	
D1	4" DIAMETER LED DOWNLIGHT WITH CLEAR SPECULAR OPEN REFLECTOR, WHITE PAINTED FLANGE, 0-10V LED DIMMING DRIVER.	GOTHAM	EVO-35/25-4AR-IWD-LS-MVOLT-EZ1-TRW	1	LED 2576 LUMENS 3500K	28.9W	28.9W	277V	CEILING RECESSED	
X	LED EXIT SIGN WITH WHITE DIE-CAST BRUSHED ALUMINUM HOUSING, RED STENCIL FACE, AND INTEGRAL NICKEL-CADMIUM BATTERY BACK-UP. ARROWS, MOUNTING ARRANGEMENT, AND NUMBER OF SIDES PER PLAN SYMBOL. VERIFY LETTER COLOR WITH LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO ORDERING OF EXIT SIGNS.	LITHONIA LIGHTING	LE-S-W-*-R-EL N	N/A	RED LED	N/A	N/A	MVOLT	UNIVERSAL PER SYMBOL ON PLANS	CONNECT AHEAD OF SWITCHING ON LOCAL LIGHTING CIRCUIT
EM	EMERGENCY BATTERY UNIT WITH WHITE LOW-PROFILE UV-STABILIZED THERMOPLASTIC IMPACT-RESISTANT HOUSING, INTEGRAL SEALED HIGH-OUTPUT NICKEL-CADMIUM BATTERY, AND CAPACITY FOR ONE REMOTE TWIN HEAD.	LITHONIA LIGHTING	QUANTUM SERIES ELM4L LTP HO	N/A	WHITE LED	6.6W	6.6W	MVOLT	WALL @ 7'-6" A.F.F.	CONNECT AHEAD OF SWITCHING ON LOCAL LIGHTING CIRCUIT
ER	EMERGENCY REMOTE HEAD, POWERED BY THE EMERGENCY BATTERY UNIT (EM). WEATHERPROOF TWIN REMOTE. PROVIDE REMOTE TWIN HEAD COMPATIBLE WITH THE EMERGENCY BATTERY UNIT.	LITHONIA LIGHTING	ELMRW-LP220L-DWHXD-T	N/A	WHITE LED	1.2W	2.4W	MVOLT	WALL @ 7'-6" A.F.F.	CONNECT TO THE EMERGENCY LIGHTING UNIT

TYPE	CONTROL SEQUENCE OF OPERATION - IECC 2015
O1	WALL SWITCH OCCUPANCY SENSOR WITH INTEGRAL OVERRIDE SWITCH: WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH TO FULL ON AND SHALL OVERRIDE SWITCH SHALL BE CAPABLE OF TURNING OFF ALL LIGHTING IN THE ROOM. RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.
O2	CEILING OR WALL MOUNTED OCCUPANCY SENSOR WITH POWER-PACK OR RELAY AND WALL MOUNTED OVERRIDE SWITCH: WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH TO FULL ON AND SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES. OVERRIDE SWITCH SHALL BE CAPABLE OF TURNING OFF ALL LIGHTING IN THE ROOM.
O3	WALL SWITCH OCCUPANCY SENSOR WITH INTEGRAL DIMMING / OVERRIDE SWITCH: WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH ON TO 50% OF MAXIMUM OUTPUT. OVERRIDE SWITCH SHALL BE CAPABLE OF ADJUSTING LIGHT OUTPUT TO FULL ON, FULL OFF, AND DIMMING. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.
O4	CEILING OR WALL MOUNTED OCCUPANCY SENSOR(S) WITH POWER-PACK OR RELAY AND WALL MOUNTED DIMMING / OVERRIDE SWITCH: WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH ON TO 50% OF MAXIMUM OUTPUT. OVERRIDE SWITCH SHALL BE CAPABLE OF ADJUSTING LIGHT OUTPUT TO FULL ON, FULL OFF, AND DIMMING. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.
O5	CEILING OR WALL MOUNTED OCCUPANCY SENSOR(S) WITH POWER-PACK OR RELAY AND WALL MOUNTED DIMMING / OVERRIDE SWITCH FOR EACH CONTROL ZONE: WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH ON TO 50% OF MAXIMUM OUTPUT. OVERRIDE SWITCH FOR EACH CONTROL ZONE SHALL BE CAPABLE OF ADJUSTING LIGHT OUTPUT TO FULL ON, FULL OFF, AND DIMMING. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.
T1	TIME CLOCK CONTROL WITH SCHEDULED AUTOMATIC FULL ON AND AUTOMATIC FULL OFF: SCHEDULE TO ACCOUNT FOR NORMAL WORKING HOURS, WEEKENDS AND HOLIDAYS. PROVIDE OVERRIDE SWITCHES AS SHOWN ON PLAN TO OVERRIDE SCHEDULED OFF PERIODS FOR NOT MORE THAN TWO HOURS PER ACTIVATION. WHEN OVERRIDE IS USED PROVIDE FLASH FUNCTION 10 MINUTES BEFORE TIMEOUT.
M1	MANUAL LIGHT SWITCH(S) USED TO CONTROL ROOM LIGHTING, ALL LIGHTING IN ROOM SHALL MANUALLY SWITCH TO FULL ON, AND MANUALLY SWITCH TO FULL OFF. MANUAL SWITCH USED WHERE AUTOMATIC SHUTOFF WOULD ENDANGER THE SAFETY OR SECURITY OF ROOM OR BUILDING OCCUPANTS.

NOTES:

1. PER IECC 2015, C408.3, ALL LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE FUNCTIONALLY TESTED FOR PROPER OPERATION BY AN INDEPENDENT PARTY THAT IS NOT DIRECTLY INVOLVED WITH EITHER THE DESIGN OR THE CONSTRUCTION OF THE LIGHTING SYSTEM.
2. ALL CALIBRATION MECHANISMS SHALL BE IN ACCESSIBLE LOCATIONS.
3. ALL TIME SWITCHES SHALL BE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTINGS DURING LOSS OF POWER FOR A PERIOD OF AT LEAST 10 HOURS.
4. FIXTURES NOTED WITH `EM' (SWITCHED OR DIMMED EMERGENCY) OR `EM/NL' (NIGHT LIGHT) ARE FOR EMERGENCY EGRESS LIGHTING. NIGHT LIGHTS SHALL BE DIMMED TO MATCH PRESETS FOR LIKE TYPES OF ADJACENT LIGHTING. PROVIDE EMERGENCY POWER FOR THESE FIXTURES AND EXIT SIGNS FROM AVAILABLE CIRCUITS OF EMERGENCY PANELS LOCATED. PROVIDE STEP DOWN TRANSFORMER FOR 120V FIXTURES DESIGNATED FOR EMERGENCY.

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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STATE OF MARYLAND · ROBERT STEPHEN SPINAZZOLA · No. 14749 · PROFESSIONAL ENGINEER

R. Stephen Spinazzola

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	04/22/20	DD SUBMISSION
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LIGHTING FIXTURE SCHEDULE

E0.21

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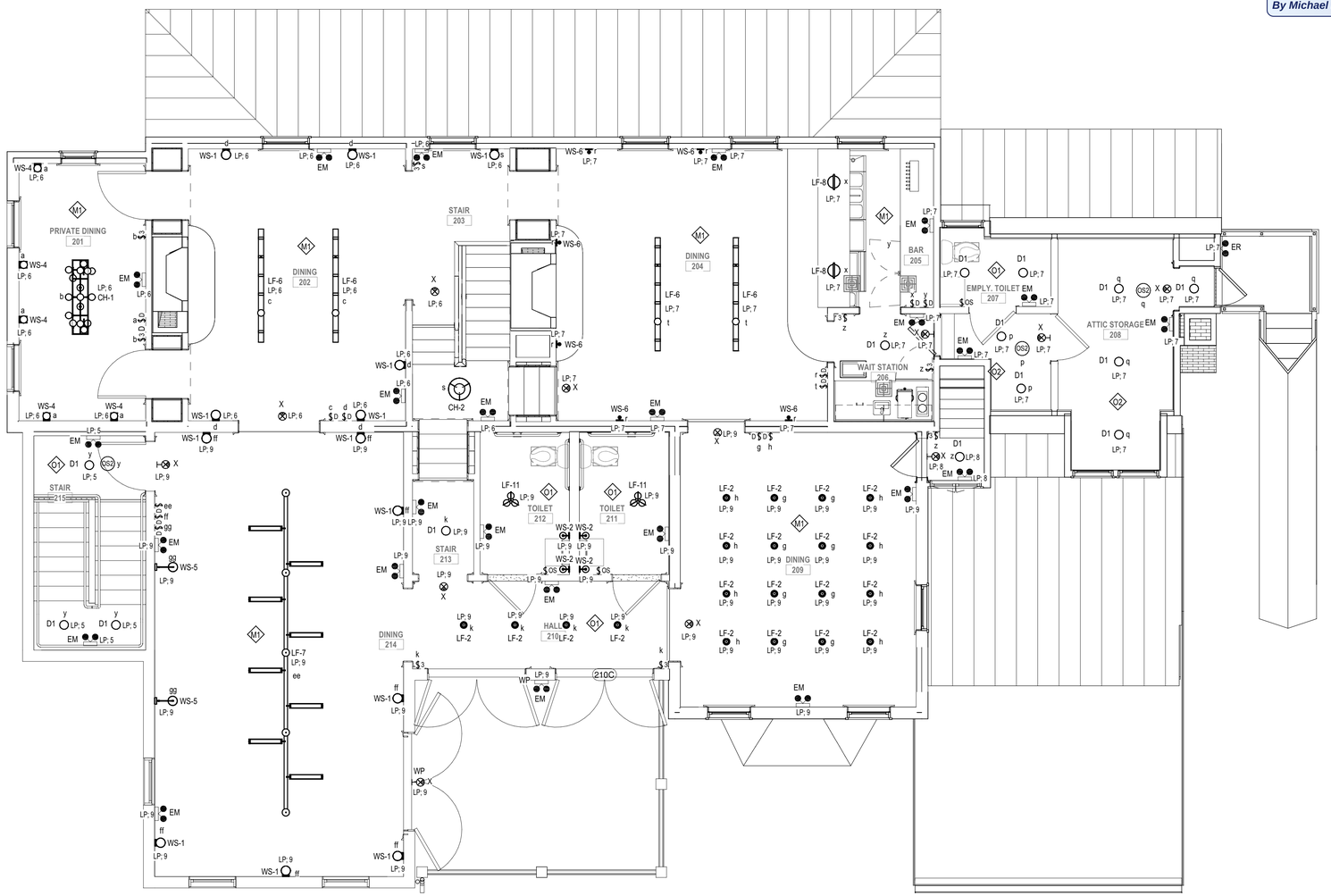

1 E2.2 **LIGHTING SECOND FLOOR**
1/4" = 1'-0"

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LIGHTING SECOND FLOOR PLAN

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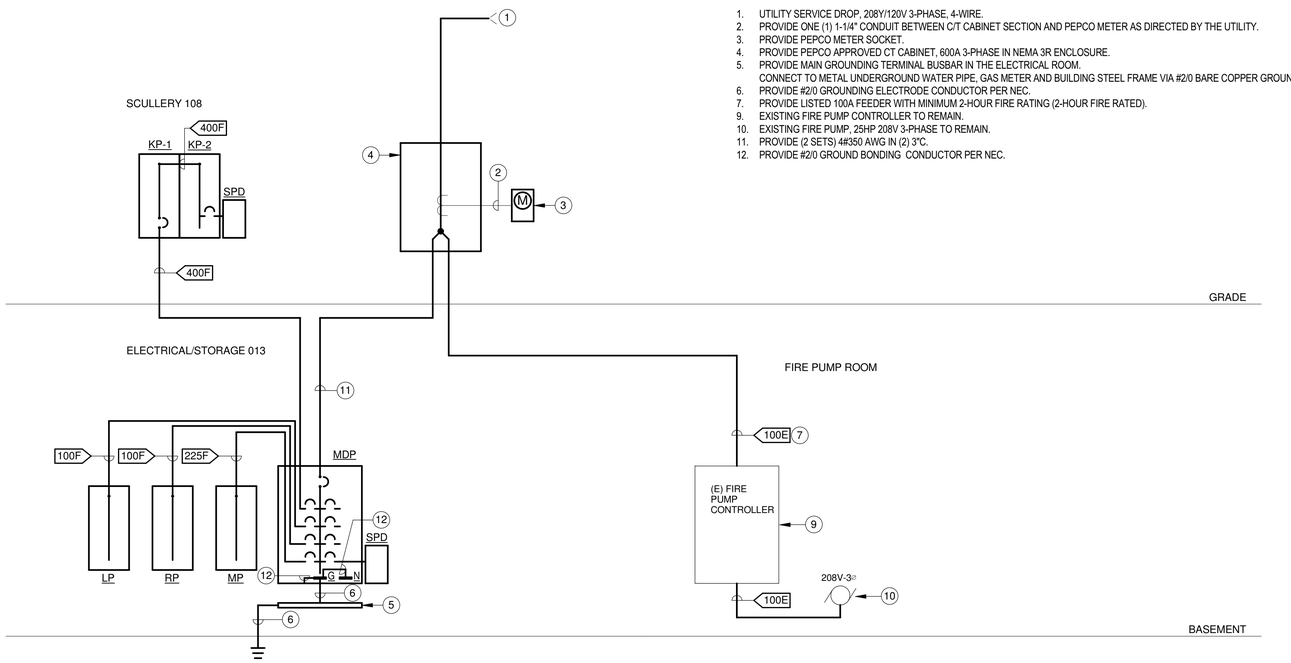
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

ELECTRICAL DRAWING NOTES: (#)

1. UTILITY SERVICE DROP, 208Y/120V 3-PHASE, 4-WIRE.
2. PROVIDE ONE (1) 1-1/4" CONDUIT BETWEEN C/T CABINET SECTION AND PEPCO METER AS DIRECTED BY THE UTILITY.
3. PROVIDE PEPCO METER SOCKET.
4. PROVIDE PEPCO APPROVED CT CABINET, 600A 3-PHASE IN NEMA 3R ENCLOSURE.
5. PROVIDE MAIN GROUNDING TERMINAL BUSBAR IN THE ELECTRICAL ROOM.
   CONNECT TO METAL UNDERGROUND WATER PIPE, GAS METER AND BUILDING STEEL FRAME VIA #2/0 BARE COPPER GROUND.
6. PROVIDE #2/0 GROUNDING ELECTRODE CONDUCTOR PER NEC.
7. PROVIDE LISTED 100A FEEDER WITH MINIMUM 2-HOUR FIRE RATING (2-HOUR FIRE RATED).
9. EXISTING FIRE PUMP CONTROLLER TO REMAIN.
10. EXISTING FIRE PUMP, 25HP 208V 3-PHASE TO REMAIN.
11. PROVIDE (2 SETS) 4#350 AWG IN (2) 3"C.
12. PROVIDE #2/0 GROUND BONDING CONDUCTOR PER NEC.



1 E0.22 EXISTING/NEW POWER RISER DIAGRAM
NOT TO SCALE

Panelboard: KP-1

Location: SCULLERY 108 | **Supply From:** MDP | **Mounting:** SURFACE | **Enclosure:** TYPE 1
Distribution System: 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **Modifications:** FEED-THRU LUGS
A.I.C. Rating: 10kAIC | **Mains Type:** MCB | **Mains Rating:** 400 A | **MCB Rating:**

Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
1	-	1	RECEPT - E-1	20 A	1	2400 / 1200			1	20 A	RECEPT - E-2	2	-	1
1	-	3	RECEPT - E-3	20 A	1		1560 / 624		1	20 A	RECEPT - E-4	4	-	1
1	-	5	RECEPT - E-5	20 A	1			600 / 295	1	20 A	RECEPT - E-6	6	-	1
1	-	7	RECEPT - E-7	20 A	1	1800 / 1680			1	20 A	RECEPT - E-8	8	-	1
1	-	9	RECEPT - E-9	20 A	1		295 / 2208		1	25 A	JUNCTION BOX - E-10	10	-	1
1	-	11	RECEPT - E-11	20 A	1			288 / 295	1	20 A	RECEPT - E-12	12	-	1
1	-	13	RECEPT - E-13	20 A	1	1200 / 1800			1	20 A	RECEPT - E-14	14	-	1,2
1,3	-	15	RECEPT - E-15	20 A	2		1425 / 696		1	20 A	RECEPT - E-18	16	-	1
		17						1425 / 576	1	20 A	RECEPT - E-19	18	-	1
1	-	19	RECEPT - E-20	20 A	1	1560 / 180			1	20 A	RECEPT - E-21	20	-	1
1,2	-	21	RECEPT - E-22	20 A	1		540 / 1800		1	20 A	CONTROL PANEL - E-23A	22	-	1
1	-	23	CONTROL PANEL E-23B	20 A	3			1429 / 576	3	20 A	CONTROL PANEL E-23C	24	-	1
		25				1429 / 576						26		
		27					1429 / 576					28		
1,2	-	29	MAU-1 (E-23E)	15 A	3			901 / 1273	3	20 A	KEF-1 (E-23D)	30	-	1,2
		31				901 / 1273						32		
		33					901 / 1273					34		
1	-	35	RECEPT - E-24	20 A	1			840 / 1300	2	20 A	JUNCTION BOX E-25	36	-	1
1	-	37	E-26	15 A	2	801 / 1300						38		
		39					801 / 7072		2	100 A	E-27	40	-	1
--	--	41	SPARE	20 A	1			0 / 7072				42		
				Load Per...		30897 VA	33435 VA	29801 VA						

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
HVAC	31018 VA	100.00%	31018 VA	TOTAL CONNECTED LOAD:	94133 VA
EQUIPMENT	15746 VA	75.00%	11810 VA	TOTAL ESTIMATED DEMAND:	77805 VA
RECEPT	34782 VA	64.38%	22391 VA	TOTAL CONNECTED CURRENT:	261 A
KITCHEN EQUIP - COMMERCIAL	3819 VA	100.00%	3819 VA	TOTAL ESTIMATED DEMAND CURRENT	216 A
MISC	180 VA	100.00%	180 VA		
EQUIP	8588 VA	100.00%	8588 VA		

NOTES:
1. REFER TO THE SCHEDULE OF EQUIPMENT CONNECTIONS. 2. PROVIDE SHUNT TRIP CIRCUIT BREAKER. 3. PROVIDE GFCI CIRCUIT BREAKER.

Panelboard: KP-2

Location: SCULLERY 108 | **Supply From:** KP-1 | **Mounting:** SURFACE | **Enclosure:** TYPE 1
Distribution System: 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **Modifications:**
A.I.C. Rating: 10kAIC | **Mains Type:** MLO | **Mains Rating:** 400 A | **MCB Rating:**

Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
1	-	1	JUNCTION BOX - E-30	20 A	1	1200 / 1200			1	20 A	JUNCTION BOX - E-30	2	-	1
1	-	3	E-31	20 A	1		240 / 984		1	20 A	E-33	4	-	1
1,3		5	JUNCTION BOX - E-34 (DRAIN HEAT TAPE)	20 A	1			1200 / 1093				6		
		7				1153 / 1093			3	20 A	E-32	8	-	1
1	-	9	E-35	20 A	3		1153 / 1093					10		
		11						1153 / 900	1	20 A	E-36	12	-	1
1	-	13	RECEPT - E-37	20 A	1	372 / 900			1	20 A	RECEPT E-38	14	-	1
1,3	-	15	RECEPT - E-39	30 A	2		1945 / 2400		1	20 A	RECEPT E-40	16	-	1
		17						1945 / 2400	1	20 A	RECEPT E-40	18	-	1
1	-	19	RECEPT - E-41	20 A	1	1200 / 1440			1	20 A	RECEPT	20	20A	1,4
		21					4179 / 180		1	20 A	JUNCTION BOX-PRIME-TAP PRIMING	22	20A	4
1,2,4	70E	23	ACCU-2	70 A	3			4179 / 0	1	20 A	SPARE	24	--	--
		25				4179 / 0			1	20 A	SPARE	26	--	--
--	--	27	SPARE	20 A	1		0 / 0		1	20 A	SPARE	28	--	--
--	--	29	SPARE	20 A	1			0 / 0	1	20 A	SPARE	30	--	--
--	--	31	SPARE	20 A	1	0 / 0			1	20 A	SPARE	32	--	--
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 60						38		
--	--	39	SPARE	20 A	1		0 / 60		3	20 A	SURGE PROTECTIVE DEVICE (SPD)	40	30E	4, 5
--	--	41	SPARE	20 A	1			0 / 60				42		
				Load Per...		12797 VA	12234 VA	12930 VA						

Load Classification	Connected...	Demand...	Est. Demand	Panel Totals	
HVAC	20500 VA	100.00%	20500 VA	TOTAL CONNECTED LOAD:	37962 VA
RECEPT	13502 VA	87.03%	11751 VA	TOTAL ESTIMATED DEMAND:	36211 VA
MISC	180 VA	100.00%	180 VA	TOTAL CONNECTED CURRENT:	105 A
EQUIP	3780 VA	100.00%	3780 VA	TOTAL ESTIMATED DEMAND CURRENT	101 A

NOTES:
1. REFER TO THE SCHEDULE OF EQUIPMENT CONNECTIONS. 2. PROVIDE SHUNT TRIP CIRCUIT BREAKER. 3. PROVIDE GFCI CIRCUIT BREAKER. 4. REFER TO CONDUIT AND FEEDER SCHEDULE. 5. PROVIDE SURGE PROTECTIVE DEVICE (SPD). REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

CONDUIT AND FEEDER SCHEDULE

AMPS	1P+N+G	1P+N+G+IG	2P+G	2P+N+G	3P+G	3P+N+G	3 PHASE MOTORS
	A	B	C	D	E	F	M
15	2#12+1#12G, 3/4"C	2#12+1#12G+1#12IG, 3/4"C	2#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	4#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C
20	2#12+1#12G, 3/4"C	2#12+1#12G+1#12IG, 3/4"C	2#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	4#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C
30	2#10+1#10G, 3/4"C	2#10+1#10G+1#10IG, 3/4"C	2#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	4#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C
50	2#6+1#10G, 3/4"C	2#6+1#10G+1#10IG, 3/4"C	2#6+1#10G, 3/4"C	3#6+1#10G, 3/4"C	3#6+1#10G, 3/4"C	4#8+1#10G, 3/4"C	3#8+1#8G, 3/4"C
60	2#6+1#8G, 1"C	2#6+1#8G+1#8IG, 1"C	2#6+1#8G, 1"C	3#6+1#8G, 1"C	3#6+1#8G, 1"C	4#6+1#8G, 1"C	3#6+1#6G, 1"C
70	2#4+1#8G, 1"C	2#4+1#8G+1#8IG, 1 1/4"C	2#4+1#8G, 1"C	3#4+1#8G, 1"C	3#4+1#8G, 1"C	4#4+1#8G, 1 1/4"C	3#4+1#6G, 1"C
80	2#4+1#8G, 1"C	2#4+1#8G+1#8IG, 1 1/4"C	2#4+1#8G, 1"C	3#4+1#8G, 1"C	3#4+1#8G, 1"C	4#4+1#8G, 1 1/4"C	3#4+1#6G, 1"C
90	2#3+1#8G, 1 1/4"C	2#3+1#8G+1#8IG, 1 1/4"C	2#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	4#3+1#8G, 1 1/4"C	3#3+1#6G, 1 1/4"C
100	2#3+1#8G, 1 1/4"C	2#3+1#8G+1#8IG, 1 1/4"C	2#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	4#3+1#8G, 1 1/4"C	3#3+1#6G, 1 1/4"C
125	2#1+1#6G, 1 1/4"C	2#1+1#6G+1#6IG, 1 1/4"C	2#1+1#6G, 1 1/4"C	3#1+1#6G, 1 1/4"C	3#1+1#6G, 1 1/4"C	4#1+1#6G, 1 1/2"C	3#1+1#4G, 1 1/2"C
150	2#1/0+1#6G, 1 1/4"C	2#1/0+1#6G+1#6IG, 1 1/2"C	2#1/0+1#6G, 1 1/4"C	3#1/0+1#6G, 1 1/2"C	3#1/0+1#6G, 1 1/2"C	4#1/0+1#6G, 2"C	3#1/0+1#4G, 1 1/2"C
175	2#2/0+1#6G, 1 1/2"C	2#2/0+1#6G+1#6IG, 2"C	2#2/0+1#6G, 1 1/2"C	3#2/0+1#6G, 2"C	3#2/0+1#6G, 2"C	4#2/0+1#6G, 2"C	3#2/0+1#4G, 2"C
200	2#3/0+1#6G, 1 1/2"C	2#3/0+1#6G+1#6IG, 2"C	2#3/0+1#6G, 1 1/2"C	3#3/0+1#6G, 2"C	3#3/0+1#6G, 2"C	4#3/0+1#6G, 2"C	3#3/0+1#3G, 2"C
225	2#4/0+1#4G, 2"C	2#4/0+1#4G+1#4IG, 2"C	2#4/0+1#4G, 2"C	3#4/0+1#4G, 2"C	3#4/0+1#4G, 2"C	4#4/0+1#4G, 2 1/2"C	3#4/0+1#2G, 2"C
250	2#250+1#4G, 2"C	2#250+1#4G+1#4IG, 2"C	2#250+1#4G, 2"C	3#250+1#4G, 2 1/2"C	3#250+1#4G, 2 1/2"C	4#250+1#4G, 2 1/2"C	3#250+1#2G, 2 1/2"C
300	2#350+1#4G, 2"C	2#350+1#4G+1#4IG, 2"C	2#350+1#4G, 2"C	3#350+1#4G, 2 1/2"C	3#350+1#4G, 2 1/2"C	4#350+1#4G, 3"C	3#350+1#1G, 2 1/2"C
400	2#500+1#3G, 3"C	2#500+1#3G+1#3IG, 3"C	2#500+1#3G, 3"C	3#500+1#3G, 3"C	3#500+1#3G, 3"C	4#500+1#3G, 3 1/2"C	3#500+1#1/0G, 3"C
500			4#250+1#2G, 2 1/2"C	(2 SETS)3#250+1#2G,(2) 2 1/2"C	(2 SETS)3#250+1#2G, (2)2 1/2"C	(2 SETS)4#250+1#2G,(2)2 1/2"C	(2 SETS)3#250+1#2/0G, (2)3"C
600			4#350+1#1G, 3"C	(2 SETS)3#350+1#1G, (2)2 1/2"C	(2 SETS)3#350+1#1G, (2)2 1/2"C	(2 SETS)4#350+1#1G, (2)3"C	(2 SETS)3#350+1#3/0G, (2)3"C
700			4#500+1#1/0G, 3 1/2"C	(2 SETS)3#500+1#1/0G, (2)3"C	(2 SETS)3#500+1#1/0G, (2)3"C	(2 SETS)4#500+1#1/0G, (2)3 1/2"C	(2 SETS)3#500+1#3/0G, (2)3 1/2"C
800			4#600+1#1/0G, 3 1/2"C	(2 SETS)3#600+1#1/0G, (2)3 1/2"C	(2 SETS)3#600+1#1/0G, (2)3 1/2"C	(2 SETS)4#600+1#1/0G, (2)3 1/2"C	(2 SETS)3#600+1#4/0G, (2)3 1/2"C

NOTES:
1. ADJUST SIZE OF GROUNDING CONDUCTOR FOR SEPARATELY DERIVED SYSTEMS ACCORDING TO NEC TABLE 250.66.
2. INCREASE SIZE OF UNGROUNDED CONDUCTORS FOR VOLTAGE DROP ACCORDING TO NEC 250.122(B).

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY SPRING RD
OLNEY, MD 20832

#	DATE	DESCRIPTION
1	04/22/20	DD SUBMISSION
2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
- ☐ REVIEW ☐ SD SET
- ☐ BID ☐ DD SET
- ☒ PERMIT ☐ CD SET

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PANEL SCHEDULES AND POWER RISER DIAGRAM

E0.22

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Permit # COMBUILD-921463
Date 01/14/21

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By Michael Kyne at 1:59 am, Feb 19, 2021

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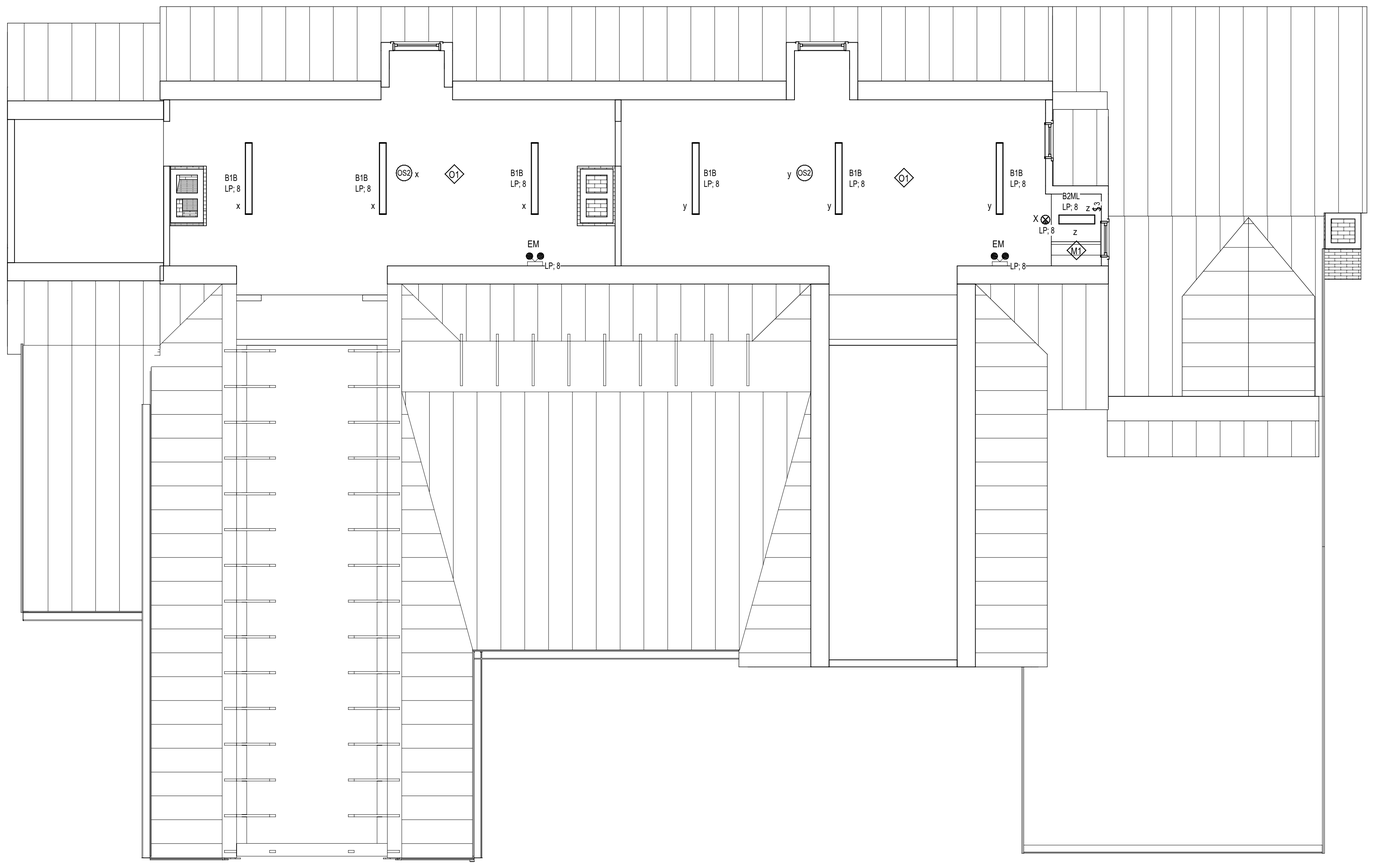
Historic Preservation Commission



2 / E2.3 **LIGHTING ATTIC**
1/4" = 1'-0"

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STATE OF MARYLAND · ROBERT STEPHEN SPINAZZOLA · NO. 14749 · PROFESSIONAL ENGINEER

R. Stephen Spinazzola

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

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LIGHTING ATTIC PLAN

E2.3

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Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

ABBREVIATIONS

(E)	EXISTING ITEM
(ED)	EXISTING ITEM TO BE DEMOLISHED
(ER)	EXISTING ITEM TO BE RELOCATED
(F)	FUTURE
(N)	NEW
(RL)	EXISTING ITEM RELOCATED
A	AMP, AMPERE
A/V, AV	AUDIO VISUAL
AC	AIR CONDITIONING
AF/ AT	AMP FRAME / AMP TRIP
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPS INTERUPPTING CURRENT
AL	ALUMINUM
ARF	ABOVE RAISED FLOOR
ARF	ARC FAULT
AS/ AFU	AMP SWITCH / AMP FUSE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CENTER LINE
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CONTR	CONTRACTOR
CONV	CONVENIENCE
CT	CURRENT TRANSFORMER
CU	COPPER
D.O.	DRAWOUT
DC	DOOR CONTACT
DISC	DISCONNECT
DIST	DISTRIBUTION
DW	DISHWASHER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRICAL
EM, EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FDR	FEEDER
FIXT	FIXTURE
FL	FLOOR
FP	FIRE PROTECTION
G, GND	GROUND
GEN	GENERATOR
GF	GROUND FAULT
GFI	GROUND FAULT INTERRUPTOR
HOA	HAND OFF AUTOMATIC SWITCH
HP	HORSE POWER
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HWH	HOT WATER HEATER
HZ	HERTZ
IG	ISOLATED GROUND
JB	JUNCTION BOX
kAIC	KILO AMPERE INTERRUPTING CURRENT
kCMILS	THOUSAND CIRCULAR MILS
kVA	KILOVOLT AMPS
kW	KILOWATTS
LSIG	LONG, SHORT INSTANTANEOUS AND GROUND FAULT TRIP FUNCTION
LTG	LIGHTING

ABBREVIATIONS

MAX	MAXIMUM
MB	MOTORIZED BACKBOARD
MC	METAL CLAD
MC	MOTORIZED CURTAIN
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFG	MANUFACTURER
MH	MOUNTING HEIGHT
MI	MINERAL INSULATED
MLO	MAIN LUGS ONLY
MOD	MOTORIZED OVERHEAD DOOR
MPS	MOTORIZED PROJECTION SCREEN
MS	MOTORIZED SHADES
MTD	MOUNTED
MW	MICROWAVE
N	NEUTRAL
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
No	NUMBER
NTS	NOT TO SCALE
OFE	OWNER FURNISHED EQUIPMENT
P	POLES
PB	PULL BOX
PC	PLUMBING CONTRACTOR
PH	PHASE
PL	OUTLET DEVICE WITH PLATE ONLY
PNL	PANEL
PPE	PRE-PURCHASED EQUIPMENT
PRT	PRINTER
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
QUAD	QUADRAPLEX
REC	RECESSED
RECEPT	RECEPTACLE
REF	REFRIGERATOR
RF	RETURN FAN
RGS	RIGID GALVANIZED STEEL
RM	ROOM
SB	SCORE BOARD
SEC	SECONDARY
SF	SUPPLY FAN
SKRU	SOLENOID KEY RELEASE UNIT
SPD	SURGE PROTECTION DEVICE
SSCAF	SHORT CIRCUIT COORDINATION ARC FLASH
ST	SHUNT TRIP
SW	SWITCH
SWBD	SWITCH BOARD
SWGR	SWITCH GEAR
TC	(TEL/COM) TELECOMMUNICATIONS
TDR	TIME DELAY RELAY
TEL	TELEPHONE
TF	TRANSFER FAN
TP	TAMPER PROOF
TPS	TWISTED PAIR SHIELDED
TYP	TYPICAL
UC	UNDERCOUNTER
UCR	UNDER COUNTER REFRIGERATOR
UF	UNDERFLOOR
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
W	WATTS
WP	WEATHER PROOF
XFMR	TRANSFORMER

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission
Sandra I. Heiler

DRAWING LIST - FIRE ALARM

DRAWING NUMBER	DRAWING TITLE	04/22/2020 - DD SUBMISSION	05/15/20 - 95% CD REVIEW	07/13/20 - PERMIT SUBMISSION
FA0.01	FIRE ALARM LEGENDS, ABBREVIATIONS AND GENERAL NOTES	❍	●	●
FA1.0	FIRE ALARM BASEMENT PLAN	❍	●	●
FA1.1	FIRE ALARM FIRST FLOOR PLAN	❍	●	●
FA1.2	FIRE ALARM SECOND FLOOR PLAN	❍	●	●
FA1.3	FIRE ALARM ATTIC PLAN	❍	●	●

REVISION LEGEND						
	❍	NEW ISSUE	●	REVISED ISSUE	◆	REVISED, NOT ISSUED
	☒	REMOVED FROM DRAWING SET	☐	ISSUED, NOT REVISED		

SECTION 16721 - FIRE DETECTION AND ALARM SYSTEM SPECIFICATION:

A. GENERAL:

1. THE FIRE ALARM SYSTEM SHALL BE A UL CERTIFIED SYSTEM, INSTALLED AND MAINTAINED BY A FIRE ALARM SERVICE COMPANY LISTED BY UNDERWRITERS LABORATORIES, INC., IN ITS DIRECTORY AS BEING CAPABLE OF FURNISHING THE FIRE ALARM SYSTEM AND EQUIPMENT SPECIFIED HEREIN. A UL CERTIFICATE SHALL BE ISSUED TO THE OWNER PRIOR TO ISSUANCE OF THE SUBSTANTIAL COMPLETION CERTIFICATE FOR THE PROJECT. A COPY OF THE UL CERTIFICATION SHALL BE INCLUDED IN THE OPERATIONS AND MAINTENANCE MANUAL.

2) THE FIRE ALARM SYSTEM SHALL PROVIDE SIGNALING FOR THE HANDICAPPED IN ACCORDANCE WITH NFPA-72, "NATIONAL FIRE ALARM AND SIGNALING CODE" AND THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG). THE FIRE ALARM SYSTEM SHALL COMPLY WITH INTERNATIONAL CODE CONFERENCE (ICC), NFPA, ANSI/ASME AND ALL OTHER APPLICABLE CODES AND REGULATIONS.

A. QUANTITY AND LOCATION OF AUDIBLE AND VISUAL ALARM NOTIFICATION DEVICES INDICATED ON THE DRAWINGS REPRESENT THE MINIMUM QUANTITY OF DEVICES TO BE PROVIDED. THE FIRE ALARM SYSTEM SUPPLIER SHALL PROVIDE ADDITIONAL DEVICES, AS REQUIRED, TO MEET NFPA-72 AND ADAAG REQUIREMENTS FOR VISUAL DEVICES, AND THE PUBLIC MODE SOUND LEVELS INDICATED IN NFPA-72 IN ALL OCCUPIED SPACES THROUGHOUT THE BUILDING. FOR THE PURPOSE OF THIS REQUIREMENT, MECHANICAL ROOMS, ELECTRICAL ROOMS, STORAGE ROOMS AND SIMILAR SPACES SHALL BE CONSIDERED TO BE OCCUPIED SPACES. THE FIRE ALARM SUPPLIER SHALL BEAR SOLE RESPONSIBILITY FOR PROVISION OF FIRE ALARM AUDIBLE DEVICE SOUND LEVELS THROUGHOUT THE FACILITY IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA-72 AND THE AUTHORITY HAVING JURISDICTION. PERFORM ALL CALCULATIONS, MOCK-UPS, ETC. AS REQUIRED TO VERIFY SOUND LEVELS THROUGHOUT THE FACILITY. ALL FIRE ALARM AUDIBLE AND VISUAL INDICATING DEVICES SHALL BE INDICATED ON THE SPECIAL SYSTEMS DRAWINGS, AS SPECIFIED ABOVE UNDER "SUBMITTALS." FINAL LOCATIONS OF ALL DEVICES SHALL BE APPROVED BY THE ARCHITECT.

3) FIRE ALARM SUBMITTALS SHALL INCLUDE FLOOR PLANS OF THE BUILDING WITH ALL FIRE ALARM DEVICES INDICATED. SYSTEM ADDRESS OF EACH INITIATING DEVICE AND CANDELA RATING FOR EACH STROBE SHALL BE INDICATED ON THE DRAWINGS. DRAWINGS SHALL BE PREPARED IN AUTOCAD OR REVIT/BIM. DRAWINGS SHALL BE BROUGHT UP TO AS-BUILT CONDITIONS AT THE COMPLETION OF THE PROJECT. PRINTS OF THE AS-BUILT DRAWINGS SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUALS. COPIES OF THE ELECTRONIC FILES SHALL BE PROVIDED TO THE OWNER, EITHER ON DISKETTE OR CD-ROM.

4) CODE COMPLIANCE: FIRE DETECTION AND ALARM SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE FOLLOWING PUBLICATIONS:

A. INTERNATIONAL BUILDING CODE – 2015
B. NFPA 13, "SPRINKLER SYSTEMS"
C. NFPA 20, "CENTRIFUGAL FIRE PUMPS"
D. NFPA 70, "NATIONAL ELECTRICAL CODE" – 2017
E. NFPA 72, "NATIONAL FIRE ALARM AND SIGNALING CODE"
F. NFPA 90A, "STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS"
G. NFPA 101, "LIFE SAFETY CODE"
H. NFPA 1221, "EMERGENCY SERVICES COMMUNICATIONS SYSTEMS"
I. AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG)
J. MARYLAND ACCESSIBILITY CODE (COMAR 05.02.02)
K. ANSI/NECA STANDARD 305-2001, "STANDARD FOR FIRE ALARM SYSTEM JOB PRACTICES"

B. PRODUCTS:

1. PROVIDE A COMPLETE ANALOG, DEVICE ADDRESSABLE AUTOMATIC FIRE DETECTION AND ALARM SYSTEM COMPLETE INCLUDING ALL WIRING, CONDUIT AND BOXES, CONTROLS, AUTOMATIC AND MANUAL INITIATING DEVICES, MONITORING MODULES, AUXILIARY DEVICES, ANNUNCIATORS, INDICATING DEVICES, ETC. AS MAY BE REQUIRED.

2) THE FIRE ALARM SYSTEM SHALL BE EST, WHICH SHALL FORM THE BASIS OF DESIGN. SUBJECT TO COMPLIANCE WITH ALL CONTRACT REQUIREMENTS, SUBSTITUTIONS MAY BE CONSIDERED FROM EDWARDS, GAMEWELL, NOTIFIER, SIEMENS, SIMPLEX OR VIGILANT. PART NUMBERS LISTED BELOW ARE THOSE OF AN EST FIRE DETECTION AND ALARM SYSTEM AND CONSTITUTE THE TYPE AND QUALITY OF EQUIPMENT TO BE FURNISHED.

3) THE FIRE ALARM CONTROL PANEL SHALL BE EST3. THE FIRE ALARM CONTROL PANEL SHALL INCLUDE AN 80 CHARACTER LCD DISPLAY MODULE. IN THE NORMAL MODE THE UNIT SHALL DISPLAY THE TIME, THE TOTAL NUMBER OF ACTIVE EVENTS AND THE TOTAL NUMBER OF DISABLE POINTS. IN THE ALARM MODE THE UNIT SHALL DISPLAY THE TOTAL NUMBER OF EVENTS AND THE TYPE OF EVENT ON DISPLAY. FORTY (40) CHARACTERS OF DISPLAY SPACE SHALL BE UTILIZED FOR USER CUSTOM MESSAGES. THE MODULE SHALL HAVE VISUAL INDICATORS FOR THE FOLLOWING COMMON CONTROL FUNCTIONS; AC POWER, ALARM, SUPERVISORY, MONITOR, TROUBLE, DISABLE, GROUND FAULT, CPU FAIL, AND TEST. THERE SHALL BE COMMON CONTROL KEYS AND VISUAL INDICATORS FOR RESET, ALARM SILENCE, TROUBLE SILENCE, DRILL, AND ONE CUSTOM PROGRAMMABLE KEY/INDICATOR.

4) THE FIRE ALARM SYSTEM SHALL BE A UL CERTIFIED SYSTEM, INSTALLED AND MAINTAINED BY A FIRE ALARM SERVICE COMPANY LISTED BY UNDERWRITERS LABORATORIES, INC., IN ITS DIRECTORY AS BEING CAPABLE OF FURNISHING THE SIGNALING SYSTEMS SPECIFIED HEREIN. A UL CERTIFICATE SHALL BE ISSUED TO THE OWNER PRIOR TO ISSUANCE OF THE SUBSTANTIAL COMPLETION CERTIFICATE FOR THE PROJECT. A COPY SHALL BE INCLUDED IN THE OPERATIONS AND MAINTENANCE MANUAL.

5) ANNUNCIATION SHALL BE BY FLOOR, ZONE AND TYPE OF DEVICE AT THE SYSTEM CONTROL PANEL AND AT REMOTE ANNUNCIATOR.

6) SYSTEM SHALL PROVIDE SIGNALING FOR THE HANDICAPPED IN ACCORDANCE ADA. SYSTEM SHALL COMPLY WITH BOCA, NFPA, ANSI/ASME AND ALL OTHER APPLICABLE CODES AND REGULATIONS.

7) SYSTEM OPERATION:

A. WHEN ANY SMOKE DETECTOR, HEAT DETECTOR, MANUAL PULL STATION OR WATER FLOW SWITCH OPERATES THE SYSTEM SHALL ACTIVATE ALL INDICATING DEVICES THROUGHOUT THE BUILDING, PROVIDE A SPECIFIC TEXT DEVICE TYPE AND LOCATION INDICATION ON THE LCD DISPLAY ON THE FIRE ALARM CONTROL PANEL AND AT THE REMOTE ANNUNCIATOR, LIGHT ZONE AND DEVICE TYPE INDICATIONS ON THE ANNUNCIATOR, LIGHT AN INDICATING LAMP ON THE SMOKE DETECTOR OR MONITORING MODULE, AND SEND AN ALARM INDICATION TO THE CENTRAL MONITORING STATION.

B) WHEN ANY DUCT DETECTOR OPERATES THE SYSTEM SHALL SOUND AN AUDIBLE TROUBLE SIGNAL AT THE FIRE ALARM CONTROL PANEL AND AT THE REMOTE ANNUNCIATOR, LIGHT ZONE AND DEVICE TYPE INDICATIONS ON THE ANNUNCIATOR, PROVIDE A SPECIFIC TEXT DEVICE INDICATION ON THE LCD DISPLAY ON THE FIRE ALARM CONTROL PANEL AND AT THE REMOTE ANNUNCIATOR AND SEND A SUPERVISORY SIGNAL TO THE CENTRAL MONITORING STATION. IN ADDITION, THE HVAC UNIT SERVED SHALL BE SHUT DOWN.

C) WHEN ANY CARBON MONOXIDE DETECTOR ACTIVATES, THE FOLLOWING SHALL OCCUR:

1. CARBON MONOXIDE DETECTORS SHALL BE PROVIDED WITH LOCAL SOUNDER TYPE BASES. ACTIVATION OF THE CARBON MONOXIDE DETECTOR SHALL CAUSE THE SOUNDER BASE TO EMIT A CODE 4 TEMPORAL ALARM TONE, IN ACCORDANCE WITH REQUIREMENTS OF NFPA-720.
2. LOCAL CARBON MONOXIDE VISUAL DEVICE (STROBE WITH BLUE LENS), ADJACENT TO CARBON MONOXIDE DETECTOR IN ALARM CONDITION, SHALL FLASH.
3. ILLUMINATE RED LED ON DEVICE IN ALARM CONDITION
4. SHUT DOWN ASSOCIATED HVAC UNIT AND/OR LOCAL EXHAUST SYSTEM
5. ALL COMBUSTION APPLIANCES OR EQUIPMENT IN THE AREA OF THE CARBON MONOXIDE DETECTOR IN ALARM SHALL BE SHUT DOWN. CLOSE GAS SOLENOID VALVE IN GAS LINES SERVING NATURAL OR PROPANE GAS FIRED EQUIPMENT; TURN OFF OIL FIRED EQUIPMENT VIA UNIT CONTROLS; PROVIDE ALL REQUIRED CONTROL MODIFICATIONS, CONTACTS, RELAYS, CONTROL WIRING, ETC. AND MAKE ALL FINAL AS REQUIRED.
6. DISPLAY DEVICE TYPE AND LOCATION ON FACP ALPHA-NUMERIC DISPLAY UNIT
7. DISPLAY DEVICE TYPE AND LOCATION ON FIRE ALARM ANNUNCIATOR ALPHA-NUMERIC DISPLAY UNIT
8. ILLUMINATE AREA, AND DEVICE TYPE LED ON FIRE ALARM ANNUNCIATOR
9. ILLUMINATE SUPERVISORY LED AT FACP
10. SOUND AUDIBLE SUPERVISORY SIGNAL AT FACP
11. SEND SUPERVISORY CONDITION REPORT TO CENTRAL STATION MONITORING SERVICE
12. NOTE THAT FIRE ALARM DEVICE ALARMS AND SUPERVISORY ALERTS SHALL TAKE PRECEDENCE OVER SIGNALS INITIATED BY CARBON MONOXIDE DETECTORS.

D) WHEN ANY SPRINKLER VALVE TAMPER SWITCH OPERATES THE SYSTEM SHALL SOUND AN AUDIBLE TROUBLE SIGNAL AT THE FIRE ALARM CONTROL PANEL AND AT THE REMOTE ANNUNCIATOR, LIGHT ZONE AND DEVICE TYPE INDICATIONS ON THE ANNUNCIATOR, PROVIDE A SPECIFIC TEXT DEVICE INDICATION ON THE LCD DISPLAY ON THE FIRE ALARM CONTROL PANEL AND AT THE REMOTE ANNUNCIATOR AND SEND A SUPERVISORY SIGNAL TO THE CENTRAL MONITORING STATION.

8) AUDIBLE/VISUAL NOTIFICATION APPLIANCES SHALL BE COOPER WHEELOCK SERIES NS HORN STROBE APPLIANCES, SUITABLE FOR WALL OR CEILING MOUNTING AS INDICATED ON THE PLANS OR AS REQUIRED. THEY SHALL PROVIDE SYNCHRONIZED FLASH STROBE OUTPUT IN COMPLIANCE WITH ADAAG REQUIREMENTS FOR EACH SPECIFIC LOCATION.

9) VISUAL ONLY NOTIFICATION APPLIANCES SHALL BE COOPER WHEELOCK SERIES RSSR STROBE APPLIANCES, SUITABLE FOR WALL OR CEILING MOUNTING AS INDICATED ON THE PLANS OR AS REQUIRED. THEY SHALL PROVIDE SYNCHRONIZED FLASH OUTPUT IN COMPLIANCE WITH ADAAG REQUIREMENTS FOR EACH SPECIFIC LOCATION.

10) THE VISUAL NOTIFICATION APPLIANCES FOR OTHER THAN FIRE EVACUATION SIGNALS SUCH AS CARBON MONOXIDE DETECTORS SHALL BE WHEELOCK COLORED LENS STROBE PRODUCTS, WHICH SHALL FORM THE BASIS OF DESIGN. SUBJECT TO COMPLIANCE WITH ALL SPECIFICATION REQUIREMENTS, SUBSTITUTIONS MAY BE CONSIDERED FROM THE FIRE ALARM SYSTEM MANUFACTURER.

11) MANUAL PULL STATIONS SHALL BE ADDRESSABLE, DOUBLE ACTION TYPE EST 278 SERIES.

12) SMOKE DETECTORS SHALL BE ADDRESSABLE ANALOG IONIZATION TYPE, EST SIGA-IS.

13) HEAT DETECTORS FOR GENERAL USE SHALL BE COMBINATION FIXED TEMPERATURE/ RATE-OF-RISE TYPE, EST SIGA-HRS.

14) DUCT DETECTOR HOUSINGS SHALL BE COMPATIBLE WITH ALL SMOKE DETECTORS. HOUSING SHALL COME WITH A 6 INCH EXHAUST TUBE. PROVIDE SAMPLING TUBE(S) OF SUFFICIENT LENGTH TO SPAN THE ENTIRE DUCT. PROVIDE ADDRESSABLE RELAY FOR HVAC EQUIPMENT SHUTDOWN. DUCT DETECTOR HOUSINGS SHALL BE EST MODEL SIGA-DH WITH SMOKE DETECTOR AS SPECIFIED ABOVE. MAKE ALL FINAL CONNECTIONS BETWEEN ADDRESSABLE RELAY AND HVAC EQUIPMENT FOR UNIT SHUT-DOWN.

15) CARBON MONOXIDE DETECTORS SHALL BE INTELLIGENT CARBON MONOXIDE SENSORS, WHICH GATHER ANALOG DATA FROM AN INTEGRAL, REPLACEABLE, CO SENSOR, AND CONVERTS THIS DATA INTO A DIGITAL SIGNAL. IT SHALL INCORPORATE AN ON-BOARD MICROPROCESSOR WHICH MEASURES AND ANALYZES SENSOR READINGS OVER TIME. THE CO SENSOR SHALL BE AN ELECTROCHEMICAL CELL MOUNTED ON A FIELD-REPLACEABLE DAUGHTERBOARD. WHEN THE ELECTROCHEMICAL CELL REACHES ITS END OF LIFE AFTER APPROXIMATELY SIX YEARS, THE DETECTOR SHALL SIGNAL A TROUBLE CONDITION TO THE CONTROL PANEL. THE CO SENSOR SHALL MOUNT ON A STANDARD DETECTOR BASE, WITH INTEGRAL AUDIBLE SOUNDER, AND SHALL OPERATE ON THE STANDARD FIRE ALARM INITIATING DEVICE CIRCUITRY. ON ACTIVATION OF THE CO SENSOR, THE SOUNDER BASE SHALL PROVIDE AN AUDIBLE SIGNAL IN COMPLIANCE WITH REQUIREMENTS OF NFPA-720. THE DETECTOR SHALL THE DETECTOR SHALL INCORPORATE A BI-COLOR GREEN (NORMAL)/RED (ALARM) STATUS LED. THE DETECTOR SHALL INCORPORATE AUTOMATIC DAY/NIGHT SENSITIVITY ADJUSTMENT. INTELLIGENT PHOTO/ION/HEAT MULTI-SENSOR DETECTOR SHALL BE EST MODEL SIGA2-COS.

16) SPRINKLER WATER FLOW SWITCHES SHALL BE POTTER MODEL VSR-D. SPRINKLER VALVE SUPERVISION SWITCHES SHALL BE POTTER MODEL OSYS-U FOR OS&Y TYPE VALVES OR POTTER MODEL BVS FOR BALL TYPE VALVES. PROVIDE ADDRESSABLE INTERFACE MODULE AT EACH DEVICE. VERIFY EXACT QUANTITY AND LOCATION OF SPRINKLER DEVICES WITH APPROVED SPRINKLER SHOP DRAWINGS.

17) GRAPHIC ANNUNCIATOR SHALL BE QUALITY ENGRAVING AND DESIGN QED SERIES GRAPHIC ANNUNCIATOR, MINIMUM 24" WIDE X 30" HIGH WITH CUSTOM GRAPHICS AND CONTROLS AS SPECIFIED HEREIN.

A. THE GRAPHIC ANNUNCIATOR SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. PROVIDE AN OUTLINE OF THE ENTIRE BUILDING, WITH MAJOR CORRIDORS, STAIRWAYS, BUILDING ENTRANCES AND EXITS AND MAJOR ARCHITECTURAL FEATURES SHOWN. THE BUILDING OUTLINE SHALL BE ORIENTED TO THE VIEWING DIRECTION. PROVIDE NORTH ARROW AND A "YOU ARE HERE" INDICATOR. THE BUILDING SHALL BE DIVIDED INTO ZONES PER FLOOR.

B) BACKLIT LED INDICATORS SHALL BE PROVIDED WITHIN EACH ZONE FOR ALARM (RED) AND TROUBLE (YELLOW). PROVIDE LED INDICATOR IN EACH ZONE FOR MANUAL PULL STATIONS, AUTOMATIC DEVICES, SPRINKLER FLOW, DUCT SMOKE DETECTORS, CARBON MONOXIDE DETECTORS, SPRINKLER VALVE TAMPER (YELLOW/SUPERVISORY ONLY).

C) PROVIDE AN LCD DISPLAY UNIT, SET FLUSH IN THE FACE OF THE ANNUNCIATOR PANEL, TO MIMIC THE DISPLAY AT THE FIRE ALARM CONTROL PANEL.

D) BACKLIT LED INDICATORS SHALL BE PROVIDED ON THE ANNUNCIATOR FOR THE FOLLOWING FUNCTIONS:

1. SYSTEM POWER ON (GREEN)
2. SYSTEM ALARM (RED)
3. SYSTEM TROUBLE (YELLOW)
4. SUPERVISORY CONDITION (YELLOW)
5. FIRE PUMP CONTROLLER POWER AVAILABLE (GREEN)
6. FIRE PUMP RUNNING (RED)
7. FIRE PUMP CONTROLLER POWER LOSS (YELLOW)
8. FIRE PUMP CONTROLLER PHASE REVERSAL (YELLOW)

E) KEY OPERATED SWITCHES SHALL BE PROVIDED ON THE FACE OF THE ANNUNCIATOR FOR THE FOLLOWING CONTROLS:

1. LAMP TEST
2. TROUBLE SILENCE
3. FIRE PUMP START

F) PROVIDE GUARDED PUSHBUTTON ON THE GRAPHIC ANNUNCIATOR FOR SHUT-DOWN OF BUILDING HVAC SYSTEMS IN ACCORDANCE WITH NFPA-90A, PARAGRAPH 4.2. ACTIVATION OF THE PUSHBUTTON SHALL CAUSE ALL BUILDING AIR HANDLING SYSTEMS TO BE SHUT DOWN. REFER TO SCHEDULES OF AIR HANDLING SYSTEMS AND EQUIPMENT ON THE MECHANICAL DRAWINGS TO DETERMINE WHICH SYSTEMS OR EQUIPMENT ARE TO BE SHUT-DOWN.

18) PROVIDE A UL LISTED DIGITAL COMMUNICATOR FOR TRANSMISSION OF ALARM AND SUPERVISORY SIGNALS TO THE OWNER'S CENTRAL STATION MONITORING SERVICE, VIA STANDARD TELEPHONE LINES. PROVIDE ALL REQUIRED POWER SUPPLIES, DIRECT CONNECT CORDS AND ACCESSORIES REQUIRED FOR A COMPLETE, FULLY FUNCTIONAL INSTALLATION. THE TELEPHONE DIALER SHALL BE A SILENT KNIGHT MODEL 5104, OR APPROVED EQUAL. DIALER SHALL BE COMPATIBLE, AND CAPABLE OF FULL TWO WAY COMMUNICATIONS WITH THE CENTRAL STATION MONITORING SERVICE'S DIGITAL COMMUNICATOR. EXACT REQUIREMENTS SHALL BE VERIFIED PRIOR TO INSTALLATION OF THE DIGITAL COMMUNICATOR.

C. EXECUTION:

1) LOW VOLTAGE FIRE ALARM SYSTEM WIRING SHALL BE METAL CLAD CABLE TYPE FPLP WITH RED COLORED ARMOR SPECIFICALLY DESIGNED AND MANUFACTURED AND LISTED FOR FIRE ALARM USE.

2) MINIMUM WIRE SIZE SHALL BE NO. 18 AWG SOLID COPPER FOR INITIATION AND ANNUNCIATOR CIRCUITS, NO. 14 AWG SOLID COPPER FOR INDICATING CIRCUITS, AND NO. 12 AWG SOLID COPPER FOR 120 VOLT CIRCUITS. ALL FIRE ALARM SYSTEM JUNCTION BOXES SHALL BE PAINTED RED.

3) THE QUANTITY AND LOCATION OF AUDIBLE AND VISUAL ALARM NOTIFICATION DEVICES INDICATED ON THE DRAWINGS REPRESENT THE MINIMUM QUANTITY OF DEVICES TO BE PROVIDED. THE FIRE ALARM SYSTEM SUPPLIER SHALL PROVIDE ADDITIONAL DEVICES, AS REQUIRED TO MEET ADAAG AND NFPA-72 REQUIREMENTS FOR VISUAL DEVICES, AND THE PUBLIC MODE SOUND LEVELS INDICATED IN NFPA-72 IN ALL OCCUPIED SPACES THROUGHOUT THE BUILDING. FOR THE PURPOSE OF THIS REQUIREMENT, MECHANICAL ROOMS, ELECTRICAL ROOMS, STORAGE ROOMS AND SIMILAR SPACES SHALL BE CONSIDERED TO BE OCCUPIED SPACES. THE FIRE ALARM SUPPLIER SHALL BEAR SOLE RESPONSIBILITY FOR PROVISION OF FIRE ALARM AUDIBLE DEVICE SOUND LEVELS THROUGHOUT THE FACILITY IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA-72 AND THE AUTHORITY HAVING JURISDICTION. PERFORM ALL CALCULATIONS, MOCK-UPS, ETC. AS REQUIRED TO VERIFY SOUND LEVELS THROUGHOUT THE FACILITY. ALL FIRE ALARM AUDIBLE AND VISUAL INDICATING DEVICES SHALL BE INDICATED ON THE SPECIAL SYSTEMS DRAWINGS, AS SPECIFIED ABOVE UNDER "SUBMITTALS." FINAL LOCATIONS OF ALL DEVICES SHALL BE APPROVED BY THE ARCHITECT.

*** END OF ELECTRICAL SPECIFICATION ***

MOUNTING HEIGHTS - FIRE ALARM EQUIPMENT

9" BELOW FINISH CEILING	• WALL MOUNTED BELLS AND FIRE ALARM SOUNDING DEVICE OR AS SHOWN ON ARCHITECTURAL DETAILS) • TV MONITOR OUTLET AND SERVICE RECEPTACLE FOR SHELF MOUNTED TV
CENTERED ABOVE DOOR OR WINDOW OPENING	• WARNING AND SIGNALING FIXTURES / SIGNS
6'-8"	• FIRE ALARM STROBES OR COMBINATION DEVICES WITH STROBES SHALL BE MOUNTED SO THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE FINISHED FLOOR. IF CEILING DOES NOT PERMIT A MOUNTING HEIGHT OF AT LEAST 80" ABOVE FINISHED FLOOR, THE LENS OF THE DEVICE SHALL BE 6" OFF THE FINISHED CEILING.
6'-6"	• TOP OF FLUSH AND SURFACE MOUNTED ELECTRICAL LIGHTING OR POWER PANEL BOARDS AND TELEPHONE CABINETS.
6'-6"	• TOP OF BACK MOUNTED WALL EXIT FIXTURES (NOT MOUNTED ABOVE DOORS)
6'-0"	• TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES ,MAGNETIC STARTERS, COMBINATION STARTERS, VFD'S AND CONTACTORS
4'-6"	• TOP OF WALL MOUNTED TELEPHONE AND PAY STATIONS, WALL MOUNTED INTERCOM, NURSE CALL STATIONS AND CLOCK CONTROL PANELS (3'-6" AT ADA LOCATIONS)
4'-0" TO TOP OF BOX	• WALL MOUNTED ELECTRICAL DEVICES SUCH AS: LIGHTING SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, AND FIRE ALARM PULL STATIONS, • GFI OUTLETS IN TOILET ROOMS, • LOAD CENTERS IN DWELLING UNITS, • INCLUDE ALL FLOOR EQUIPMENT IN LABS AND EQUIPMENT ROOMS.
1'-6"	• ELECTRICAL RECEPTACLES INCLUDING THOSE USED WITHIN MECHANICAL SPACES AND ELEVATOR ROOMS • TELEPHONE, DATA AND COMMUNICATION OUTLETS • CATV AND A/V JUNCTION BOXES.

MOUNTING HEIGHT NOTES

1. MOUNTING HEIGHTS SHALL BE 18" TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IF ELECTRICAL OUTLET HEIGHT OR ANGLE VARIES, COORDINATE WITH GC FOR INSTALLATION. IF IN MASONRY CONSTRUCTION, THE ABOVE HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
2. MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE ARCHITECTURE DRAWING OR SPECIFICATIONS.
3. A "+" BESIDE A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE COUNTER OR CASEWORK. COORDINATE THE MOUNTING HEIGHT WITH ARCHITECTURAL DETAILS AND CASEWORK CONTRACTOR.
4. ALL DEVICES SHOWN ON DRAWINGS ARE DIAGRAMMATIC IN LOCATION AND SHOWN FOR GENERAL WIRING PURPOSES ONLY. ALL DEVICES INDICATED TO BE INSTALLED IN THE SAME LOCATIONS WITH DIFFERENT ELEVATIONS SHALL BE ALIGNED VERTICALLY AND HORIZONTALLY. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS OF SWITCHES, OUTLETS, FIRE ALARM NOTIFICATION DEVICES, FIRE ALARM PULL STATIONS, CLOCKS, CARD READERS AND OTHER SECURITY DEVICES, THERMOSTATS, SENSORS, ETC.
5. <u>COORDINATE ALL LOCATIONS AND MOUNTING HEIGHTS WITH AHU, ADA REQUIREMENTS AND OTHER TRADES.</u>

FIRE ALARM SYSTEM

FACP	FIRE ALARM CONTROL PANEL.
FAA	REMOTE ANNUNCIATOR
FS	MANUAL PULL STATION - CENTERLINE 4'-0" A.F.F.
RTS	REMOTE TEST STATION FOR DUCT SMOKE DETECTOR.
AR	AREA OF REFUGE STATION
ARM	AREA OF REFUGE MASTER STATION
MH	MAGNETIC DOOR HOLDER
FDS	REMOTE FIRE ALARM DRILL SWITCH - CENTER LINE 4'-0" A.F.F.
15CD	AUDIO / VISUAL NOTIFICATION APPLIANCE - BOTTOM OF LENS 7'-6" A.F.F. NUMBER INDICATES CANDELLA RATING IF OTHER THAN 75CD.
C 15CD	AUDIO / VISUAL NOTIFICATION APPLIANCE - CEILING MOUNTED NUMBER INDICATES CANDELLA RATING IF OTHER THAN 75CD.
15CD	VISUAL NOTIFICATION APPLIANCE - BOTTOM OF LENS 7'-6" A.F.F. NUMBER INDICATES CANDELLA RATING IF OTHER THAN 75CD.
C 15CD	VISUAL NOTIFICATION APPLIANCE - CEILING MOUNTED NUMBER INDICATES CANDELLA RATING IF OTHER THAN 75CD.
	AUDIO ONLY NOTIFICATION APPLIANCE - WALL MOUNTED.
C	AUDIO ONLY NOTIFICATION APPLIANCE - CEILING MOUNTED.
F	PULL STATION
F	MASTER BOX
K	KNOX BOX
L	REMOTE INDICATING LIGHT(LED) TO DISPLAY ALARM CONDITION OF REMOTE DETECTOR, CENTERED ABOVE DOOR.
B	EXTERIOR BEACON (LENS COLOR AS REQUIRED BY AHJ)
CO	CARBON MONOXIDE DETECTOR
CS	COMBINATION CARBON MONOXIDE - SMOKE DETECTOR
DS	DUCT SMOKE DETECTOR
R	DUCT SMOKE DETECTOR TEST RESET STATION
H	HEAT DETECTOR FIXED AT 190° FARENHEIT
S	SMOKE DETECTOR
S	BEAM SMOKE DETECTOR (EMITTER)
S	BEAM SMOKE DETECTOR (RECEIVER)
B	ALARM BELL
FS	FLOW SWITCH
PS	PRESSURE SWITCH
FSD	FIRE AND SMOKE DAMPER, PROVIDE CONTROL MODULE FOR INTERFACE TO FIRE ALARM
SD	SMOKE DAMPER
C	FIRE ALARM RELAY CONTROL
M	FIRE ALARM RELAY MONITOR
TS	TAMPER SWITCH
F	FIREFIGHTERS PHONE
F J	PHONE JACK FOR FIREFIGHTERS PORTABLE PHONE

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ROBERT STEPHEN SPINAZZOLA No. 14749

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#	DATE	DESCRIPTION
1	04/22/20	DD SUBMISSION
2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
☐ REVIEW ☐ SD SET
☐ BID ☐ DD SET
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FIRE ALARM
LEGENDS,
ABBREVIATIONS AND
GENERAL NOTES

FA0.01

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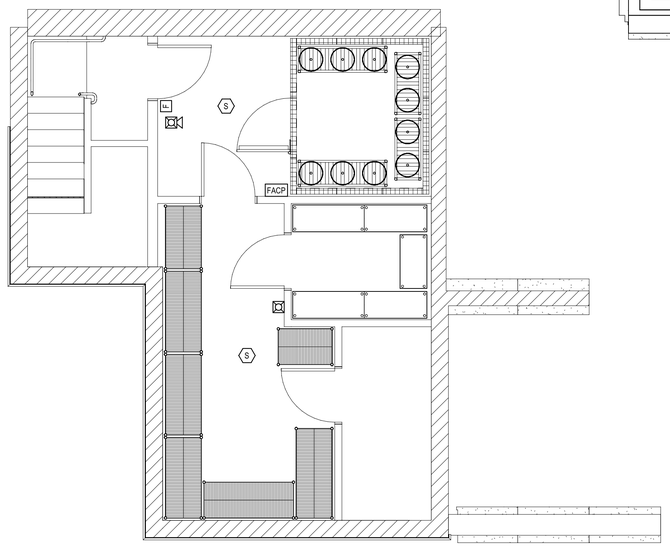
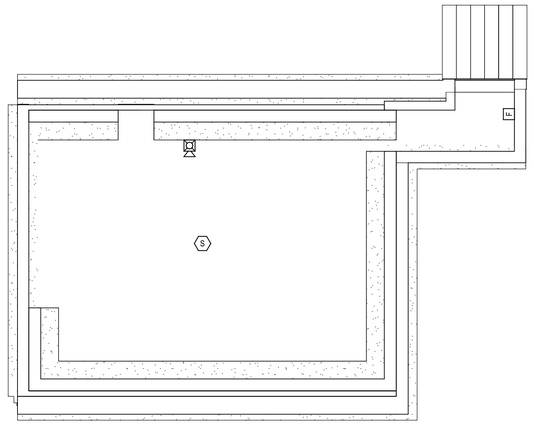
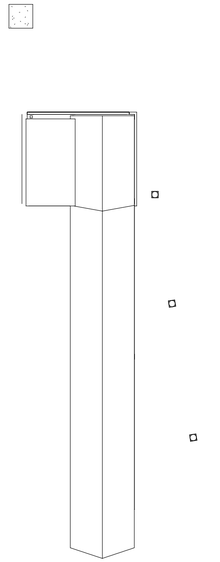
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

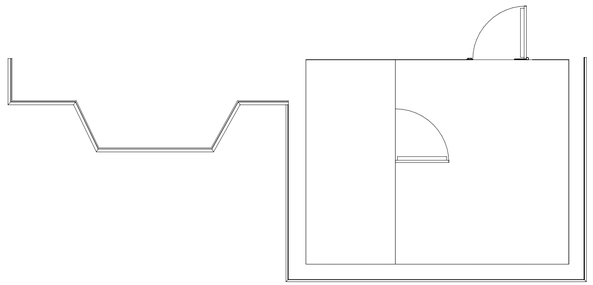
REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission









1 FA1.0 **FIRE ALARM BASEMENT**
1/4" = 1'-0"

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FIRE ALARM BASEMENT PLAN

FA1.0

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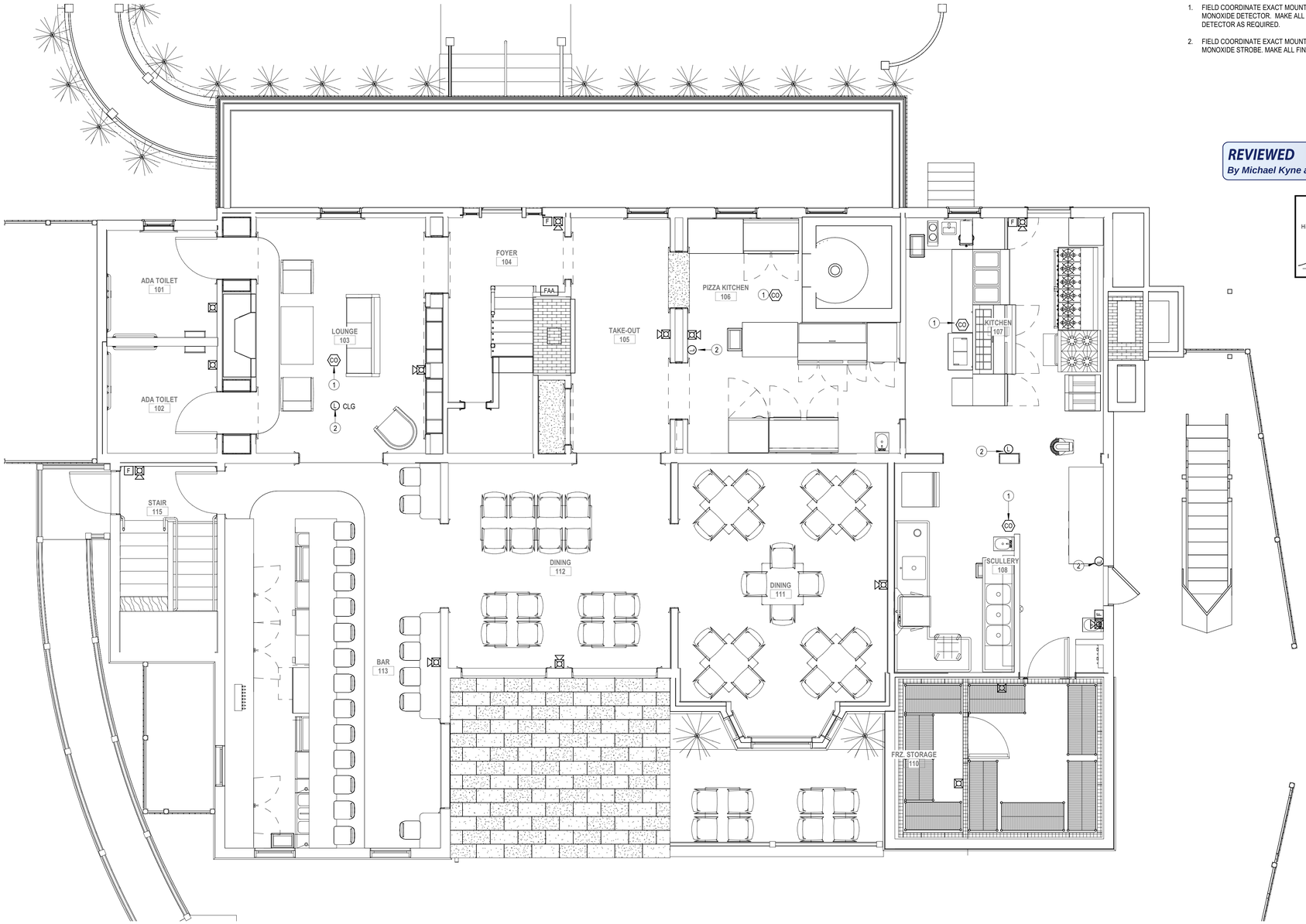
APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21

GENERAL NOTES:

A. REFER TO SHEET FA0.01 - FIRE ALARM LEGEND AND ABBREVIATION FOR ADDITIONAL INFORMATION.

DRAWING NOTE: (#)

1. FIELD COORDINATE EXACT MOUNTING LOCATION OF CARBON MONOXIDE DETECTOR. MAKE ALL FINAL CONNECTIONS TO DETECTOR AS REQUIRED.
2. FIELD COORDINATE EXACT MOUNTING LOCATION OF CARBON MONOXIDE STROBE. MAKE ALL FINAL CONNECTIONS AS REQUIRED.



1 FA1.1 **FIRE ALARM FIRST FLOOR**
1/4" = 1'-0"

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission

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STATE OF MARYLAND · ROBERT STEPHEN SPRAZYNSKI · No. 14749 · PROFESSIONAL ENGINEER

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R. Stephen Sprazynski
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2	05/15/20	95% CD Review
3	07/13/20	PERMIT SUBMISSION

ISSUED FOR:
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FIRE ALARM FIRST FLOOR PLAN

FA1.1

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APPROVED
Department of Permitting Services
Permit # COMBUILD-921463
Date 01/14/21
Stamped By: Rebecca Jones

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

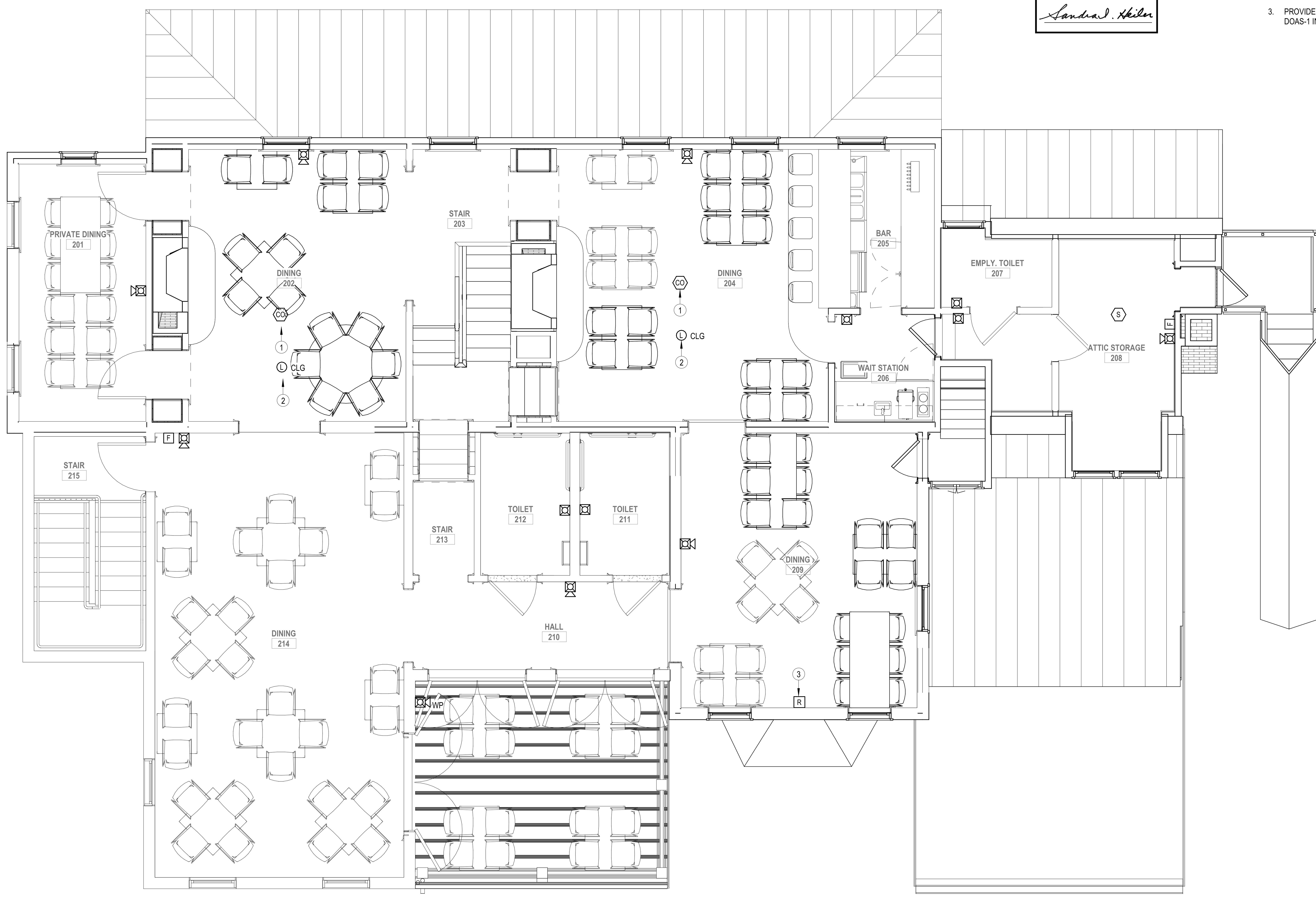
APPROVED
Montgomery County
Historic Preservation Commission

GENERAL NOTES:

A. REFER TO SHEET FA0.01 - FIRE ALARM LEGEND AND ABBREVIATION FOR ADDITIONAL INFORMATION.

DRAWING NOTE: #

1. FIELD COORDINATE EXACT MOUNTING LOCATION OF CARBON MONOXIDE DETECTOR. MAKE ALL FINAL CONNECTIONS TO DETECTOR AS REQUIRED.
2. FIELD COORDINATE EXACT MOUNTING LOCATION OF CARBON MONOXIDE STROBE. MAKE ALL FINAL CONNECTIONS AS REQUIRED.
3. PROVIDE DUCT SMOKE DETECTOR REMOTE TEST SWITCH FOR DOAS-1 IN THE ATTIC.



FIRE ALARM SECOND FLOOR
1/4" = 1'-0"
1 FA1.2

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PROFESSIONAL ENGINEER ★ STATE OF MARYLAND ★ ROBERT STEPHEN SPINAZZOLA No. 14749

DocuSigned by:
R. Stephen Spinazzola
4FCA6D529236407...

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

3308 OLNEY-SANDY
SPRING RD
OLNEY, MD 20832

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FIRE ALARM SECOND FLOOR PLAN

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APPROVED
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Date 01/14/21
Stamped By: Rebecca Jones

GENERAL NOTES:

A. REFER TO SHEET FA0.01 - FIRE ALARM LEGEND AND ABBREVIATION FOR ADDITIONAL INFORMATION.

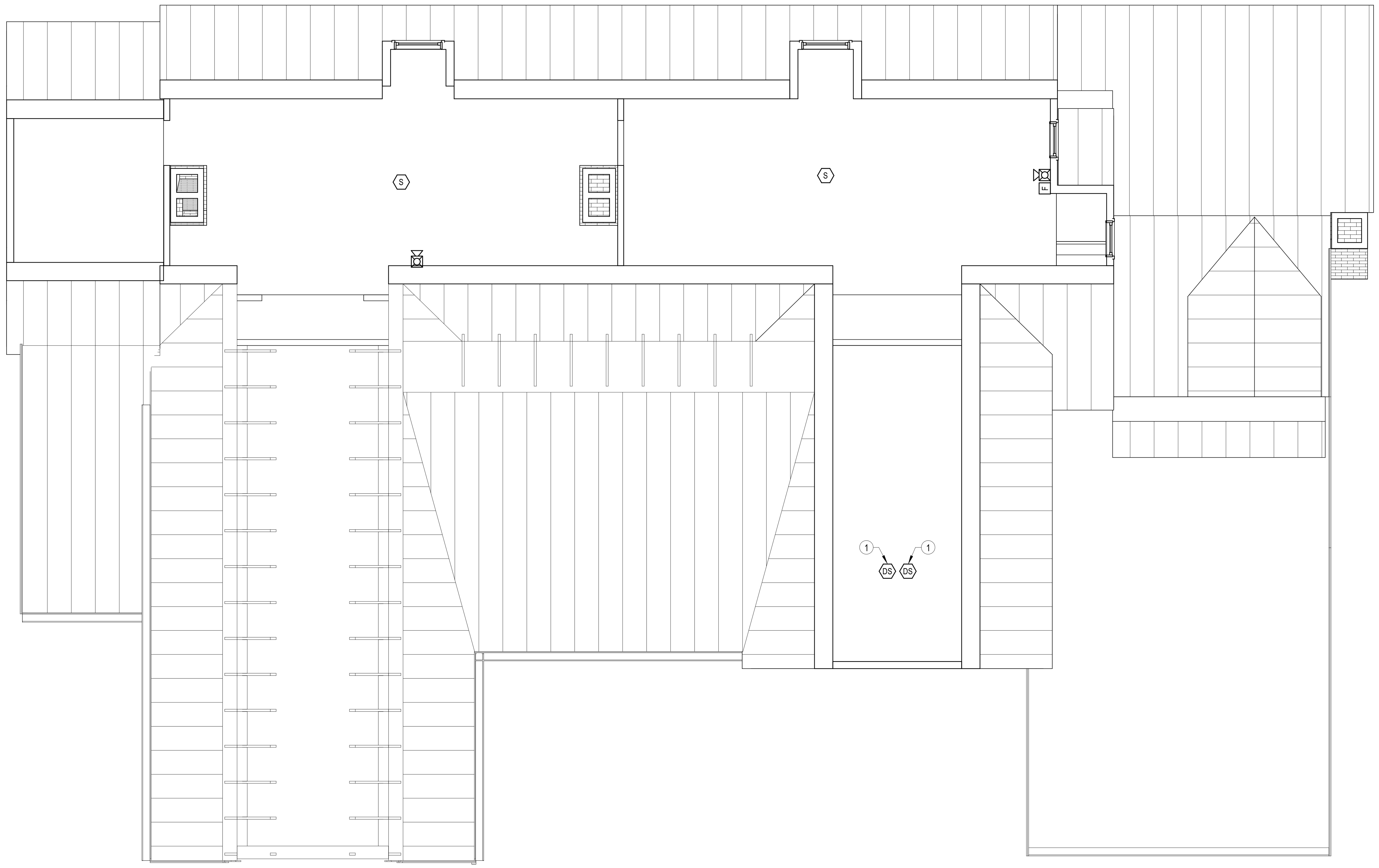
DRAWING NOTE:

A. PROVIDE DUCT SMOKE DETECTOR (SUPPLY & RETURN) FOR DOAS-1. COORDINATE CONNECTION WITH THE EQUIPMENT VENDOR/INSTALLER.

MOUNT DUCT SMOKE DETECTOR IN SUPPLY AIR (SA) AND RETURN AIR (RA) DUCT AS CLOSE AS POSSIBLE TO AIR HANDLING UNIT OR ROOFTOP UNIT. MOUNT DUCT SMOKE DETECTOR IN STRICT ACCORDANCE WITH REQUIREMENTS OF NFPA-72 AND NFPA-90A. COORDINATE EXACT LOCATION WITH FIELD DUCT INSTALLATION. WHERE FIELD DUCT INSTALLATION WILL NOT PERMIT A SINGLE DETECTOR TO PROVIDE TOTAL PROTECTION OF THE DUCT SYSTEM, PROVIDE ADDITIONAL DETECTORS IN EACH BRANCH OF THE DUCTWORK.

REVIEWED
By Michael Kyne at 1:59 am, Feb 19, 2021

APPROVED
Montgomery County
Historic Preservation Commission



1
FA1.3
FIRE ALARM ATTIC FLOOR
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STATE OF MARYLAND * ROBERT STEPHEN SPINAZZOLA No. 14749 * PROFESSIONAL ENGINEER
DocuSigned by: R. Stephen Spinazzola
4FCA6D529236407

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland, License No. **14749**, expiration date **January 11, 2022**

SALT & VINE

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FIRE ALARM ATTIC PLAN

FA1.3