



MACOMB COUNTY BOARD OF COMMISSIONERS

F & O / PURCHASING OFFICE RENOVATION

VIC WERTZ BUILDING

ISSUED FOR: BID SET
DATE: OCTOBER 31, 2024
PROJECT NO.: 242038

ARCHITECT:

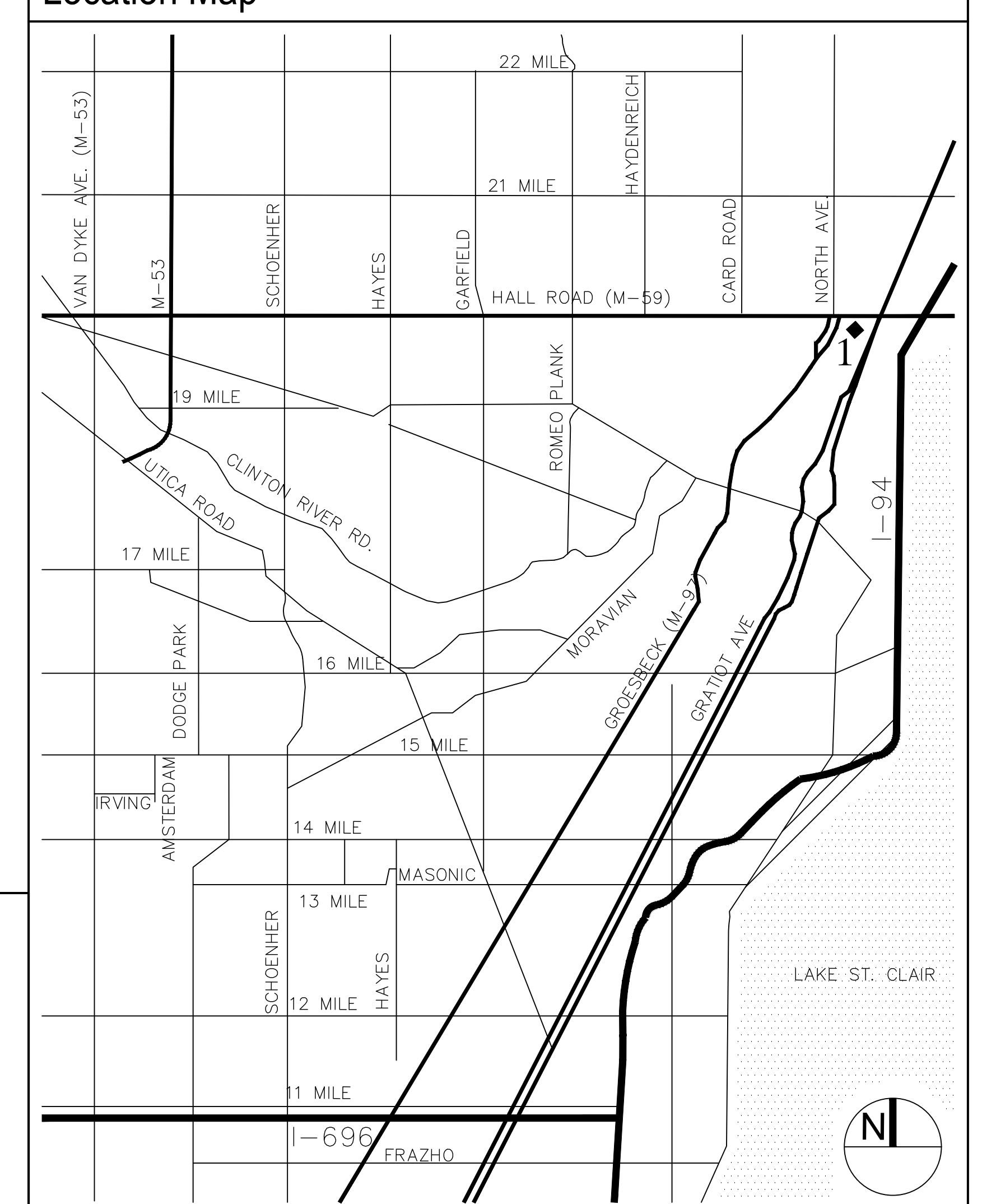
 WAKELY ASSOCIATES, INC./ ARCHITECTS
30500 VAN DYKE AVE, SUITE 209, WARREN, MI 48093, 586.573.4100

MECHANICAL/ ELECTRICAL ENGINEERS:

 UNIFIED BUILDING SYSTEMS ENGINEERING, LLC
75 N. MAIN ST. SUITE 221, MT. CLEMENS, MI 48043, 248.804.1741

STRUCTURAL ENGINEER:

 ANDERSON, ECKSTEIN, & WESTRICK, INC.
51301 SCHOENHERR RD, SHELBY TOWNSHIP, MI 48315, 586.726.1234

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1	VIC WERTZ BUILDING 44900 VIC WERTZ DRIVE CLINTON TOWNSHIP, MI 48036
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ENGINEER SEAL:	ARCHITECT SEAL:
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ARCHITECTURAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AC & VENT	AIR CONDITIONING & VENTILATION	dB	DECIBEL	JC	JANITORS CLOSET	QT	QUARRY TILE
A/E	ARCHITECT-ENGINEER	DBL ACT DR	DOUBLE ACTING DOOR	JT	JOINT	R	RADIUS
AB	ARCHITECT BOLT	DECON	DECONTAMINATION	L	ANGLE	RB	RESILIENT BASE
ABRSV	ABRASIVE	DEG	DEGREE	LAM	LABORATORY	RC	ROOF CONDUCTOR
ABRSV THRESH	ABRASIVE THRESHOLD	DEMO	DEMOLISH DEMOLITION	LAV	LAVATORY	RCVTR	RECEPTOR
ACI	AMERICAN CONCRETE INSTITUTE	DEPT	DEPARTMENT	LAV	LAVATORY	RCVGS	RECEIVING OR RECESSED
ACOUS INSUL	ACOUSTICAL INSULATION	DET	DETAIL	LBS	LABORATORY	REC	RECESS OR RECESSED
ACOUS PNL	ACOUSTICAL PANEL	DF	DRINKING FOUNTAIN	LG	LONG	REF	REFERENCE
ACS DR	ACCESS DOOR	DIA	DIAMETER	LH	LEFT HAND	REF	REFRIGERATOR
ACS PNL	ACCESS PANEL	DIAG	DIAGONAL	LHR	LEFT HAND REVERSE	REG	REGISTER
ACST	ACOUSTIC	DIAPH	DIAPHRAGM	LH	LEFT HAND	REINF	REINFORCE OR REINFORCED
ACST SLNT	ACOUSTICAL SEALANT	DIFF	DIFFUSER	LKR	LOCKER ROOM	REV	REVISION
ADA	AMERICANS W/ DISABILITIES ACT	DIM	DIMENSION	LLH	LONG LEG HORIZONTAL	RF	RADIOGRAPHY & FLOUROSCOPY
ADCL	ADDITIONAL	DIST	DISTANCE	LLV	LONG LEG VERTICAL	RFG	ROOFING
ADDM	ADDENDUM	DW	DISTILLED WATER	LO	LOUVER OPENING	RFO	ROOF OPENING
ADDN	ADDITION	DL	DEAD LOAD	LPT	DOOR OPENING OR DATA OUTLET	RH	RIGHT HAND
ADJ	ADJACENT	DR	DOOR	LT WT	LIGHT WEIGHT	RHR	RIGHT HAND REVERSE
ADJS	ADJUSTABLE	DRP	DECAY RETARDANT PLYWOOD	LTG	LIGHTING	RM	ROOM
AFF	ABOVE FINISHED FLOOR	DRW	DECAY RETARDANT WOOD	LVR	LOUVER	RND	ROUND
AGGR	AGGREGATE	DS	DOWNSPOUT	MACH	MACHINE	RO	ROUGH OPENING
AHU	AIR HANDLING UNIT	DT	DRAIN TILE	MAG	MAGNET OR MAGNETIC	RR	RAILROAD
ALT	ALTERATIONS	DW	DISTILLED WATER	MAR	MARBLE	RS	ROOF SUMP
ALUM	ALUMINUM	DWG	DRAWING	MAS	MASONRY	RSE	RESILIENT SHEET FLOORING
ANES	ANESTHESIA, ANESTHESIOLOGY	DWL	DOWEL	MATL	MATERIAL	RTF	RESILIENT TILE FLOORING
ANOD	ANODIZED	E	EAST	MB	MARKER BOARD	RTG	RETAINING
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	EA	EACH	MBC	MICHIGAN BUILDING CODE	RTU	ROOF TOP UNIT
APC	ACOUSTICAL PANEL CEILING	EF	EACH FACE	MC	MICELLANEOUS CHANNEL	RV	ROOF VENTILATOR
APPROX	APPROXIMATE	EFS	EXTERIOR INSULATION & FINISH SYSTEM	MCA	MEDICAL COMPRESSED AIR	RVS	REVERSE
ARCH	ARCHITECTURAL	EJ	EXPANDING JOINT	MCL	METAL CEILING (LINER)	S	SOUTH
ASPH	ASPHALT	EK	ELECTRO-CARDIOGRAM	MCP	METAL CEILING (PAN)	SAB	S-SHAPE STEEL MEMBER
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	EL	ELEVATION	MECH	MECHANICAL	SAB	SOUND ATTENUATION BLANKET
ATC	ACOUSTICAL TILE CEILING	ELEC	ELECTRICAL OR ELECTRONIC	MED	MEDICAL	SAF	SPRAY APPLIED FIREPROOFING
AUTO	AUTOMATIC	ELEV	ELEVATOR	MEMB	MEMBRANE	SB	SOIL BORING
AVG	AVERAGE	EMER	EMERGENCY	MEMB RFG	MEMBRANE ROOFING	SCHED	SCHEDULE
		EMER SHR	EMERGENCY SHOWER	MEZZ	MEZZANINE	SDG	SIDING
B PL	BASE PLATE	EMER SHREWS	EMERGENCY SHOWER/EYE WASH	MFG	MANUFACTURING	SE	SOUTHEAST
B/B	BACK TO BACK	ENCL	ENCLOSURE	MH	MANHOLE	SECT	SECTION
BC	BOTTOM CHORD	ENTR	ENTRANCE	MIN	MINIMUM	SECY	SECRETARY
BD	BEVELED	EQ	EQUAL	MISC	MISCELLANEOUS	SGFT	STRUCTURAL GLAZED FACING TILE
BEV	BARRIER FREE	ER	EMERGENCY ROOM	MO	MODIFIED BITUMEN	SH	SHOWER
BF	BOTH FACES	ETR	EXISTING TO REMAIN	MOD BIT	MODIFIED BITUMEN	SHT	SHEET
BITUM	BITUMINOUS	EW	EACH WAY	MR	MOISTURE RESISTANT	SI	STEEL & IRON WORK
BL	BUILDING LINE	EWC	ELECTRIC WATER COOLER	MRI	MAGNETIC RESONANCE IMAGING	SIM	SIMILAR
BLDG	BUILDING	EWV	ELECTRIC WATER HEATER	MRT	MARBLE THRESHOLD	SLDG	SLIDING
BLDG DAT	BUILDING DATUM	EWH	ELECTRIC WATER HEATER	MTC	METAL TOILET COMPARTMENT	SLDG WDW	SLIDING WINDOW
BLKG	BLOCKING	EWS	EYE WASH STATION	MTD	MOUNTED	SLNT	SLALANT
BLW	BELOW	EX	EXISTING	MTL	METALIC OR METAL	SLV	SHORT LEG VERTICAL
BM	BEAM	EXC	EXCAVATE	MTL FAB	METAL FABRICATIONS	SM	SHEET METAL
BOS	BOTTOM OF STEEL	EXH	EXHAUST	MULL	MULLION	SP	SHAFT PARTITION
BOT	BOTTOM	EXST	EXISTING			SPEC	SPECIFICATION
BR	BEDROOM	EXTR	EXTRUDED			SPKLR	SPRINKLER
BRKT	BRACKET	F/F	FACE TO FACE	N	NORTH	SQ	SQUARE
BRZ	BRONZE	FD	FLOOR DRAIN	N2	NITROGEN	SSK	SERVICE SINK
BS	BOTH SIDES	FE	FIRE EXTINGUISHER	N2O	NITROUS OXIDE	SST	STAINLESS STEEL
BSMT	BASEMENT	FEC	FIRE EXTINGUISHER CABINET	NARC	NARCOTICS	STA	STATION
BT	BEN	FH	FLAT HEAD	NATL	NATIONAL	STAG	STAGGERED
BTWN	BETWEEN	FHR	FIRE HOSE RACK/ REEL	NC	NOISE CRITERIA	STC	SOUND TRANSMISSION CLASS
BULLN	BULLETIN	FIN	FINISH OR FINISHED	NE	NORTH EAST	STD	STANDARD
BUR	BUILT-UP ROOFING	FIN	FINISH OR FINISHED	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	STIF	STIFFENER
		FIN	FINISH OR FINISHED	NIC	NOT IN CONTACT	STL	STEEL
C	CHANNEL	FIP	FOAMED-IN-PLACE	NL	NIGHT LIGHT	STOR	STORAGE
C TO C	CENTER TO CENTER	FIXT	FIXTURE	NO	NUMBER OR NUMBERS	STRUCT	STRUCTURAL
CA	COMPRESSED AIR	FJ	FALSE JOINT	NOM	NOMINAL	STRUCTL STL	STRUCTURAL STEEL
CAB	CABINET	FLASH	FLASHING	NOUR	NOURISHMENT	SURF	SURFACE
CANTIL	CANTILEVER	FLG	FLANGE	NS	NURSE STATION	SUSP	SUSPENDED OR SUSPENSION
CATH	CATHETERIZE CATHETER	FLR	FLOOR	NW	NORTHWEST	SV	SHEET VINYL
CB	CATCH BASIN	FM	FACTORY MUTUAL			SW	SOUTH WEST
CEM	CEMENT	FNDN	FOUNDATION	O2	OXYGEN	SW	SWITCH
CER	CERAMIC	FR	FACE OF COLUMN	O/O	OUT TO OUT	SYM	SYMMETRICAL
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	FRP	FIRE RATED	OB	OBSERVATION	T	TREAD
CF/CI	CONTRACTOR FURNISHED/ OWNER INSTALLED	FRPFG	FIRE RATED PLYWOOD	OBW	OBSERVATION WINDOW	T & G	TOUNGUE & GROOVE
CFMF	COLD-FORMED METAL FRAMING	FRW	FIRE RATED WOOD	OC	ON CENTER	T & R	TREAD & RISER
CG	CORNER GUARD	FT	FOOT OR FEET	OD	OUTSIDE DIAMETER	TA	TOILET ACCESSORIES
CH	CHALK BOARD	FTG	FOOTING	OF	OUTSIDE FACE	TB	TACK BOARD
CH BD	CHECKERED	FURN	FURNITURE	OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED	TBD	TO BE DETERMINED
CHKD	CHECKERED	G	GRAM	OFF	OFFICE	TEL	TELEPHONE
CI	CAST IRON	GALV	GALVANIZED	OFFR	OVERFLOW ROOF CONDUCTOR	TEMP	TEMPERATURE
CR	CIRCLE CIRCULAR CIRCULATION	GOW	GLAZED CURTAINWALL	OFRC	OVERFLOW ROOF CONDUCTOR	TERR	TERRAZZO
CJ	CONTROL JOINT	GDR	GUARDRAIL	ORFS	OVERFLOW ROOF OF SUMP	THD	THREAD
CLG	CEILING	GEN	GENERAL	OH DR	OVERHEAD DOOR	THK	THICK OR THICKNESS
CLN	CLINICAL	GEN	GENERAL	OPH	OPPOSITE HAND	THRESH	THRESHOLD
CLO	CLOSET	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	OPN	OPENING	TK SD	TACKBOARD
CLR	CLEAR	GFRP	GLASS-FIBER REINFORCED PLSTIC	OPP	OPPOSITE	TOC	TOP OF CONCRETE (ELEVATION)
CMU	CONCRETE MASONARY UNIT	GHT	GLAZED HOLLOW TILE	ORH	ORIGINAL	TOIL	TOILET
CNV	CONVEYOR	GI	GALVANIZED IRON	ORN	ORNAMENTAL	TOIL RM	TOILET ROOM
CO	CLEANOUT	GL	GLASS, GLAZING	OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION	TOR	TOP OF RAIL (ELEVATION)
CO2	CARBON DIOXIDE	GR	GRADE	OZ	OUNCE	TOS	TOP OF STEEL (ELEVATION)
COL	COLUMN	GR BM	GRADE BEAM	PACU	POST ANESTHESIA UNIT	TOW	TOP OF WALL (ELEVATION)
COMO	COMPOSITION	GRD	GRADIENT	PB	PUSH BUTTON	TRAN	TRANSOM
CONC	CONCRETE	GRTG	GRILLE	PC	PIECE OR PIECES	TV	TELEVISION
CONF	CONFERENCE	GVD	GYPSUM	PEND	PENDENT	TYP	TYPICAL
CONN	CONNECTION	H	HIGH	PERF	PERFORATED	UC	UNDERCABINET
CONSTR	CONSTRUCTION	HB	HOSE BIBB	PERM	PERMANENT	UG	UNDERGROUND
CONSTR JT	CONSTRUCTION JOINT	HD	HEAVY DUTY	PI	POINT OF INTERSECTION	UM	UNIT HEATER
CONT	CONTINUATION, CONTINUE, CONTINUOUS	HDW	HARDWARE	PL GL	PLATE GLASS	UL	UNDERWRITERS LABORATORIES
CONTR	CONTRACTOR	HEX	HEXAGON	PLAM	PLASTIC LAMINATE	UN	UNLESS NOTED
CORR	CORRIDOR	HM	HOLLOW METAL	PLAS	PLASTER	UNO	UNLESS NOTED OTHERWISE
CPRS	COMPRESSIBLE, COMPRESSED	HNDRL	HANDRAIL	PLBG	PLUMBING	UR	URNAL
CPS	CARPET (SHEET)	HORIZ	HORIZONTAL	PLT	PLATE OR PLATED	US	UNDERSIDE
CR	CARPET (TILE)	HOSP	HOSPITAL	PLTC	PLASTIC LAMINATE TOILET COMPARTMENT	VAC	VACUUM
CPW	CARPET (WALL BASE)	HPT	HIGH POINT	PLYD	PLYWOOD	VENT	VENTILATION OR VENTILATING
CR	CARD READER	HR	HOUR	PMF	PERMANENT METAL FORM	VERT	VERTICAL
CR	CHAIR RAIL	HSKPG	HOUSE KEEPING	PNEU	PNEUMATIC	VEST	VESTIBULE
CRCMF	CIRCUMFERENCE	HSS	HOLLOW STRUCTURAL SECTIONS	PORC	PORCELAIN	VIF	VERIFY IN FIELD
CRIT	CRITICAL	HT	HEIGHT	PORC	PORTABLE	VIT	VITREOUS
CRS	COURSE	HTG	HEATING	POS	POSITION	VOL	VOLUME
CSK	COUNTER SINK	HVAC	HEATING VENTILATION AIR CONDITIONING	PP	PANEL POINT	VTR	VENT THROUGH ROOF
CSS	CLINIC SERVICE SINK	HW	HOT WATER	PR	PREFABRICATED	WVC	VINYL WALL COVERING
CT	CERAMIC TILE	HYD	HYDRANT	PREFAB	PREFABRICATED	W	WEST
CT	COMPUTED TOMOGRAPHY			PROC	PROCESS OR PROCESSING	W	WIDE FLANGE SHAPES
CTB	CERAMIC TILE BASE					W	WIDE OR WIDTH
CTR	CENTER CENTRAL						
CTRD	CENTERED						
CTRL	CONTROL						
CU	CUBIC						
CW	COLD WATER						

TYPICAL NOTES

ARCHITECTURAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PROJECT NORTH - TRUE NORTH AS INDICATED ONLY ON SITE PLAN		EXISTING DOOR TO REMAIN
	EXISTING DOOR TO BE REMOVED		NEW DOOR
	DOOR SCHEDULE TAG		EXISTING WALL TO BE REMOVED
	INTERIOR ELEVATION SYMBOL		
	EXTERIOR ELEVATION SYMBOL		
	WALL SECTION / DETAIL		
	DETAIL OR PLAN ENLARGEMENT		
	DETAIL NUMBER		
	DETAIL TITLE - TITLES INDICATED ARE FOR CONVENIENCE ONLY AND DO NOT NECESSARILY IDENTIFY ALL LOCATIONS WHERE THE DETAIL OCCURS		
	INTERIOR ELEVATION		
	SCALE : 1/4" = 1' - 0"		
	DETAIL REFERENCE - WHEN PRESENT, REFERENCE INDICATION IDENTIFIES SHEETS WHERE THE DETAIL OCCURS - REFERENCES INDICATED ARE FOR CONVENIENCE ONLY, AND DO NOT NECESSARILY INCLUDE ALL LOCATIONS WHERE THE DETAIL OCCURS		

GENERAL INFORMATION

PRELIMINARY

DESIGN DEVELOPMENT

CONSTRUCTION

FINAL RECORD

DRAWN BY: DCW/ML
CHECKED BY: RS/DCW

REVISIONS

DATE: OCTOBER 31, 2024
SHEET NO.

G2.0

JOB NO. 242038

**MACOMB COUNTY
F & O / PURCHASING OFFICE RENOVATION
VIC WERTZ BUILDING**

WA

WAKELY ASSOCIATES, INC.
ARCHITECTS

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REFLECTED CEILING PLAN KEYNOTES:

- 1 NEW 24" x 24" ACOUSTICAL CEILING GRID AND TILE. REFER TO SPECS.
- 2 NEW WOOD AND WOOD LOOK CEILING BY ARMSTRONG.
- 3 SOUNDSCAPES-SHAPES DESIGN CEILING BY ARMSTRONG.

NEW WORK KEY NOTES - FLOOR PLAN:

- 1.01 REMOVE & REPLACE EXIST. UNIT VENT. - SEE MECH. MODIFY EXIST. FLOORING (SCRIBE IN NEW LVT BORDER. SEE DETAIL 10/A2.11). RESILIENT BASE, ACOUST. CLG. TILES, & METAL GRID AS REQ'D FOR NEW WORK. REMOVE & REINSTALL EXIST. SIGN & FIRE ALARM AS REQ'D FOR NEW WORK (VIF). SEE MECH. & ELEC. DWGS. FOR ADD'L INFO. (AT WILLOW WOODS USE NEW LVT FLOORING (TO MATCH EXIST.) FOR FLOOR MODIFICATIONS DUE TO NEW VUV INSTALLATION.)
- 1.02 REPLACE EXISTING WINDOW SILL WITH NEW SOLID SURFACE WINDOW SILL. CAULK BETWEEN DISSIMILAR MATERIALS.
- 1.03 LOCATION OF NEW WALL HUNG TV (BY OWNER). PROVIDE REINFORCING IN DE-MOUNTABLE WALL. PROVIDE POWER AND DATA FOR NEW TV. (SEE ELEC. DRAWINGS)
- 1.04 EXTEND NEW DE-MOUNTABLE PARTITION INTO EXISTING WINDOW OPENING AND TIE INTO EXISTING MULLION. CAULK BETWEEN DIS-SIMILAR MATERIAL.
- 1.05 FUR OUT EXISTING EXTERIOR WALL W/ 1" HAT CHANNELS. INSTALL (1) LAYER OF 5/8" HIGH ABUSE GYP. BRD. PAINTED.
- 1.06 EXTEND NEW PARTITION INTO EXISTING WINDOW OPENING AND TIE INTO EXISTING MULLION. CAULK BETWEEN DIS-SIMILAR MATERIAL.
- 1.07 CORE NEW HOLE IN EXISTING CONCRETE MASONRY WALL FOR NEW MECHANICAL SYSTEM. SEE MECHANICAL DRAWINGS FOR EXACT SIZE.
- 1.08 OPEN EXISTING CONCRETE MASONRY WALL FOR NEW MECHANICAL SYSTEM. SEE MECHANICAL DRAWINGS FOR EXACT SIZE. PROVIDE NEW PRE-CAST CONCRETE LINTEL FOR OPENING MIN. 8" BEARING EACH SIDE.
- 1.09 STUFF ALL EXISTING PENETRATIONS IN EXISTING WALLS AND FIRE CAULK. INSTALL FIRE SPRAY ON ENTIRE CEILING IN VESTIBULE A103 FOR A 2 HR. FIRE SEPARATION.
- 1.10 PREPARE EXISTING MASONRY WALL AND INSTALL 24"x12" PORCELAIN CERAMIC TILE ON WALL FROM FLOOR TO 8'-0" TALL. PAINT WALL ABOVE. INSTALL CUSTOM OPAQUE GLASS WITH ETCHED MACOMB HISTORY PROVIDED THROUGH THE COUNTY. PANELS OF GLASS SHALL BE INSTALLED WITH STAND-OFFS FASTENED TO THE NEW TILE AND MASONRY WALL.

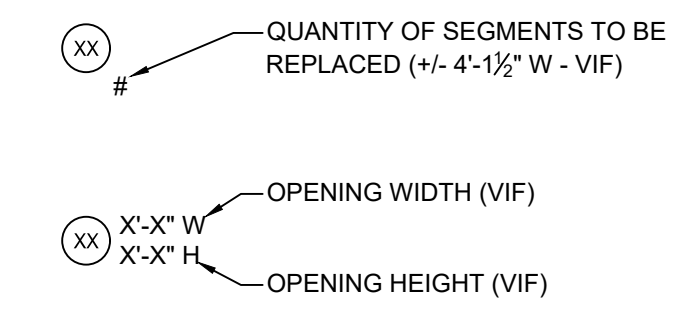
DEMOLITION KEY NOTES - FLOOR PLAN:

- 1 REMOVE EXISTING WOOD DOOR, FRAME AND HARDWARE COMPLETE. DISPOSE OF DOOR AND FRAME. SALVAGE ALL EXISTING HARDWARE AND HAND OVER TO OWNER.
- 2 REMOVE EXISTING WALL COMPLETE.
- 3 REMOVE EXISTING FLOOR COVERING COMPLETE INCLUDING RUBBER BASE.
- 4 REMOVE EXISTING LAY-IN CEILING COMPLETE. PREP FOR NEW LAY-IN CEILING AND LIGHTING. (SEE ELEC. DRAWINGS)
- 5 REMOVE TOILET AND PLUMBING COMPLETE. SAWCUT EXISTING CONC. FLOOR AS REQ'D. CAP EXISTING PLUMBING BELOW GRADE. PATCH EXISTING FLOOR AS REQUIRED. (SEE MECH. DRAWINGS)
- 6 REMOVE SINK AND PLUMBING COMPLETE. OPEN EXISTING WALL AS REQ'D. CAP EXISTING PLUMBING BELOW GRADE. (SEE MECH. DRAWINGS)
- 7 CUT A 4'-0"x4'-0" WINDOW IN EXISTING MASONRY WALL. PROVIDE NEW PRECAST LINTEL AT EACH OPENING W/ MIN. 8" BR'G. EACH SIDE.
- 8 REMOVE EXISTING WALLBOARD COMPLETE INCLUDING FURRING STRIPS.
- 9 REMOVE EXISTING WINDOW SILL.
- 10 REMOVE ALL EXISTING TOILET ROOM ACCESSORIES AND REPLACE WITH NEW. SEE PLAN DETAILS.
- 11 REMOVE EXISTING ALUMINUM STORE FRONT SYSTEM COMPLETE INCLUDING ALL HARDWARE. PATCH EXISTING WALLS AS REQUIRED WITH LIKE MATERIALS.
- 12 REMOVE EXISTING ALUMINUM VESTIBULE SYSTEM COMPLETE. PATCH ALL EXISTING WALLS AS REQUIRED WITH LIKE MATERIALS.
- 13 SAWCUT AND REMOVE EXISTING CONCRETE FLOOR AS REQUIRED FOR NEW ELECTRICAL FLOOR BOX AND UNDERGROUND CONDUIT INSTALLATION. PROVIDE NEW 4" CONCRETE SLAB W/ #5 BARS (EACH SIDE) @ 12" O.C. EPOXY SET (EMBED 4" MIN.) ON 15 MIL. VAPOR BARRIER OVER 4" MIN. GRANULAR FILL. PROVIDE EXPANSION PAPER AS REQUIRED.
- 14 SAWCUT AND REMOVE EXISTING CONCRETE FLOOR AS REQUIRED FOR NEW SANITARY LINE INSTALLATION. PROVIDE NEW 4" CONCRETE SLAB W/ #5 BARS (EACH SIDE) @ 12" O.C. EPOXY SET (EMBED 4" MIN.) ON 15 MIL. VAPOR BARRIER OVER 4" MIN. GRANULAR FILL. PROVIDE EXPANSION PAPER AS REQUIRED.

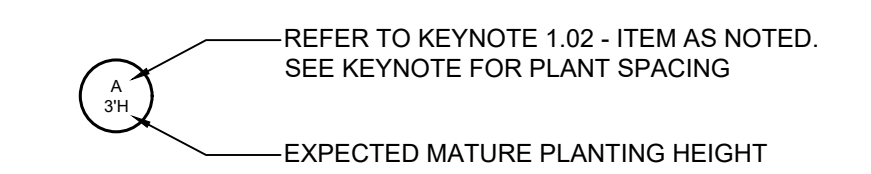
NEW WORK PLAN - GENERAL NOTES:
(APPLIES TO ALL ROOMS)

- 1. ALL DIMENSIONS TO EXISTING ELEMENTS TO BE CONSIDERED +/- (V.I.F.)
- 2. PATCH, PREP, & PAINT ALL AREAS DISTURBED BY CONSTRUCTION.
- 3. REMOVE, SALVAGE, & REINSTALL ALL EXIST SIGNAGE ON EXIST DOORS TO BE REPLACED (VIF)
- 4. PREP & PAINT EXISTING CONSTRUCTION TO MATCH EXISTING AT ALL AREAS OF DEMO'D MECH / ELEC FIXTURES (I.E. SURFACE MOUNTED LIGHTS, EXIT LIGHTING, ELEC PANELS, ETC.)
- 5. REMOVE & REPLACE EXISTING ACOUSTIC CEILING TILES, GRILLES, REGISTERS, AND DIFFUSERS AS REQUIRED FOR NEW WORK - SEE MECH & ELEC DWGS.
- 6. ALL OUTSIDE CORNERS OF ALL NEW PLASTIC LAMINATE COUNTERTOP TO HAVE A RADIUS.
- 7. IN AREAS TO RECEIVE NEW FLOORING, CONTRACTOR TO PROTECT EXISTING EQUIPMENT TO REMAIN (E.G., PROJECTORS, DIGITAL DISPLAYS, SOUND SYSTEM AMPLIFIERS, WIRELESS ACCESS POINTS, ETC.) IN EACH ROOM AFFECTED - BY OTHERS.
- 8. IN AREAS TO RECEIVE NEW CEILING SYSTEMS, CONTRACTOR TO TEMPORARILY SUPPORT & PROTECT EXISTING TECHNOLOGY EQUIPMENT TO REMAIN AS REQUIRED FOR NEW WORK IN EACH ROOM AFFECTED - BY OTHERS.

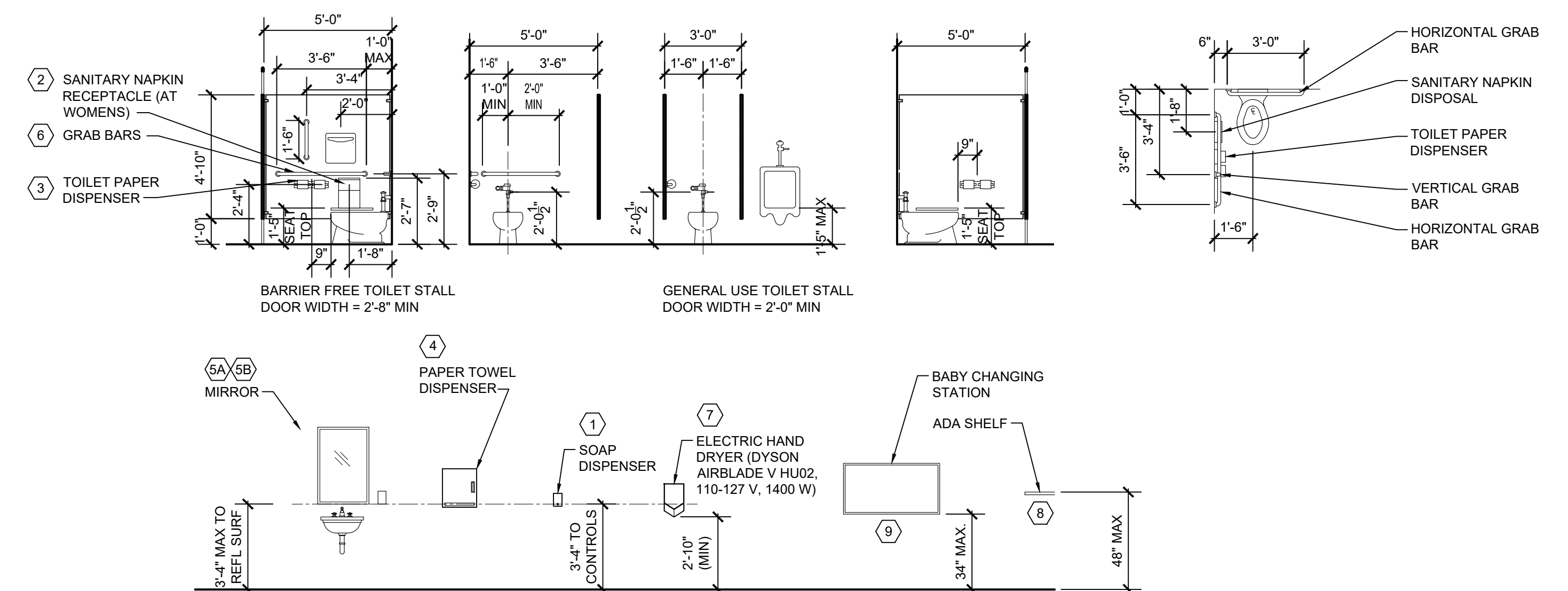
KEY NOTES LEGEND:



LANDSCAPE LEGEND:



FLOOR PLAN LEGEND:



TOILET ROOM FIXTURES & ACCESSORIES

SCALE: 1/4" = 1'-0"

TOILET ACCESSORY KEYNOTES:

- 1 SOAP DISPENSER (OF/CI)
- 2 SANITARY NAPKIN DISPOSAL (CF/CI)
- 3 TOILET TISSUE DISPENSER (OF/CI)
- 4 PAPER TOWEL DISPENSER (OF/CI)
- 5A MIRROR (CF/CI)
- 5B MIRROR W/ SHELF (CF/CI)
- 6 GRAB BARS (CF/CI)
- 7 ELECTRIC HAND DRYER (CF/CI) - SEE KEYNOTE 2.26)
- 8 ST. STL SHELF (CF/CI)
- 9 BABY CHANGING STATION



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VIC WERTZ BUILDING

GENERAL NOTES & KEYNOTES

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

DRAWN BY: DCW/ML
CHECKED BY: RS/DCW

REVISIONS

NO.	DESCRIPTION

DATE: OCTOBER 31, 2024

SHEET NO.

G3.0

JOB NO. 242038

BUILDING CODE SUMMARY CONT.

EXIT REQUIREMENTS (B AND S ARE THE SAME UNLESS NOTED OTHERWISE):

DEAD END LIMIT-MAXIMUM CONDITION (1020.4 W/EXCEPTION #2) ALLOWED 50 FT. ACTUAL 15'-0" IN WORK AREA

TRAVEL DISTANCE TO EXIT-MAXIMUM CONDITION (TABLE 1017.2 W/SPRINKLER ALLOWED 250 FT. ACTUAL 149'-11" IN WORK AREA

COMMON PATH OF TRAVEL 1006.3.2 (2) (WITH SPRINKLER SYSTEM) ALLOWED 100 FT. ACTUAL 149'-11" IN WORK AREA

NUMBER EXITS (PER STORY): REQUIRED (TABLE 1006.3.1) TOTAL OCCUPANT LOAD 205 + 365 = 570 OCCUPANTS REQUIRED (3) ACTUAL (15) REQUIRED IN BUSINESS AREA = 205 OCCUPANTS REQUIRED (2) ACTUAL (3)

DESIGN LOADS: (SEE STRUCTURAL DRAWINGS)
 ROOF LIVE LOAD: 20 PSF
 WIND: 90 MPH, 23 PSF
 FLOOR: 100 PSF 1ST FLOOR CORRIDORS, 1000# CONCENTRATED
 SNOW: 30 PSF
 SEISMIC: SDS = 0.095 SD1 = 0.072 DESIGN CAT B LATERAL DESIGN: 21 PSF

SOIL BEARING CAPACITIES: ASSUMED NET SOILS BEARING CAPACITY = 2000 PSF SPECIAL APPROVAL BY LOCAL JURISDICTION, DESCRIBE BELOW: N/A

BUILDING CODE SUMMARY CONT.

2021 MICHIGAN PLUMBING CODE

1 WATER CLOSET/ 100 MALES: 183/100 = (2) WATER CLOSETS REQUIRED EXISTING: 4 WC, 3 URINALS

1 WATER CLOSET/ 100 FEMALES: 183/100 = (2) WATER CLOSETS REQUIRED EXISTING: 6 WC

1 LAV/PER 100 MALES = (2) LAVS REQUIRED EXISTING: 1 LAV AND A HALF BRADLEY IN GANG TOILET ROOMS

1 LAV/PER 100 FEMALES = (2) LAVS REQUIRED EXISTING: 1 LAV AND A HALF BRADLEY IN GANG TOILET ROOMS

MINIMUM REQUIRED FOR THE ENTIRE FACILITY B AND S-1/S-2:

	MALE			FEMALE		
	WATER CLOSETS	URINALS	LAVS	WATER CLOSETS	LAVS	
B	3	-	3	3	3	
S-1/S-2	2	-	2	2	2	
TOTALS	5	-	5	5	5	

PROVIDED (NEW AND EXISTING) FOR THE ENTIRE FACILITY B AND S-1/S-2: (NOTE: NEW UNISEX TOILET ROOMS NOT COUNTED) HALF BRADLEY COUNTED AS 4 LAVS

	MALE			FEMALE		
	WATER CLOSETS	URINALS	LAVS	WATER CLOSETS	LAVS	
B	1	-	1	1	1	
S-1/S-2	4	3	4*	6	4*	
TOTALS	5	3	6	7	6	

TOTAL EXISTING AND NEW FIXTURES GREATER THAN QUANTITY NEEDED IN FACILITY

BUILDING CODE SUMMARY

PROJECT: MACOMB COUNTY - COUNTY WAREHOUSE FACILITIES AND OPERATIONS AND PURCHASING OFFICE RENOVATIONS RENOVATION
 ADDRESS: COUNTY WAREHOUSE 44900 VIC WERTZ DRIVE, CLINTON TWP, MICHIGAN 48036
 PROPOSED USE: EXISTING FACILITY - MIXED USE B, S-1 AND S-2 RENOVATION OF BUSINESS AREA OF THE FACILITY UNDER 2015 MRC AND 2015 MEC, 2021 MMC, 2021 MPC AND 2023 NEC (MICHIGAN ELECTRICAL CODE)

REFERENCE CODES:
 RENOVATION: MICHIGAN REHABILITATION CODE, 2015 EDITION
 BUILDING: MICHIGAN BUILDING CODE, 2015 EDITION
 MECHANICAL: MICHIGAN MECHANICAL CODE, 2021 EDITION
 PLUMBING: MICHIGAN PLUMBING CODE, 2021 EDITION
 ELECTRICAL: MICHIGAN ELECTRICAL CODE, 2023 NEC WITH PART 8 TECHNICAL AMENDMENTS
 ENERGY: MICHIGAN ENERGY CODE, 2015 EDITION

BUILDING DATA
 USE GROUP: () ASSEMBLY () INSTITUTIONAL () BUSINESS () MERCANTILE () EDUCATIONAL () RESIDENTIAL () FACTORY-INDUSTRIAL-LOW HAZARD (X) STORAGE-LOW HAZARD (S-2) () FACTORY-INDUSTRIAL-MODERATE HAZARD (X) STORAGE-MOD. HAZARD (S-1) () HIGH HAZARD () UTILITY MISCELLANEOUS

CONSTRUCTION TYPE
 () TYPE 1A - PROTECTED () TYPE 3 - PROTECTED () TYPE 1B - PROTECTED () TYPE 3 - UNPROTECTED () TYPE 2A - PROTECTED () TYPE 4 - HEAVY TIMBER (X) TYPE 2B - UNPROTECTED () TYPE 5 - PROTECTED () TYPE 5 - UNPROTECTED (X) MIXED CONSTRUCTION TYPE - SEPARATED (B, S-1 TO S-2)

SPRINKLED? (X) REQUIRED (X) PROVIDED
 BUILDING HEIGHT: PERMITTED: 3 STORIES (504.4), 75 FEET (WITH SPRINKLER SYSTEM - 504.2) TYPE 2B
 ACTUAL: 2 STORY 25 FEET BUSINESS (B) 2 STORY 25 FEET STORAGE (S-1) 1 STORY 25 FEET STORAGE (S-2)

MEZZANINE: () YES (X) NO
 HIGH RISE: () YES (X) NO
GROSS BUILDING AREA:
 GRADE LEVEL: 103,012 S.F.
 BASEMENT: NA
 2ND LEVEL: 6,271 S.F.
 TOTAL AREAS: 109,283 S.F.

WORK AREA (BUSINESS AREA)
 GRADE LEVEL: 12,514 S.F.
 2ND LEVEL: 0 S.F.
 TOTAL: 12,514 S.F.
TOTAL AREA (BUSINESS AREA)
 GRADE LEVEL: 15,214 S.F.
 2ND LEVEL: 5,271 S.F.
 TOAL: 20,485 S.F.
 20,485 S.F./12,514 S.F. = .60 - LEVEL 3 ALTERATION UNDER 2015 MRC

HOURLY RATING (1)	DETAIL #	% WALL	DESIGN NO. FOR OPENING #RATED ASSEMBLIES

PARTY/FIREWALLS:
 EXTERIOR BEARING WALLS (FIRE SEPARATION DISTANCE > 30 FEET)
 NORTH 0
 EAST 0
 WEST 0
 SOUTH 0
 EXTERIOR NON-BEARING (FIRE SEPARATION DISTANCE > 30 FEET)
 WALLS
 NORTH 0
 EAST 0
 WEST 0
 SOUTH 0

INTERIOR WALLS
 BEARING 0
 NON-BEARING 0
 TENANT SEPARATION N/A - MACOMB COUNTY IS THE ONLY TENANT

FIRE SEPARATION ASSEMBLIES
 EXIT ENCLOSURES: 2
 CEILING-FLOORS ASSEMBLY: 0
 BEAMS: 0
 COLUMNS: 0
 CEILING-ROOF ASSEMBLY: 0
 VERTICAL SHAFTS: 2

MIXED OCCUPANCY SEPARATION
 TENANT SEPARATION: 1 HOUR BETWEEN OCCUPANCY CLASSIFICATION B, S-1 TO S-2

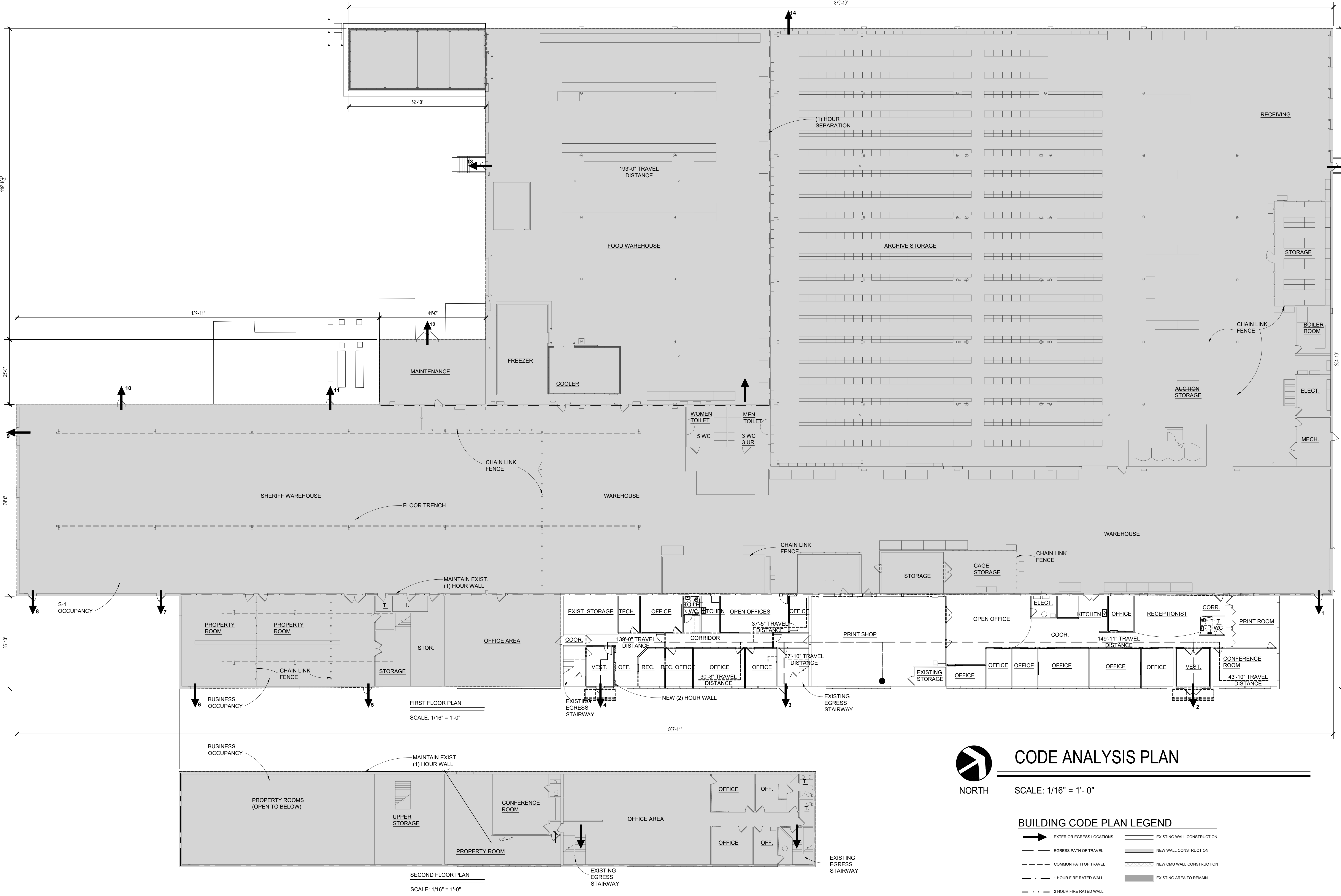
EXIT ACCESS
 CORRIDORS (1020.1): 0 (B AND S-1/S-2 ARE THE SAME)

LIFE SAFETY SYSTEMS:
 EMERGENCY LIGHTING & EXIT SIGNS: (X) REQUIRED (X) PROVIDED
 FIRE ALARMS: (X) REQUIRED (X) PROVIDED
 SMOKE DETECTIONS SYSTEMS: (X) REQUIRED (X) PROVIDED
 PANIC HARDWARE: (X) REQUIRED (X) PROVIDED
 FIRE SUPPRESSION SYSTEM: (X) REQUIRED (X) PROVIDED
 STANDPIPE SYSTEM: () REQUIRED () PROVIDED

OCCUPANT LOAD:
 BUSINESS = 1 PERSON/100 GROSS SQUARE FEET
 TOTAL AREA: 20,485 S.F.
 20,485 S.F./100 = 205 PERSONS TOTAL CALCULATED. ACTUAL OCCUPANT LOAD LESS THAN 15 PERSONS IN EACH TOTAL WORK AREA WITH A UNISEX LAV.
 103 FEMALE
 103 MALE

2021 MICHIGAN PLUMBING CODE
 1 WATER CLOSET/ 25 MALES FOR THE FIRST 80 MALES THEN 1 WC FOR EACH 50 MALES THEREAFTER = 2 WATER CLOSETS REQUIRED
 EXISTING: 1 WATER CLOSET, 1 URINAL
 NEW: 1 WATERCLOSET IN EACH NEW UNISEX LAVATORY - TOTAL OF 2.
 1 WATER CLOSET/ 25 FEMALES FOR THE FIRST 50 FEMALES THEN 1 WC FOR EACH 50 FEMALES THEREAFTER = 2 WATER CLOSETS REQUIRED
 EXISTING: 2 WATER CLOSETS
 NEW: 1 WATERCLOSET IN EACH NEW UNISEX LAVATORY - TOTAL OF 2.
 1 LAV/PER 40 MALES FOR THE FIRST 80 MALES THEN 1 PER EACH 80 MALES THEREAFTER = (2) LAVS REQUIRED
 EXISTING: 1 LAV
 NEW: 1 LAV IN EACH NEW UNISEX LAVATORY
 1 LAV/PER 40 FEMALES FOR THE FIRST 80 FEMALES THEN 1 PER EACH 80 FEMALES THEREAFTER = (2) LAVS REQUIRED
 EXISTING: 1 LAV MINIMUM

1 DRINKING FOUNTAIN/1000 PERSONS, 205 PERSONS IN BUSINESS OCCUPANCY = (1) DRINKING FOUNTAIN REQUIRED
 EXISTING: 2 EXISTING. WATER WILL BE PRESENT IN NEW BREAKROOMS.
 1 SERVICE SINK REQUIRED
 EXISTING: 1 MINIMUM IN FACILITY
 NOTE:
 B OCCUPANCY AREAS ARE FREE TO USE TOILETS IN THE NON-SEPARATED S-1 AREAS.
 STORAGE - S-1 AND S-2 AREA: 109,283 S.F.
 109,283 S.F./300 S.F./PERSON = 365 PERSONS TOTAL CALCULATED
 183 MALES
 183 FEMALES



CODE ANALYSIS PLAN
 NORTH
 SCALE: 1/16" = 1'-0"

BUILDING CODE PLAN LEGEND

→ EXTERIOR EGRESS LOCATIONS	— EXISTING WALL CONSTRUCTION
— EGRESS PATH OF TRAVEL	— NEW WALL CONSTRUCTION
— COMMON PATH OF TRAVEL	— NEW CMU WALL CONSTRUCTION
— 1 HOUR FIRE RATED WALL	— EXISTING AREA TO REMAIN
— 2 HOUR FIRE RATED WALL	

WA
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MACOMB COUNTY
F & O / PURCHASING OFFICE RENOVATION
 VIC WERTZ BUILDING

CODE ANALYSIS PLAN

PRELIMINARY
 DESIGN DEVELOPMENT
 CONSTRUCTION
 FINAL RECORD

DRAWN BY: DCW/ML
 CHECKED BY: RS/DCW

REVISIONS

DATE:	OCTOBER 31, 2024
SHEET NO.	

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JOB NO. 242038

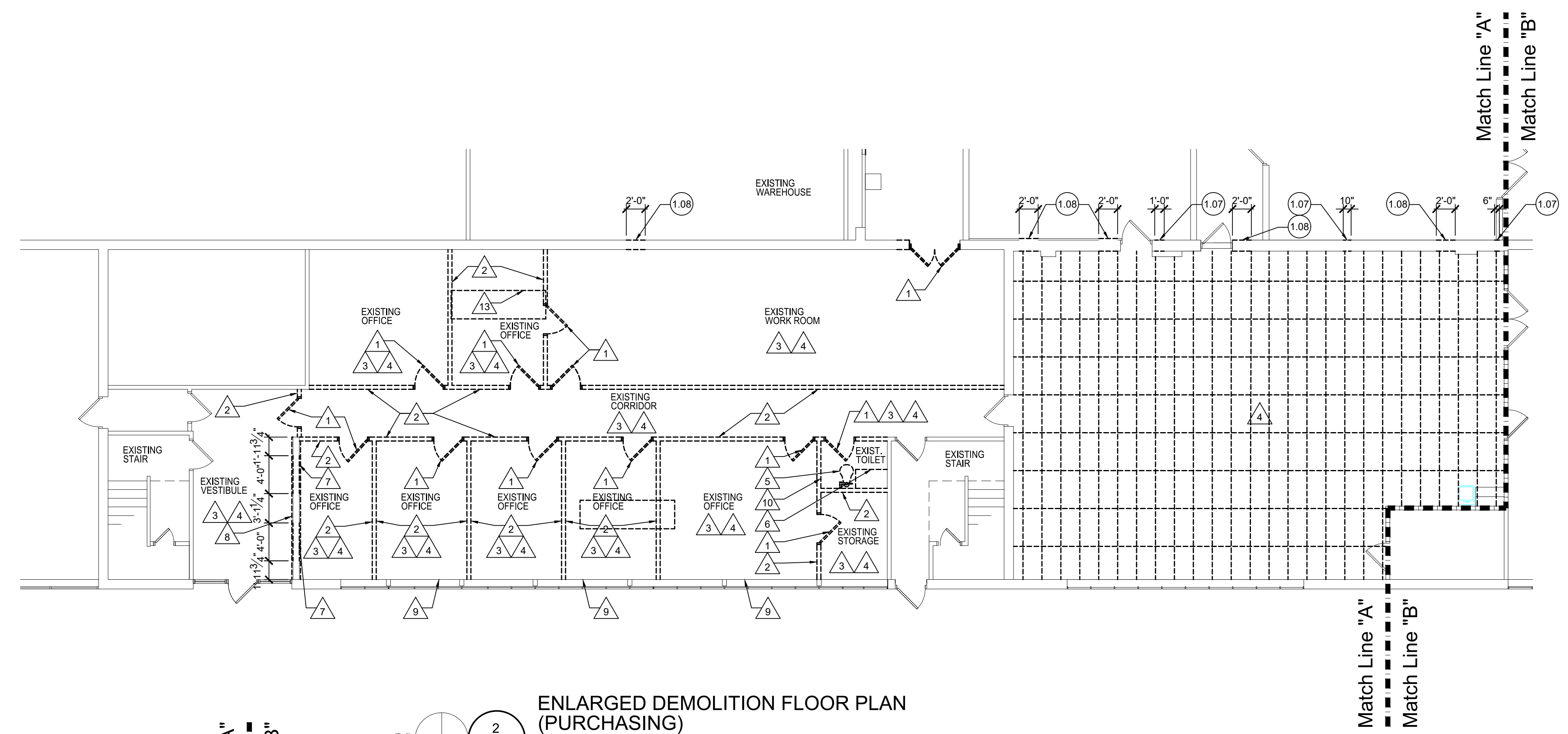
NEW WORK KEYNOTES:

SEE SHEET G3.0 FOR ALL KEYNOTES.

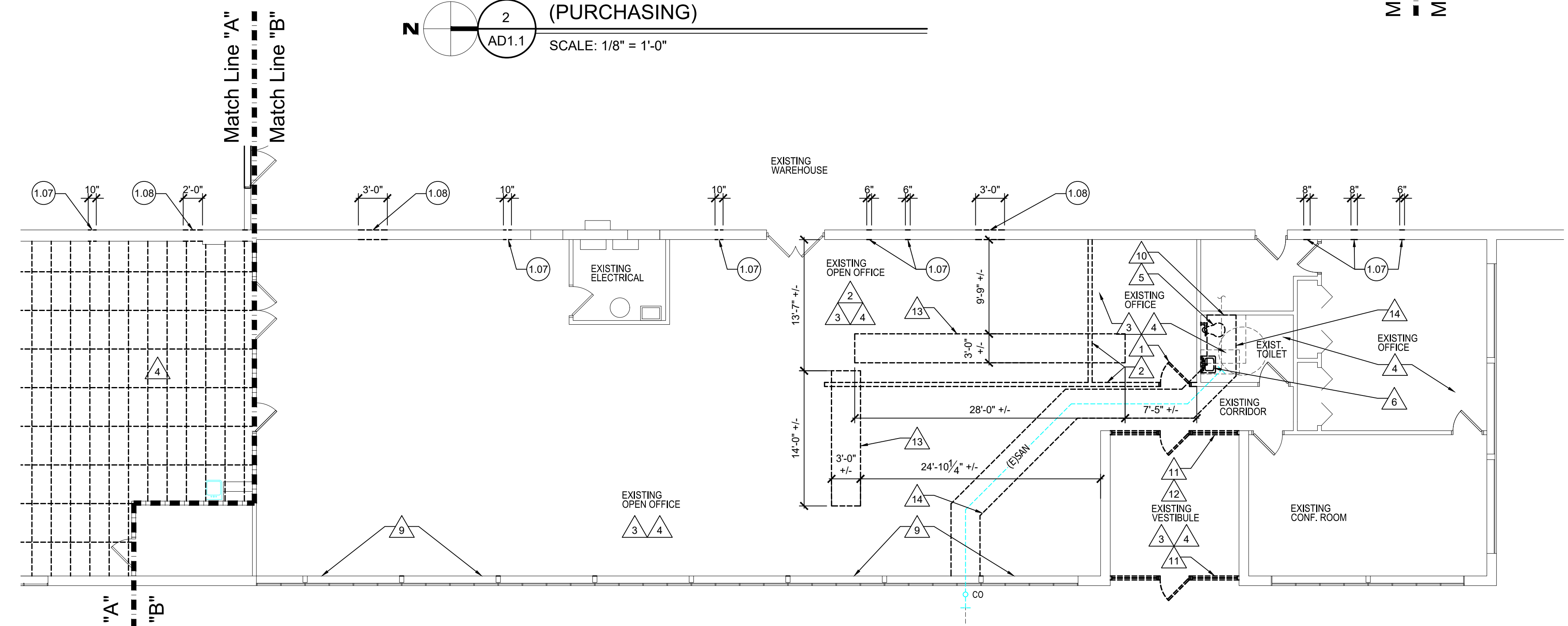


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ENLARGED DEMOLITION FLOOR PLAN (PURCHASING)
SCALE: 1/8" = 1'-0"



ENLARGED DEMOLITION FLOOR PLAN (F & O)
SCALE: 1/8" = 1'-0"

**MACOMB COUNTY
F & O / PURCHASING OFFICE RENOVATION
VIC WERTZ BUILDING**

DEMOLITION PLAN

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

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MACOMB COUNTY
F & O / PURCHASING OFFICE RENOVATION
VIC WERTZ BUILDING

HALL ROAD FACILITY -
COMPOSITE PLAN

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

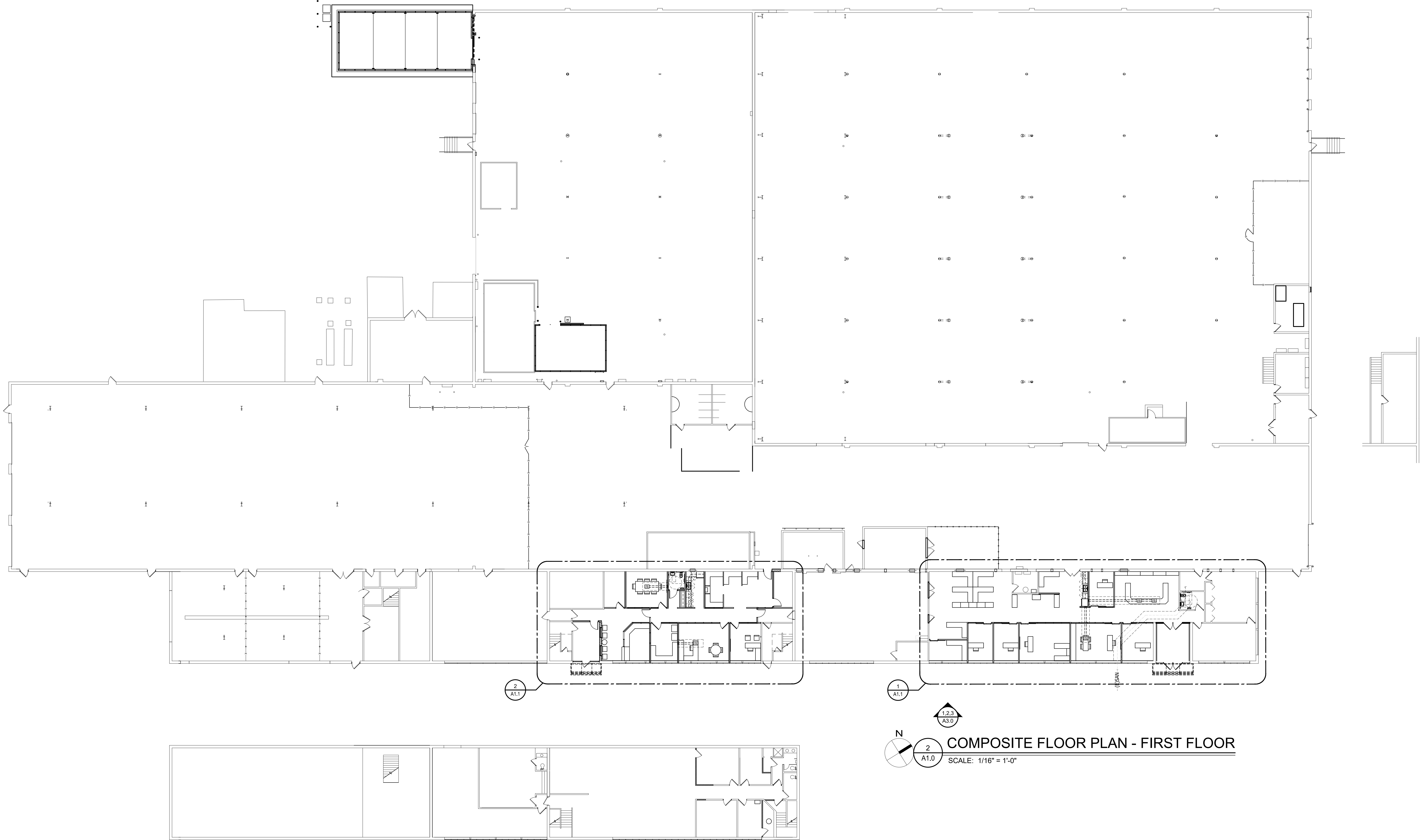
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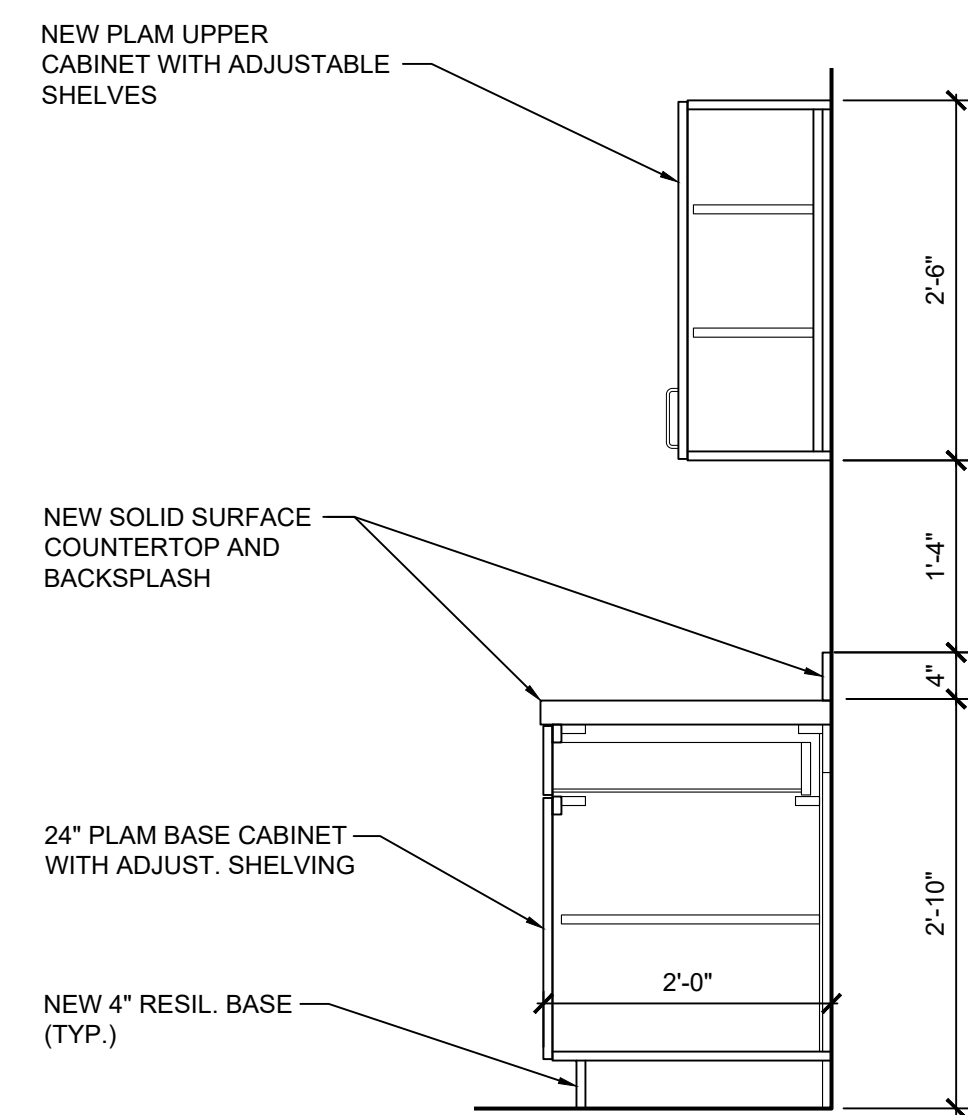
A1.0

JOB NO. 242038

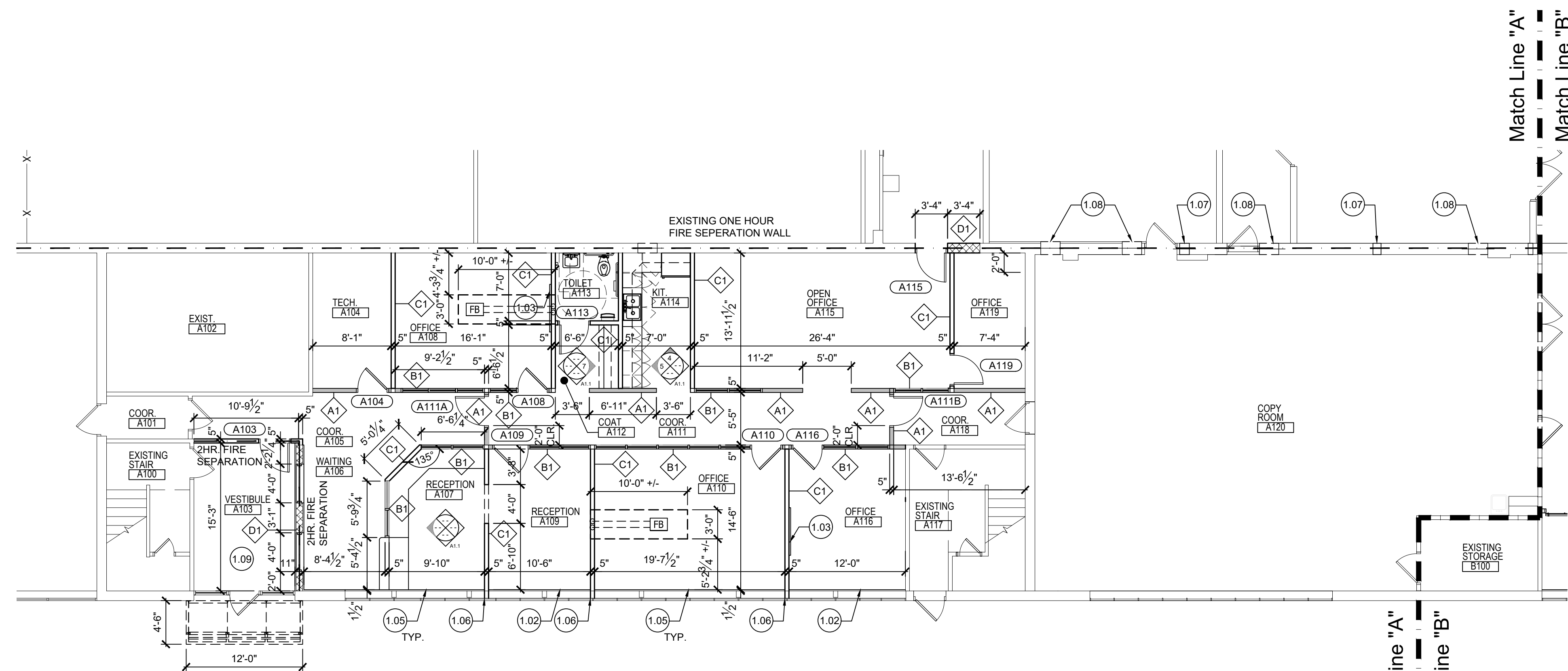


COMPOSITE FLOOR PLAN - SECOND FLOOR
SCALE: 1/16" = 1'-0"

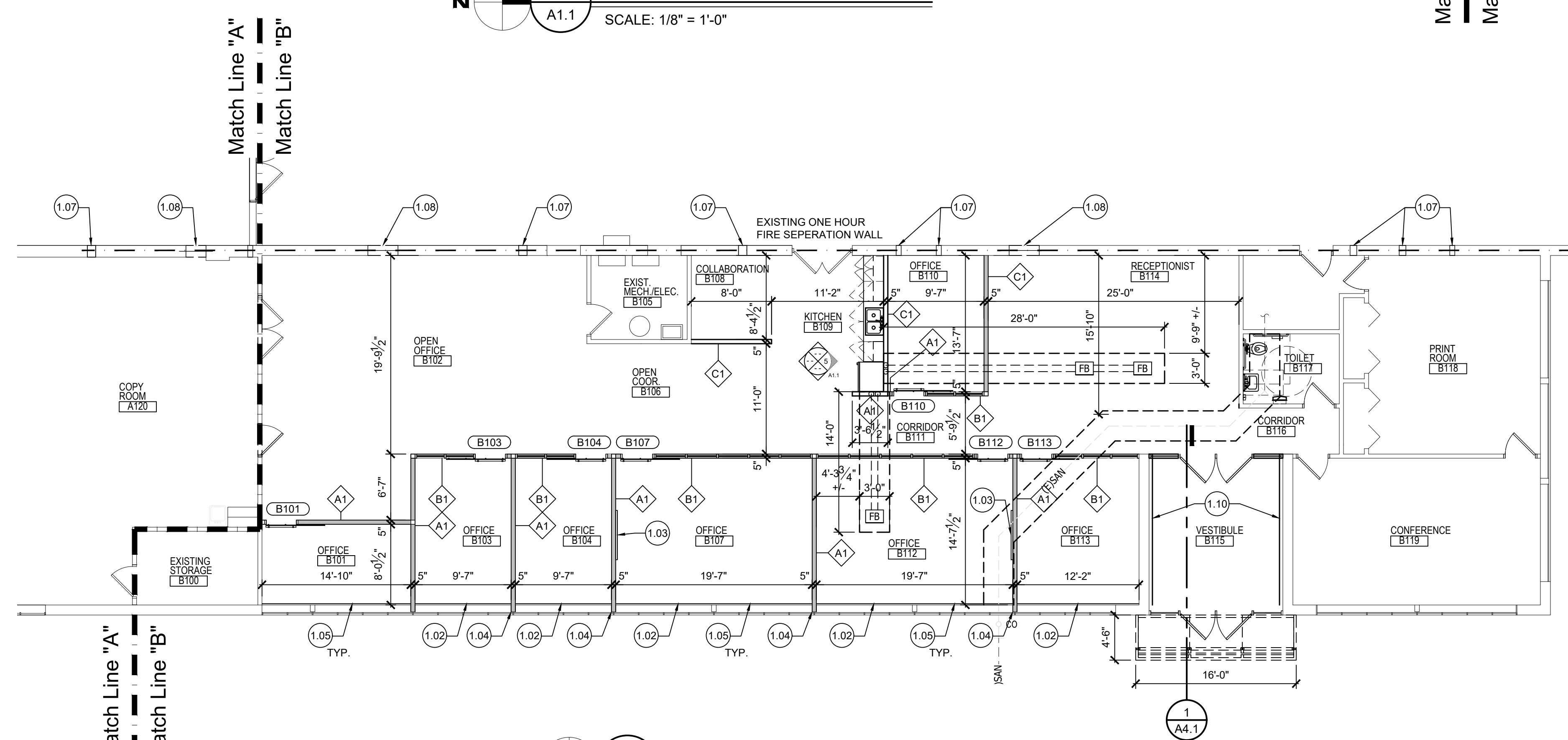
COMPOSITE FLOOR PLAN - FIRST FLOOR
SCALE: 1/16" = 1'-0"



6 SECTION DETAIL
A1.1 SCALE: 3/4" = 1'-0"



2 ENLARGED FLOOR PLAN (PURCHASING)
A1.1 SCALE: 1/8" = 1'-0"

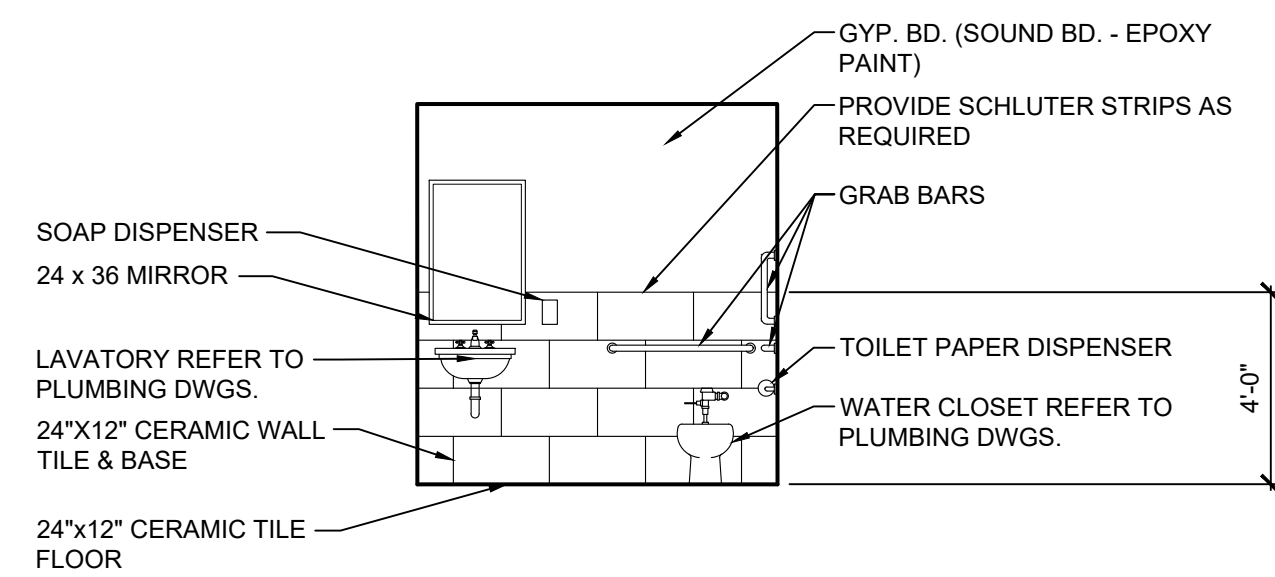


1 ENLARGED FLOOR PLAN (F & O)
A1.1 SCALE: 1/8" = 1'-0"

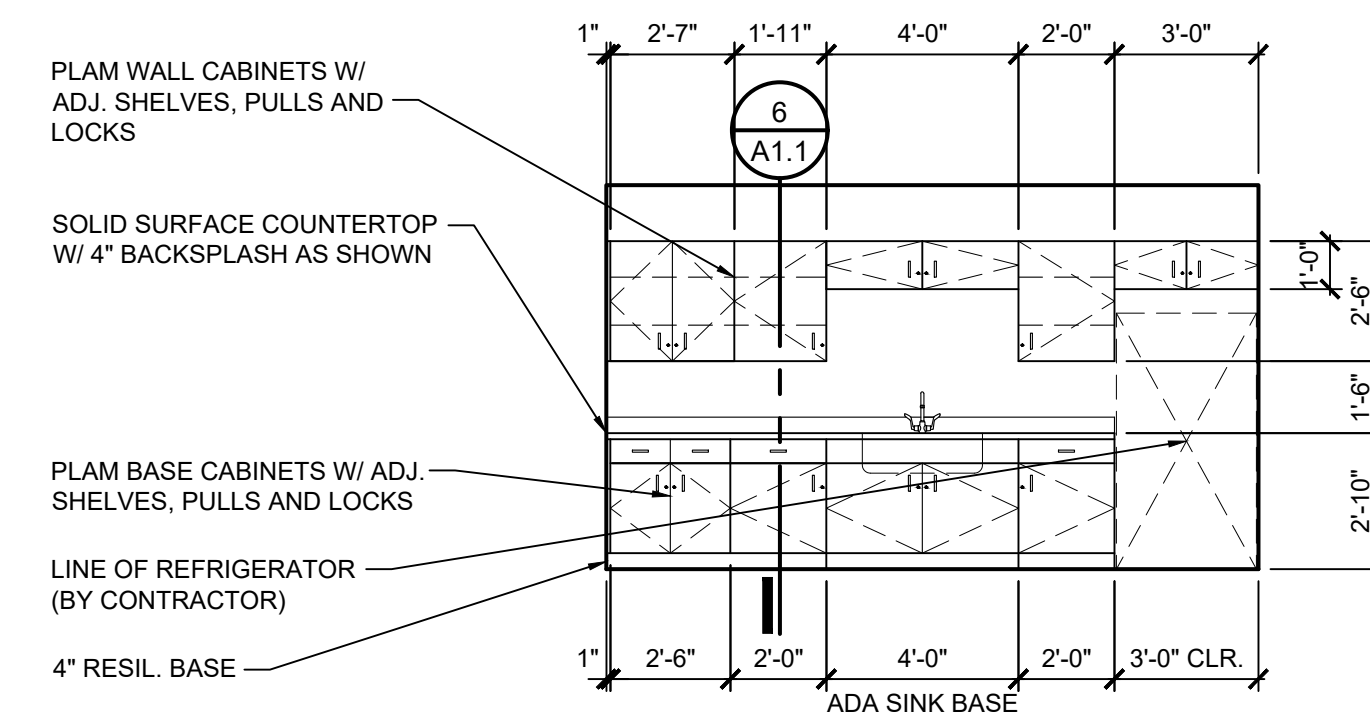
NEW PARTITION LEGEND

NOTES:

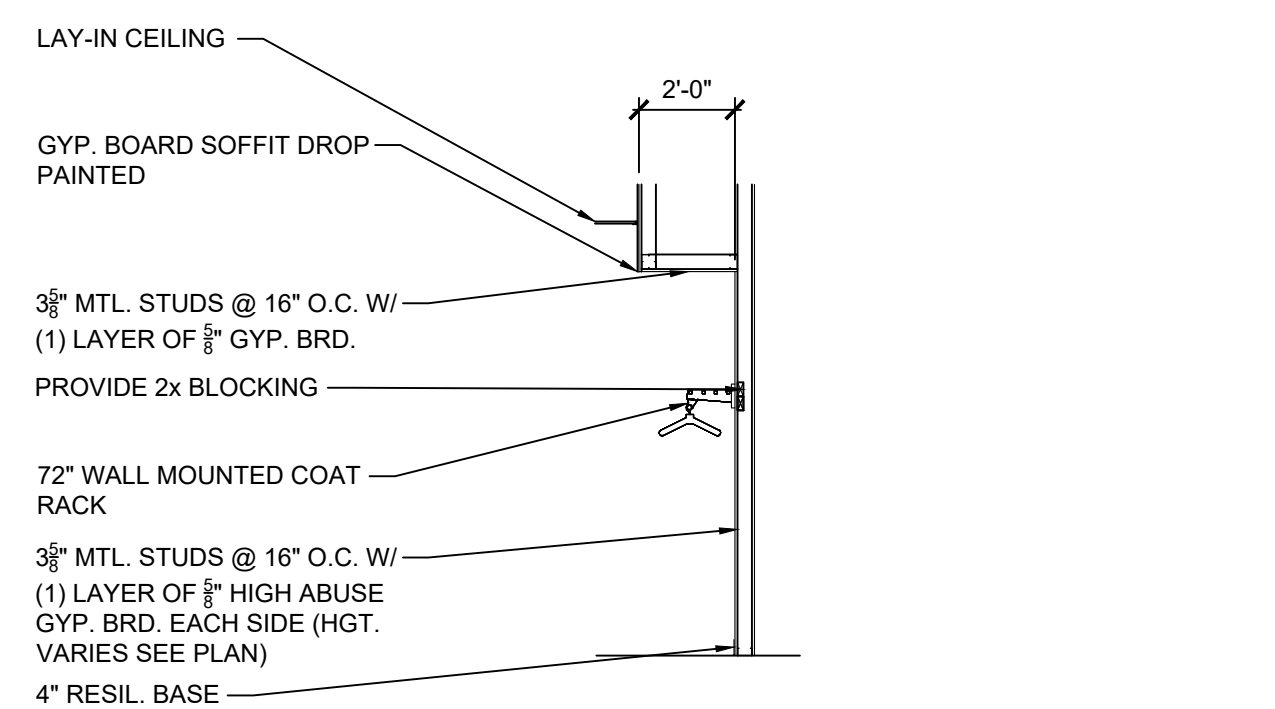
- ALL METAL STUD PARTITIONS IN OPEN AREA SHALL BE AT 9'-0" UNLESS OTHERWISE NOTED. DRYWALL AND FINISH ALL TOPS OF EXPOSED WALLS.
 - ALL METAL STUD PARTITIONS IN NON-OPEN AREAS SHALL BE TIGHT TO THE UNDERSIDE OF THE EXISTING DECK. STUFF OPEN FLUTES IN MINERAL WOOL INSULATION AND FIRE CAULK ALL PENETRATIONS.
 - DEMOUNTABLE PARTITIONS TO BE AT 9'-0".
- DEMOUNTABLE PARTITION
 - DEMOUNTABLE PARTITION WITH CLEARSTORY GLAZING (9'-0")
 - 3/8" MTL STUDS @ 16" O.C. W/ (1) LAYER OF 5/8" HIGH ABUSE GYP. BRD. EACH SIDE (HGT. VARIES SEE PLAN) PROVIDE SOUND INSULATION FULL HGT.
 - 12" CMU WITH HORIZONTAL REINFORCEMENT @ 16" O.C. DOWEL INTO EXISTING CONC. SLAB W/ #5 DOWEL MIN 4" EMBED. (TIGHT TO UNDERSIDE OF DECK) STUFF OPEN DECK FLUTES WITH MINERAL WOOL AND FIRE SPRAY. FIRE CAULK ALL PENETRATIONS.



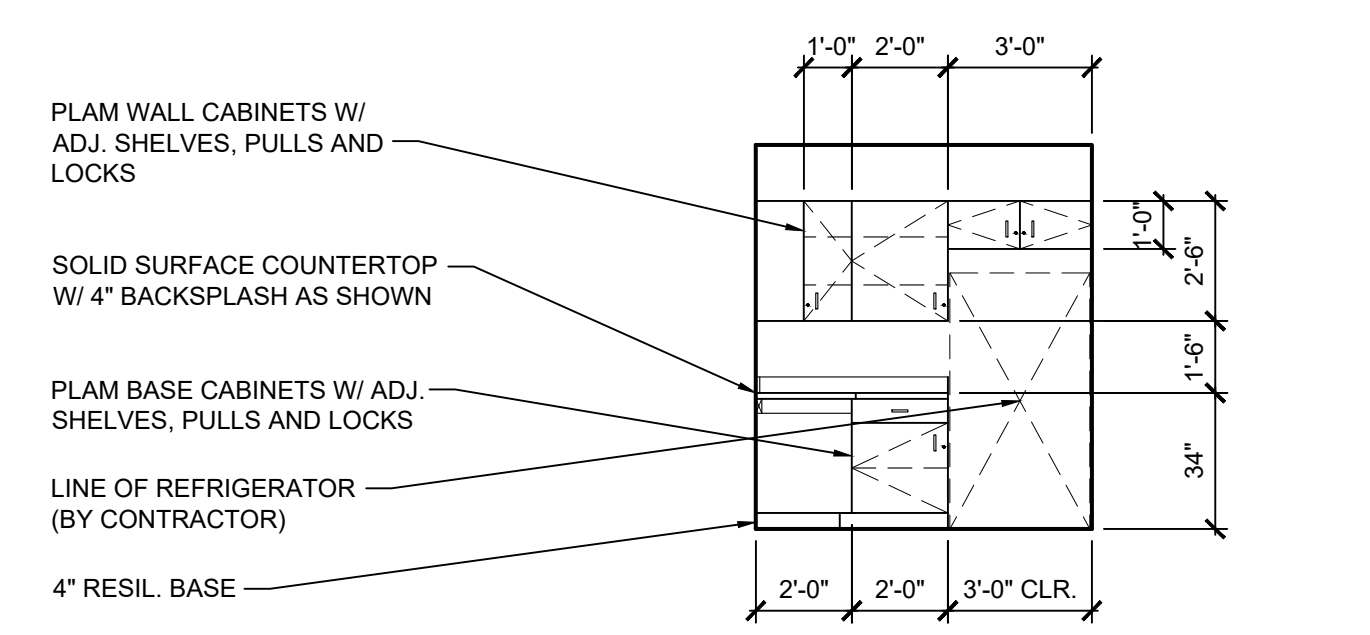
9 TYP. TOILET ROOM INTERIOR ELEVATION (A113 & B117)
A1.1 SCALE: 1/4" = 1'-0"



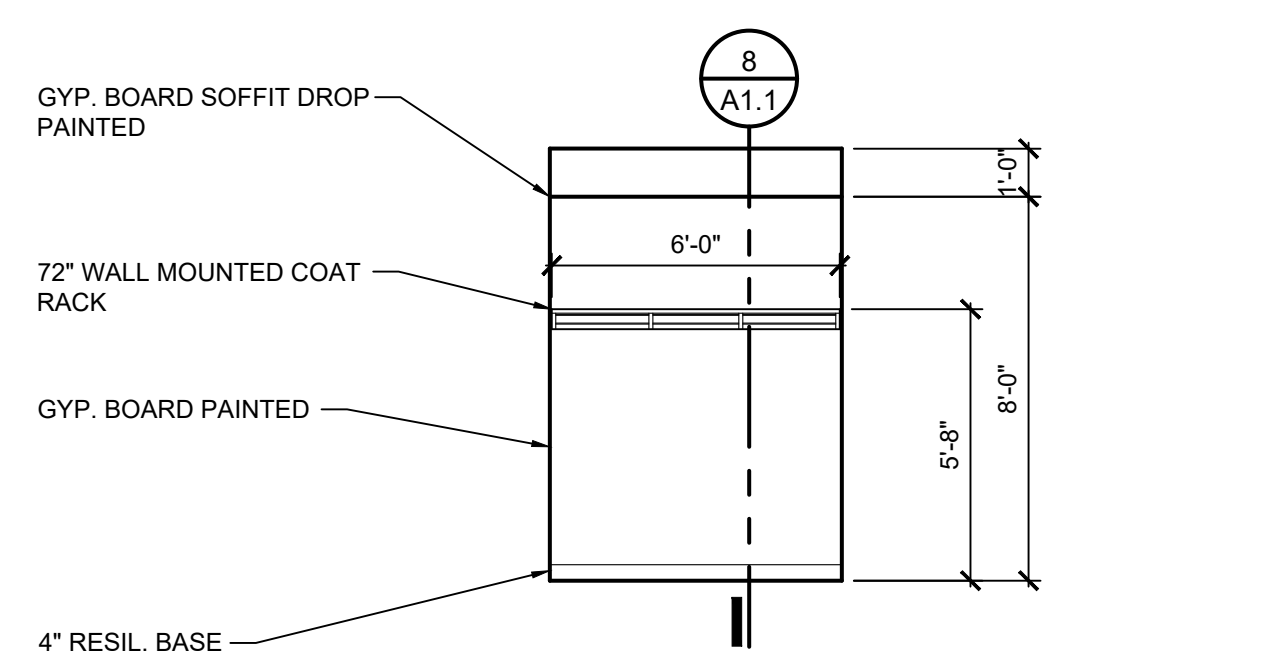
5 INTERIOR ELEVATION
A1.1 SCALE: 1/4" = 1'-0"



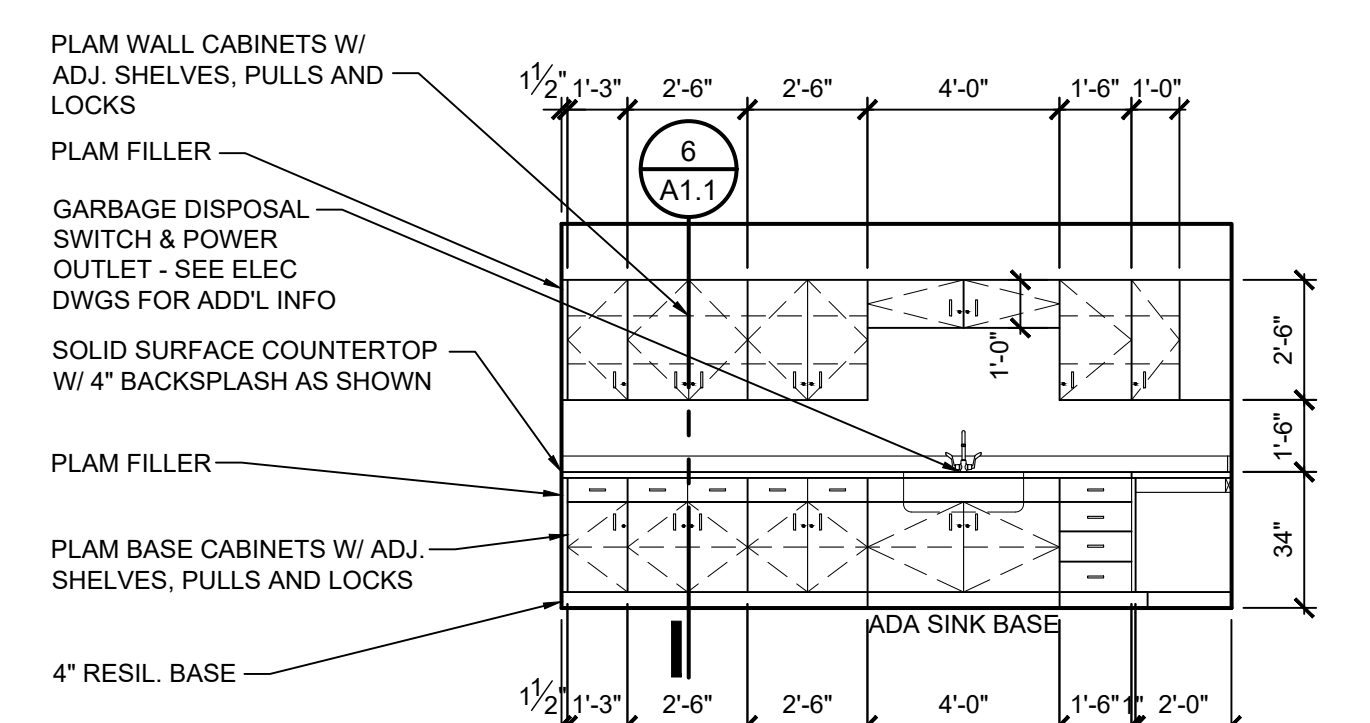
8 INTERIOR ELEVATION
A1.1 SCALE: 1/4" = 1'-0"



4 INTERIOR ELEVATION
A1.1 SCALE: 1/4" = 1'-0"



7 INTERIOR ELEVATION
A1.1 SCALE: 1/4" = 1'-0"



3 INTERIOR ELEVATION
A1.1 SCALE: 1/4" = 1'-0"

NEW WORK KEYNOTES:

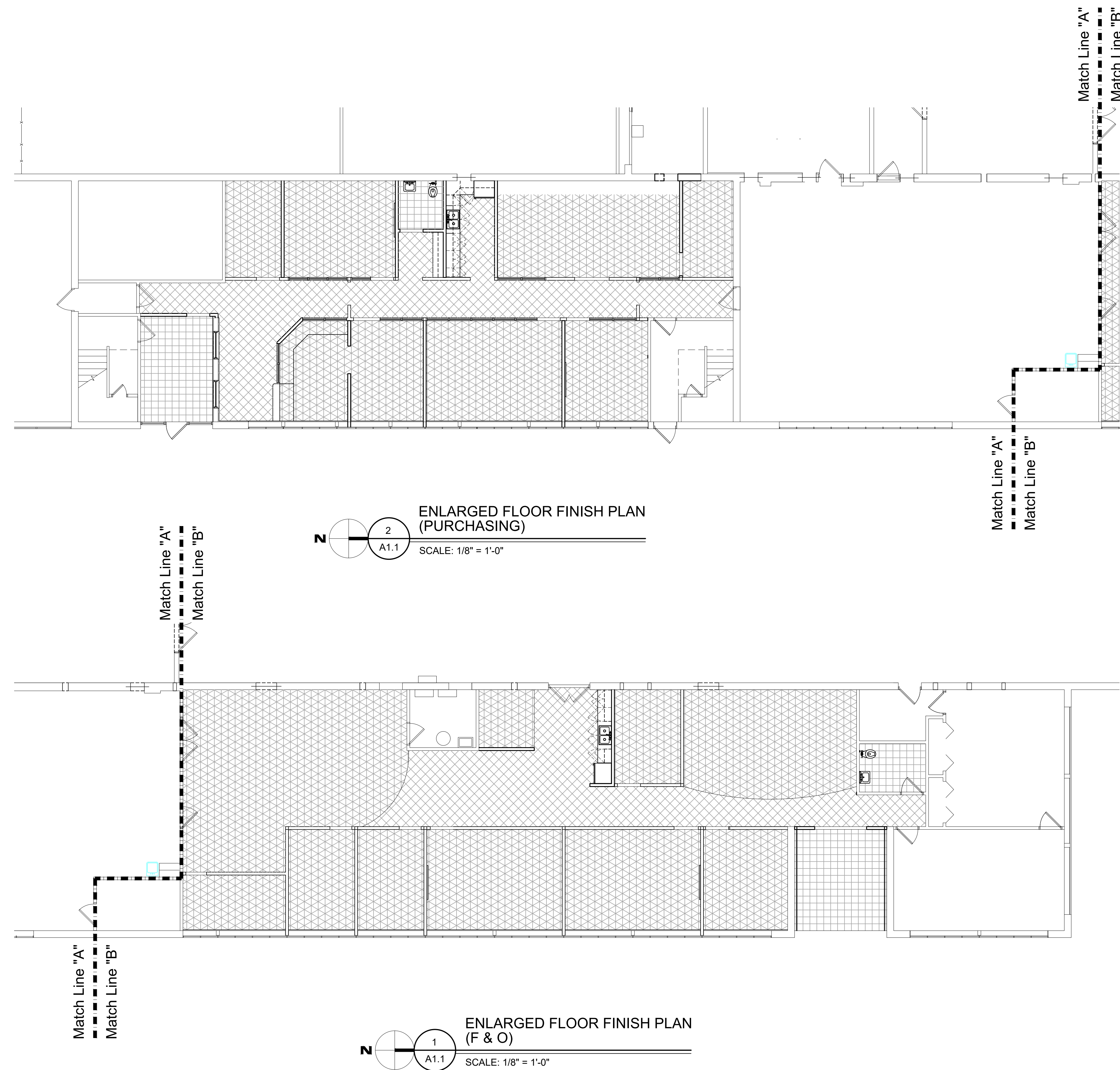
SEE SHEET G3.0 FOR ALL KEYNOTES.

FLOORING LEGEND

HATCH	DESCRIPTION
	NEW LVT
	NEW CARPET
	NEW CERAMIC TILE

GENERAL TOILET ROOM NOTES

1. ALL WALLS TO BE PAINTED WITH EPOXY PAINT IN ALL TOILET ROOMS.
2. PROVIDE NEW FLOOR TRANSITIONS BETWEEN ALL DISSIMILAR MATERIALS. REFER TO SPECIFICATIONS.
3. PROVIDE ALL NEW TOILET ROOM ACCESSORIES AS SHOWN ON PLAN AND IN THE ACCESSORIES LEGEND.



**MACOMB COUNTY
F & O / PURCHASING OFFICE RENOVATION
VIC WERTZ BUILDING**

FLOOR FINISH PLAN

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

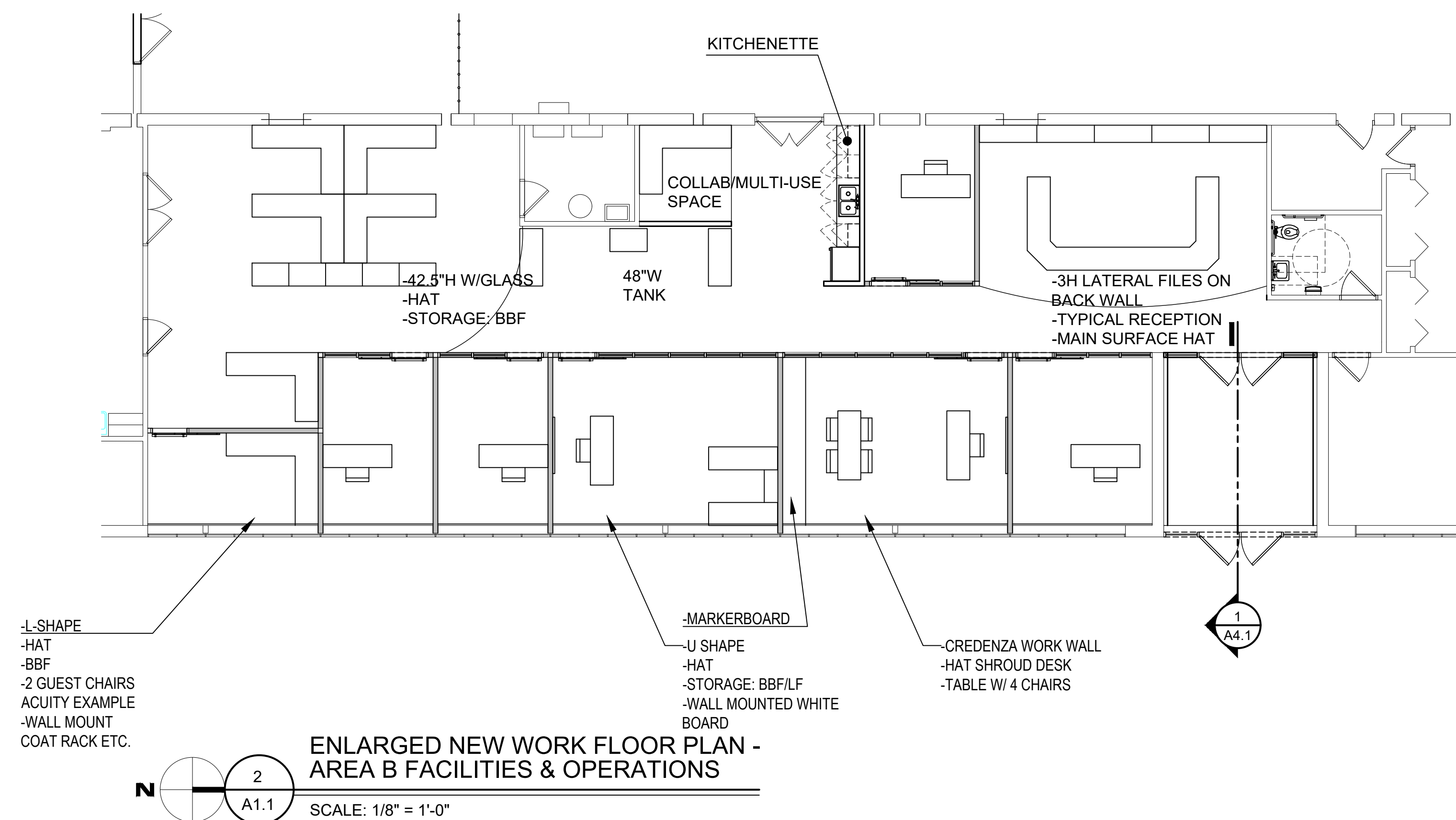
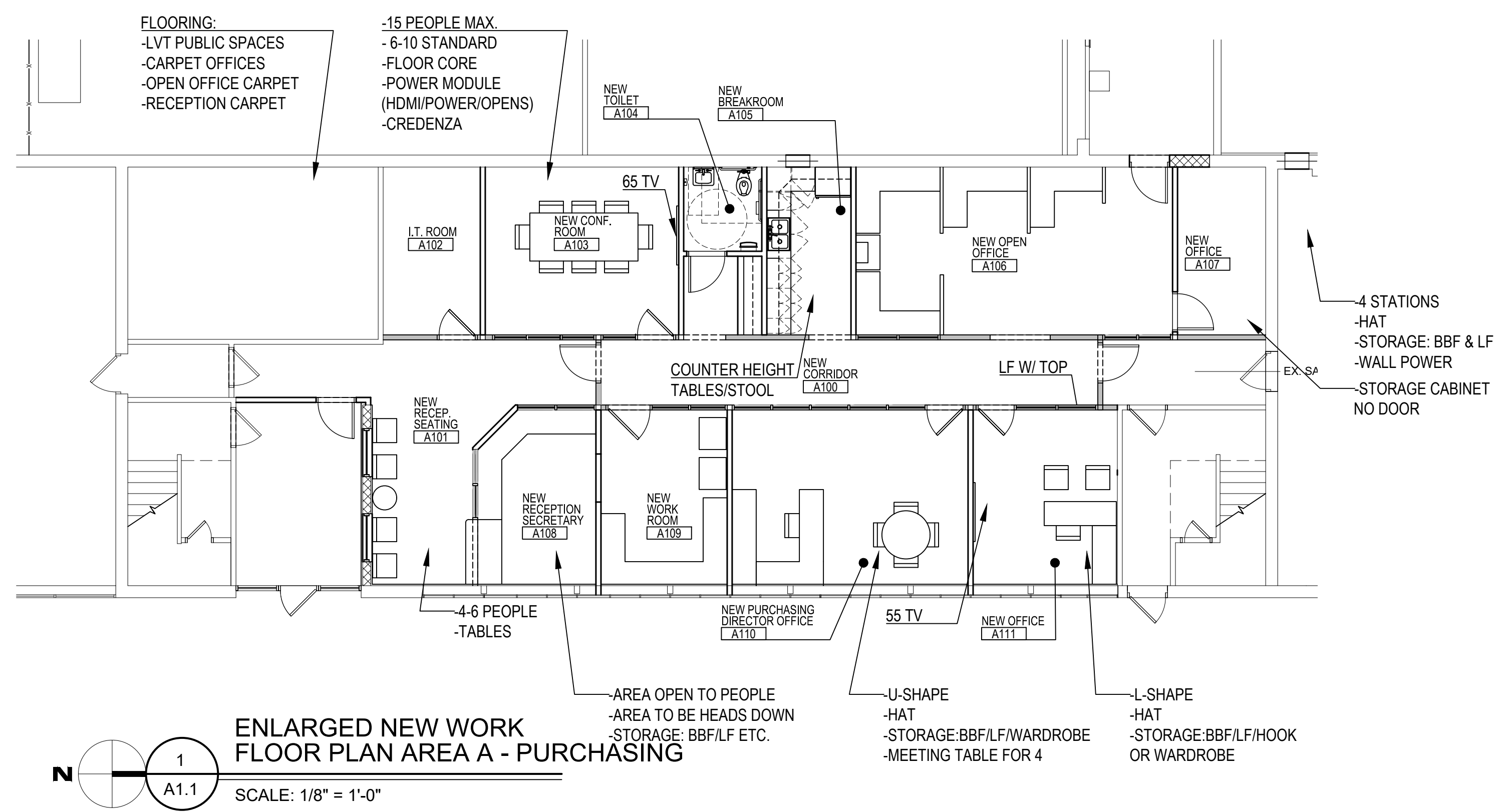
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JOB NO. 242038



NEW WORK KEYNOTES:

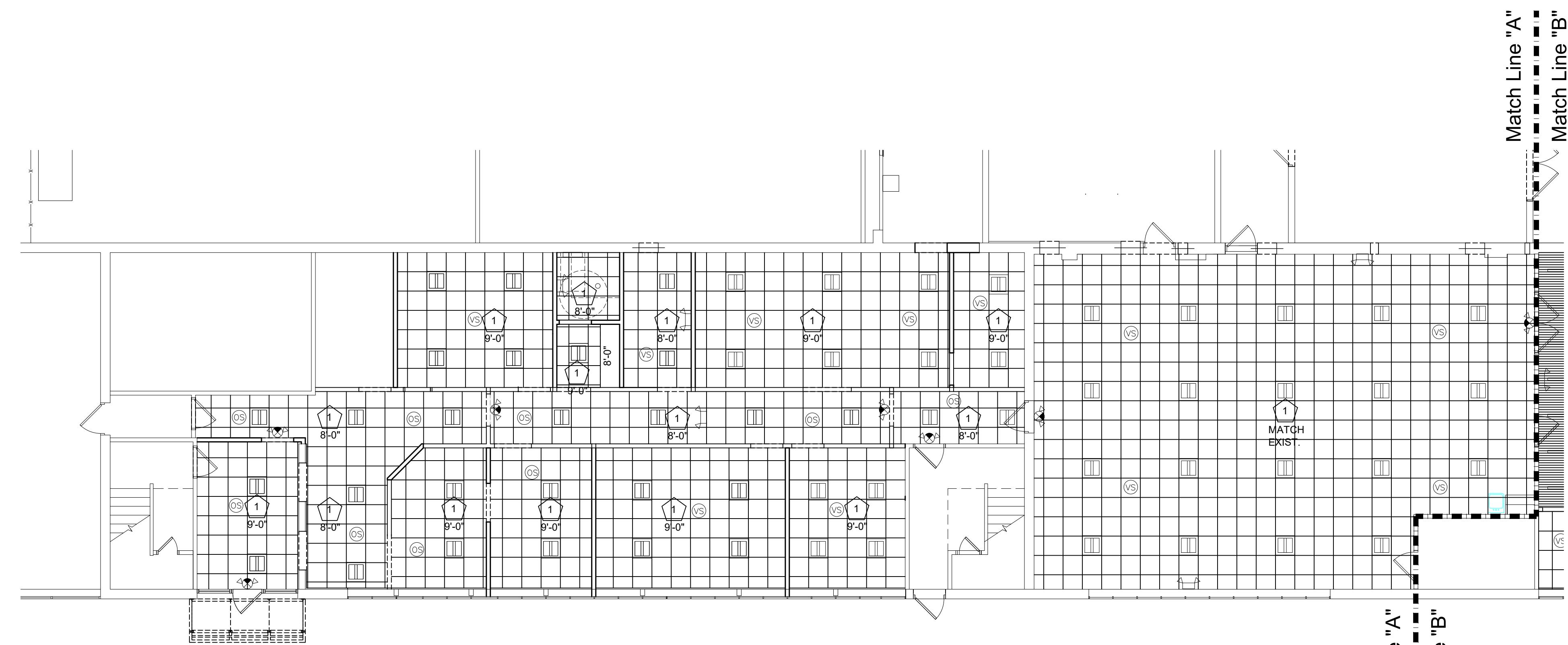
SEE SHEET G3.0 FOR ALL KEYNOTES.



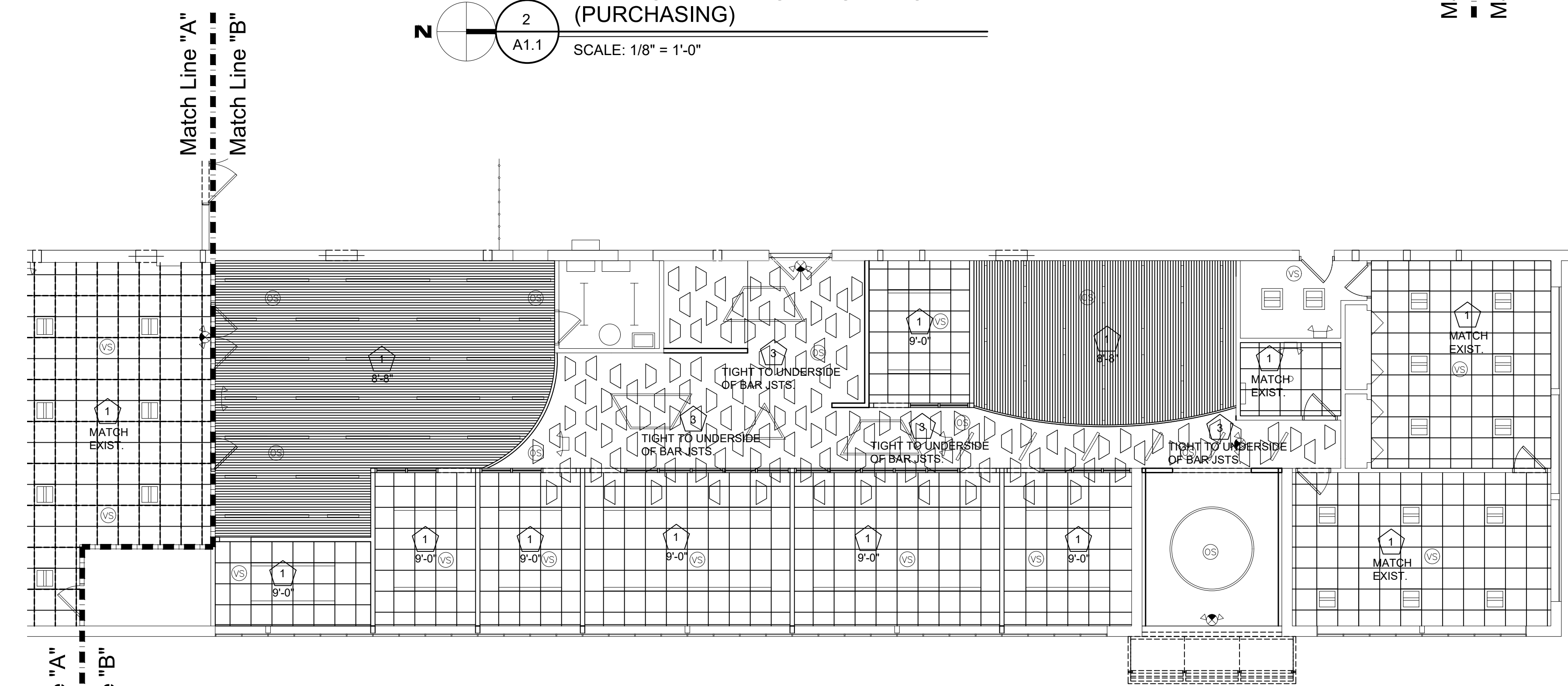
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**MACOMB COUNTY
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VIC WERTZ BUILDING**



**ENLARGED REFLECTED CEILING PLAN
(PURCHASING)**
SCALE: 1/8" = 1'-0"



**ENLARGED REFLECTED CEILING PLAN
(F & O)**
SCALE: 1/8" = 1'-0"

NOTES:
1. IN ALL OPEN AREAS, PAINT ALL EXPOSED DECK STRUCTURE, DUCTWORK, CONDUIT ETC. COMPLETE FOR A FINISHED PRODUCT.

REFLECTED CEILING PLAN

PRELIMINARY
DESIGN DEVELOPMENT
CONSTRUCTION
FINAL RECORD

DRAWN BY: DC/WNL
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REVISIONS

DATE: OCTOBER 31, 2024
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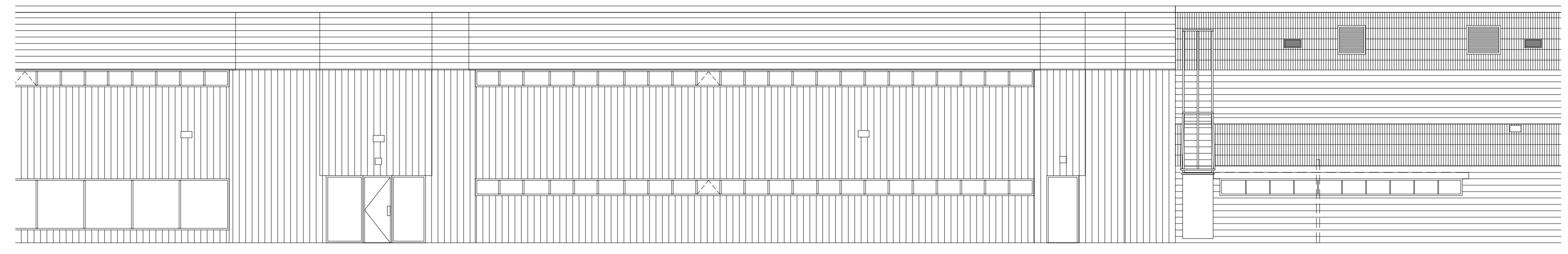
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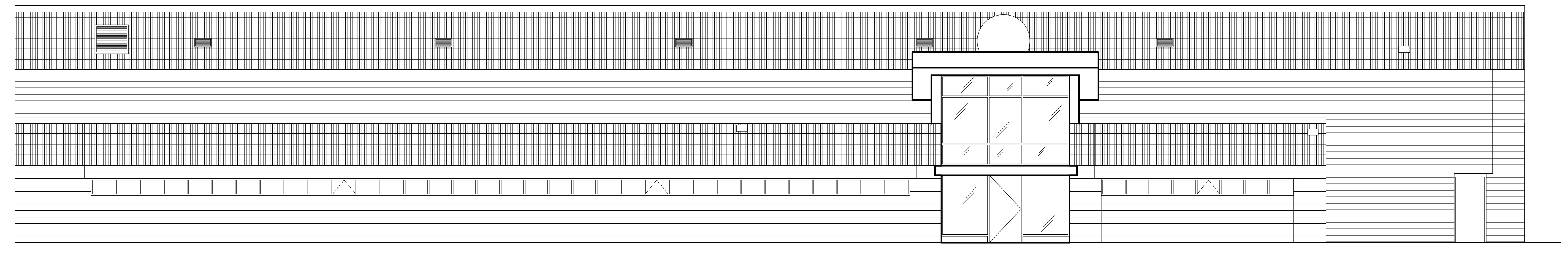
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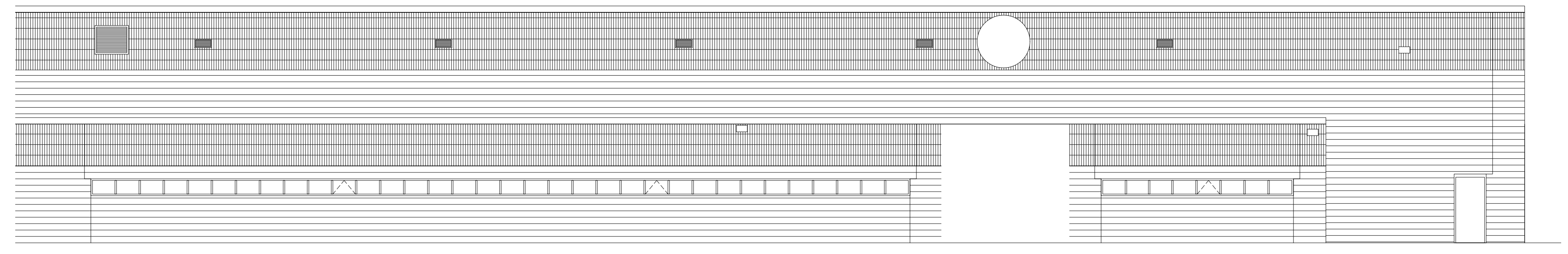
MACOMB COUNTY
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VIC WERTZ BUILDING



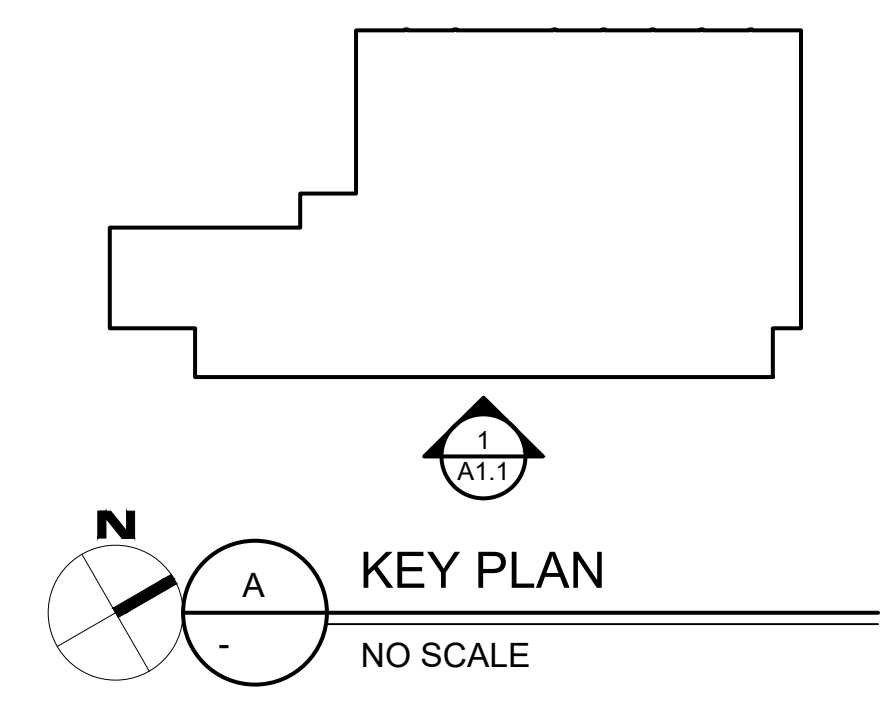
3
A3.0 PARTIAL EAST ELEVATION
(PURCHASING)
SCALE: 1/8" = 1'-0"



2
A3.0 PARTIAL EAST ELEVATION
(F&O)
SCALE: 1/8" = 1'-0"



1
A3.0 PARTIAL DEMOLITION
EAST ELEVATION (F&O)
SCALE: 1/8" = 1'-0"



EXTERIOR ELEVATIONS

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

DRAWN BY: DCW/ML
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DATE: OCTOBER 31, 2024
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MACOMB COUNTY
F & O / PURCHASING OFFICE RENOVATION
VIC WERTZ BUILDING

SECTIONS

PRELIMINARY
DESIGN DEVELOPMENT
CONSTRUCTION
FINAL RECORD

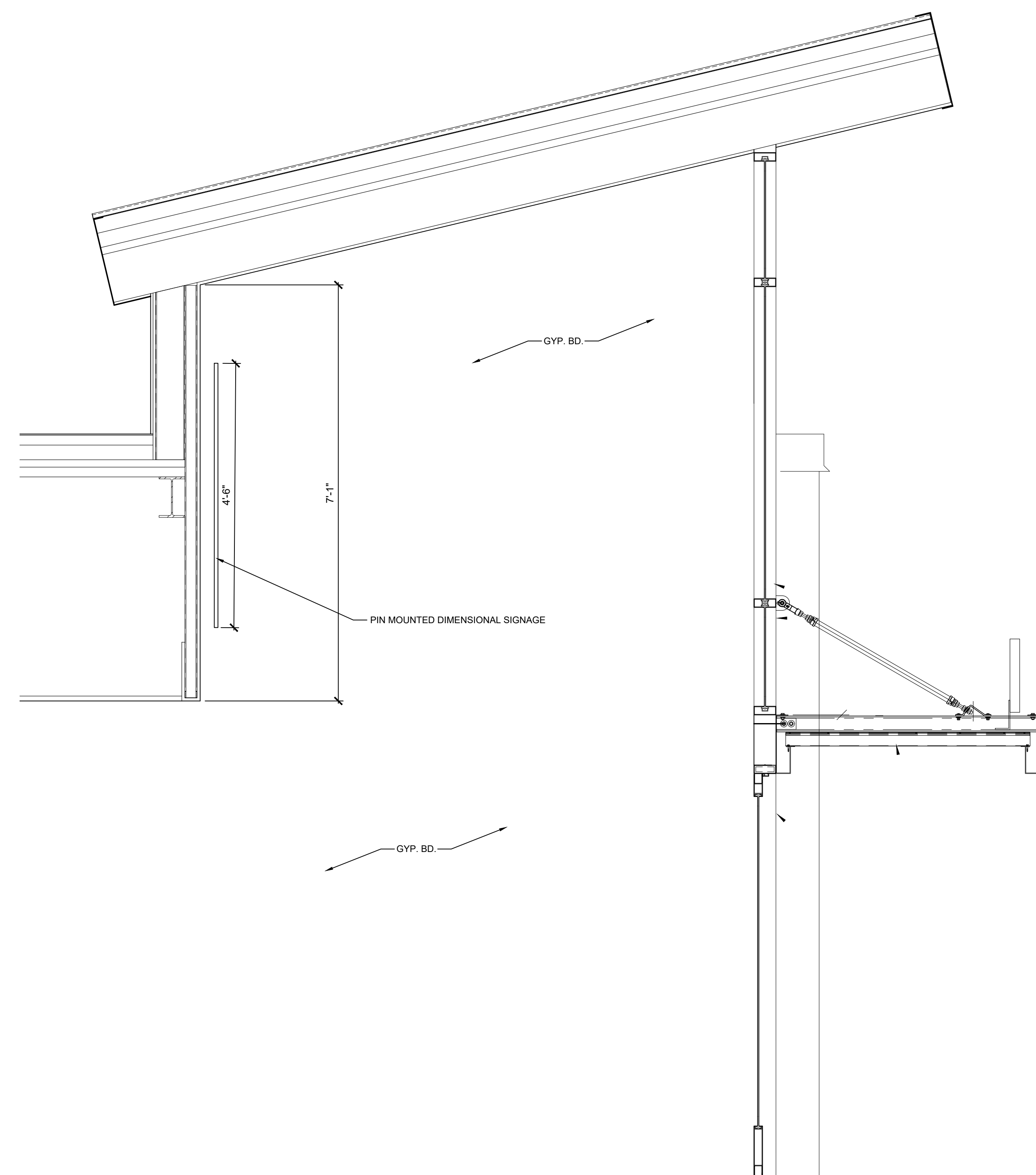
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DATE: OCTOBER 31, 2024
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A4.0

JOB NO. 242038

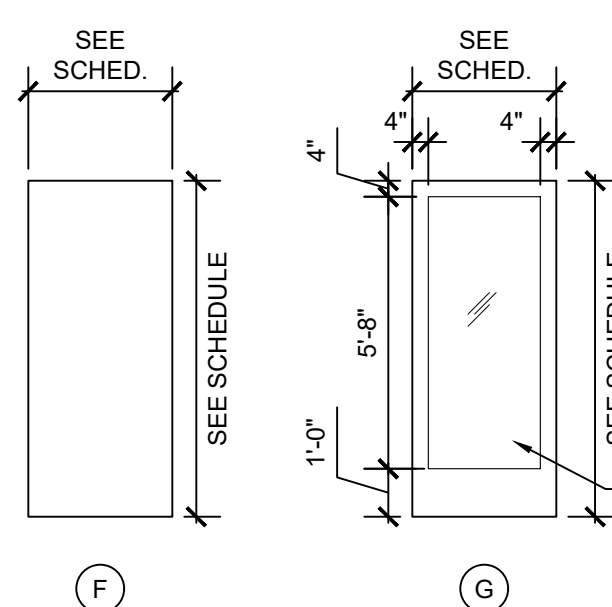
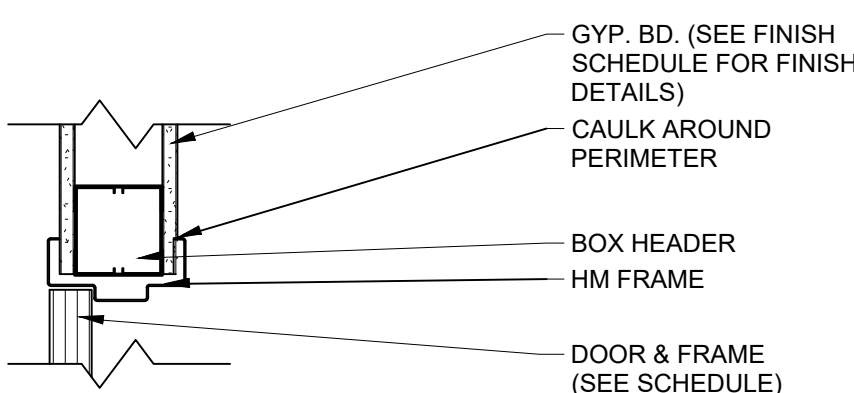
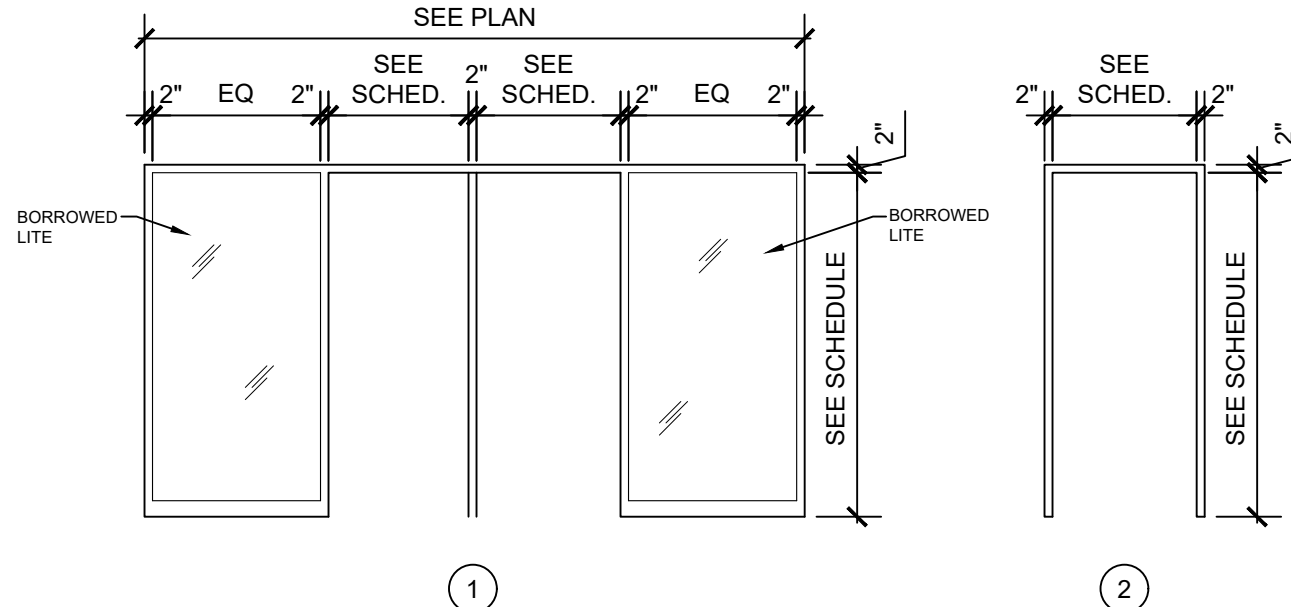
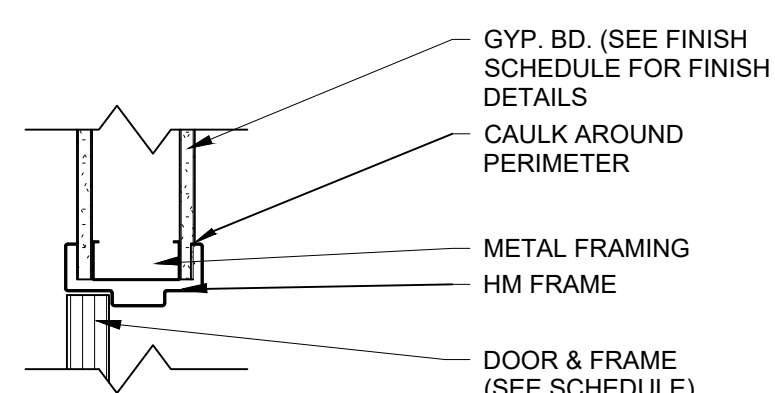
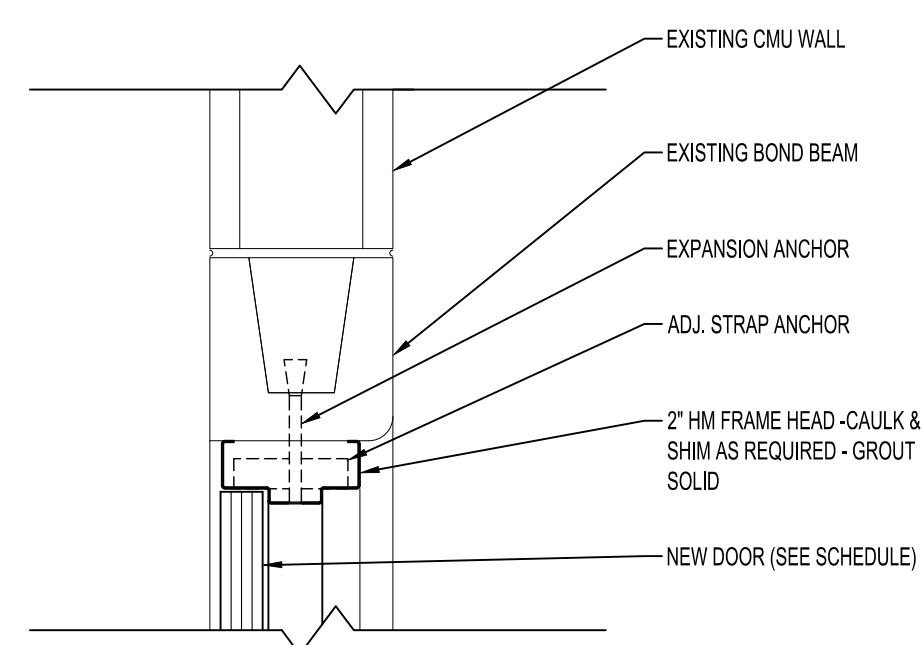
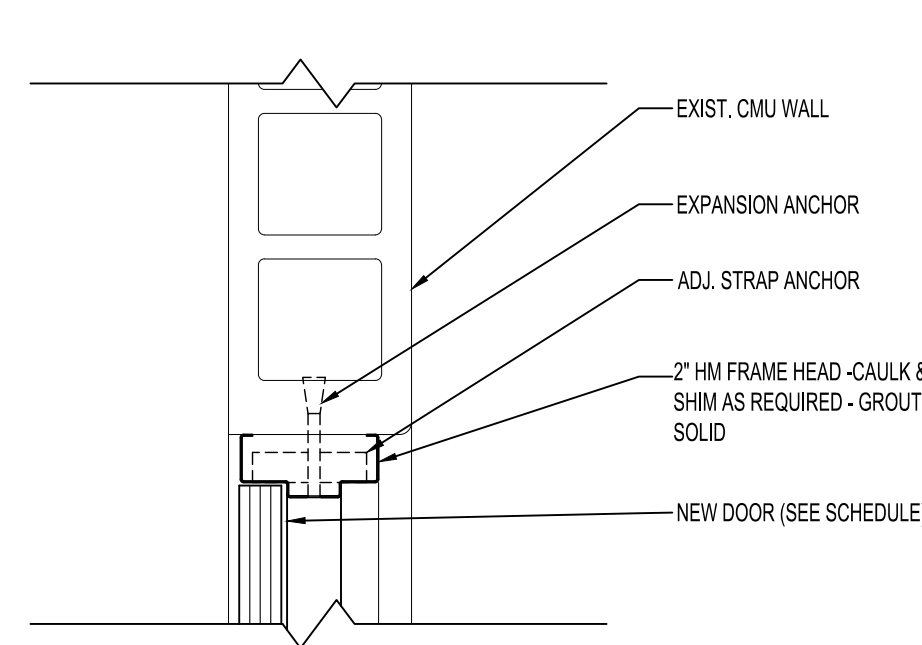


SECTION @
NEW ENTRY - OPTION 01
SCALE: 3/4" = 1'-0"

DOOR SCHEDULE														
NO.	DOOR OPENING		DOOR			FRAME			DETAILS			THRESHOLD	U.L. LABEL	REMARKS
	WIDTH	HEIGHT	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	HEAD	JAMB	SILL			
AREA "A"														
A103	3'-0"	7'-0"	F	HM	PT	2	HM	PT	H1	J1	-	MAR	90	-
A104	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	1
A108	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	1
A109	3'-6"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	1
A110	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	1
A111A	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	1
A111B	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	1
A113	3'-0"	7'-0"	F	WD	ST	2	HM	PT	H1	J1	-	-	-	-
A115	3'-0"	7'-0"	F	HM	PT	2	HM	PT	H2	J2	-	-	90	-
A116	3'-0"	7'-0"	G	WD	ST	2	HM	PT	H1	J1	-	-	-	-
A119	3'-0"	7'-0"	G	WD	ST	2	HM	PT	H1	J1	-	-	-	-
AREA "B"														
B101	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	2
B103	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	2
B104	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	2
B107	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	2
B110	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	2
B112	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	2
B113	3'-0"	7'-0"	G	-	-	-	-	-	-	-	-	-	-	2
B115A	(2)3'-0"	7'-0"	G	AL	PFN	1	AL	PFN	H1	J1	AL	-	-	-
B115B	(2)3'-0"	7'-0"	G	AL	PFN	1	AL	PFN	H1	J1	AL	-	-	-

REMARKS - DOOR SCHEDULE	
1	SWING DOOR, FRAME, AND HARDWARE PROVIDED BY DEMOUNTABLE PARTITION COMPANY
2	SLIDING DOOR, FRAME, AND HARDWARE PROVIDED BY DEMOUNTABLE PARTITION COMPANY
3	-

ABBREVIATIONS	
AL	ALUMINUM
HM	HOLLOW METAL
PFN	PRE-FINISHED
PT	PAINT
MAR	MARBLE
ST	STAIN
WD	WOOD

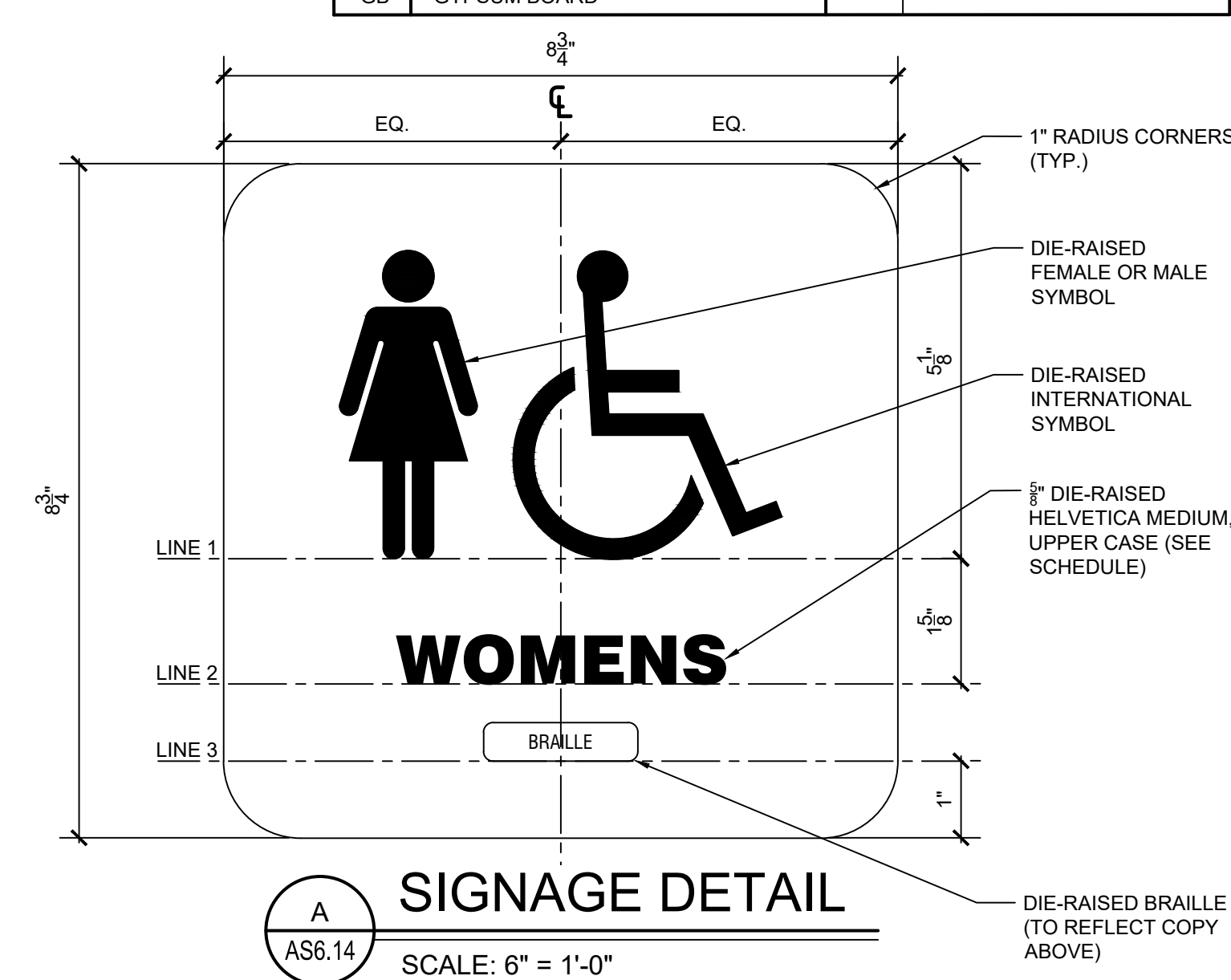
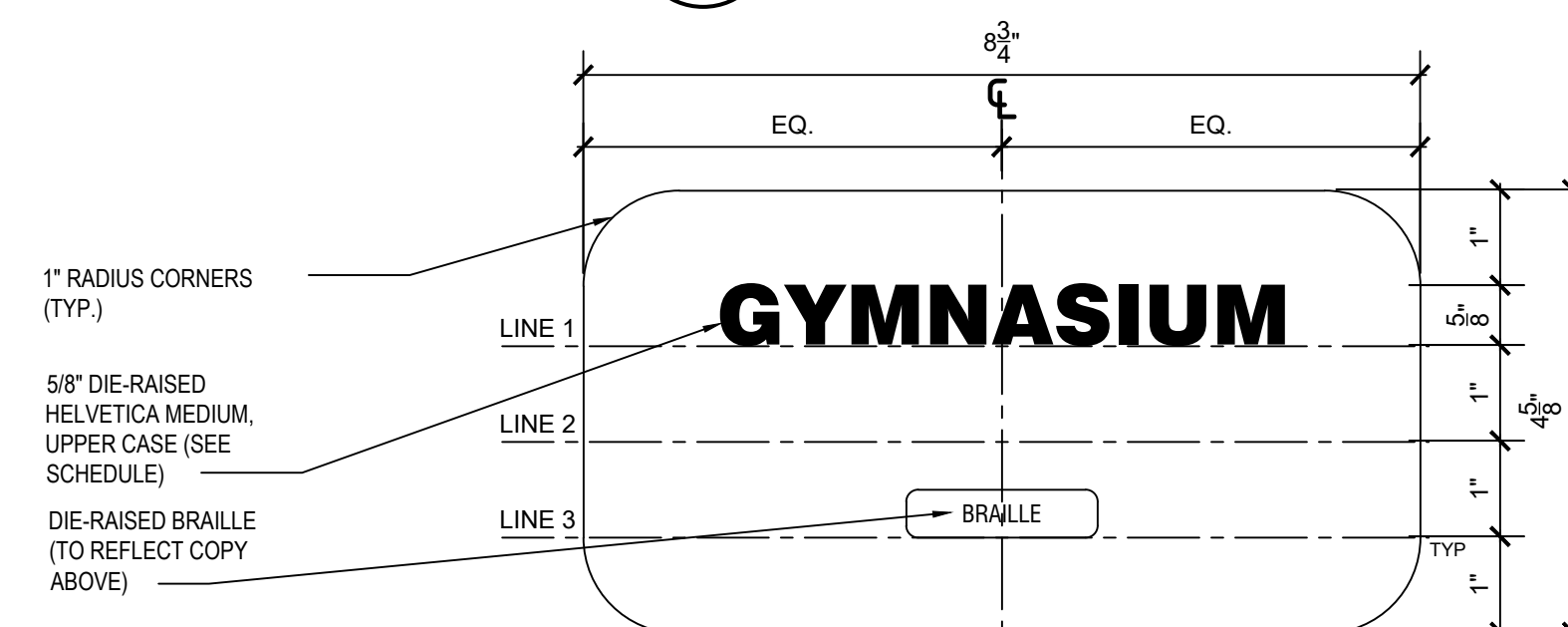
DOOR ELEVATIONS:

FRAME ELEVATIONS:

H1
A1.1
HEAD DETAIL
 SCALE: 1/4" = 1'-0"

J1
A1.1
JAMB DETAIL
 SCALE: 1 1/2" = 1'-0"

H2
A1.1
MASONRY HEAD
 SCALE: 1 1/2" = 1'-0"

J2
A1.1
MASONRY JAMB
 SCALE: 1 1/2" = 1'-0"

ROOM FINISH SCHEDULE											
NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING		REMARKS	
				NORTH	SOUTH	WEST	EAST	MAT'L	HGT.		
AREA "A" - PURCHASING											
A100	EXISTING STAIR		ETR	ETR	ETR	ETR	ETR	ETR	ETR	-	
A101	CORRIDOR		ETR	ETR	ETR	ETR	ETR	ETR	ETR	-	
A102	EXIST. STORAGE		ETR	ETR	ETR	ETR	ETR	ETR	ETR	-	
A103	VESTIBULE		CT	CT	PT	PT	PT	ACT	9'-0"	1,3,4	
A104	TECH.		LVT	RB	PT	PT	PT	ACT	9'-0"	1,3,4,5	
A105	CORRIDOR		LVT	RB	PT	PT	PT	ACT	9'-0"	1,3,4,5	
A106	WAITING		LVT	RB	PT	PT	PT	ACT	9'-0"	1,4,5	
A107	RECEPTION		CPT	RB	PT	DP	GL,PT	DP	ACT	9'-0"	1,2,4,5
A108	OFFICE		CPT	RB	PT	PT	GL	DP	ACT	9'-0"	1,2,3,4,5
A109	OFFICE		CPT	RB	PT	PT	DP	PT	ACT	9'-0"	1,2,4,5
A110	OFFICE		CPT	RB	PT	PT	DP	PT	ACT	9'-0"	1,2,4,5
A111	CORRIDOR		LVT	RB	DP	DP	DP	DP	ACT	9'-0"	1,2,4,5
A112	COAT CLOSET		LVT	RB	PT	PT	PT	DP	ACT	9'-0"	1,2,4,5
A113	TOILET		CT	CT	CT	CT	CT	CT	ACT	8'-0"	1,3,4,5
A114	KITCHEN		LVT	RB	PT	PT	PT	DP	ACT	8'-0"	1,2,3,4,5
A115	OPEN OFFICE		CPT	RB	PT	PT	PT	DP	ACT	9'-0"	1,2,3,4,5
A116	OFFICE		CPT	RB	PT	PT	DP	PT	ACT	9'-0"	1,2,3,4,5
A117	EXISTING STAIR		ETR	ETR	ETR	ETR	ETR	ETR	ETR	-	
A118	CORRIDOR		LVT	RB	DP	DP	DP	PT	ACT	9'-0"	1,2,3,4,5
A119	OFFICE		CPT	RB	PT	PT	DP	PT	ACT	9'-0"	1,2,3,4,5
A120	COPY ROOM		ETR	ETR	ETR	ETR	ETR	ACT	ETR	-	
AREA "B" - FACILITIES AND OPERATION											
B100	EXISTING STORAGE		ETR	ETR	ETR	ETR	ETR	ETR	ETR	-	
B101	OFFICE		CPT	RB	DP	PT	DP	PT	ACT	9'-0"	1,2,3,4,5
B102	OPEN OFFICE		CPT	RB	PT	PT	PT	DP	LW	8'-8"	2,3,4,5
B103	OFFICE		CPT	RB	DP	DP	DP	PT	ACT	9'-0"	2,3,4,5
B104	OFFICE		CPT	RB	DP	DP	DP	PT	ACT	9'-0"	2,3,4,5
B105	EXIST. MECH./ELEC.		ETR	ETR	ETR	ETR	ETR	ETR	ETR	-	
B106	OPEN CORRIDOR		LVT	RB	PT	PT	PT	DP	ES	ETR	1,2,3,4,5
B107	OFFICE		CPT	RB	DP	DP	DP	PT	ACT	9'-0"	2,3,4,5
B108	COLLABORATION		CPT	RB	PT	PT	PT	PT	ES/PT	ETR	1,3,4,5
B109	KITCHEN		LVT	RB	PT	PT	PT	PT	ES/PT	ETR	1,3,4,5
B110	OFFICE		CPT	RB	DP	PT	PT	DP	ACT	9'-0"	1,2,3,4,5
B111	CORRIDOR		LVT	RB	PT	PT	DP	DP	ES/PT	ETR	1,3,4,5
B112	OFFICE		CPT	RB	DP	DP	DP	PT	ACT	9'-0"	1,2,3,4,5
B113	OFFICE		CPT	RB	PT	DP	DP	PT	ACT	9'-0"	1,2,3,4,5
B114	RECEPTIONIST		CPT	RB	PT	DP	PT	PT	LW	8'-8"	2,3,4,5
B115	VESTIBULE		CT	CT	ETR	ETR	PT/GL	GL	ES/PT	ETR	1,3,4
B116	CORRIDOR		LVT	RB	PT	PT	PT	PT/GL	ES/PT	ETR	1,3,4
B117	TOILET		CT	CT	CT/PT	CT/PT	CT/PT	CT/PT	ACT	ETR	3,4
B118	PRINT ROOM		ETR	ETR	ETR	ETR	ETR	ACT	ETR	-	
B119	CONFERENCE		ETR	ETR	ETR	ETR	ETR	ACT	ETR	-	

SIGNAGE SCHEDULE				
QTY	PLAN NO.	TYPE	MOUNTING	TEXT
1	A101	A	1	LINE 1: BREAK ROOM
1	A102	B	1	
1	A103	A	1	LINE 1: COATS
1	A104	A	1	LINE 1: TBD
1	A105	A	1	LINE 1: TBD
-	A106	-	-	-
1	107	A	1	LINE 1: WORK ROOM
1	108	-	-	-
1	109	A	1	LINE 1: CONFERENCE LINE 2: ROOM
-	A110	-	-	-
-	A111	-	-	-

REMARKS - ROOM SCHEDULE	
1	ALL GYPSUM BOARD TO BE 5/8" HIGH ABUSE BOARD UNLESS OTHERWISE NOTED.
2	DEMOUNTABLE PARTITION COMPANY TO PROVIDE CEILING CLIPS TO ANCHOR NEW CEILINGS TO NEW DEMOUNTABLE PARTITIONS
3	PATCH AND REPAINT ALL EXISTING WALLS REQUIRED.
4	PROVIDE AND INSTALL ALL REQUIRED FLOOR TRANSITIONS, PIECES, AND THRESHOLDS
5	ALL DEMOUNTABLE PARTITIONS DO NOT HAVE RUBBER BASE INSTALLED. RUBBER BASE IS ONLY ON CONSTRUCTION WALLS
6	IN ALL OPEN AREAS, PAINT ALL EXPOSED DECK, STRUCTURE, DUCTWORK, CONDUIT, ETC. COMPLETE FOR A FINISHED PRODUCT

ABBREVIATIONS			
ACT	ACOUSTICAL CEILING TILE AND GRID	PT	PAINT
CMU	CONCRETE MASONRY UNITS	GL	GLASS
CT	CERAMIC TILE	DP	DEMOUNTABLE PARTITION
ETR	EXISTING TO REMAIN	LW	LINEAL WOOD
EP	EPOXY PAINT	ES	EXPOSED STRUCTURE
GB	GYPSUM BOARD		


A
AS6.14
SIGNAGE DETAIL
 SCALE: 6" = 1'-0"

B
AS6.14
SIGNAGE DETAIL
 SCALE: 6" = 1'-0"

MECHANICAL ABBREVIATIONS

ABBREV.	DESCRIPTION
AAV	AUTOMATIC AIR VENT / AIR ADMITTANCE VALVE
AD	ACCESS DOOR
AE	AIR EXTRACTOR
AFF	ABOVE FINISHED FLOOR
APD	AIR PRESSURE DROP
ASR	AUTOMATIC SPRINKLER RISER
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
BWV	BACKWATER VALVE
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CIRC	CIRCULATING
CLG	COOLING
CO	CLEAN OUT
CONT	CONTINUATION OR CONTINUED
CONV	CONVECTOR
CUH	CABINET UNIT HEATER
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DEG	DEGREES
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DTC	DRAIN TILE CONNECTION
DWH	DOMESTIC WATER HEATER
(E)	EXISTING
EA/EXH	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EL	ELEVATION
ELECT	ELECTRICAL
EMS	ENERGY MANAGEMENT SYSTEM
ESP	EXTERNAL STATIC PRESSURE
EWP	ENTERING WET BULB TEMPERATURE
EWC	ELECTRIC WATER COOLER
'F	DEGREES FAHRENHEIT
FA	FACE AREA (COIL) / FREE AREA (LOUVER)
FC	FLEXIBLE CONNECTION
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FLA	FULL LOAD AMPS
FLR	FLOOR
FPM	FEET PER MINUTE
FFD	FUNNEL FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FS	FLOOR SINK
FT	FEET
FURN	FURNISHED
FV	FACE VELOCITY
FVC	FIRE VALVE CABINET
GAL	GALLON
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HO	HUB OUTLET
HP	HORSEPOWER

MECHANICAL ABBREVIATIONS

ABBREV.	DESCRIPTION
HR	HOUR
HTG	HEATING
HYD	HYDRANT
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
INST	INSTALLED
INV	INVERT
ISP	INTERNAL STATIC PRESSURE
IW	INDIRECT WASTE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LOB	LEAVING DRY BULB TEMPERATURE
LRA	LOCKED ROTOR AMPS
LWB	LEAVING WET BULB TEMPERATURE
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOD	MOTOR OPERATED DAMPER (AUTOMATIC)
MOP	MAXIMUM OVER-CURRENT PROTECTION
N.C.	NOISE CRITERIA
NIC	NOT IN CONTRACT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NOM	NOMINAL
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER / CENTER TO CENTER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
ORS	OVERFLOW ROOF SUMP
OS&Y	OUTSIDE SCREW AND YOKE
PD	PRESSURE DROP (FEET OF WATER)
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
PSIG	POUNDS PER SQUARE INCH - GAUGE
PT	PRESSURE / TEMPERATURE PORT
RA	RETURN AIR
RH	RELATIVE HUMIDITY
REQD	REQUIRED
RELA	RELIEF AIR
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
RS	ROOF SUMP
SA	SUPPLY AIR
SH	SHOWER
SP	STATIC PRESSURE
SqFt / SF	SQUARE FOOT/SQUARE FEET
SS	SERVICE SINK
TC	TEMPERATURE CONTROL
T & P	TEMPERATURE AND PRESSURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE

MECHANICAL ABBREVIATIONS

ABBREV.	DESCRIPTION
UR	URINAL
VD	VOLUME DAMPER (MANUALLY ADJUSTABLE)
VTR	VENT THRU ROOF
W	WASTE
W&V	WASTE AND VENT
WB	WET BULB TEMPERATURE
WC	WATER CLOSET
WG	WATER GAUGE
WH	WALL HYDRANT

MECHANICAL PIPING SYMBOLS

ABBREV.	DESCRIPTION
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	PIPE TEE DOWN
	DIRECTION OF FLOW
	UNION
	STRAINER
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	EXPANSION JOINT
	FLEXIBLE CONNECTION
	PIPE ANCHOR
	PIPE GUIDE
	PIPE CAP OR PLUG
	ISOLATION VALVE
	CIRCULATING PUMP
	GLOBE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	ANGLE VALVE
	CHECK VALVE (SWING)
	CHECK VALVE (SPRING)
	PLUG VALVE
	NEEDLE VALVE
	OUTSIDE SCREW AND YOKE VALVE (OS&Y)
	PRESSURE REGULATING VALVE
	SOLENOID VALVE
	CONTROL VALVE (2-WAY / 3-WAY)
	CENTRIFUGAL FAN
	AUTOMATIC GAS SHUT-OFF VALVE
	TRAP (PLAN VIEW)
	FLOOR DRAIN / FUNNEL FLOOR DRAIN (PLAN VIEW)
	FLOOR DRAIN / FUNNEL FLOOR DRAIN (ELEVATION)
	ROOF SUMP
	CLEAN OUT (IN FLOOR)
	CLEAN OUT (IN LINE)
	CLEAN OUT (WALL)
	BACKFLOW PREVENTER
	WATER METER ASSEMBLY
	HOSE BIBB, WALL HYDRANT
	DIRECTION OF PIPE PITCH
	SPRINKLER HEAD (UPRIGHT)
	SPRINKLER HEAD (SIDEWALL)
	FLOW SWITCH
	SIAMESE CONNECTION (YARD)
	SIAMESE CONNECTION (WALL MOUNTED)
	FIRE HYDRANT
	FLOW MEASURING DEVICE
	BALANCING VALVE
	COMBINATION FLOW MEASURING AND BALANCING DEVICE
	AUTOMATIC AIR VALVE
	MANUAL AIR VALVE

MECHANICAL SYMBOLS

ABBREV.	DESCRIPTION
	RECTANGULAR TAKE-OFF (SINGLE LINE)
	RECTANGULAR TAKE-OFF (DOUBLE LINE)
	ROUND TAKE-OFF (SINGLE LINE)
	ROUND TAKE-OFF (DOUBLE LINE)
	SPIN-IN FITTING (WITH VOLUME DAMPER)
	ELBOW (WITH TURNING VANES)
	RADIUS RECTANGULAR ELBOW
	RADIUS ROUND ELBOW
	RECTANGULAR ELBOW UP
	ROUND ELBOW UP
	RECTANGULAR ELBOW DOWN
	ROUND ELBOW DOWN
	CONCENTRIC TRANSITION (DOUBLE LINE)
	CONCENTRIC TRANSITION (SINGLE LINE)
	ECCENTRIC TRANSITION (DOUBLE LINE)
	ECCENTRIC TRANSITION (SINGLE LINE)
	INCLINED RISE IN DIRECTION OF AIR FLOW (DOUBLE LINE)
	INCLINED RISE IN DIRECTION OF AIR FLOW (SINGLE LINE)
	INCLINED DROP IN DIRECTION OF AIR FLOW (DOUBLE LINE)
	INCLINED DROP IN DIRECTION OF AIR FLOW (SINGLE LINE)
	FLEXIBLE CONNECTION
	FLEXIBLE DUCT CONNECTION TO SUPPLY DIFFUSER
	SUPPLY DIFFUSER
	LINEAR SLOT DIFFUSER
	RETURN OR EXHAUST GRILLE
	TRANSFER GRILLE
	CROSS SECTION OF SUPPLY AIR DUCT
	CROSS SECTION OF EXHAUST OR RETURN AIR DUCT
	EXISTING FIRE DAMPER (HORIZONTAL)
	NEW FIRE DAMPER (HORIZONTAL)
	EXISTING FIRE DAMPER (VERTICAL)
	NEW FIRE DAMPER (VERTICAL)
	EXISTING SMOKE DAMPER
	NEW SMOKE DAMPER
	EXISTING COMBINATION FIRE/SMOKE DAMPER (VERTICAL)
	NEW COMBINATION FIRE/SMOKE DAMPER (VERTICAL)
	EXISTING COMBINATION FIRE/SMOKE DAMPER (HORIZONTAL)
	NEW COMBINATION FIRE/SMOKE DAMPER (HORIZONTAL)
	VOLUME DAMPER (MANUALLY ADJUSTABLE)
	MOTORIZED DAMPER
	SMOKE DETECTOR
	CO2 SENSOR
	THERMOSTAT OR TEMPERATURE SENSOR
	HUMIDISTAT OR HUMIDITY SENSOR
	RETURN OR EXHAUST / SUPPLY AIR FLOW

PIPING LEGEND

ABBREV.	DESCRIPTION
—CA—	COMPRESSED AIR PIPING
—CD—	CONDENSATE DRAIN PIPING
—DT—	DRAIN TILE
—F—	FIRE PROTECTION PIPING
—FOR—	FUEL OIL RETURN PIPING
—FOS—	FUEL OIL SUPPLY PIPING
—G—	NATURAL GAS PIPING
—BCW—	BOOSTED-DOMESTIC COLD WATER PIPING
—BHW—	BOOSTED-DOMESTIC HOT WATER PIPING
—CW—	DOMESTIC COLD WATER PIPING
—NPCW—	NON POTABLE COLD WATER PIPING
—TW—	TEMPERED WATER PIPING
—HW—	DOMESTIC HOT WATER PIPING
—HW(140°F)—	DOMESTIC 140°F HOT WATER PIPING
—HWR—	DOMESTIC HOT WATER RETURN PIPING
—SAN—	SANITARY WASTE PIPING
—PSAN—	PUMPED SANITARY PIPING
—V—	VENT PIPING
—ST—	STORM SEWER PIPING
—PST—	PUMPED STORM PIPING
—RC—	RAIN CONDUCTOR PIPING
—ORC—	OVERFLOW RAIN CONDUCTOR PIPING
—CHWR—	CHILLED WATER RETURN PIPING
—CHWS—	CHILLED WATER SUPPLY PIPING
—CWR—	CONDENSER WATER RETURN PIPING
—CWS—	CONDENSER WATER SUPPLY PIPING
—HHWR—	HEATING HOT WATER RETURN PIPING
—HWS—	HEATING HOT WATER SUPPLY PIPING
—HPLR—	HEAT PUMP LOOP RETURN PIPING
—HPLS—	HEAT PUMP LOOP SUPPLY PIPING
—RL—	REFRIGERANT LIQUID PIPING
—RS—	REFRIGERANT SUCTION PIPING
—HGB—	HOT GAS BY-PASS PIPING
—GHR—	GEO HEAT EXCHANGE RETURN
—GHS—	GEO HEAT EXCHANGE SUPPLY
—STM—	STEAM PIPING
—HPS—	HIGH PRESSURE STEAM PIPING
—LPS—	LOW PRESSURE STEAM PIPING
—CR—	STEAM CONDENSATE RETURN PIPING
—PCR—	PUMPED STEAM CONDENSATE RETURN PIPING
—LPC—	LOW PRESSURE CONDENSATE PIPING
—HPC—	HIGH PRESSURE CONDENSATE PIPING
—MA—	MEDICAL AIR PIPING
—N—	NITROGEN GAS PIPING
—O2—	OXYGEN GAS PIPING
—VAC—	VACUUM PIPING

DRAWING INDEX	
SHT NO	DESCRIPTION
MO.00	MECHANICAL GENERAL INFORMATION
M1.00	MECHANICAL COMPOSITE FIRST AND SECOND FLOOR PLANS
PD1.10	PLUMBING DEMOLITION FIRST FLOOR PLAN
MD1.10	MECHANICAL DEMOLITION FIRST FLOOR PLAN
MD2.10	MECHANICAL DEMOLITION ROOF PLAN
P1.10	PLUMBING NEW WORK FIRST FLOOR PLAN
M1.10	MECHANICAL NEW WORK FIRST FLOOR PLAN
M2.10	MECHANICAL NEW WORK ROOF PLAN
M5.00	MECHANICAL DETAILS
M6.00	MECHANICAL SCHEDULES
M7.00	TEMPERATURE CONTROLS

DRAWING NOTATION

SYMBOL	DESCRIPTION
	NEW WORK KEY NOTE NO. 1
	DEMOLITION KEY NOTE NO. 1
	EQUIPMENT TAG
	AIR TERMINAL TAG: IE: DIFFUSER TYPE = S-1 NECK SIZE = 12x12 CFM = 150 (TYPICAL FOR 2)
	S = SUPPLY R = RETURN E = EXHAUST T = TRANSFER
	EXISTING DEVICES OR EQUIPMENT
	NEW OR MODIFIED DEVICES OR EQUIPMENT
	EXISTING SYSTEM COMPONENT TO BE REMOVED
	POINT OF NEW CONNECTION

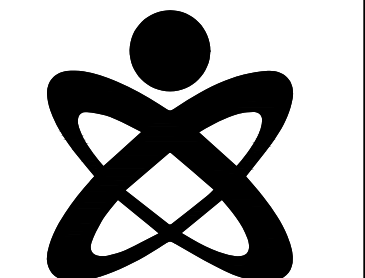
APPLICABLE CODES AND REGULATIONS

YEAR	CODE
2015	MICHIGAN BUILDING CODE
2015	MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS
2021	MICHIGAN PLUMBING CODE
2021	MICHIGAN MECHANICAL CODE
2015	MICHIGAN UNIFORM ENERGY CODE
2015	INTERNATIONAL FUEL GAS CODE
2012	NFPA 101 WITH BFS AMENDMENTS



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UNIFIED BUILDING SYSTEMS ENGINEERING
69 S GRATIOT AVE.
MT CLEMENS, MI 48043
UBS PROJECT 007.24.09

**MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_ BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036**

MECHANICAL GENERAL INFORMATION

PRELIMINARY
DESIGN DEVELOPMENT
CONSTRUCTION
FINAL RECORD

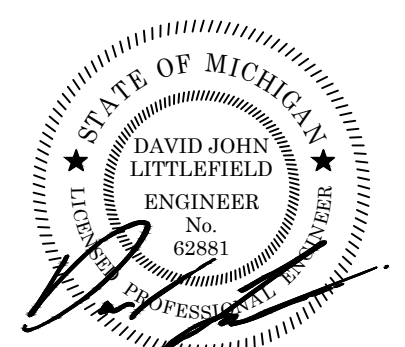
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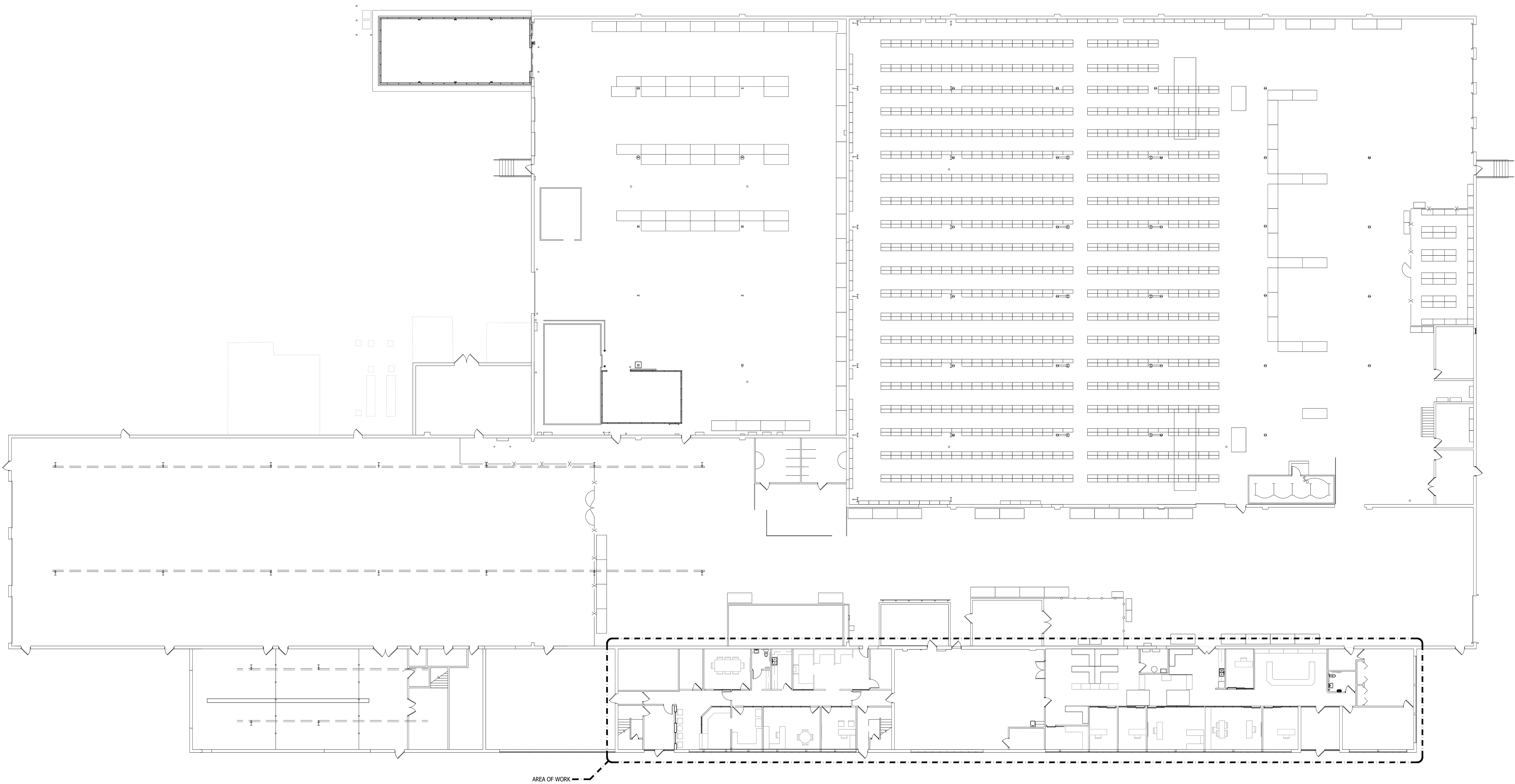
REVISIONS
BIDS: 10/31/2024

DATE: OCTOBER 31, 2024
SHEET NO.

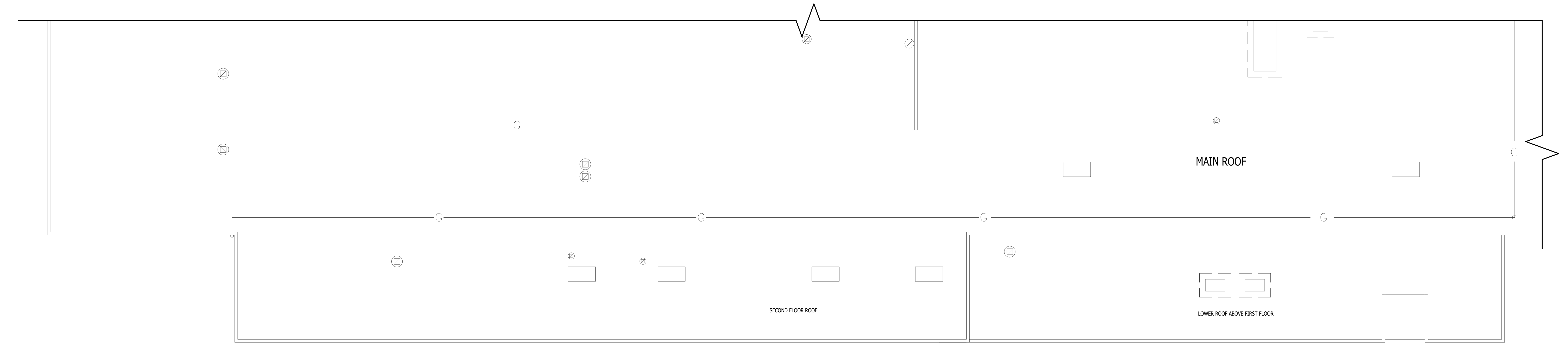
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JOB NO.
211916





MECHANICAL COMPOSITE FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



MECHANICAL SECOND FLOOR / ROOF PLAN
SCALE: 1/16" = 1'-0"

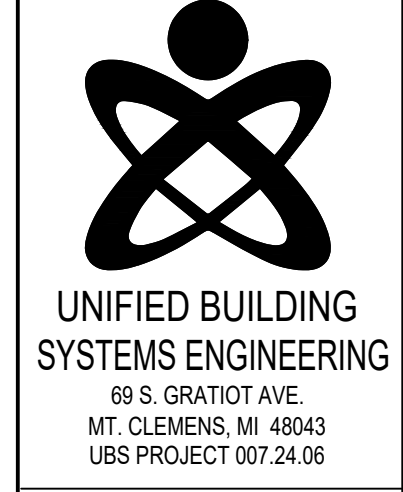
GENERAL DEMOLITION NOTES	
A	THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK TO BE PERFORMED. THE EXACT EXTENT OF DEMOLITION SHALL BE DETERMINED BY THE NEW WORK.
B	ANY INTERRUPTIONS OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING'S OPERATION.
C	PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING SITE CONDITIONS, SYSTEMS, AND UTILITIES. NOTIFY DESIGN PROFESSIONAL OF ANY INTERFERENCES OR DISCREPANCIES.
D	ALL ITEMS INDICATED WITH CROSS-HATCHING SHALL BE REMOVED COMPLETELY WITH ALL RELATED ITEMS INCLUDING HANGERS, SUPPORTS, INSULATION, CONTROLS, ETC. CAP ALL OPEN-ENDED PIPES AND DUCTS.
E	THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED. ALL ITEMS REMOVED SHALL BE LEGALLY DISPOSED OF. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING RELOCATED AND OWNER-PROVIDED EQUIPMENT.
F	VERIFY DEPTH, SIZE, LOCATIONS, AND CONDITIONS OF EXISTING UTILITIES IN THE FIELD, INCLUDING POINTS OF CONNECTION, PRIOR TO STARTING ANY WORK.
G	ALL ITEMS ON DEMOLITION PLAN SHALL BE CONSIDERED EXISTING UNLESS OTHERWISE NOTED. ALL WORK INDICATED ON PLANS HAS BEEN LOCATED PER EXISTING DRAWINGS AND/OR FIELD OBSERVATION AND REQUIRES FIELD VERIFICATION.
H	ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE DUCT WORK PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.

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K	PROVIDE "IN-LINE" WATERLESS PRIMER TRAP SEAL PROTECTION ON ALL FLOOR DRAINS AND TRAPS SUBJECT TO EVAPORATION.
L	AT EACH CONNECTION OF GAS SUPPLY TO EQUIPMENT, PROVIDE A PIPE UNION, GAS SHUT OFF VALVE, TEE, AND 6" LONG DIRT LEG WITH CAP.
M	THE CEILING SPACE IS USED AS A RETURN AIR PLENUM. NO PLASTIC MATERIALS INCLUDING PVC CONDUIT WIRING, ETC. SHALL BE USED. ALL MATERIALS TO BE USED ARE TO BE PLENUM RATED.

HVAC GENERAL NOTES	
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B	EXCEPT FOR CHANGES AS MAY BE SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD, IN ACCORDANCE WITH ALTERNATES OF OPTIONS AS STATED HEREINAFTER, ALL WORK MUST BE IN FULL ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. SYSTEMS ARE TO BE COMPLETE, EFFICIENT, AND SATISFACTORY OPERATION WHEN PROJECT IS DELIVERED TO THE OWNER.
C	THE CONTRACTOR AND EACH SUBCONTRACTOR COVENANTS AND AGREES TO INDEMNIFY, DEFEND, AND HOLD HARMLESS THE CONSULTING ENGINEER, ARCHITECT, AND OWNER FROM AND AGAINST ANY LIABILITY, LOSS, DAMAGE, OR EXPENSE INCLUDING ATTORNEY'S FEES ARISING FROM A FAILURE OR ALLEGED FAILURE ON THE PART OF THE CONTRACTOR, SUBCONTRACTORS, AND THEIR AGENTS/EMPLOYEES PROPERLY TO DISCHARGE THE OBLIGATIONS ASSUMED BY HIM/HER IN THE PERFORMANCE OF THE WORK, INCLUDING ANY ACT OR OMISSION ALLEGEDLY RESULTING IN DEATH, PERSONAL INJURY, PROPERTY DAMAGE, OR IMPROPER CONSTRUCTION PROTOCOL.
D	CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVAL FROM GOVERNING AUTHORITIES AND FILE NECESSARY FORMS, PAY ALL INSPECTION FEES.
E	CONTRACTOR TO EXAMINE ALL ADJOINING WORK BEFORE COMMENCEMENT OF HIS/HER SCOPE OF WORK. REPORT ANY DISCREPANCIES TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL. COORDINATE ALL WORK WITH OTHER TRADES TO ENSURE THAT INSTALLATION IS MADE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
F	PROVIDE REQUIRED CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT. DUCTWORK/PIPING SHALL NOT INTERFERE WITH ELECTRICAL EQUIPMENT CLEARANCE.
G	CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. ALL PIPING CONNECTIONS SHALL BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
H	FURNISH ADEQUATE LIABILITY INSURANCE AND BONDING DOCUMENTS AS REQUIRED BY THE OWNER.
J	SUPPORT ALL ANCHORS SECURED TO THE BOTTOM OF FLOOR SLABS SHALL BE DROP-IN OR SLEEVE ANCHOR TYPE. ALL SUPPORTING STEEL SHALL BE PROVIDED BY THE CONTRACTOR.
K	DUCTWORK/PIPING SHALL NOT BE INSTALLED IN A LOCATION THAT RESTRICTS THE ACCESS TO MECHANICAL DEVICES REQUIRING ACCESS.
L	THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL FOR THE PROPER INSTALLATION OF MECHANICAL SYSTEMS.
M	BRANCH DUCTWORK TO GRILLES, REGISTERS, AND DIFFUSERS SHALL BE THE SAME SIZE AS THE TERMINAL DEVICE NECK SIZE WHERE NO DUCT SIZE IS INDICATED.



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UNIFIED BUILDING
SYSTEMS ENGINEERING
69 S. GRATIOT AVE.
MT. CLEMENS, MI 48043
UBS PROJECT 007.24.09

MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_ BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036

MECHANICAL COMPOSITE
FIRST AND SECOND FLOOR
PLANS

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

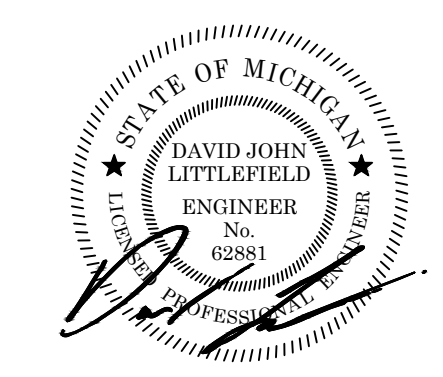
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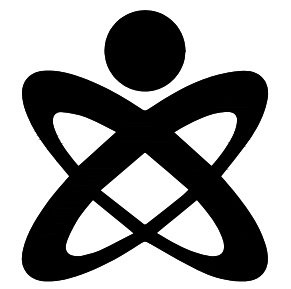
REVISIONS
BIDS: 10/31/2024

DATE: OCTOBER 31, 2024
SHEET NO.

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JOB NO.
211916



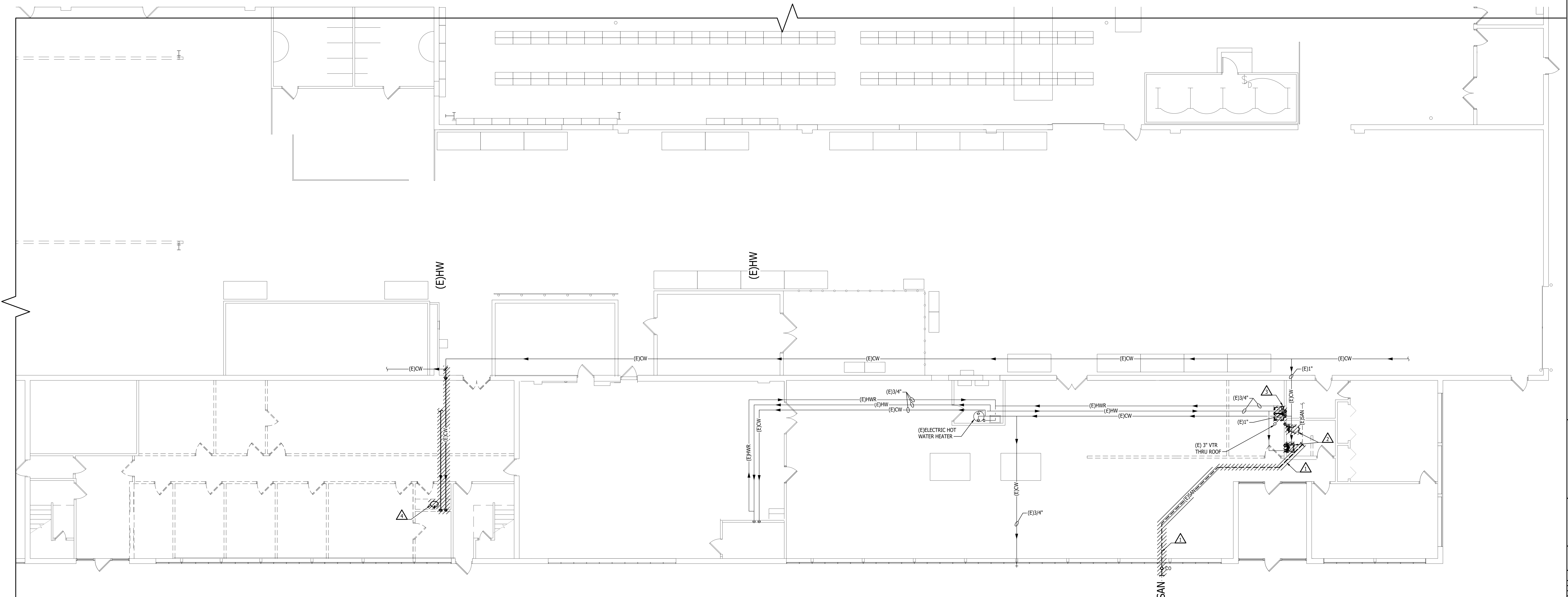


GENERAL DEMOLITION NOTES

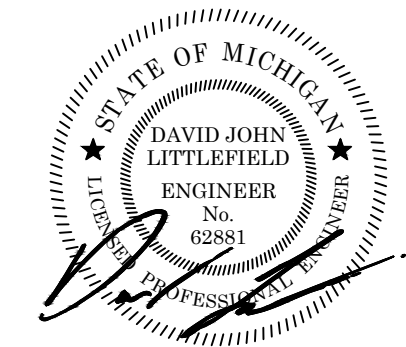
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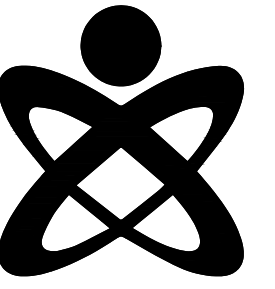
DEMOLITION KEYED NOTES

1	REMOVE SANITARY PIPING FROM OUTSIDE CLEANOUT TO EXTENTS SHOWN. FIELD VERIFY EXACT LOCATION AND SIZE OF PIPE PRIOR TO REPLACEMENT. CONTACT ENGINEER IF EXISTING CONDITIONS VARY GREATLY FROM WHAT IS INDICATED ON DOCUMENTS.
2	REMOVE EXISTING PLUMBING FIXTURE AND ALL ASSOCIATED COMPONENTS COMPLETE. REMOVE COLD WATER, HOT WATER, SANITARY, AND VENT PIPING AS REQUIRED FOR NEW INSTALLATION.
3	REMOVE EXISTING KITCHEN SINK AND ALL ASSOCIATED COMPONENTS COMPLETE. SANITARY AND VENT PIPING IN WALL SERVING SINK SHALL REMAIN. RE-CONFIGURE SANITARY AS REQUIRED TO ALLOW FOR PUMPED SANITARY DISCHARGING INTO OUTLET TO REMAIN.
4	REMOVE EXISTING PLUMBING FIXTURE AND ALL ASSOCIATED COMPONENTS COMPLETE. REMOVE SANITARY TO GROUND AND CAP. REMOVE COLD WATER PIPING AND HOT WATER TO SOURCE AND CAP.



PLUMBING DEMOLITION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"





MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_ BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036

MECHANICAL DEMOLITION
FIRST FLOOR PLAN

PRELIMINARY
DESIGN DEVELOPMENT
CONSTRUCTION
FINAL RECORD

DRAWN BY: TDD
CHECKED BY: DJL

REVISIONS
BIDS: 10x17/2025

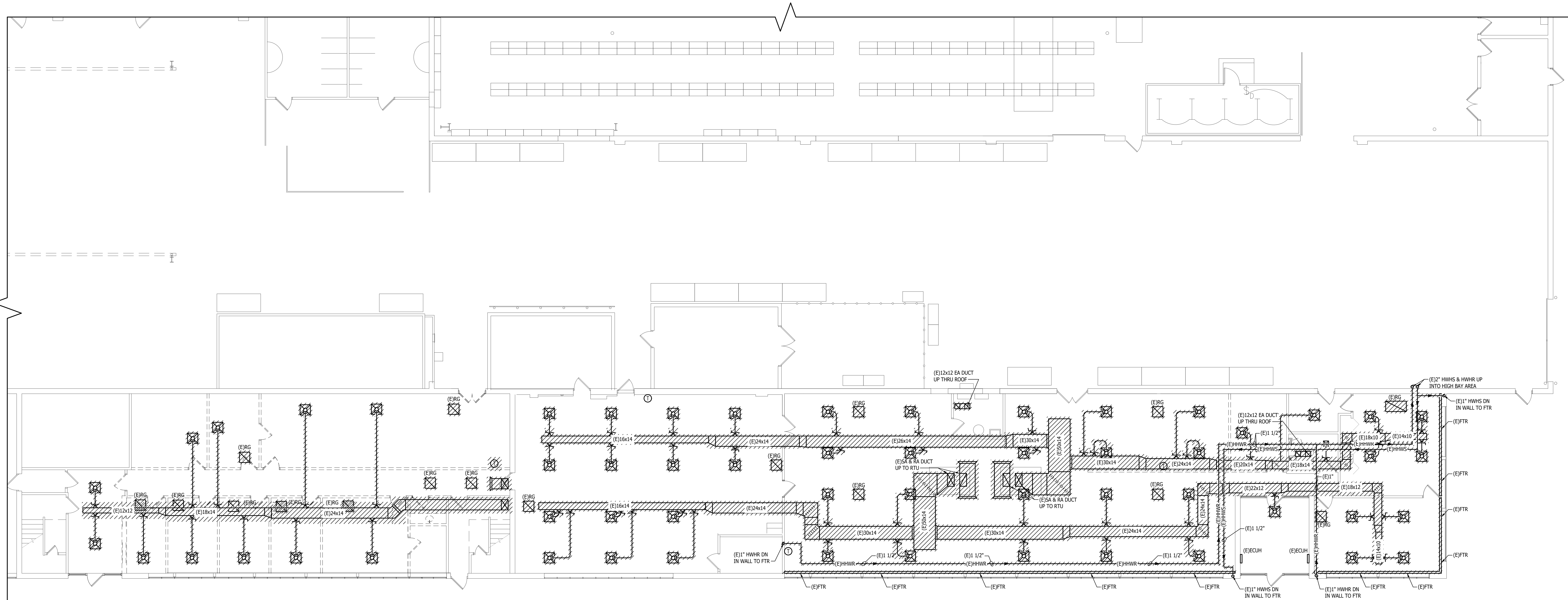
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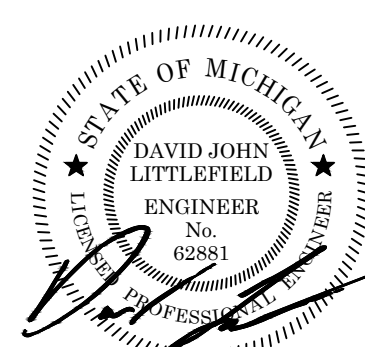
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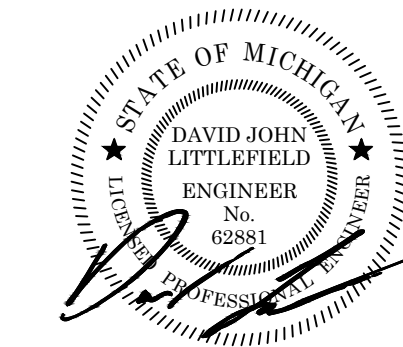
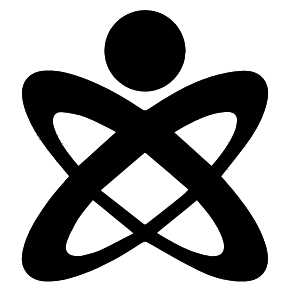
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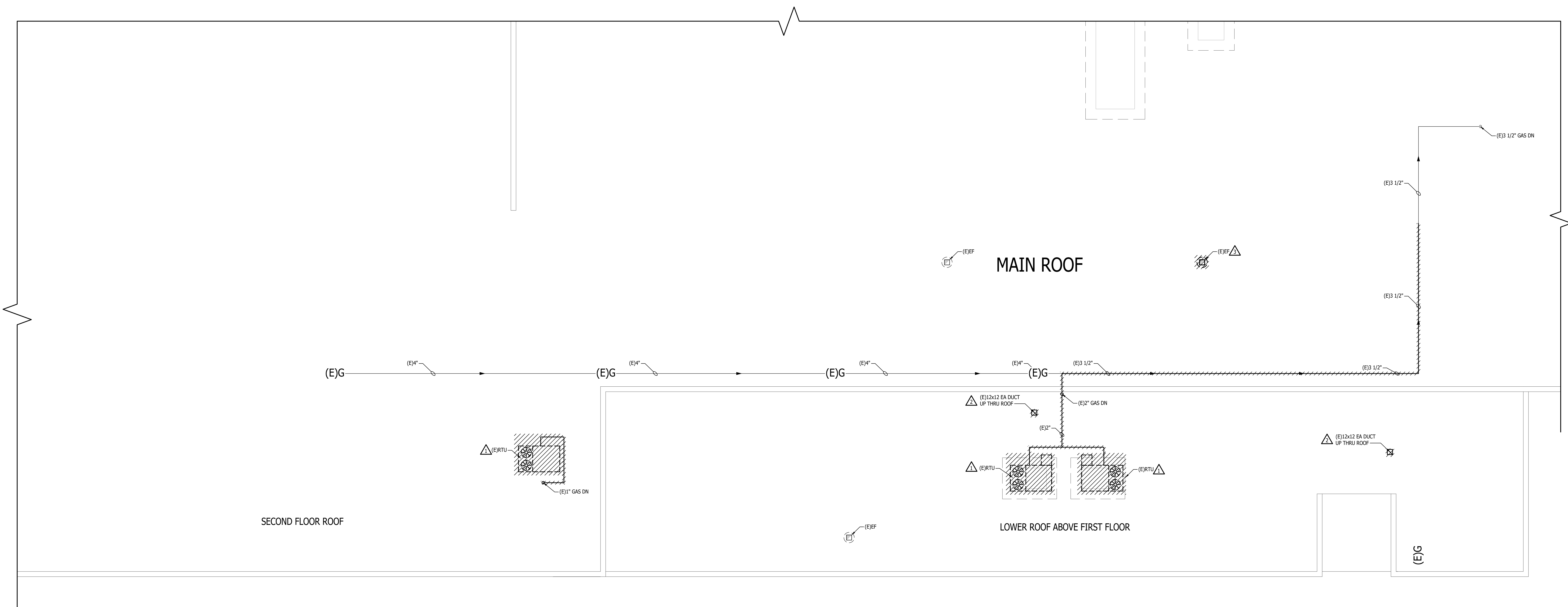
MECHANICAL DEMOLITION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



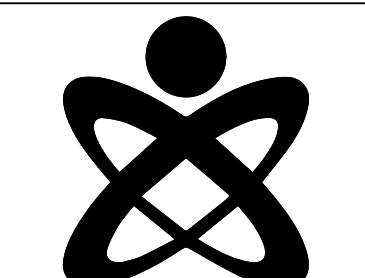


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DEMOLITION KEYED NOTES	
1	DEMO ROOF TOP UNIT COMPLETE INCLUDING ALL DUCT WORK, CURB, CONTROLS AND ACCESSORIES. COORDINATE WITH ARCHITECTURAL FOR INFILL AND SEAL ROOF WEATHER TIGHT.
2	DEMO EXHAUST DUCT COMPLETE INCLUDING ALL DUCT WORK, CURB, AND ACCESSORIES. COORDINATE WITH ARCHITECTURAL FOR INFILL AND SEAL ROOF WEATHER TIGHT.
3	DEMO EXHAUST FAN COMPLETE INCLUDING ALL DUCT WORK, CURB, CONTROLS AND ACCESSORIES. COORDINATE WITH ARCHITECTURAL FOR INFILL AND SEAL ROOF WEATHER TIGHT.



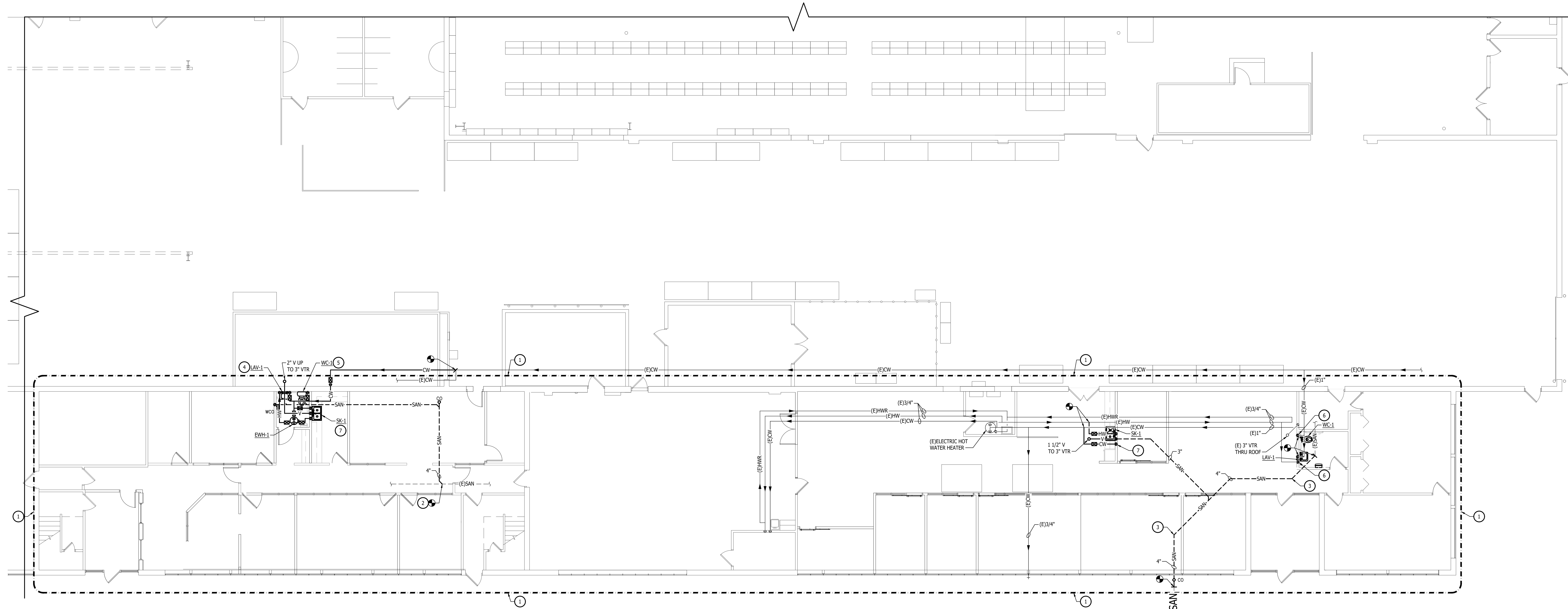
MECHANICAL DEMOLITION ROOF PLAN
SCALE: 1/8" = 1'-0"



FIRE PROTECTION GENERAL NOTES	
1	THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL INTENT OF THE WORK. PROVIDE/REWORK FIRE PROTECTION SYSTEMS COMPLETE, PER APPLICABLE CODES, NFPA, OWNERS, INSURERS REQUIREMENTS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION INCLUDING ALL PIPING, OFFSETS, FITTINGS, DRAINS, VALVES, SPRINKLER HEADS, ETC. AS REQUIRED FOR A COMPLETE OPERABLE SYSTEM.
2	CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES. SPRINKLER PIPING SHALL NOT BE LOCATED BELOW MECHANICAL EQUIPMENT.
3	MINIMUM RUN-OUT PIPE SIZE TO SPRINKLER HEADS SHALL BE 1".
4	FIRE PROTECTION TRADES SHALL SUBMIT PLANS, FLOW AND PRESSURE TEST AND CALCULATIONS TO THE LOCAL FIRE MARSHAL AND TO THE BUILDING'S INSURING AGENCY FOR APPROVAL. CONTRACTOR SHALL THEN MAKE ALL NECESSARY CORRECTIONS AND RESUBMIT PLANS AND CALCULATIONS FOR RECORD TO THE ARCHITECT AS WELL AS THE FIRE MARSHAL.
5	CONTRACTOR SHALL PROVIDE ALL NECESSARY TESTS AND PAY FOR ALL FEES, PERMITS, INSPECTORS, AND LICENSES, AS REQUIRED BY THE LOCAL AUTHORITY.

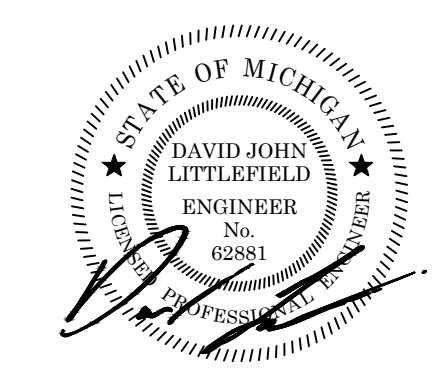
NEW WORK KEYED NOTES	
1	IN AREA INDICATED, RE-WORK WET PIPE FIRE PROTECTION IN ACCORDANCE WITH NFPA 13 STANDARDS AND NEW ARCHITECTURAL LAYOUT.
2	CONNECT 4" SANITARY TO EXISTING SANITARY MAIN AT APPROXIMATE LOCATION SHOWN. FIELD VERIFY SIZE, DIRECT, AND ELEVATION PRIOR TO COMMENCEMENT OF WORK. IF LOCATION VARIES GREATLY THAN WHAT IS IN THE FIELD, NOTIFY ENGINEER.
3	REPLACE EXISTING SANITARY MAIN AT LOCATION INDICATED. FIELD VERIFY EXACT LOCATION IN FIELD PRIOR TO INSTALLATION. RE-WORK SANITARY AND VENT PIPING AT WATER CLOSET AND LAVATORY AS REQUIRED FOR INSTALLATION OF NEW SANITARY MAIN.
4	ROUTE 1/2" CW, 1/2" HW, 1 1/2" SAN, AND 1 1/2" V PIPING DOWN IN WALL AND CONNECT TO LAVATORY.
5	ROUTE 1" CW AND 4" SAN PIPING DOWN IN WALL AND CONNECT TO WATER CLOSET.
6	REPLACE PLUMBING FIXTURE IN LOCATION OF EXISTING. RE-WORK DOMESTIC WATER PIPING AND SANITARY/VENT PIPING AS REQUIRED FOR INSTALLATION OF NEW PLUMBING FIXTURE. PROVIDE NEW STOPS.
7	ROUTE 1/2" CW, 3/4" HW, 2" SAN, AND 1 1/2" V DOWN IN WALL. EXTEND AND CONNECT 1/2" CW, 1/2" HW, 1 1/2" SAN, AND 1 1/2" V TO SINK. EXTEND 1/2" HW AND 1 1/2" SAN TO DISHWASHER. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION. PROVIDE 1/2" CW WITH 1002 DOUBLE CHECK VALVE AND ISOLATION VALVE FOR FUTURE COFFEE MAKER (BY OTHERS) CONFIRM EXACT LOCATION OF TERMINATION WITH OWNER PRIOR TO INSTALL.

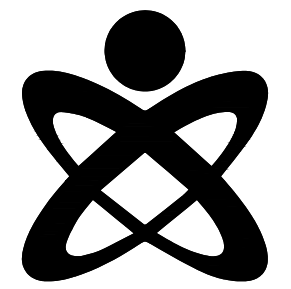
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PLUMBING NEW WORK FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

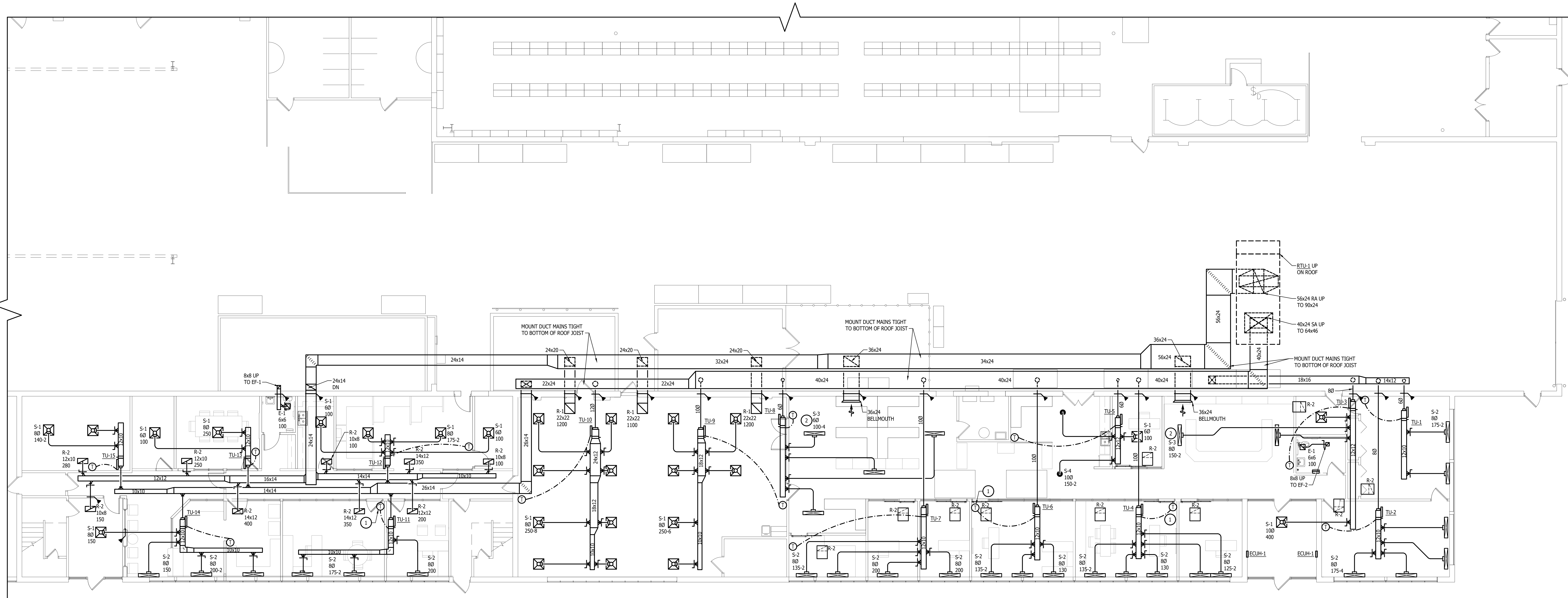
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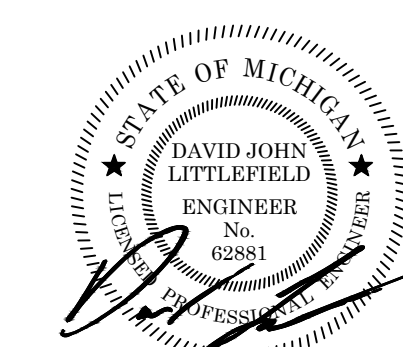


NEW WORK KEYED NOTES	
1	INSTALL THERMOSTAT IN FURNITURE SYSTEM PATHWAY ABOVE LIGHT SWITCH. REMOVE SECTION OF PARTITION AS REQUIRED FOR INSTALLATION. COORDINATE ALL REQUIREMENTS WITH FURNITURE VENDOR PRIOR TO INSTALLATION.
2	INSTALL LINEAR SLOT DIFFUSERS IN ARCHITECTURAL WOOD SLOTTED CEILING. COORDINATE MOUNTING REQUIREMENTS IN FIELD PRIOR TO INSTALLATION.

HVAC GENERAL NOTES	
A	THESE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE GENERAL EXTENT OF THE WORK TO BE PERFORMED. PROVIDE AND EXECUTE ALL HVAC SYSTEMS PER ENGINEER'S SPECIFICATION, AND LOCAL APPLICABLE CODES INCLUDING AMENDMENTS, BULLETINS, ETC. AS WELL AS THE STANDARDS OF INSTALLATION AND EQUIPMENT ESTABLISHED FOR THE BUILDINGS, AND REQUIREMENTS OF THE OWNER.
B	EXCEPT FOR CHANGES AS MAY BE SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD, IN ACCORDANCE WITH ALTERNATES OF OPTIONS AS STATED HEREINAFTER, ALL WORK MUST BE IN FULL ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. SYSTEMS ARE TO BE COMPLETE, EFFICIENT, AND SATISFACTORY OPERATION WHEN PROJECT IS DELIVERED TO THE OWNER.
C	THE CONTRACTOR AND EACH SUBCONTRACTOR COVENANTS AND AGREES TO INDEMNIFY, DEFEND, AND HOLD HARMLESS THE CONSULTING ENGINEER, ARCHITECT, AND OWNER FROM AND AGAINST ANY LIABILITY, LOSS, DAMAGE, OR EXPENSE INCLUDING ATTORNEY'S FEES ARISING FROM A FAILURE OR ALLEGED FAILURE ON THE PART OF THE CONTRACTOR, SUBCONTRACTORS, AND THEIR AGENTS/EMPLOYEES PROPERLY TO DISCHARGE THE OBLIGATIONS ASSUMED BY HIM/HER IN THE PERFORMANCE OF THE WORK, INCLUDING ANY ACT OR OMISSION ALLEGEDLY RESULTING IN DEATH, PERSONAL INJURY, PROPERTY DAMAGE, OR IMPROPER CONSTRUCTION PROTOCOL.
D	CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVAL FROM GOVERNING AUTHORITIES AND FILE NECESSARY FORMS, PAY ALL INSPECTION FEES.
E	CONTRACTOR TO EXAMINE ALL ADJOINING WORK BEFORE COMMENCEMENT OF HIS/HER SCOPE OF WORK. REPORT ANY DISCREPANCIES TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL. COORDINATE ALL WORK WITH OTHER TRADES TO ENSURE THAT INSTALLATION IS MADE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
F	PROVIDE REQUIRED CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT; DUCTWORK/PIPPING SHALL NOT INTERFERE WITH ELECTRICAL EQUIPMENT CLEARANCE.
G	CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. ALL PIPING CONNECTIONS SHALL BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
H	FURNISH ADEQUATE LIABILITY INSURANCE AND BONDING DOCUMENTS AS REQUIRED BY THE OWNER.
J	SUPPORT ALL ANCHORS SECURED TO THE BOTTOM OF FLOOR SLABS SHALL BE DROP-IN OR SLEEVE ANCHOR TYPE. ALL SUPPORTING STEEL SHALL BE PROVIDED BY THE CONTRACTOR.
K	DUCTWORK/PIPPING SHALL NOT BE INSTALLED IN A LOCATION THAT RESTRICTS THE ACCESS TO MECHANICAL DEVICES REQUIRING ACCESS.
L	THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL FOR THE PROPER INSTALLATION OF MECHANICAL SYSTEMS.
M	BRANCH DUCTWORK TO GRILLES, REGISTERS, AND DIFFUSERS SHALL BE THE SAME SIZE AS THE TERMINAL DEVICE NECK SIZE WHERE NO DUCT SIZE IS INDICATED.

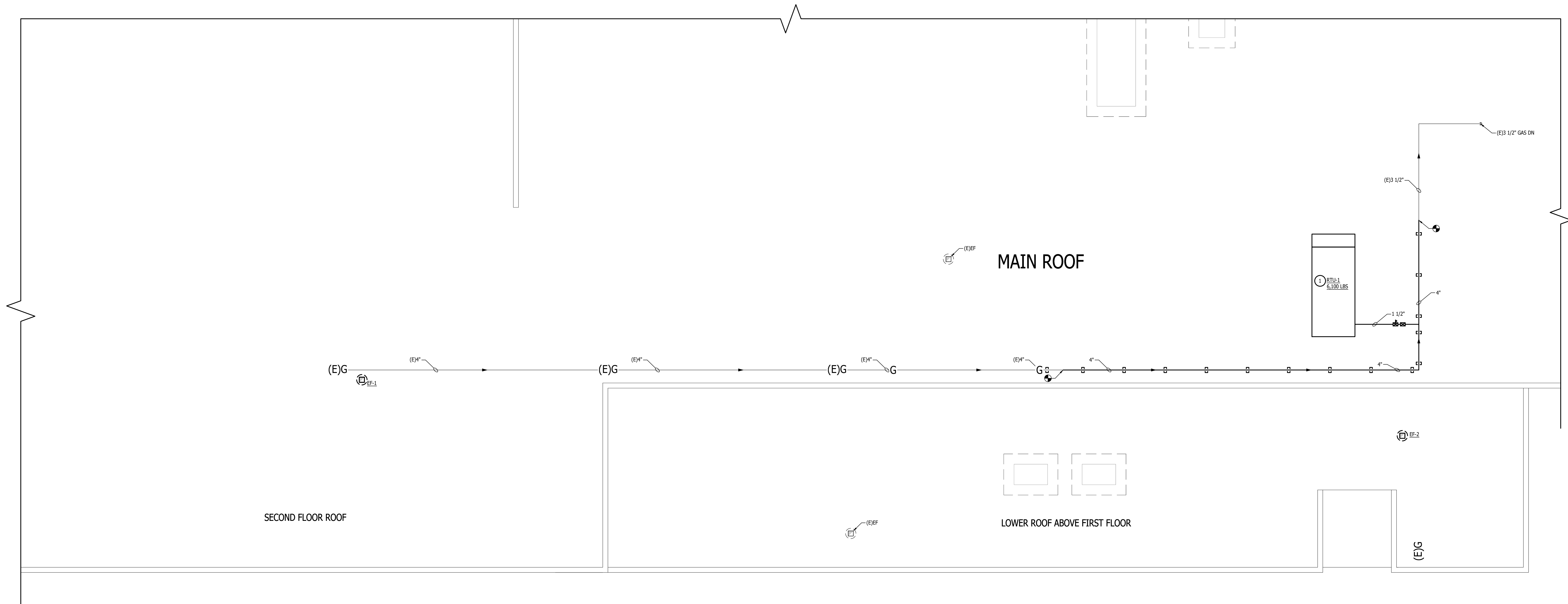


MECHANICAL NEW WORK FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

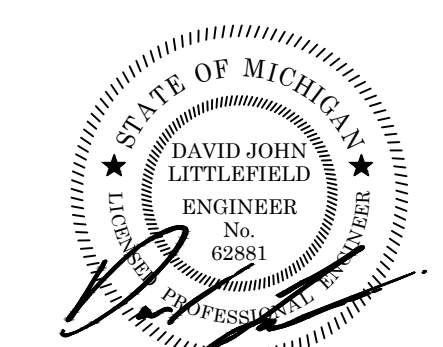


NEW WORK KEYED NOTES	
1	COORDINATE ROOF TOP UNIT IN FIELD WITH DOUBLE ROOF JOIST CONFIGURATION FOR UNIT SUPPORT. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL PRIOR TO INSTALLATION.

HVAC GENERAL NOTES	
A	THESE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE GENERAL EXTENT OF THE WORK TO BE PERFORMED. PROVIDE AND EXECUTE ALL HVAC SYSTEMS PER ENGINEER'S SPECIFICATION, AND LOCAL APPLICABLE CODES, INCLUDING AMENDMENTS, BULLETINS, ETC. AS WELL AS THE STANDARDS OF INSTALLATION AND EQUIPMENT ESTABLISHED FOR THE BUILDINGS, AND REQUIREMENTS OF THE OWNER.
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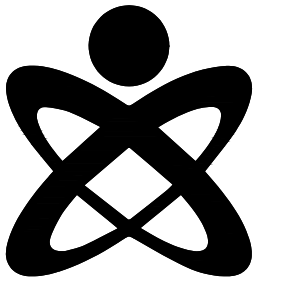


MECHANICAL NEW WORK ROOF PLAN
SCALE: 1/8" = 1'-0"



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UNIFIED BUILDING
SYSTEMS ENGINEERING
69 S. GRATIOT AVE.
MT. CLEMENS, MI 48043
URS PROJECT 007.24.09

MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036

MECHANICAL NEW WORK
ROOF PLAN

PRELIMINARY
DESIGN DEVELOPMENT
CONSTRUCTION
FINAL RECORD

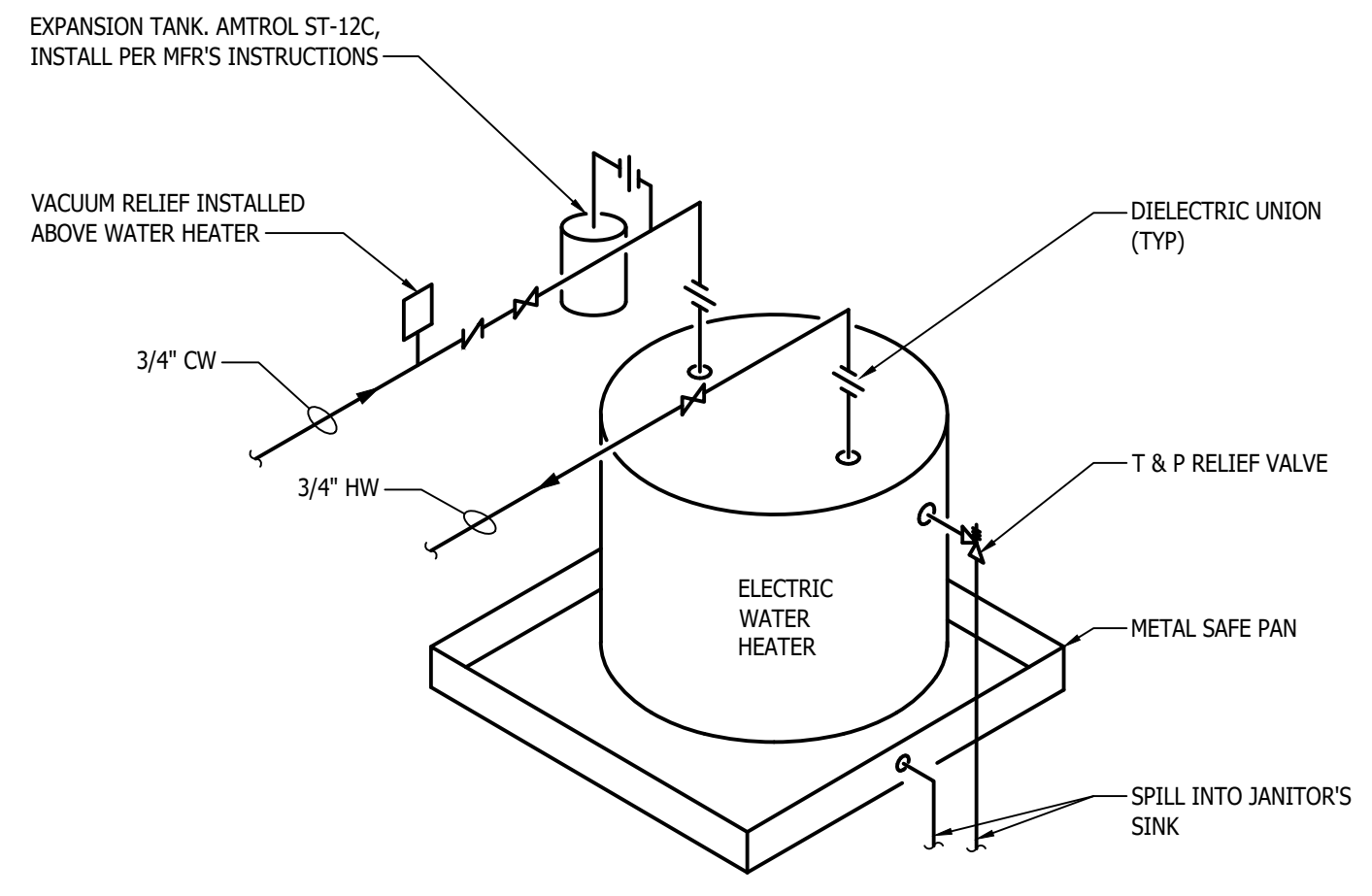
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CHECKED BY: DJL

REVISIONS
BIDS: 10/31/2024

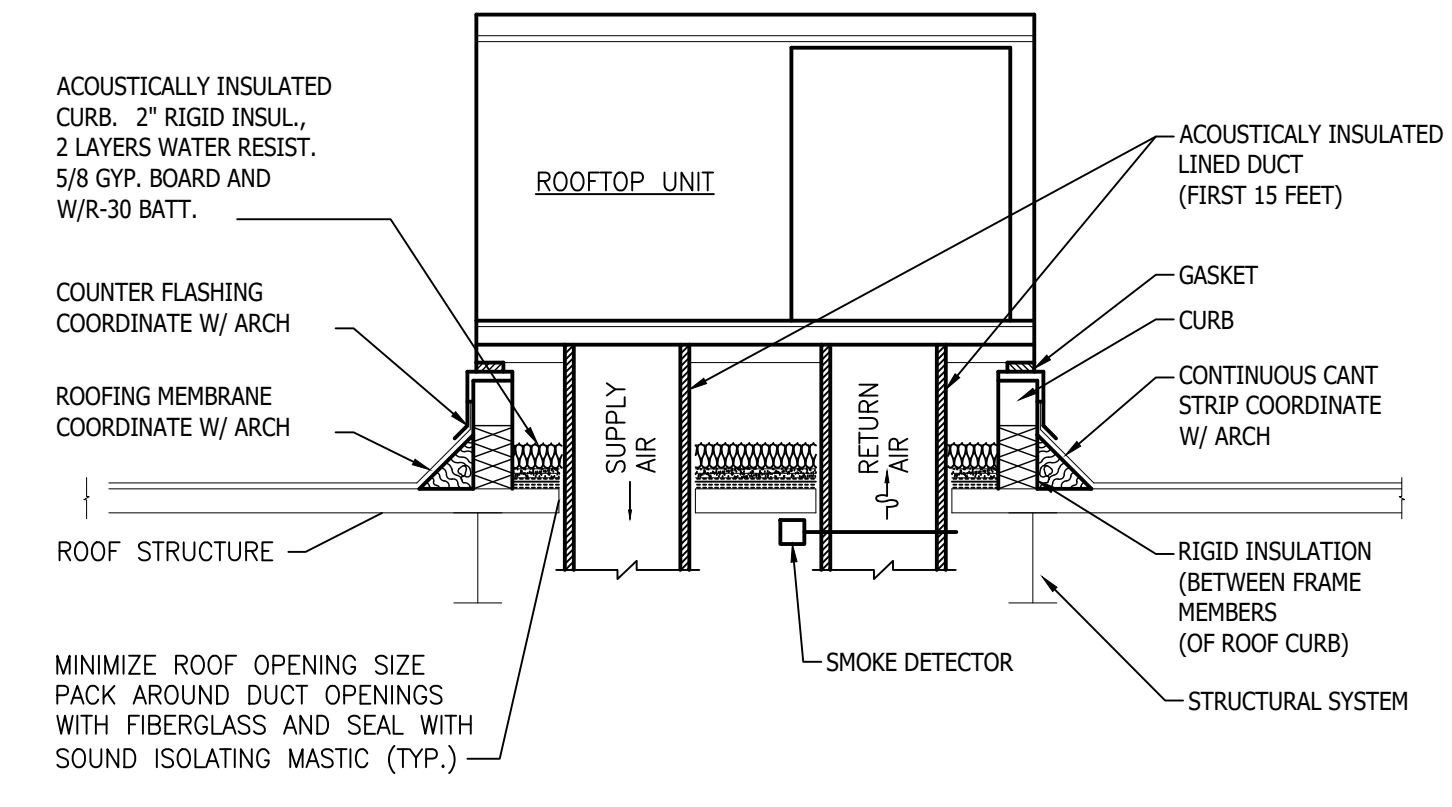
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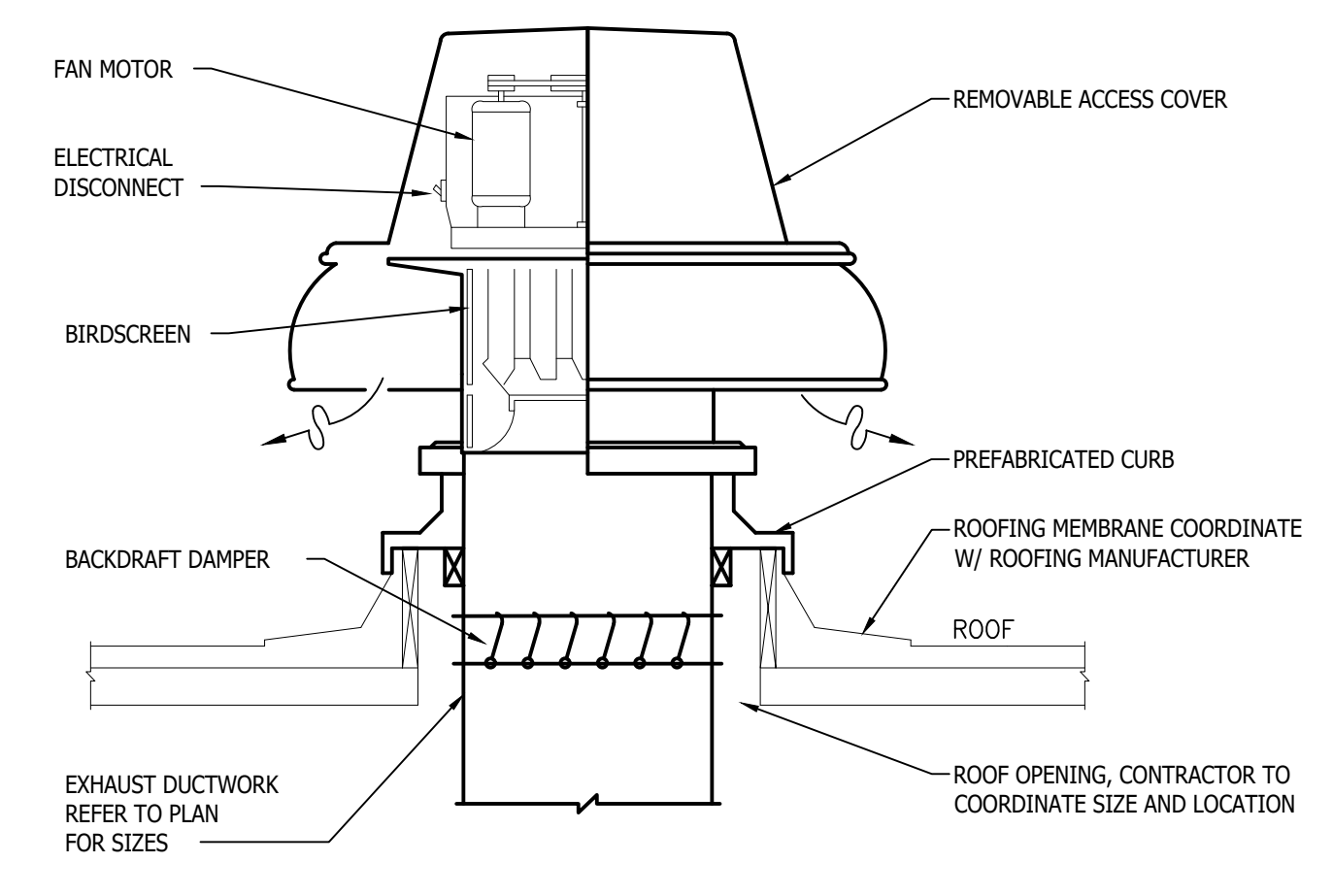
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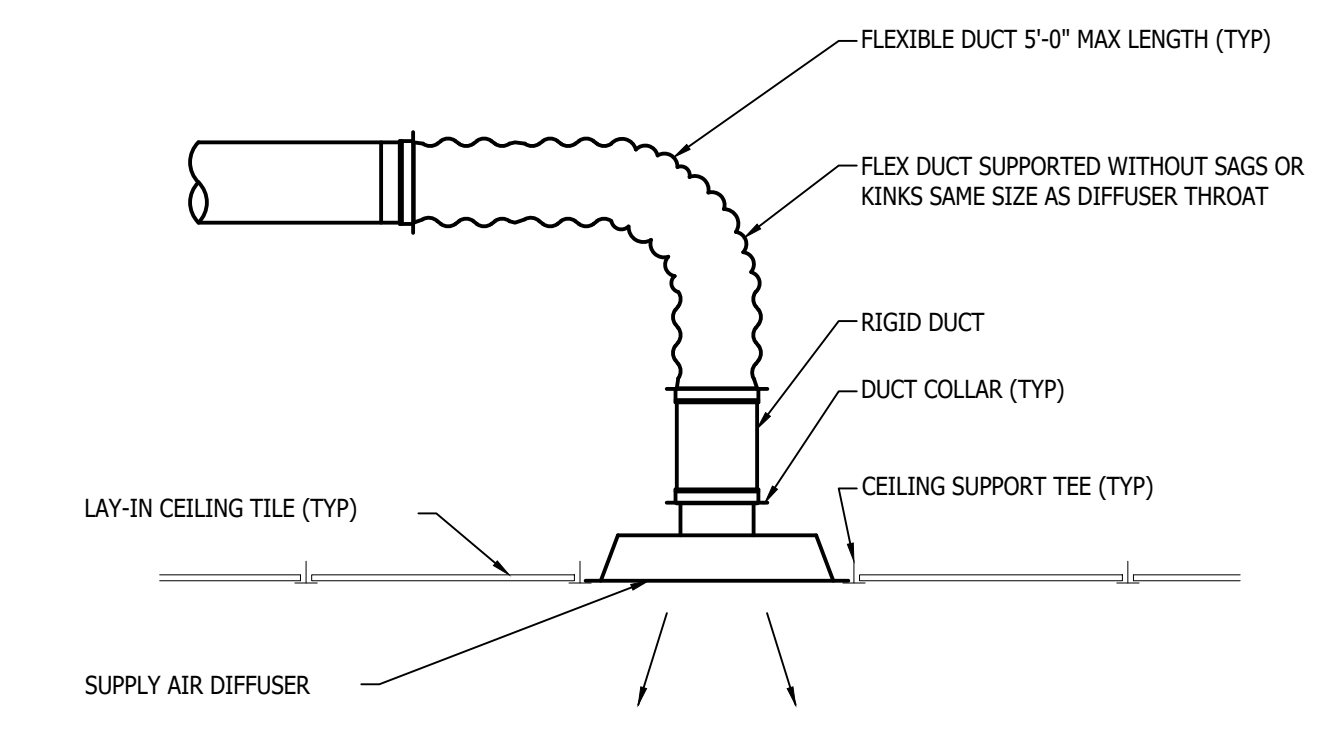
ELECTRIC WATER HEATER ON SHELF WITH EXPANSION TANK
NO SCALE



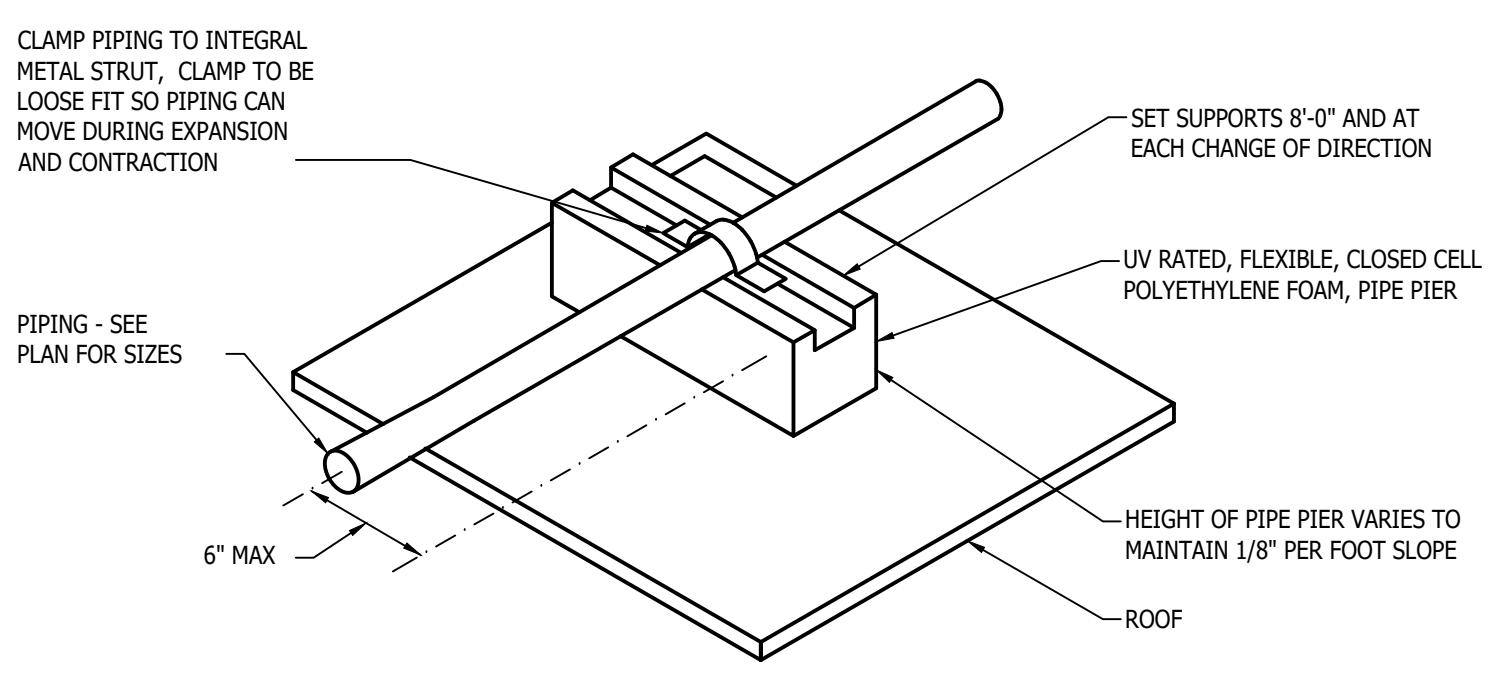
ROOFTOP UNIT - CURB MOUNTING DETAIL
NO SCALE



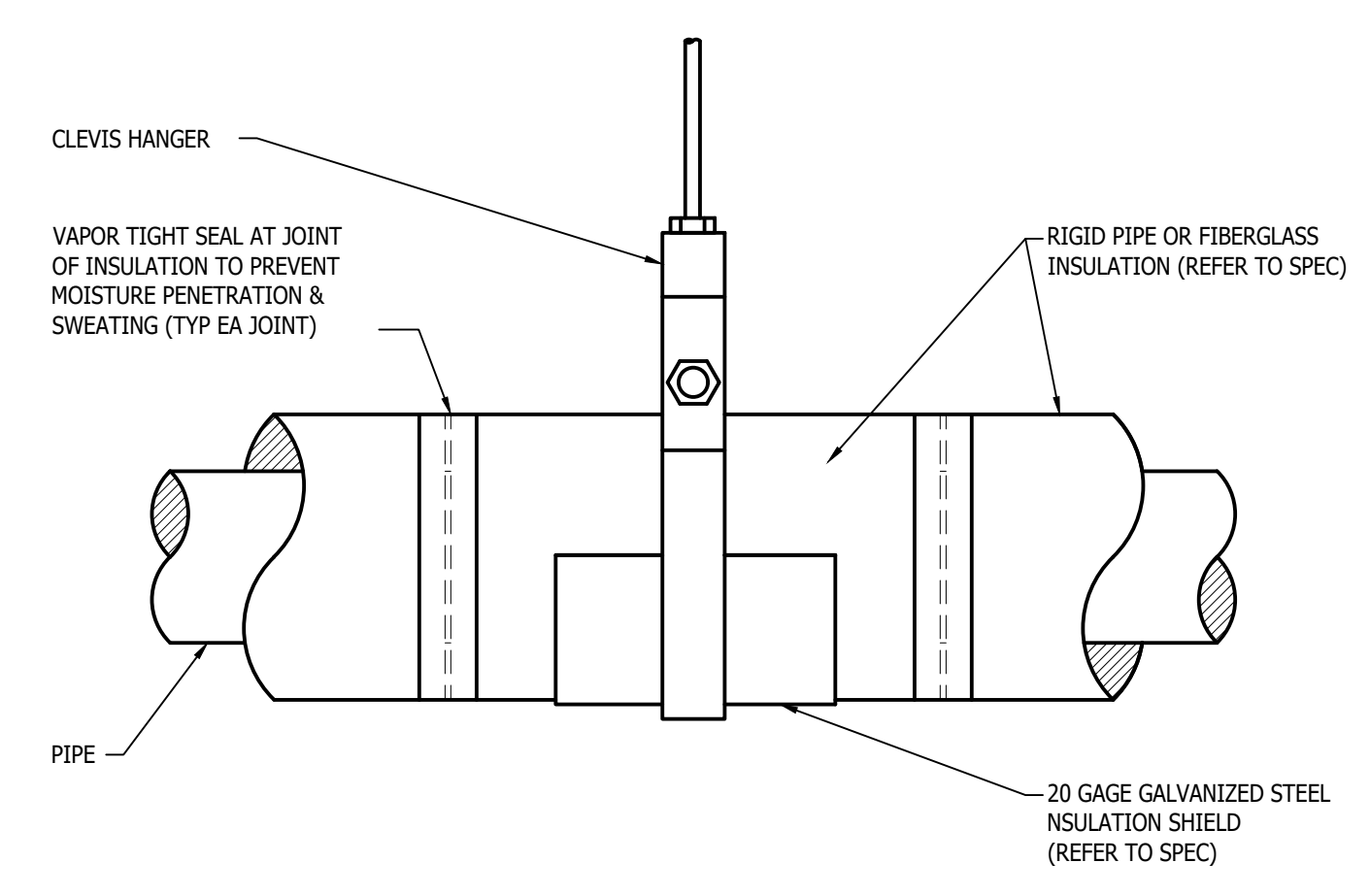
ROOF EXHAUST FAN MOUNTING DETAIL
NO SCALE



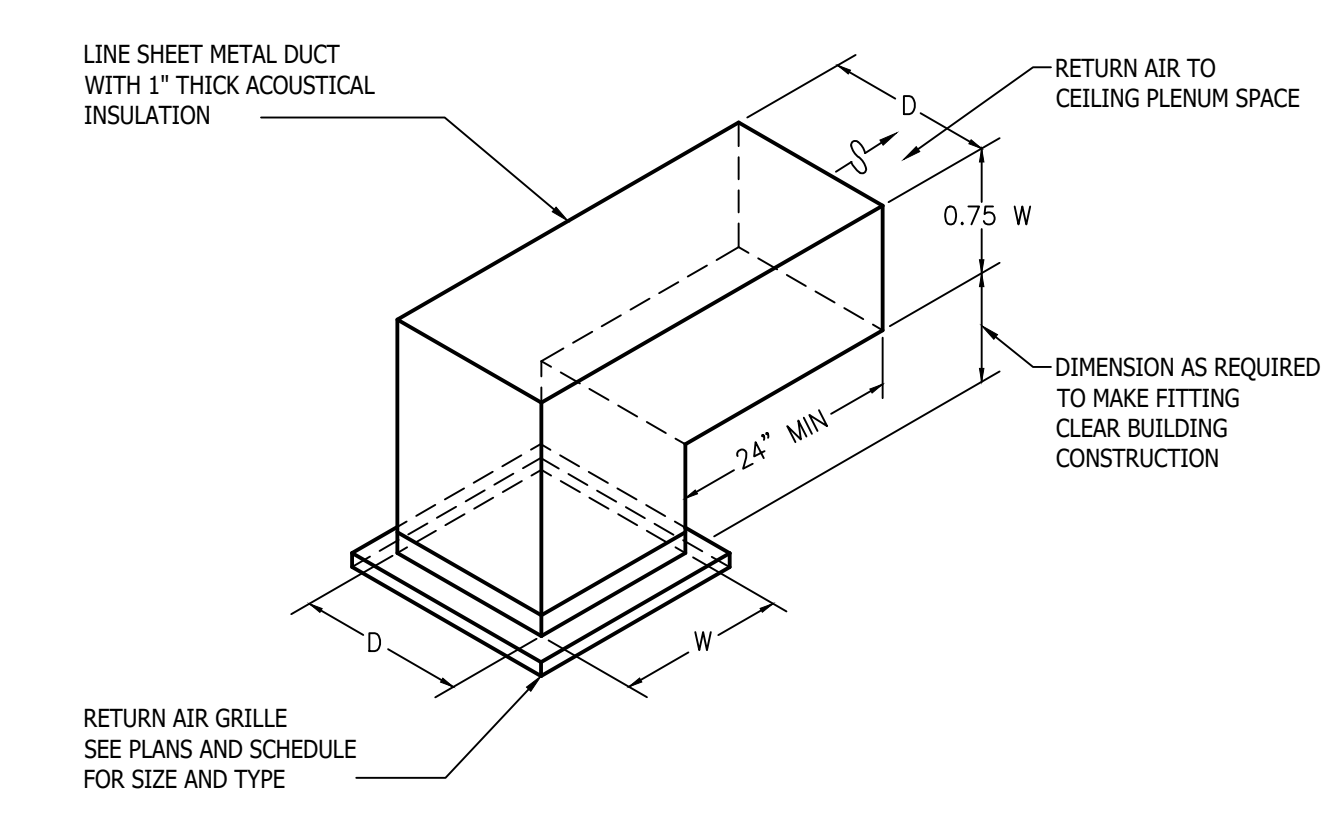
SUPPLY AIR DIFFUSER DETAIL
NO SCALE



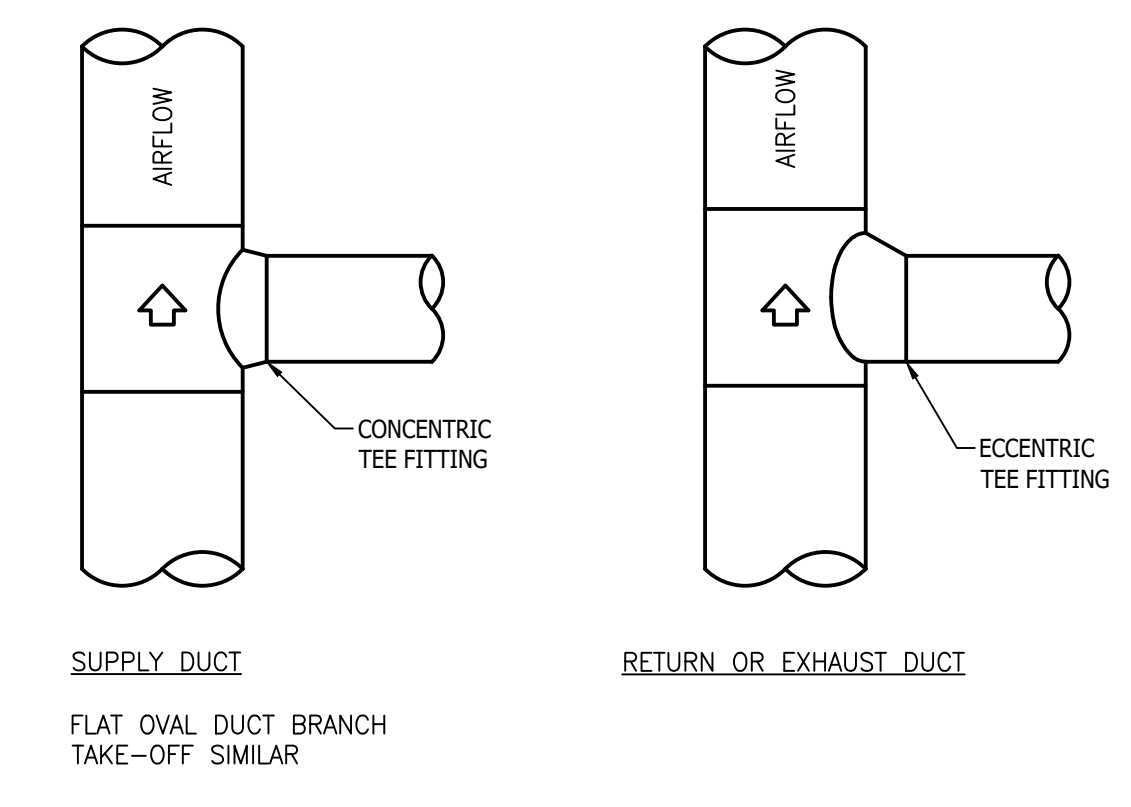
ROOF GAS PIPE SUPPORT DETAIL
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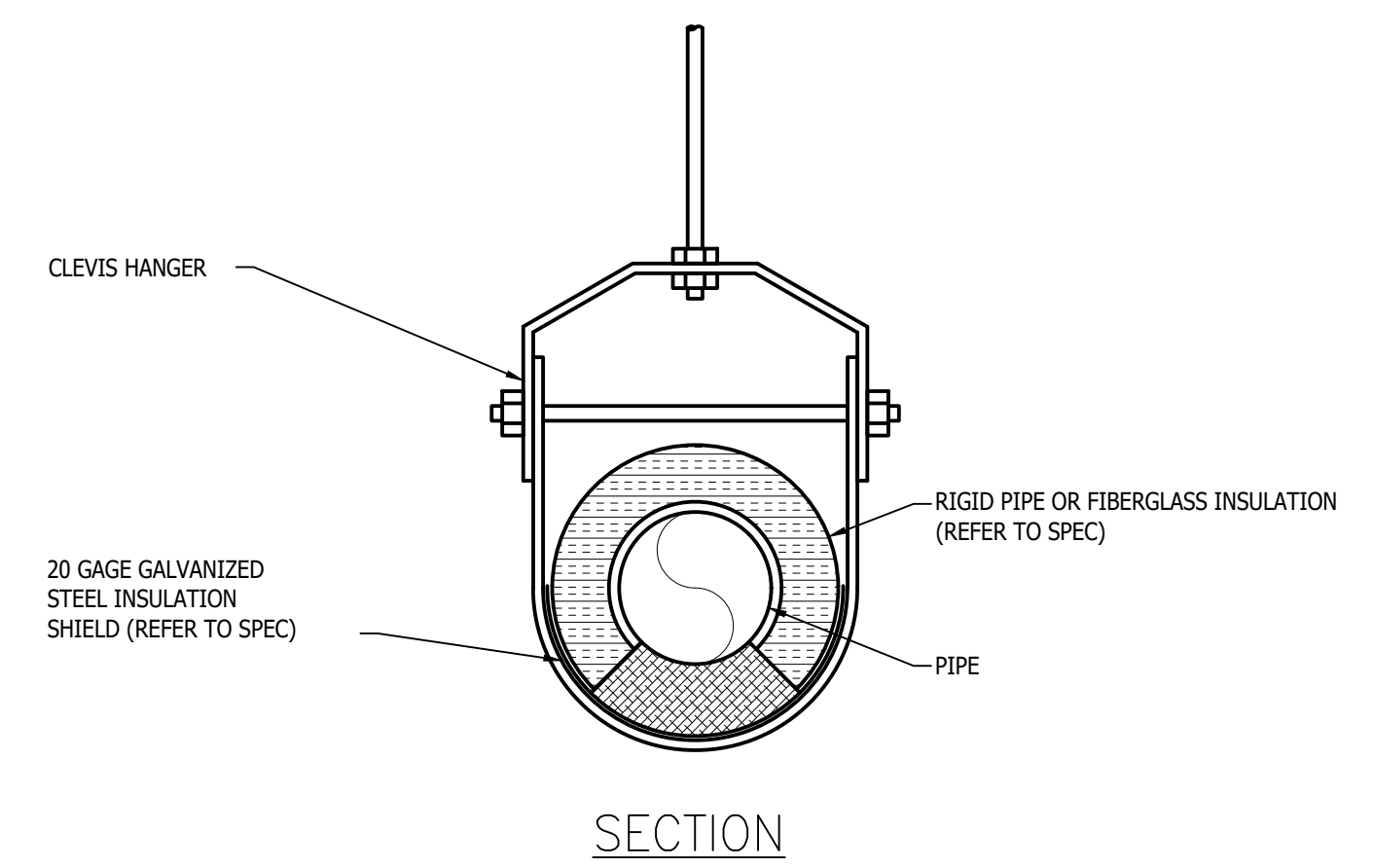
ELEVATION



PLENUM RETURN GRILLE/BOOT DETAIL
NO SCALE



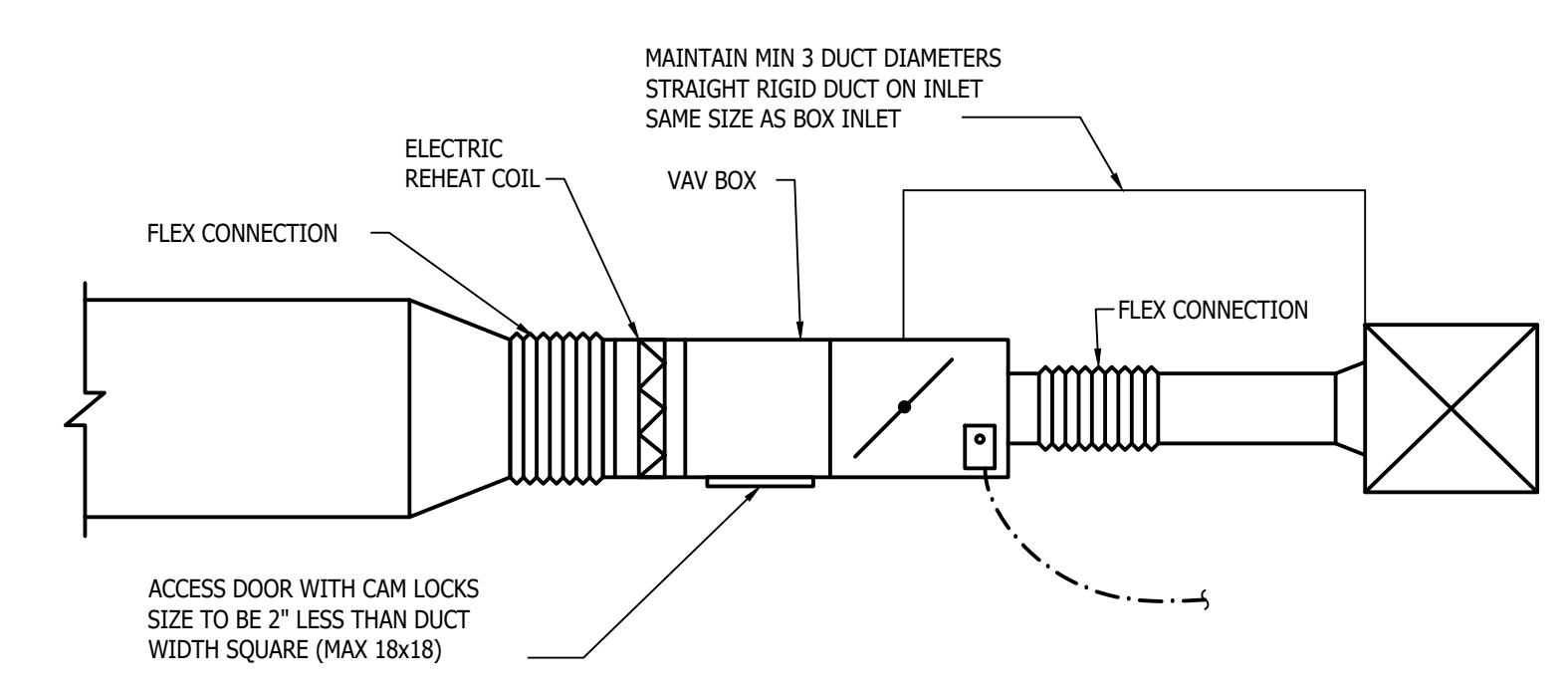
ROUND DUCT BRANCH TAKE-OFF DETAILS
NO SCALE



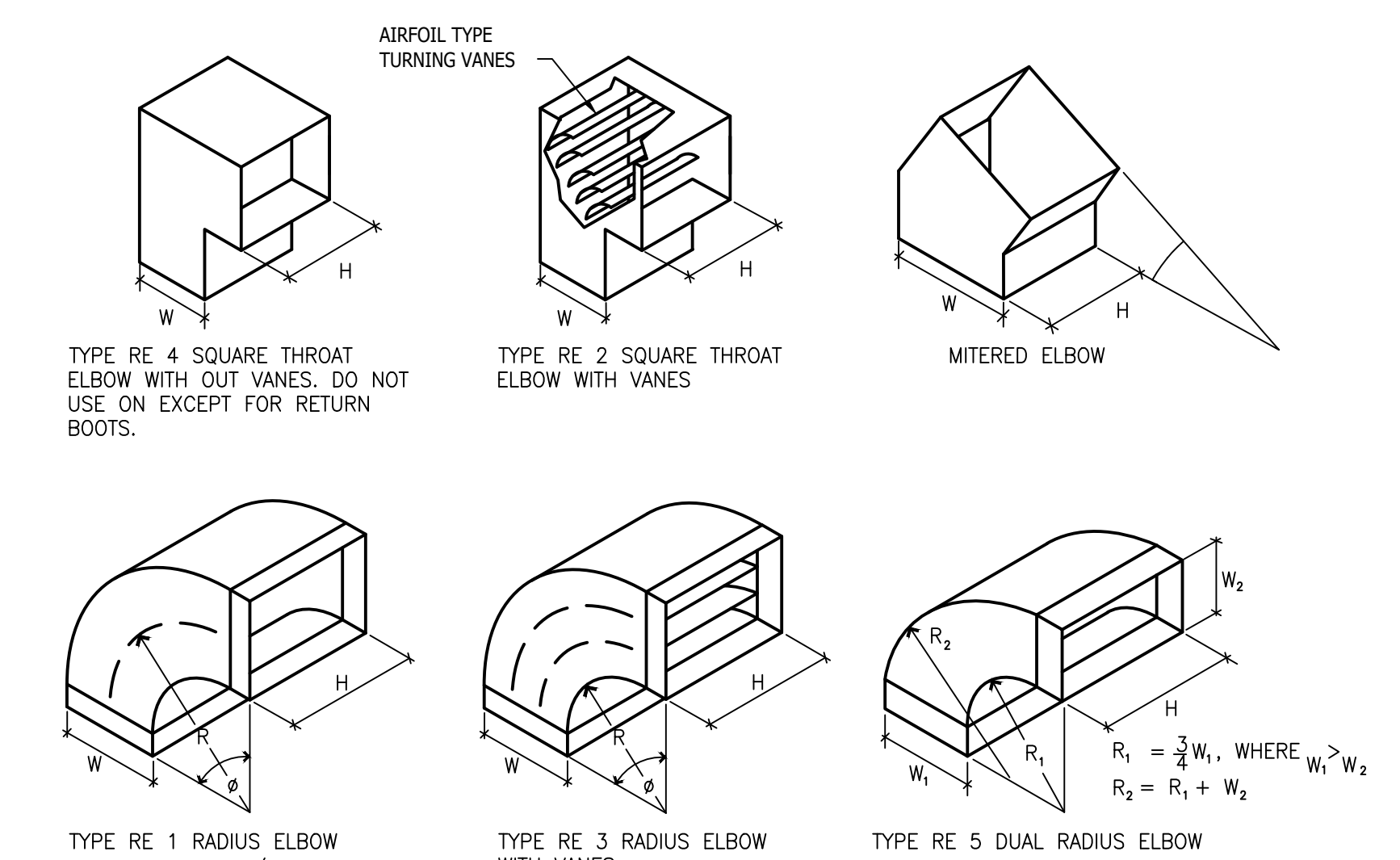
SECTION

NOTES:
PRE-INSULATED PIPE SUPPORTS SHALL BE USED TO ALLOW PROPER ALIGNMENT OF PIPING DURING INSTALLATION. PRE-INSULATED HANGERS SHALL BE PIPE SHIELDS INCORPORATED OR APPROVED EQUAL, REFER TO SPECIFICATIONS.

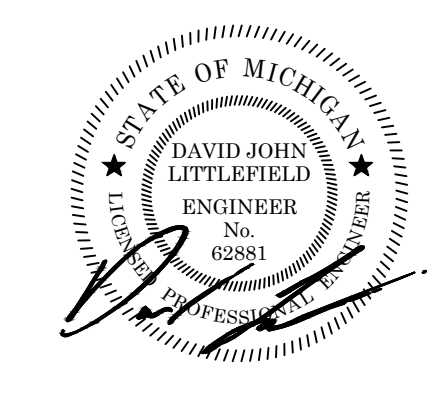
INSULATED PIPE HANGER DETAIL
NO SCALE

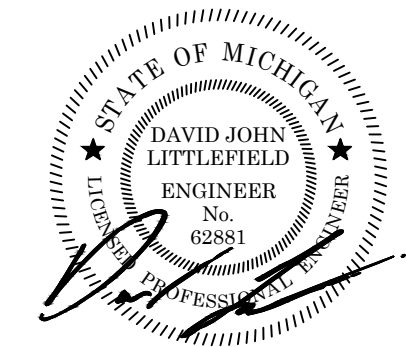
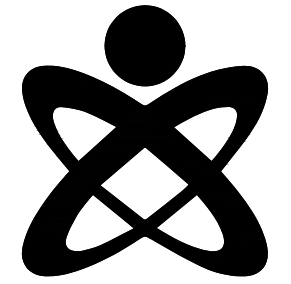


VAV BOX INSTALLATION DETAIL
NO SCALE



RECTANGULAR SHEET-METAL ELBOWS
NO SCALE





PACKAGED COMMERCIAL ROOFTOP UNIT SCHEDULE - (DX - GAS)																																			
UNIT ID	TOTAL SUPPLY (CFM)	MINIMUM OA (CFM)	SUPPLY FAN				DX COOLING COIL						NATURAL GAS HEATING SECTION						POWER EXHAUST OR BAROMETRIC RELIEF	FILTER TYPE	ELECTRICAL					DISCONNECT		CURB HEIGHT (IN)	MANUFACTURER / MODEL NO.	REMARKS					
			ESP (IN WG)	FAN TYPE	DRIVE TYPE	BHP	HP	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	APD (IN WG)	MIN. EFFICIENCY (EER)	REFRIGERANT TYPE	INPUT (MBH)	OUTPUT (MBH)			GAS PRESS. MIN. - MAX. (IN WG)	STAGES OR MODULATION TURNDOWN	BURNER TYPE	EAT (°F)	LAT (°F)	MOCp	MCA				FLA	VOLTS	PHASE	FURN. BY	INST. BY
RTU-1	10,600	1,700	1.5	SWSI	DIRECT	8.05	15.0	346.6	275.4	77.4	64.3	55.1	53.7	0.19	10.68	R-454B	600.0	486.0	4-14	10:1	INDIRECT	57.2	99.4	POWER EXHAUST	2" MERV 8	100	88	83	460	3	MC	MC	14	AACR / RNA-031-D-A-3-GAB08-CB2L0-00-0AHAL-G00-00000-ABNB3-EC-CB0-A-00-00-0-AND-ED-N0000-00-5W0-A00A00-C0000B-000000B	

- NOTES:
 1. DUAL INPUT ENTHALPHY CONTROL ECONOMIZER.
 2. PROVIDE WITH REFRIGERATION CONTROLS ONLY. UNIT DDC CONTROLLER TO BE FIELD INSTALLED BY TCC.
 3. 2" PLEATED MEDIA FILTERS.
 4. PROVIDE WITH FACTORY MOUNTED DISCONNECT SWITCH.
 5. REFRIGERATION COMPRESSORS SHALL BE VARIABLE SPEED SCROLL.

PLUMBING FIXTURE SCHEDULE										
TAG	BARRIER FREE	ITEM	PIPE CONNECTION SIZES				MANUFACTURER & MODEL NO.	ACCESSORIES		
			WASTE	VENT	CW	HW				
SK-1	Y	SINGLE COMPARTMENT UNDERMOUNT SINK W/ DISPOSAL	1 1/2"	1 1/2"	1/2"	1/2"	ELKAY: LRAD332155	FAUCET: KOHLER STRIVE K-5285-NA, CHROME PLATED P-TRAP AND GARBAGE DISPOSAL IN-SINKERATOR EVOLUTION EXCEL.		
WC-1	Y	FLOOR MOUNTED TANK TYPE TOILET	4"	2"	1"	-	KOHLER: K-3998-0	1.28 GPF		
LAV-1	Y	COUNTED MOUNTED LAVATORY	1 1/2"	1 1/2"	1/2"	1/2"	KOHLER K-2330-G	FAUCET: PARALLEL K-2346-4IN-CP; PROVIDE WITH ASSE 1070 MIXING VALVE.		

- NOTES:
 1. PROVIDE ALL ACCESSORIES NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
 2. ALL FIXTURES SHALL MEET MICHIGAN DEPT. OF PUBLIC HEALTH REQUIREMENTS, AND SHALL BE SUITABLE FOR FOOD PREPARATION AREAS.

DOMESTIC WATER HEATER SCHEDULE (ELECTRIC TANK TYPE)											
UNIT ID	LOCATION/ AREA SERVED	STORAGE CAPACITY (GAL)	RECOVERY AT 100°F (GPH)	ELECTRICAL			DISCONNECT			MANUFACTURER / MODEL NO.	REMARKS
				INPUT (KW)	VOLTS	PHASE	FURN. BY	INST. BY	TYPE		
EWH-1	PURCHASING	10	-	2.5	480	3	EC	EC	SWITCH	AO SMITH / DEL-10	

NOTES:

ELECTRIC HEATER SCHEDULE												
UNIT ID	MBH	KW	CFM	ELECTRICAL			PHYSICAL SIZE (IN)			MOUNTING	MANUFACTURER / MODEL NO.	REMARKS
				VOLTS	PHASE	AMPS	LENGTH/ DEPTH	HEIGHT	WIDTH			
ECUH-1	10.2	3	100	208	1		14	19	4	2" RECESSED	QMARK / SH-04008	

NOTES:
 ABBREVIATIONS: EBB = ELECTRIC BASEBOARD; ECH = ELECTRIC COVE HEATER; ECUH = ELECTRIC CABINET UNIT HEATER; EUH = ELECTRIC UNIT HEATER; ERCP = ELECTRIC RADIANT CEILING PANEL.

1. MANUFACTURER TO PROVIDE BUILT-IN CONTROLS & FACTORY MOUNTED DISCONNECT. (IF REMOTE THERMOSTAT IS SHOWN ON DRAWINGS, PROVIDE REMOTE THERMOSTAT.

VAV TERMINAL UNIT SCHEDULE WITH TEMPERING COIL - (ELECTRIC)																
UNIT ID	AIRFLOW RANGE		INLET SP (IN WG)	DUCT CONNECTIONS		MAX NC LEVEL	ELECTRIC TEMPERING COIL (MANUFACTURER)						STAGES OF HEAT	MANUFACTURER / MODEL NO.	REMARKS	
	MIN (CFM)	MAX (CFM)		INLET SIZE (IN)	OUTLET SIZE (IN)		HTG (CFM)	APD (IN WG)	EAT (°F)	LAT (°F)	KW	VOLTS				PHASE
TU-1	145	350	0.25	60	12x8	25	350	0.25	65	90	2.8	480	3	-	PRICE / SDV6	
TU-2	250	700	0.25	8#	12x10	25	700	0.25	65	90	5.5	480	3	-	PRICE / SDV8	
TU-3	250	900	0.25	8#	12x10	25	900	0.25	65	90	7.1	480	3	-	PRICE / SDV8	
TU-4	250	650	0.25	8#	12x10	25	650	0.25	65	90	5.1	480	3	-	PRICE / SDV8	
TU-5	145	400	0.25	60	12x8	25	400	0.25	65	90	3.2	480	3	-	PRICE / SDV6	
TU-6	145	400	0.25	60	12x8	25	400	0.25	65	90	3.2	480	3	-	PRICE / SDV6	
TU-7	250	670	0.25	8#	12x10	25	670	0.25	65	90	5.3	480	3	-	PRICE / SDV8	
TU-8	145	400	0.25	60	12x8	25	400	0.25	65	90	3.2	480	3	-	PRICE / SDV6	
TU-9	375	1500	0.25	100	14x12	25	1500	0.25	65	90	11.9	480	3	-	PRICE / SDV10	
TU-10	580	2000	0.25	120	16x14	25	2000	0.25	65	90	15.8	480	3	-	PRICE / SDV12	
TU-11	145	550	0.25	8#	12x10	25	550	0.25	65	90	4.4	480	3	-	PRICE / SDV8	
TU-12	145	550	0.25	8#	12x10	25	550	0.25	65	90	4.4	480	3	-	PRICE / SDV8	
TU-13	80	350	0.25	60	12x8	25	350	0.25	65	90	2.8	480	3	-	PRICE / SDV6	
TU-14	250	700	0.25	8#	12x10	25	700	0.25	65	90	5.5	480	3	-	PRICE / SDV8	
TU-15	80	275	0.25	60	12x8	25	275	0.25	65	92.5	2.2	480	3	-	PRICE / SDV6	

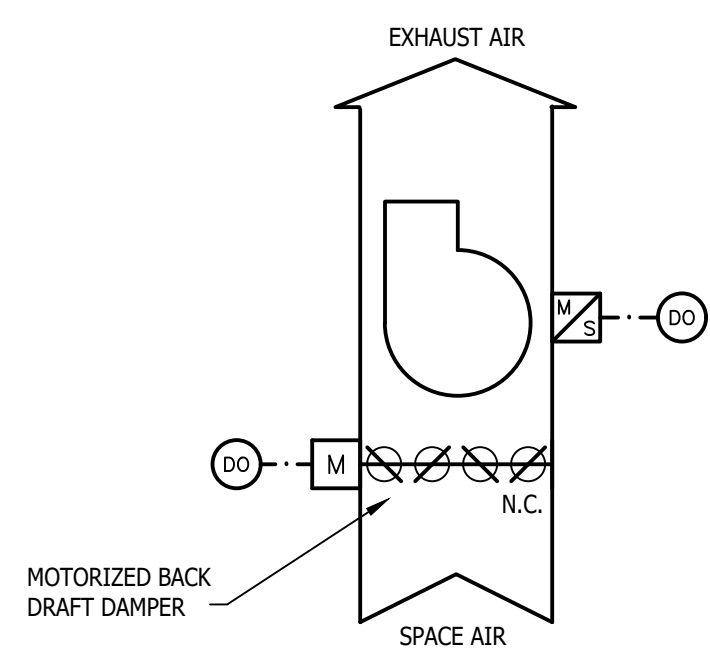
- NOTES:
 1. MINIMUM AND MAXIMUM AIRFLOW SHALL BE SET TO THE CFM INDICATED ON FLOOR PLANS. MAXIMUM N.C. LEVEL BASED ON 3" PRESSURE DROP WITH NO ALLOWANCE FOR EXTERNAL ATTENUATION. MAXIMUM RADIATED NC LEVEL SHALL NOT EXCEED 25.

EXHAUST FAN SCHEDULE														
UNIT ID	SERVING	TYPE	CFM	ESP (IN WG)	FAN RPM	MOTOR				ELECTRICAL			MODEL NO.	REMARKS
						BHP	HP	RPM	DRIVE TYPE	VOLTS	PHASE	MOCp		
EF-1	BATHROOM	DOWNBLAST	100	0.25	1,485	0.01	1/15	-	DIRECT	120	1	15	G-060-VG	
EF-2	BATHROOM	DOWNBLAST	100	0.25	1,485	0.01	1/15	-	DIRECT	120	1	15	G-060-VG	

- NOTES:
 1. MODEL NUMBERS ARE GREENHECK UNLESS OTHERWISE NOTED.
 2. CONTROL SHALL BE BY MANUAL MOTOR STARTER PROVIDED BY ELECTRICAL TRADES.
 3. INSTALL VARIGREEN CONTROLLER BELOW ROOF.
 4. INSTALL ON 14" CURB.

GRILLE, REGISTER AND DIFFUSER SCHEDULE							
UNIT ID	FACE SIZE	NECK SIZE	MOUNTING	FINISH	MATERIAL	PRICE / MODEL NO.	REMARKS
S-1	24x24	SEE PLANS	CEILING	WHITE	STEEL	SPD	
S-2	48x6	SEE PLANS	CEILING	WHITE	STEEL	TB07	2 SLOT, 2 WAY
S-3	48x6	SEE PLANS	CEILING	MATCH CEILING COLOR	STEEL	TB07	2 SLOT, 2 WAY, COORDINATE WITH CEILING DESIGN AND ARCHITECTURAL FOR PROPER FITMENT IN TO CEILING.
S-4	22-1/2"	SEE PLANS	DUCT MOUNTED	WHITE	STEEL	RCD	
R-1	24x24	22x22	CEILING	WHITE	STEEL	PDDR	PROVIDE WITH SOUND ATTEN. BOOT IF NOT DUCTED.
R-2	24"x12"	22x12	CEILING	WHITE	STEEL	PDDR or 80	PROVIDE WITH SOUND ATTEN. BOOT IF NOT DUCTED.
E-1	24x24	SEE PLANS	CEILING	WHITE	STEEL	PDDR	

- NOTES:
 1. COORDINATE WITH LIGHTING AND FRAME TYPE ACCORDINGLY WITH ARCHITECTURAL CEILING LAYOUT.

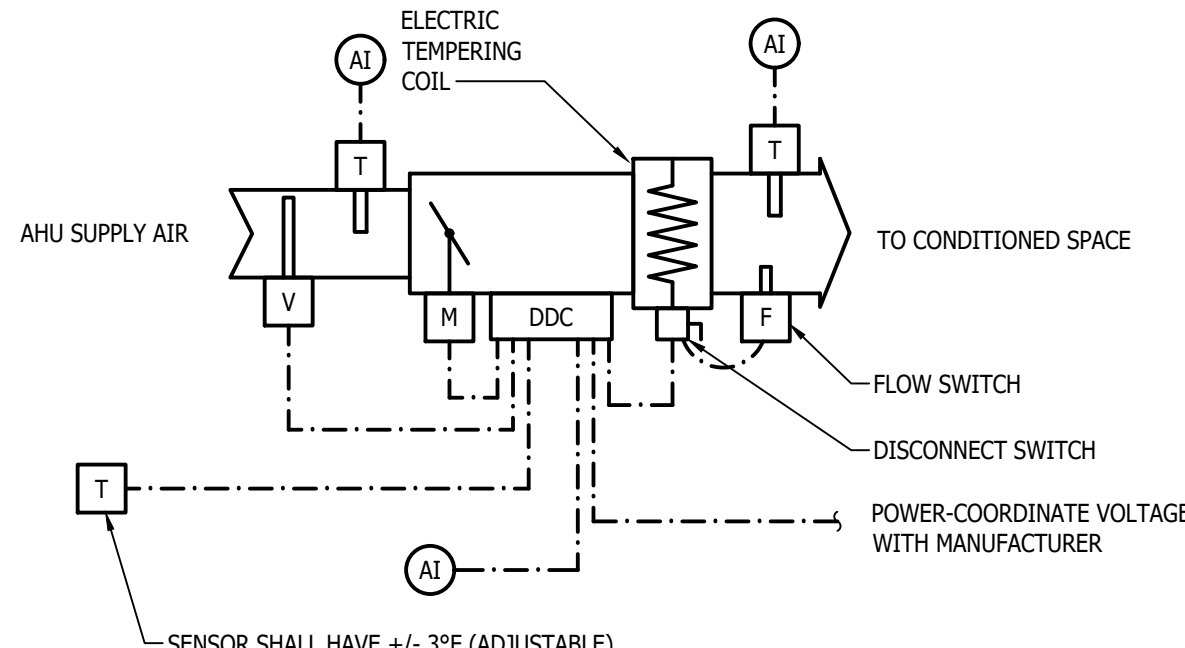


EXHAUST FAN CONTROL DIAGRAM
NO SCALE

EXHAUST FAN CONTROL DIAGRAM

NOTE: ALL SETPOINTS AND TIME INTERVALS SHALL BE ADJUSTABLE BY THE SYSTEM OPERATOR. ONLY ACCEPTABLE CONTROLS CONTRACTOR IS METRO CONTROLS.

- WITH THE EXHAUST FAN'S HAND/OFF/AUTO SWITCHES IN THE "AUTO" POSITION, THE SUPPLY FAN SHALL BE AUTOMATICALLY STARTED AND STOPPED WITH THE DDC SYSTEM OCCUPANCY SCHEDULE.
- UPON A SIGNAL TO ENERGIZE THE VENTILATION FAN, THE ISOLATION DAMPERS SHALL OPEN FULLY.
- FAN STATUS SHALL BE CONFIRMED BY A CURRENT SWITCH. UPON A FAN FAILURE, THE DDC SYSTEM SHALL ISSUE AN ALARM TO THE DDC SYSTEM.
- WHEN THE EXHAUST FAN IS DE-ENERGIZED, ITS ISOLATION DAMPER SHALL FULLY CLOSE.



VAV BOX WITH ELECTRIC REHEAT
NO SCALE

SEQUENCE OF OPERATION:

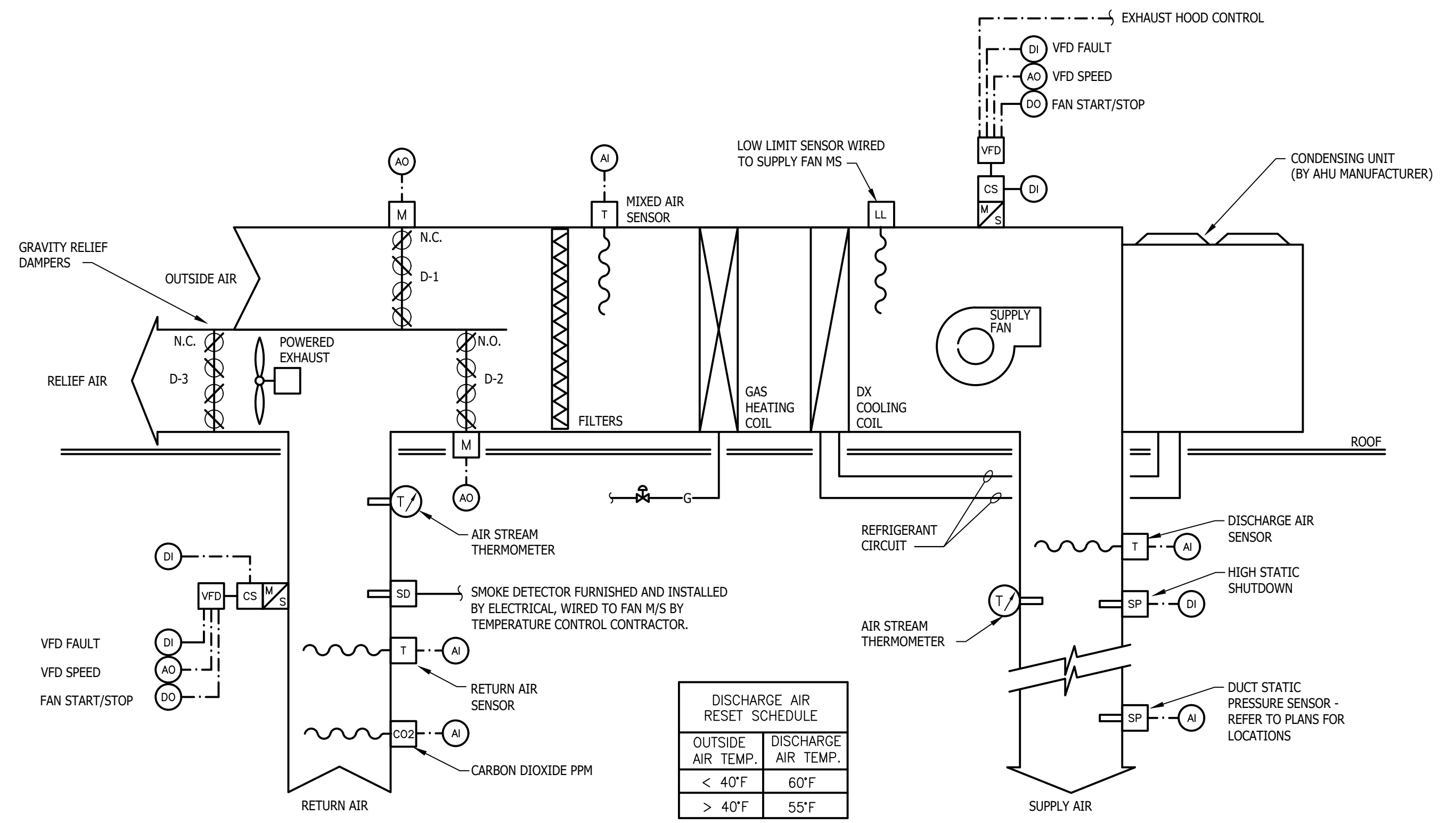
INDIVIDUAL SPACE TEMPERATURES ARE MAINTAINED BY THE MODULATION OF THE PRIMARY AIR DAMPER. THE ELECTRIC REHEAT IS NORMALLY OFF.

IF SPACE TEMPERATURE RISES ABOVE SETPOINT, THE DAMPER OPENS. IF SPACE TEMPERATURE DECREASES, THE DAMPER CLOSES TO A PRESET MINIMUM AIRFLOW. ON A FURTHER DECREASE IN SPACE TEMPERATURE, THE DAMPER SHALL OPEN TO ACHIEVE THE HEATING AIRFLOW SETPOINT AND THE FIRST STAGE OF REHEAT SHALL BE ENABLED. IF REQUIRED THE SECOND STAGE OF REHEAT SHALL BE ENABLED (IF AVAILABLE).

DURING UNOCCUPIED HOURS THE ELECTRIC REHEAT STAGES SHALL BE ENABLED TO MAINTAIN NIGHT SETBACK TEMPERATURE.

ELECTRIC HEATING COILS SHALL NOT OPERATE WHEN SUFFICIENT AIRFLOW IS NOT PRESENT.

ALL TERMINAL UNITS SHALL BE MONITORED BY THE EXISTING BUILDING ENERGY MANAGEMENT SYSTEM (EMS). EMS SHALL BE ABLE TO READ AIRFLOW AND DISCHARGE AIR TEMPERATURE COORDINATE EXISTING SYSTEM REQUIREMENTS WITH OWNER.

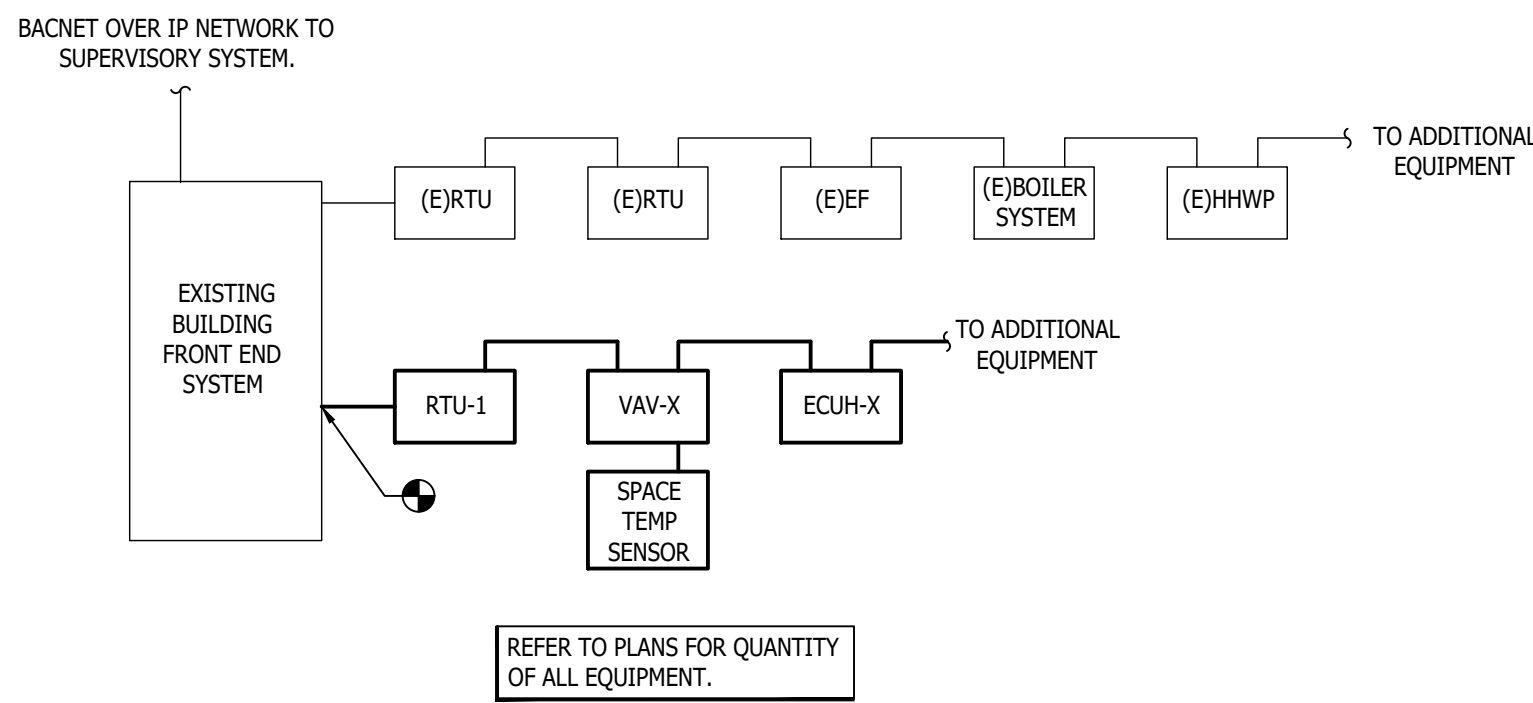


VAV ROOFTOP UNIT CONTROL DIAGRAM
NO SCALE (TYP. OF RTU-1)

VAV ROOFTOP UNIT SEQUENCE OF OPERATIONS:

NOTE: ALL SETPOINTS AND TIME INTERVALS SHALL BE ADJUSTABLE BY THE SYSTEM OPERATOR. UNIT SHALL BE PROVIDED WITH TERMINAL STRIP, CONTROLLER AND CONTROL COMPONENTS BY TEMPERATURE CONTROLS CONTRACTOR. REFRIGERATION SAFETIES BY UNIT MANUFACTURER. ONLY ACCEPTABLE CONTROLS CONTRACTOR IS METRO CONTROLS.

- WITH THE SUPPLY FAN'S VFD HAND/OFF/AUTO SWITCH IN THE "AUTO" POSITION, THE SUPPLY FAN SHALL BE AUTOMATICALLY STARTED AND STOPPED WITH THE DDC SYSTEM OCCUPANCY SCHEDULE. SUPPLY FAN SHALL ALSO BE ENERGIZED WHENEVER THE HOOD EXHAUST FAN IS ALSO ENERGIZED VIA WALL SWITCH OR HEAT SENSOR.
- OCCUPIED MODE: WHEN THE DDC SYSTEM ENERGIZES THE SUPPLY FAN, THE FAN SHALL RUN CONTINUOUSLY. THE RETURN, RELIEF AND RETURN DAMPERS WILL MODULATE TO MAINTAIN MINIMUM OUTSIDE AIRFLOW AS DETERMINED BY THE DDC SYSTEM AND CO2 SENSOR.
- THE DDC SYSTEM SHALL MONITOR THE SPACE CO2 (THROUGH THE RETURN AIR CO2 SENSOR) AND MODULATE THE MIXED AIR DAMPERS TO MAINTAIN A MAXIMUM LEVEL OF 1000 PPM, SUBJECT TO A MIX AIR TEMPERATURE LOW LIMIT TEMPERATURE OF 45°F.
- THE SUPPLY FAN WILL PROVE FLOW TO THE DDC SYSTEM WITH ITS CURRENT SENSING SWITCH. IF THE FAN FAILS, THE SYSTEM WILL BE DE-ENERGIZED AND AN ALARM WILL BE SENT TO THE DDC SYSTEM.
- THE SUPPLY FAN VSD SHALL BE MODULATED BY THE REMOTE SUPPLY DUCT STATIC PRESSURE SENSOR TO MAINTAIN A CONSTANT STATIC PRESSURE SETPOINT THAT IS DETERMINED BY THE TEST AND BALANCE AGENCY. IF A CONTROL SIGNAL IS LOST, THE FAN'S VFD WILL OPERATE AT 50% AND AN ALARM WILL BE SENT TO THE DDC SYSTEM.
- THE DISCHARGE HIGH STATIC PRESSURE SENSOR (LOCATED AT THE RTU) SHALL MODULATE THE SUPPLY FAN VFD TO PREVENT THE DISCHARGE STATIC PRESSURE FROM EXCEEDING THE HIGH LIMIT SETPOINT OF 4.0" W.G. IF THE DISCHARGE HIGH STATIC PRESSURE SENSOR REACHES 5.0" W.G., THE SUPPLY FAN SHALL BE DE-ENERGIZED.
- THE DISCHARGE AIR TEMPERATURE SENSOR SHALL MODULATE THE DX STAGES OF COOLING, MIXED AIR DAMPERS (D-1, D-2, D-3), AND THE STAGES OF AS HEAT TO MAINTAIN THE DISCHARGE AIR TEMPERATURE.
- THE POWERED EXHAUST FAN SHALL BE ENERGIZED WHENEVER THE SPACE STATIC PRESSURE IS OVER 0.1" w.c. THE EXHAUST FAN'S VSD SHALL MODULATE THE FAN TO MAINTAIN A MAXIMUM PRESSURIZATION OF 0.1" w.c.
- ECONOMIZER MODE: WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE, DDC SHALL MODULATE THE MIXED AIR DAMPERS (D-1, D-2, D-3) AND DX STAGES OF COOLING TO MAINTAIN THE DISCHARGE AIR TEMPERATURE WHILE MAINTAINING THE MINIMUM OUTSIDE AIRFLOW. WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN THE RETURN AIR TEMPERATURE, DDC SHALL MODULATE THE MIXED AIR DAMPERS TO MAINTAIN THE MINIMUM OUTSIDE AIRFLOW.
- UNOCCUPIED MODE: IF ANY OF THE SPACE TEMPERATURE SENSORS DROPS BELOW 60°F, THE SUPPLY AND RETURN FANS SHALL BE ENERGIZED, THE OUTSIDE AND RELIEF DAMPERS SHALL REMAIN CLOSED, THE RETURN DAMPER SHALL BE FULLY OPENED AND STAGES OF GAS HEAT SHALL FIRE. THE SUPPLY/RETURN FAN OFFSET SHALL BE ZERO DURING UNOCCUPIED OPERATION. AFTER ALL OF THE SPACES HAVE REACHED 63°F (ADD), THE UNIT SHALL BE DE-ENERGIZED.
- IF THE FREEZE-STAT SETPOINT IS REACHED (35°F OR BELOW), THEN THE SUPPLY AND RETURN FANS SHALL BE DE-ENERGIZED. IF THE DUCT MOUNTED SMOKE DETECTORS DETECT SMOKE, THEN THE SUPPLY AND RETURN FANS SHALL BE DE-ENERGIZED.
- WHEN THE SUPPLY FAN IS DE-ENERGIZED, THE OUTSIDE AND RELIEF DAMPERS SHALL BE CLOSED. THE RETURN AIR DAMPER SHALL BE OPEN.
- POINTS THAT SHALL BE GRAPHICALLY SHOWN: FAN STATUS, DUCT PRESSURE, DUCT PRESSURE SETPOINT, DISCHARGE AIR TEMPERATURE, DISCHARGE AIR TEMPERATURE SETPOINT, COOLING STAGES, HEATING HOT WATER CONTROL VALVE POSITION.
- O2 CONTROL: THE SPACE CO2 SENSOR WILL SUPPLY A PPM READING TO THE UNIT CONTROLLER. THE UNIT CONTROLLER WILL OPEN THE OA DAMPER TO PROVIDE MORE VENTILATION AIR AS REQUIRED TO MAINTAIN A DEADBAND OF 700 PPM(ADD.).



BUILDING AUTOMATION SYSTEM RISER DIAGRAM
NO SCALE

BUILDING AUTOMATION SYSTEM NOTES:

- CONFIGURATION AND ORDER OF CONTROLLER CONNECTION IS FOR REPRESENTATION PURPOSES ONLY. UPDATE CONTROL SYSTEM DRAWINGS TO REFLECT ACTUAL AS-BUILT CONDITIONS, INCLUDING ORDER IN WHICH CONTROLLERS ARE CONNECTED WITHIN THE NETWORK.

BUILDING AUTOMATION SYSTEM FRONT END SYSTEM REQUIREMENTS

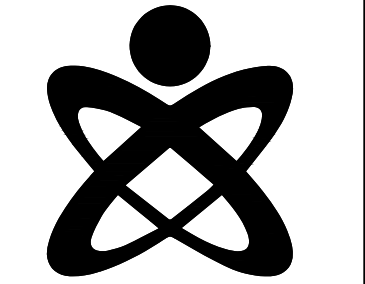
- INTEGRATE MECHANICAL EQUIPMENT INTO THE EXISTING AUTOMATED LOGIC SUPERVISORY SYSTEM, INCLUDING GRAPHICS. EACH UNIT SHALL DISPLAY PERTINENT INFORMATION FOR CONTROL AND TROUBLE SHOOTING, INCLUDING:
 - SPACE TEMPERATURE
 - SPACE TEMPERATURE SETPOINT
 - UNIT STATUS
 - HIGH AND LOW REFRIGERANT PRESSURE ALARMS
 - HEATING HOT WATER VALVE COMMAND
 - OCCUPIED/UNOCCUPIED COMMAND
 - MODE OF OPERATION

THE ONLY ACCEPTABLE CONTROLS CONTRACTOR IS METRO CONTROLS.



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UNIFIED BUILDING SYSTEMS ENGINEERING 69 S. GRATIOT AVE. MT. CLEMENS, MI 48043 IBS PROJECT 007.24.09

MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036

TEMPERATURE CONTROLS

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

DRAWN BY TDD
CHECKED BY DJL

REVISIONS
BIDS 10/31/2024

DATE: OCTOBER 31, 2024
SHEET NO.

M7.00

JOB NO. 211916



LUMINAIRE SCHEDULE					
FIXTURE SYMBOL	FIXTURE TAG	DESCRIPTION	MANUFACTURER(S)	LAMP SOURCE	WATTS
	A	2'x2' LOW PROFILE TROFFER VOLUMETRIC DISTRIBUTION LED LUMINAIRE, CENTER SQUARE SMOOTH DIFFUSER OPTION SUITABLE FOR RECESS MOUNTING IN LAY-IN TYPE GRID CEILING, DIE FORMED ENCLOSURE, HIGH REFLECTANCE BAKED MATTE WHITE ENAMEL FINISH, HIGH OPTICAL GRADE ACRYLIC LENS AND DIRECTED OPTICAL DISTRIBUTION, 3500K, 80 CRI, SINGLE CIRCUIT, UNIVERSAL VOLTAGE, 0-10V DIMMING CAPABLE, UNIVERSAL VOLTAGE.	1. COOPER METALUX CRUZE 2. LITHONIA BLT SERIES	LED 80CRI 3800 LUMENS	26.9
	B	1.5" WIDE X 3" HIGH PENDANT MOUNTED DIRECT ONLY LED FIXTURE, SQUARE SHAPE CONTINUOUS RUN, WITH LIGHTED CORNERS. LENGTH AS SHOWN ON PLANS. EXTRUDED ALUMINUM BODY. FINISH TO BE SELECTED BY ARCHITECT. FLUSH DOWNLIGHT DIFFUSER, USING 600 LM/FT OUTPUT PACKAGE, 3500K, 80 CRI, SINGLE CIRCUIT, UNIVERSAL VOLTAGE, 0-10V 1% DIMMING.	1. AXIS SCULPT 2. LUMENWERX VIA 1.5	LED 80CRI 600 LM/FT	6.6 W/FT
	C	4" WIDE RECESSED LINEAR SUITABLE FOR INSTALLATION IN LAY-IN TYPE GRID CEILING. LED FIXTURE, SQUARE SHAPE CONTINUOUS RUN, LENGTH AS SHOWN ON PLANS. EXTRUDED ALUMINUM BODY, FLUSH DIFFUSER, USING 600 LM/FT OUTPUT PACKAGE, 3500K, 80 CRI, UNIVERSAL VOLTAGE, 0-10V 1% DIMMING.	1. AXIS BEAM 4 2. FINELITE HP-4	LED 80CRI 600 LM/FT	4.9 W/FT
	D	1.5" WIDE X 3" HIGH PENDANT MOUNTED 60 DEGREE TRIANGLE DIRECT ONLY LED FIXTURE, SQUARE SHAPE CONTINUOUS RUN, WITH LIGHTED CORNERS. LENGTH AS SHOWN ON PLANS. EXTRUDED ALUMINUM BODY. FLUSH DIFFUSER, USING 600 LM/FT OUTPUT PACKAGE, 3500K, 80 CRI, SINGLE CIRCUIT, UNIVERSAL VOLTAGE, 0-10V 1% DIMMING.	1. AXIS SCULPT PATTERN PENDANT 2. LUMENWERX VIA 1.5 PENDANT PATTERN	LED 80CRI 600 LM/FT	6.6 W/FT
	E	1.25" WIDE X 2.25" LINEAR LED FIXTURE FOR USE IN ARMSTRONG WOODWORKS CEILINGS. LENGTH AS SHOWN ON PLANS. EXTRUDED ALUMINUM BODY. FLUSH DIFFUSER, USING 400 LM/FT OUTPUT PACKAGE, 3500K, 80 CRI, UNIVERSAL VOLTAGE, 0-10V 1% DIMMING.	1. AXIS SLATE 1 2. APPROVED EQUAL	LED 80CRI 400 LM/FT	4.1 W/FT
	F	1.5" WIDE X 3" GEOMETRIC RECESSED LED FIXTURE FOR USE IN ARMSTRONG SOUNDSCAPES CEILINGS. SHARP LENGTH AS SHOWN ON PLANS. EXTRUDED ALUMINUM BODY. FLUSH DOWNLIGHT DIFFUSER, USING 600 LM/FT OUTPUT PACKAGE, 3500K, 80 CRI, SINGLE CIRCUIT, UNIVERSAL VOLTAGE, 0-10V 1% DIMMING.	1. AXIS GEOMETRIC 2. APPROVED EQUAL	LED 80CRI 600 LM/FT	6.6 W/FT
	G	6" DIAMETER HIGH BRIGHTNESS LIGHT EMITTING DIODES (LED'S) RECESS MOUNTED LED DOWNLIGHT SUITABLE FOR INSTALLATION IN DRYWALL OR LAY-IN TYPE CEILING CONSTRUCTION. WIDE DISTRIBUTION, MATT DIFFUSE ALUMINUM REFLECTOR WITH CLEAR APERTURE/TRIM, CONSTANT CURRENT LED DRIVER, 0-10V DIMMING DRIVER DOWN TO 1% MVOLT OPERATION, NOMINAL 2500 LUMEN OUTPUT.	1. HALO COMMERCIAL 2. GOTHAM EVO	LED 85CRI 2500 LUMENS	28.9
	H	4' L X 2.6" W X 2.7" D LED LINEAR STRIP FIXTURE. ROLLED STEEL HOUSING, END CAPS, WHITE FINISH, FLAT DIFFUSED LENS, LED ELECTRONIC DRIVER 0-10V DIMMING DOWN TO 10% 5000 LUMENS, 3500K, 80 CRI, CABLE HUNG, 120V OPERATION.	1. COOPER METALUX SLSTP 2. LITHONIA CLX48	LED 80CRI 5000 LUMENS	40.0
	I	24" X 36" TRACK LIGHTED MIRROR. 6300 LUMENS, 3500K, 85 CRI, 120V OPERATION.	1. OXYGEN 2. APPROVED EQUAL	LED 85CRI 6300 LUMENS	102.4
	J	SAME AS TYPE # EXCEPT THIS FIXTURE WILL BE CONNECTED THROUGH EXISTING EMERGENCY GENERATOR SYSTEM CIRCUIT IN THE AREA. PROVIDE GENERATOR TRANSFER SWITCH (GTS) IN ALL ROOMS.			
	K	EXIT LIGHT EMERGENCY LIGHT SHALL BE UNIVERSAL MOUNT, DIECAST ALUMINUM, HIGH OUTPUT LED DIFFUSE LIGHT PANEL, RED LETTERS WITH MAINTENANCE FREE NICKEL CADMIUM BATTERY CAPABLE OF PROVIDING 90 MINUTE FULL LIGHT OPERATION.	1. LITEALARMS GRANDE SERIES CAT# 1 XDPC N W RW	120-277V	2.3
	L	EMERGENCY LIGHT REMOTE HEAD TO BE CONNECTED TO EXIT SIGN WITH HIGH OUTPUT BATTERY.	1. LITEALARMS CAT # S#F2 LD1 B 6	120-277V	2.3

LIGHTING SYMBOL LIST

SYMBOL	DESCRIPTION
	LIGHT FIXTURE - CEILING/GRID MOUNT
	LIGHT FIXTURE - INTERIOR WALL MOUNT LINEAR
	LIGHT FIXTURE - DOWNLIGHT WITH WALLWASH DIST.
	LIGHT FIXTURE - INTERIOR WALL SCONCE
	LIGHT FIXTURE - INTERIOR SURFACE MOUNT
	LIGHT FIXTURE - INTERIOR WALL MOUNTED
	LIGHT FIXTURE - INTERIOR PENDANT MOUNT
	LIGHT FIXTURE - INTERIOR PENDANT MOUNT CYLINDER
	TRACK AND TRACK MOUNTED LIGHT FIXTURES
	EXIT LIGHT - CEILING MOUNTED - ARROWS AS INDICATED ON PLAN (SHADED AREA INDICATES FACE(S) OF FIXTURE)
	EXIT LIGHT - WALL MOUNTED - ARROWS AS INDICATED ON PLAN (SHADED AREA INDICATES FACE(S) OF FIXTURE)
	EMERGENCY LIGHT FIXTURE - EMERGENCY BATTERY UNIT
	EMERGENCY LIGHT FIXTURE - BATTERY UNIT/EXIT SIGN
	LIGHT FIXTURE - EXTERIOR POLE MOUNT TYPE
	LIGHT FIXTURE - EXTERIOR WALL MOUNT TYPE
	LIGHT FIXTURE - EXTERIOR POST TOP TYPE
	LIGHT FIXTURE - EXTERIOR BOLLARD TYPE

NOTES:
1. LIGHTING SYMBOLS AS INDICATED ON PLANS ARE NOT DRAWN TO SCALE UNLESS NOTED OTHERWISE.

LIGHTING CONTROLS LEGEND

SYMBOL	DESCRIPTION
	SWITCH SINGLE POLE
	OCCUPANCY SENSOR SWITCH
	VACANCY SENSOR SWITCH
	VACANCY DIMMER SENSOR SWITCH
	LOW VOLTAGE DIMMER SWITCH
	CEILING MOUNTED OCCUPANCY SENSOR
	CEILING MOUNTED VACANCY SENSOR
	SWITCH THREE-WAY
	SINGLE POLE KEY SWITCH
	WIRELESS SWITCH
	WIRELESS DIMMING SWITCH

DRAWING NOTATION

SYMBOL	DESCRIPTION
LA	LIGHTING FIXTURE TAG
	CONSTRUCTION KEY NOTE NUMBER 1
	DEMOLITION KEY NOTE NUMBER 1
	FEEDER SIZE TAG (REFER TO FEEDER SCHEDULE ON THIS SHEET)
	EQUIPMENT DESIGNATION (I.E. EXHAUST FAN NUMBER 1)
	EXISTING DEVICES OR EQUIPMENT
	NEW OR MODIFIED DEVICES OR EQUIPMENT
	NEW OR MODIFIED UNDERGROUND WIRING
	EXISTING SYSTEM COMPONENT TO BE REMOVED

POWER SYMBOL LIST

SYMBOL	DESCRIPTION
	CONDUIT DOWN
	CONDUIT UP
	CONTACTOR
	DISCONNECT SWITCH - NON FUSED
	DISCONNECT SWITCH - FUSED
	DISCONNECT SWITCH - COMB. MOTOR STARTER
	ELECTRICAL PANEL - 208/240 VOLTS
	ELECTRICAL PANEL - 480 VOLTS
	GROUNDING ROD
	GROUND
	GROUNDING BAR
	JUNCTION BOX
	JUNCTION BOX WITH HARDWIRED CONNECTION
	METER
	MOTOR - SINGLE PHASE
	MOTOR - THREE PHASE
	MOTOR RATED SWITCH
	POWER RECEPTACLE - SIMPLEX TYPE
	POWER RECEPTACLE - DUPLEX TYPE
	POWER RECEPTACLE - DUPLEX 6" ABOVE COUNTER
	POWER RECEPTACLE - USB/DUPLEX COMBO. DEVICE
	POWER RECEPTACLE - QUADRUPLX TYPE
	POWER RECEPTACLE - RECESSED FLOOR TYPE
	POWER RECEPTACLE - SPECIALTY TYPE
	CORD REEL
	SURGE PROTECTION DEVICE
	TIME CLOCK
	TRANSFORMER (REFER TO SCHEDULES FOR INFO)
	VARIABLE SPEED DRIVE

NOTES:
1. ALL DEVICE RATINGS/SIZES SHALL BE COORDINATED WITH PLANS AND SCHEDULES.

AUXILIARY SYST. SYMBOL LIST

SYMBOL	DESCRIPTION
	CAMERA
	CARD READER
	COMMUNICATIONS DEVICE - 6" ABOVE COUNTER
	COMMUNICATIONS DEVICE - FLOOR
	COMMUNICATIONS DEVICE - WALL
	MAGNETIC DOOR HOLDER
	PUSH BUTTON
	SPEAKER
	WALL CLOCK - SINGLE FACE
	WALL CLOCK - DOUBLE FACE
	WALL CLOCK AND SPEAKER UNIT

NOTES:
1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR BOX AND CONDUIT FOR ALL DEVICES INDICATED.
2. LOW VOLTAGE CONTRACTOR SHALL PROVIDE EXACT SPECIFICATIONS AND LOCATIONS OF ALL DEVICES.

FIRE ALARM SYMBOL LIST

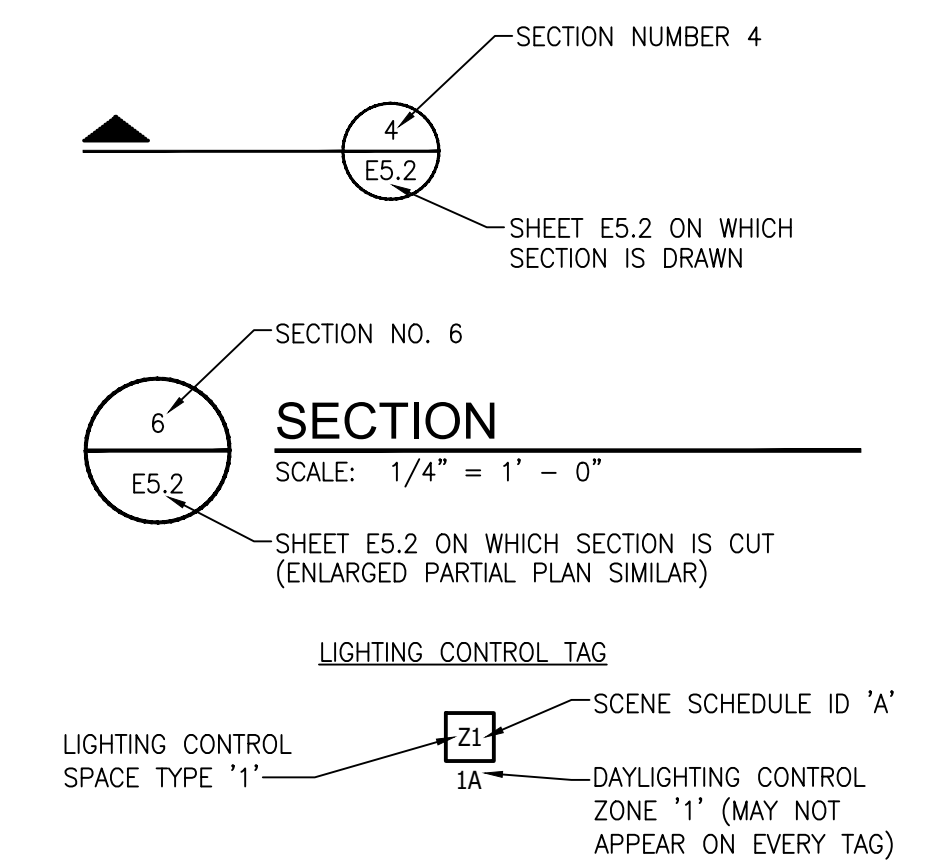
SYMBOL	DESCRIPTION
	DETECTION DEVICE
	DETECTION DEVICE - DUCT MOUNTED
	DETECTION DEVICE - FLOW SWITCH
	DETECTION DEVICE - TAMPER SWITCH
	FIRE ALARM ANNUNCIATOR PANEL
	FIRE ALARM CONTROL PANEL
	FIRE DEPARTMENT COMMUNICATION OUTLET
	MANUAL DEVICE - PULL STATION
	NOTIFICATION DEVICE - WALL MOUNTED
	NOTIFICATION DEVICE - CEILING MOUNTED

NOTES:
1. DRAWINGS INDICATE DESIGN INTENT ONLY, FINAL LOCATIONS AND DEVICE SPECIFICATIONS SHALL BE PROVIDED BY FIRE ALARM MANUFACTURER. REFER TO PROJECT SPECIFICATIONS FOR APPROVED MANUFACTURERS.

ELECTRICAL ABBREVIATIONS

ABBREV.	DESCRIPTION
AF	ABOVE FINISHED FLOOR
A	AMPERE
AF	AMPERE FUSE/AMPERE FRAME
AWG	AMERICAN WIRE GAUGE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AIC	AVAILABLE INTERRUPTING CURRENT (AMPS)
C	CONDUIT OR CEILING MOUNTED
CB	CIRCUIT BREAKER
CU	COPPER
CT	CURRENT TRANSFORMER
DIA	DIAMETER
DISC	DISCONNECT
EMT	ELECTRICAL METALLIC TUBING
ENC	ELECTRIC WATER COOLER
EPO	EMERGENCY POWER OFF
(E)	EXISTING ELECTRICAL EQUIPMENT OR WORK
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
F	FUSE
G/GRD	GROUND
GFCI/GFI	GROUND FAULT CIRCUIT INTERRUPTER
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
IG	ISOLATED GROUND
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LP	LIGHTING PANEL
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUG ONLY
MAX	MAXIMUM
MIN	MINIMUM
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N/NEU	NEUTRAL
NF	NON-FUSIBLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NIC	NOT IN CONTRACT
OF/CI	OWNER FURNISHED / CONTRACTOR INSTALLED
OF/OI	OWNER FURNISHED / OWNER INSTALLED
PH, OR Ø	PHASE
P	POLE
PF	POWER FACTOR
PVC	POLYVINYL CHLORIDE (PLASTIC)
(R)	RELOCATED EXISTING ELECTRICAL EQUIPMENT
(RR)	REMOVE AND REINSTALL
RMC	RIGID METALLIC CONDUIT
RP	RECEPTACLE PANEL
SPEC/SPECS	SPECIFICATIONS
TBB	TELEPHONE BACKBOARD
TYP.	TYPICAL
UC	UNDER COUNTER
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	UNIVERSAL SERIAL BUS
V	VOLT
VA	VOLT AMPERE
W	WATT
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER

DRAWING INDEX	
SHT NO	DESCRIPTION
E0.00	ELECTRICAL GENERAL INFORMATION AND LIGHTING SCHEDULE
E1.00	ELECTRICAL POWER COMPOSITE FIRST AND SECOND FLOOR PLANS
EPD1.10	ELECTRICAL POWER DEMOLITION FIRST FLOOR PLAN
ELD1.10	ELECTRICAL LIGHTING DEMOLITION FIRST FLOOR PLAN
ED2.10	ELECTRICAL POWER DEMOLITION ROOF PLAN
EP1.10	ELECTRICAL POWER NEW WORK FIRST FLOOR PLAN
EL1.10	ELECTRICAL LIGHTING NEW WORK FIRST FLOOR PLAN
E2.10	ELECTRICAL LIGHTING NEW WORK ROOF PLAN
E5.00	ELECTRICAL DETAILS
E6.00	ELECTRICAL PANEL SCHEDULES
E7.00	ONE-LINE RISER DIAGRAMS

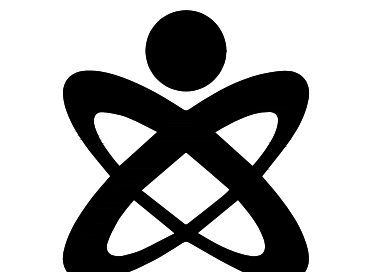


APPLICABLE CODES AND REGULATIONS	
YEAR	CODE
2015	MICHIGAN BUILDING CODE
2015	MICHIGAN ENERGY CODE
2023	MICHIGAN ELECTRICAL CODE RULES, PART 8
2021	NATIONAL ELECTRICAL CODE (NFPA 70)
2013	NFPA 20
2013	NFPA 72
2012	NFPA 101
2013	NFPA 110
2009	ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS & FACILITIES



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UNIFIED BUILDING SYSTEMS ENGINEERING
69 S GRATIOT AVE.
MT CLEMENS, MI 48043
UBS PROJECT 007.24.09

MACOMB COUNTY PURCHASING RENOVATION -VIC WERTZ RENOVATION - RTU_BOILER REPLACEMENT

44900 Vic Wertz Drive, Clinton Township, MI 48036

ELECTRICAL GENERAL INFORMATION AND LIGHTING SCHEDULE

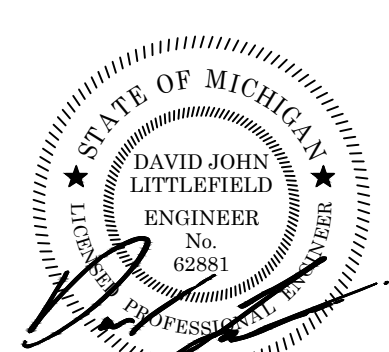
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- CONSTRUCTION
- FINAL RECORD

DRAWN BY _TJO_

CHECKED BY _DJB_

REVISIONS

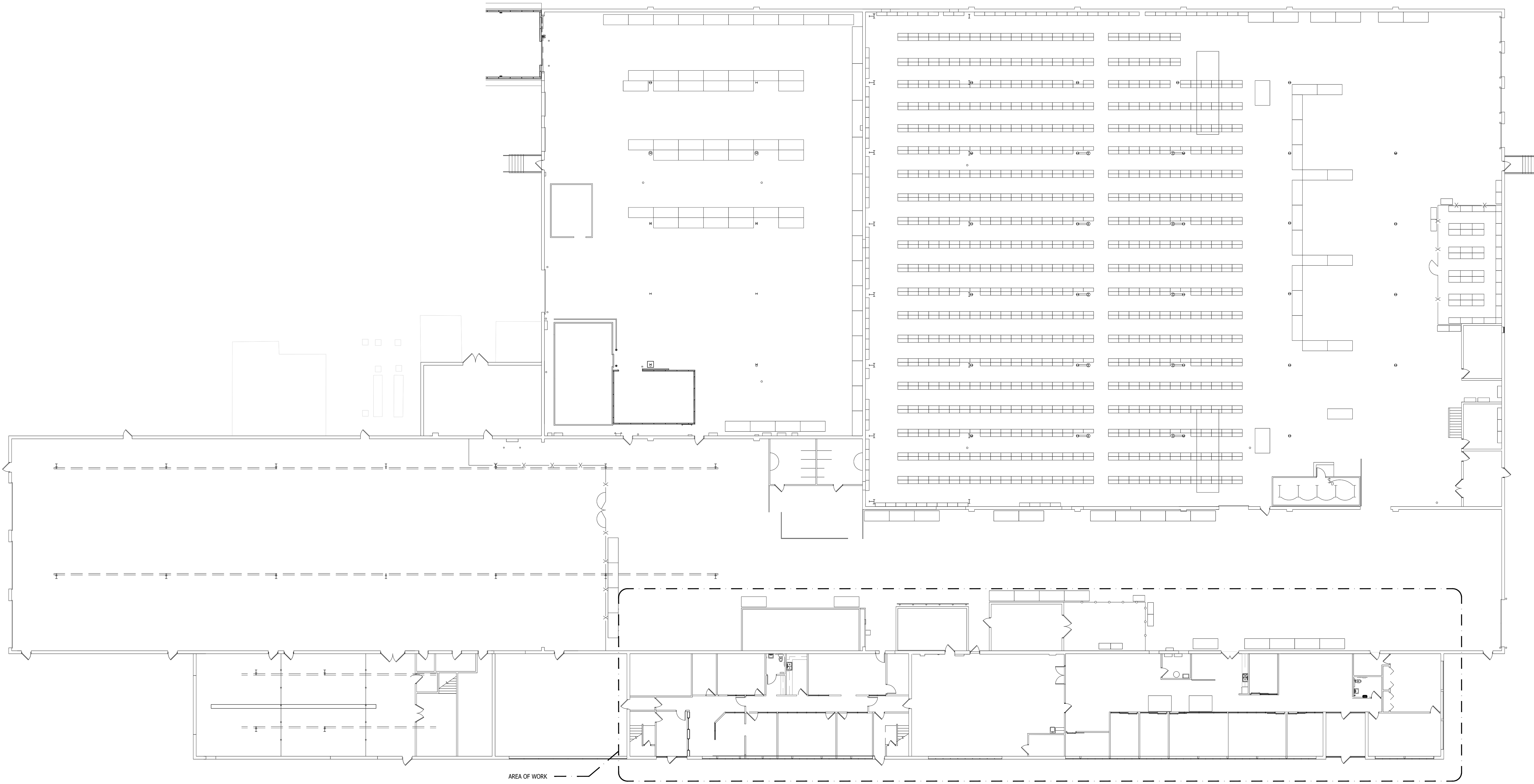
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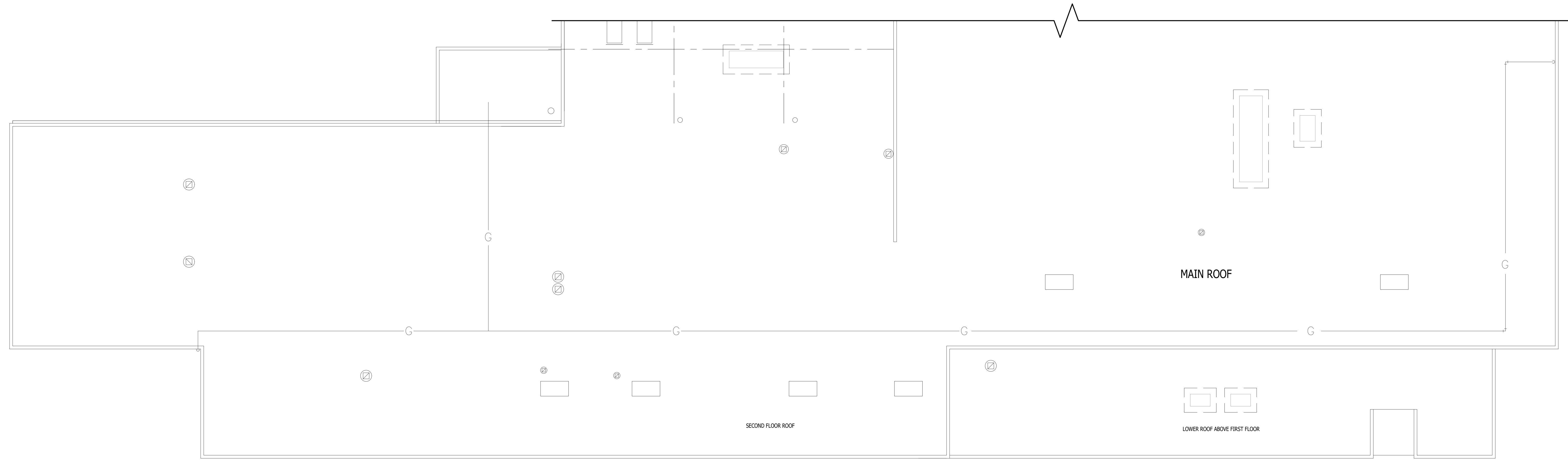
DATE: OCTOBER 31, 2024
SHEET NO.

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ELECTRICAL COMPOSITE FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



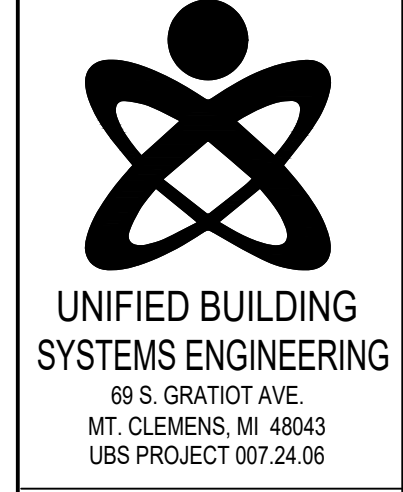
ELECTRICAL SECOND FLOOR / ROOF PLAN
SCALE: 1/16" = 1'-0"

GENERAL DEMOLITION NOTES	
A	THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK TO BE PERFORMED. THE EXACT EXTENT OF DEMOLITION SHALL BE DETERMINED BY THE NEW WORK.
B	ANY INTERRUPTIONS OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING'S OPERATION.
C	PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING SITE CONDITIONS, SYSTEMS, AND UTILITIES. NOTIFY DESIGN PROFESSIONAL OF ANY INTERFERENCES OR DISCREPANCIES.
D	ALL ITEMS INDICATED WITH CROSS-HATCHING SHALL BE REMOVED COMPLETELY WITH ALL RELATED ITEMS INCLUDING HANGERS, SUPPORTS, INSULATION, CONTROLS, ETC. CAP ALL OPEN-ENDED PIPES AND DUCTS.
E	THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED. ALL ITEMS REMOVED SHALL BE LEGALLY DISPOSED OF. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING RELOCATED AND OWNER-PROVIDED EQUIPMENT.
F	VERIFY DEPTH, SIZE, LOCATIONS, AND CONDITIONS OF EXISTING UTILITIES IN THE FIELD, INCLUDING POINTS OF CONNECTION PRIOR TO STARTING ANY WORK.
G	ALL ITEMS ON DEMOLITION PLAN SHALL BE CONSIDERED EXISTING UNLESS OTHERWISE NOTED. ALL WORK INDICATED ON PLANS HAS BEEN LOCATED PER EXISTING DRAWINGS AND/OR FIELD OBSERVATION AND REQUIRES FIELD VERIFICATION.
H	ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE DUCT WORK PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.

POWER GENERAL NOTES	
A	THESE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE GENERAL EXTENT OF THE WORK TO BE PERFORMED, PROVIDE AND EXECUTE ALL HVAC SYSTEMS PER ENGINEER'S SPECIFICATION, AND LOCAL APPLICABLE CODES INCLUDING AMENDMENTS, BUILDINGS, ETC. AS WELL AS THE STANDARDS OF INSTALLATION AND EQUIPMENT ESTABLISHED FOR THE BUILDINGS, AND REQUIREMENTS OF THE OWNER.
B	EXCEPT FOR CHANGES AS MAY BE SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD IN ACCORDANCE WITH ALTERNATES OF OPTIONS AS STATED HEREINAFTER, ALL WORK MUST BE IN FULL ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. SYSTEMS ARE TO BE COMPLETE, EFFICIENT, AND SATISFACTORY OPERATION WHEN PROJECT IS DELIVERED TO THE OWNER.
D	CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVAL FROM GOVERNING AUTHORITIES AND FILE NECESSARY FORMS, PAY ALL INSPECTION FEES.
E	ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE, LIFE SAFETY CODE AND APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
F	ELECTRICAL EQUIPMENT AND WIRING SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.
G	WIRING SHALL BE IN CONDUIT. CONDUIT SHALL BE 3/4" CONDUIT MINIMUM. CONDUITS IN FINISHED AREAS SHALL BE CONCEALED.
H	NEW WIRES SHALL BE TYPE THHN. MINIMUM SIZE SHALL BE #12 AWG, UNLESS OTHERWISE NOTED. FINAL CONNECTIONS TO EQUIPMENT, FURNISHED AND INSTALLED BY OTHERS, SHALL BE PROVIDED BY THIS CONTRACTOR.
J	ALL PA AND SPEAKER SCOPE BY OTHERS. REFER TO TECH DRAWINGS FOR FURTHER INFORMATION.



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FX: 586.573.0822
www.WakeleyAIA.com



UNIFIED BUILDING
SYSTEMS ENGINEERING
69 S. GRATIOT AVE.
MT. CLEMENS, MI 48043
URS PROJECT 007.24.09

MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_ BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036

ELECTRICAL POWER
COMPOSITE FIRST AND
SECOND FLOOR PLANS

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

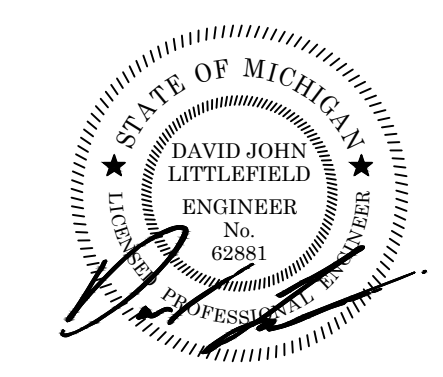
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CHECKED BY: DJL

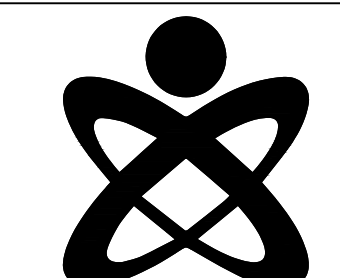
REVISIONS	DATE
BIDS	10/31/2024

DATE: OCTOBER 31, 2024
SHEET NO.

E1.00

JOB NO.
211916



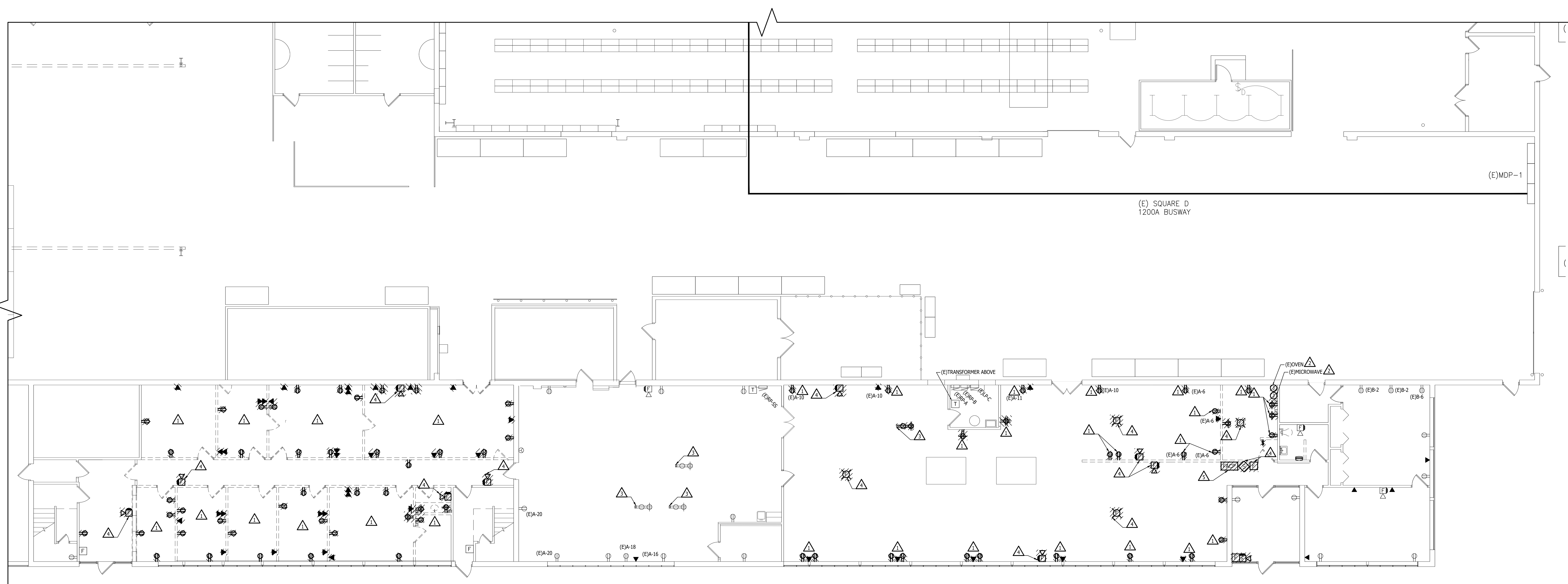


GENERAL DEMOLITION NOTES

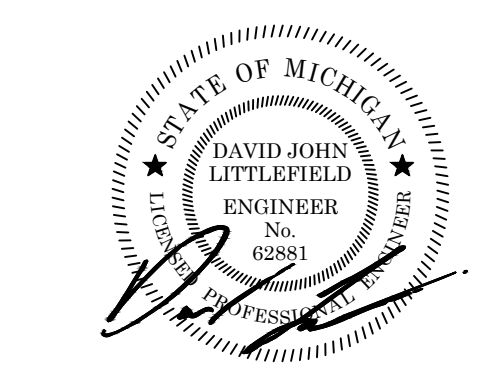
A	THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF WORK TO BE PERFORMED. THE EXACT EXTENT OF DEMOLITION SHALL BE DETERMINED BY THE NEW WORK.
B	ANY INTERRUPTIONS OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING'S OPERATION.
C	PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING SITE CONDITIONS, SYSTEMS, AND UTILITIES. NOTIFY DESIGN PROFESSIONAL OF ANY INTERFERENCES OR DISCREPANCIES.
D	ALL ITEMS INDICATED WITH CROSS-HATCHING SHALL BE REMOVED COMPLETE WITH ALL RELATED ITEMS INCLUDING HANGARS, SUPPORTS, INSULATION, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTS.
E	THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED. ALL ITEMS REMOVED SHALL BE LEGALLY DISPOSED OF. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING RELOCATED AND OWNER PROVIDED EQUIPMENT.
F	VERIFY DEPTH, SIZE, LOCATIONS, AND CONDITIONS OF EXISTING UTILITIES IN THE FIELD. INCLUDING POINTS OF CONNECTION PRIOR TO STARTING ANY WORK.
G	ALL ITEMS ON DEMOLITION PLAN SHALL BE CONSIDERED EXISTING UNLESS OTHERWISE NOTED. ALL WORK INDICATED ON PLANS HAS BEEN LOCATED PER EXISTING DRAWINGS AND/OR FIELD OBSERVATION AND REQUIRES FIELD VERIFICATION.
H	ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE DUCT WORK PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.

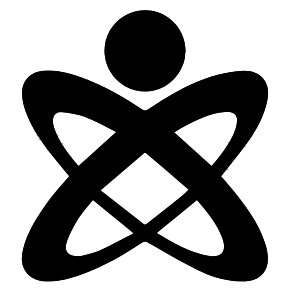
DEMOLITION KEYED NOTES

1	DEMO ALL RECEPTACLES, RACEWAYS, AND DATA OUTLETS IN ROOM COMPLETE BACK TO SOURCE. REMOVE CONDUIT AND WIRING COMPLETE. RETAIN BREAKER AS SPARE. UPDATE PANEL SCHEDULE.
2	KITCHEN EQUIPMENT BEING REMOVED COMPLETE. REMOVE CONDUIT AND WIRING COMPLETE. RETAIN BREAKER AS SPARE. UPDATE PANEL SCHEDULE.
3	POWER POLE TO BE SUPPORTED IN PLACE PRIOR TO REMOVAL OF THE CEILING. PROTECT POWER POLE AND ALL ASSOCIATED WIRING.
4	FIRE ALARM DEVICE TO BE REMOVED COMPLETE. TAKE CONDUIT AND WIRING BACK TO SOURCE.
5	RELOCATE EXISTING FIRE ALARM CONTROL PANEL TO NEW LOCATION SHOWN ON NEW WORK PLAN. CAPTURE EXISTING WIRING CONDUIT AND EXTEND TO NEW LOCATION AS REQUIRED.



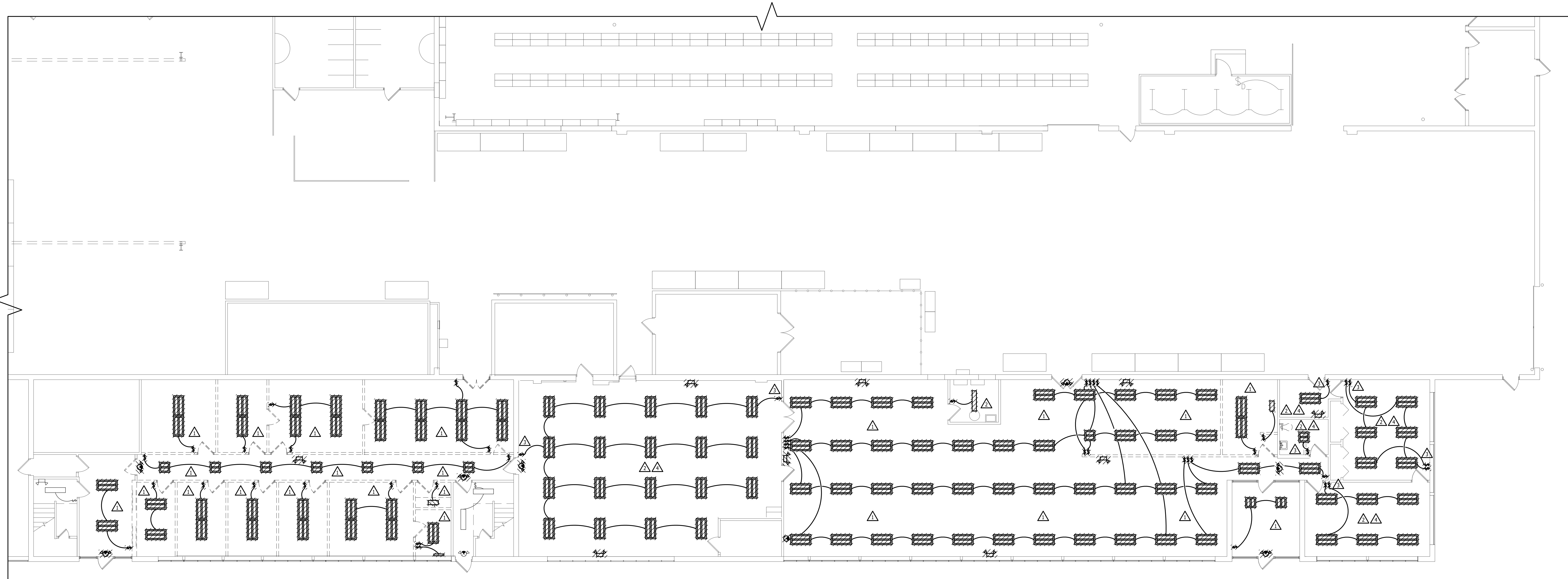
ELECTRICAL POWER DEMOLITION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



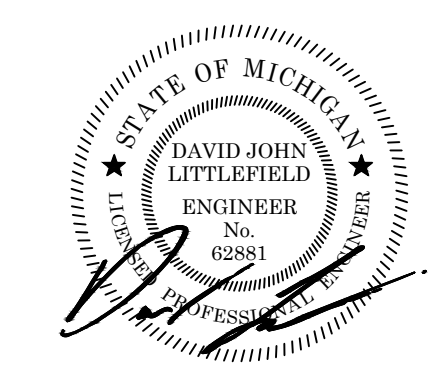


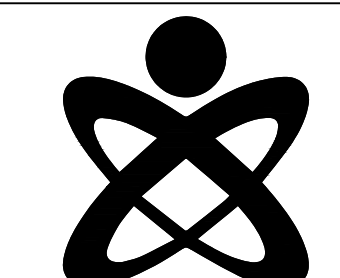
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DEMOLITION KEYED NOTES	
1	LIGHT FIXTURES, ASSOCIATED CONTROLS, EXIT SIGNS, AND FBUS SHALL BE REMOVED COMPLETE BACK TO SOURCE INCLUDING ALL CONDUIT AND WIRING.
2	LIGHT FIXTURES TO BE REMOVED COMPLETE. REMOVE CONDUIT AND WIRING COMPLETE BACK TO JUNCTION BOX FEEDING THIS AREA. PREPARE FOR CONNECTION TO NEW LIGHTING FROM JUNCTION BOX AS INDICATED ON NEW WORK PLANS.
3	SWITCHES AND LIGHTING CONTROLS TO BE REMOVED COMPLETE. PATCH AND PAINT AS REQUIRED.
4	AFTER REMOVAL OF CEILING IN THIS AREA, CONTRACTOR SHALL REMOVE ALL CONDUIT AND LOOSE WIRING NOT BEING USED COMPLETE. ANY EXISTING CONDUIT, LIVE CIRCUITS, AND LOW VOLTAGE WIRING TO REMAIN SHALL BE SUPPORTED TO MEET CODE.



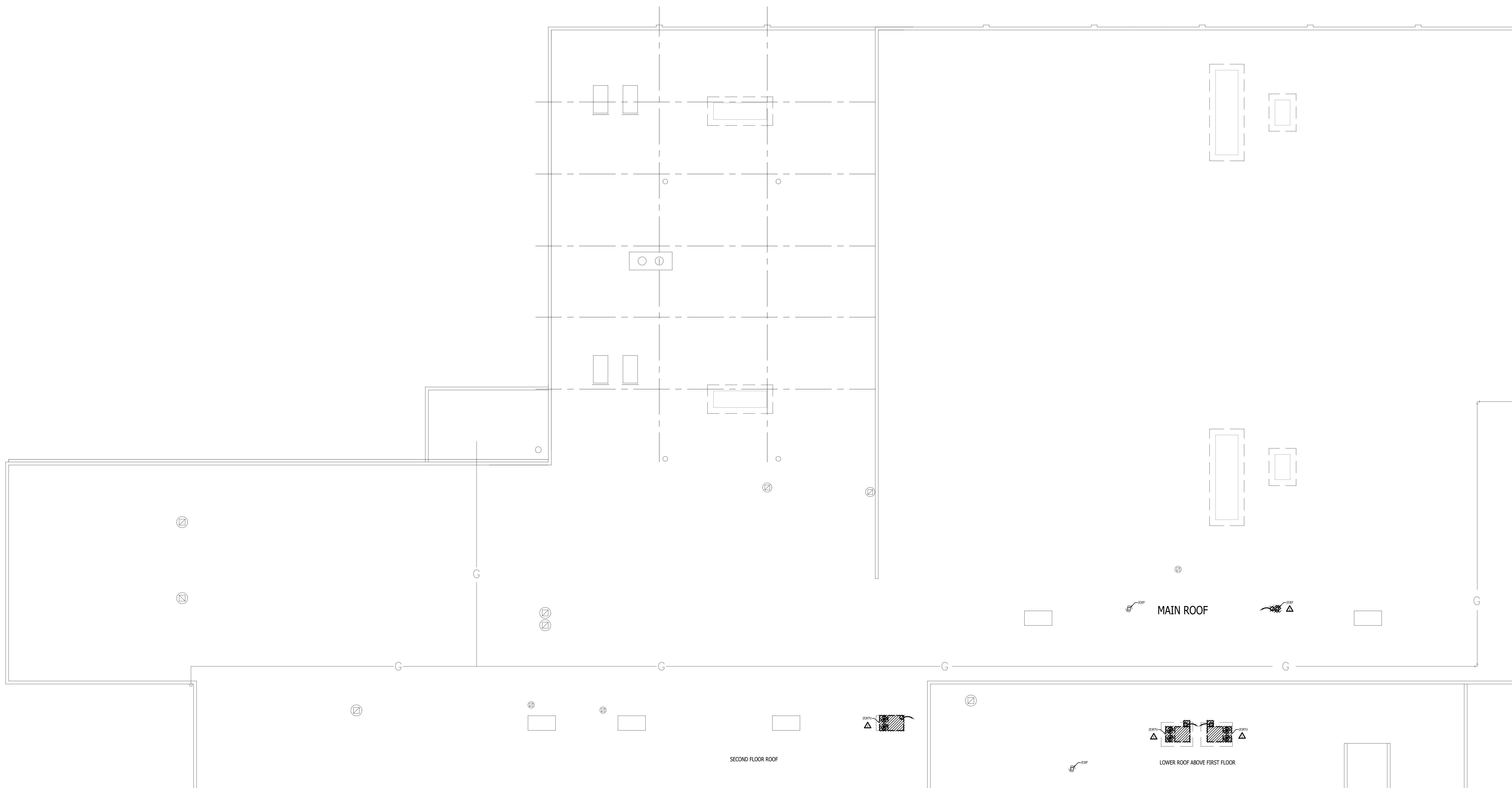
ELECTRICAL LIGHTING DEMOLITION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



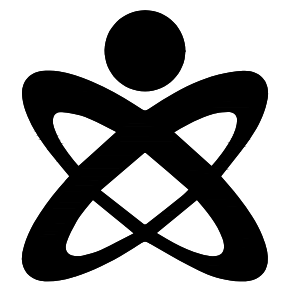


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G	ALL ITEMS ON DEMOLITION PLAN SHALL BE CONSIDERED EXISTING UNLESS OTHERWISE NOTED. ALL WORK INDICATED ON PLANS HAS BEEN LOCATED PER EXISTING DRAWINGS AND/OR FIELD OBSERVATION AND REQUIRES FIELD VERIFICATION.
H	ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE DUCT WORK PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.

DEMOLITION KEYED NOTES	
1	PACKAGED ROOF TOP UNIT BEING REMOVED COMPLETE BY MECHANICAL TRADES. ELECTRICAL CONTRACTOR TO DISCONNECT AND REMOVE COMPLETE BACK TO SOURCE INCLUDING CONDUIT AND WIRING. RETAIN BREAKER AS SPARE, UPDATE PANEL SCHEDULE.
2	EXHAUST FAN BEING REMOVED COMPLETE BY MECHANICAL TRADES. ELECTRICAL CONTRACTOR TO DISCONNECT AND REMOVE COMPLETE BACK TO SOURCE INCLUDING CONDUIT AND WIRING. RETAIN BREAKER AS SPARE, UPDATE PANEL SCHEDULE.



ELECTRICAL POWER DEMOLITION ROOF PLAN
SCALE: 1/16" = 1'-0"

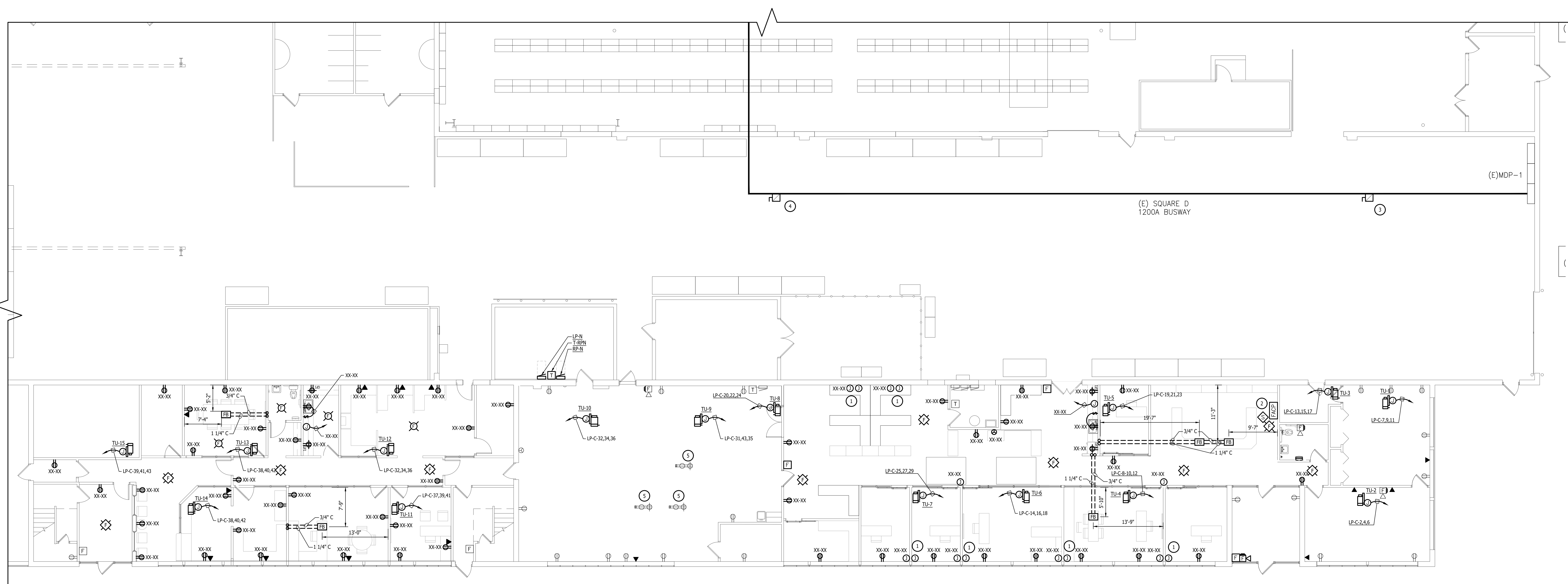


POWER GENERAL NOTES

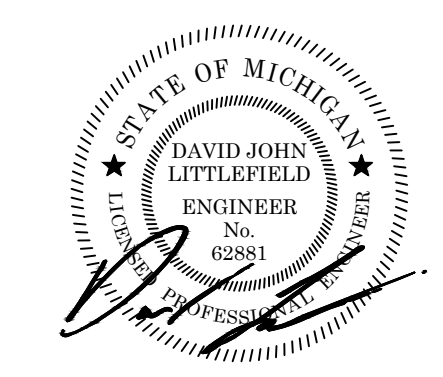
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B	EXCEPT FOR CHANGES AS MAY BE SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD IN ACCORDANCE WITH ALTERNATES OF OPTIONS AS STATED HEREINAFTER, ALL WORK MUST BE IN FULL ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. SYSTEMS ARE TO BE COMPLETE, EFFICIENT, AND SATISFACTORY OPERATION WHEN PROJECT IS DELIVERED TO THE OWNER.
D	CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVAL FROM GOVERNING AUTHORITIES AND FILE NECESSARY FORMS, PAY ALL INSPECTION FEES.
E	ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE, LIFE SAFETY CODE AND APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
F	ELECTRICAL EQUIPMENT AND WIRING SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.
G	WIRING SHALL BE IN CONDUIT. CONDUIT SHALL BE 3/4" CONDUIT MINIMUM. CONDUITS IN FINISHED AREAS SHALL BE CONCEALED.
H	NEW WIRES SHALL BE TYPE THHN. MINIMUM SIZE SHALL BE #12 AWG, UNLESS OTHERWISE NOTED. FINAL CONNECTIONS TO EQUIPMENT, FURNISHED AND INSTALLED BY OTHERS, SHALL BE PROVIDED BY THIS CONTRACTOR.
J	ALL PA AND SPEAKER SCOPE BY OTHERS. REFER TO TECH DRAWINGS FOR FURTHER INFORMATION.

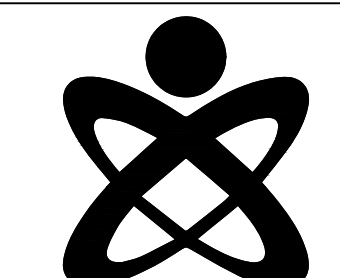
NEW WORK KEYED NOTES

1	NEW JUNCTION BOX (1) FOR POWER AND (1) FOR DATA. VERIFY EXACT LOCATION WITH FURNITURE PLANS PRIOR TO ROUGH IN.
2	RELOCATED FIRE ALARM CONTROL PANEL.
3	PROVIDE NEW BUS PLUG FOR RTU-1
4	PROVIDE NEW BUS PLUG FOR PANEL LP-N
5	RE-SUPPORT POWER POLE AFTER INSTALLATION OF NEW GRID CEILING.



ELECTRICAL POWER NEW WORK FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



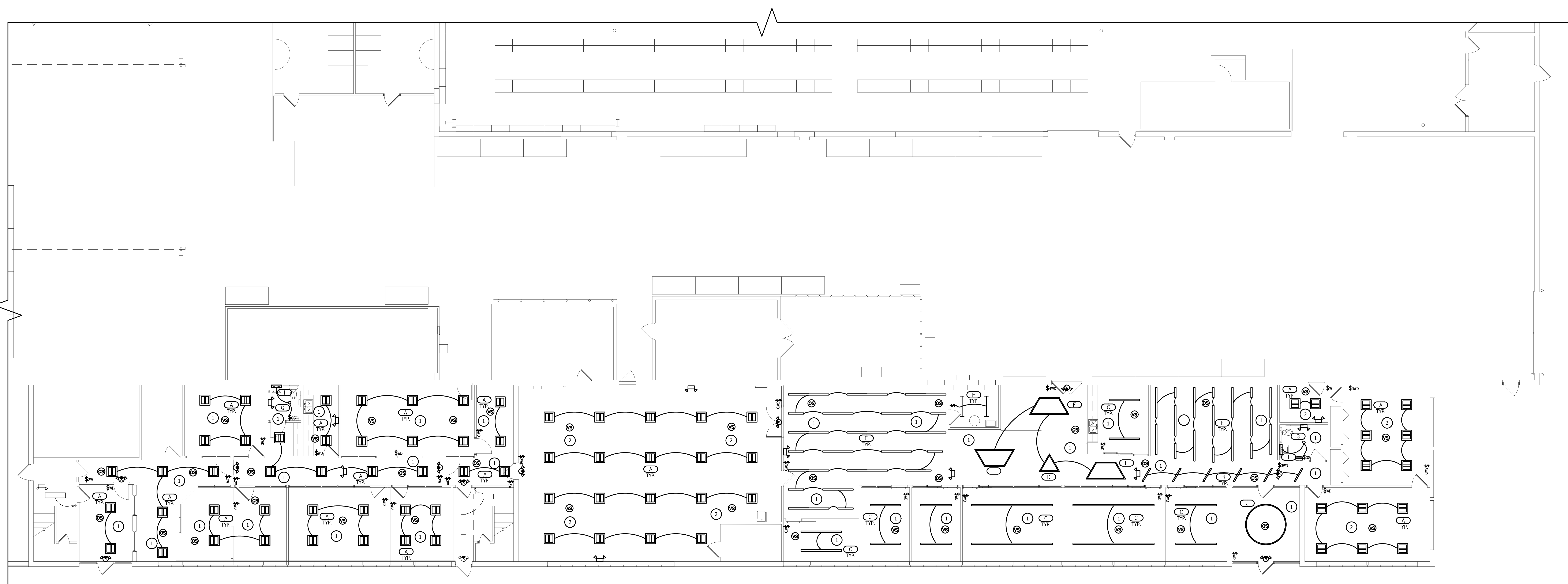


LIGHTING GENERAL NOTES

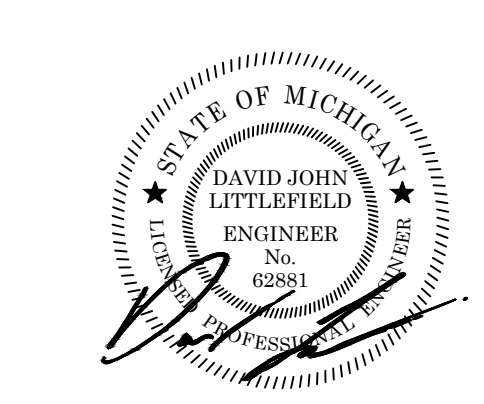
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F	VERIFY DEPTH, SIZE, LOCATIONS, AND CONDITIONS OF EXISTING UTILITIES IN THE FIELD, INCLUDING POINTS OF CONNECTION PRIOR TO STARTING ANY WORK.
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H	ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE DUCT WORK PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.
J	ALL SWITCHES SHALL BE WHITE WITH BRUSHED SILVER COVERPLATE.

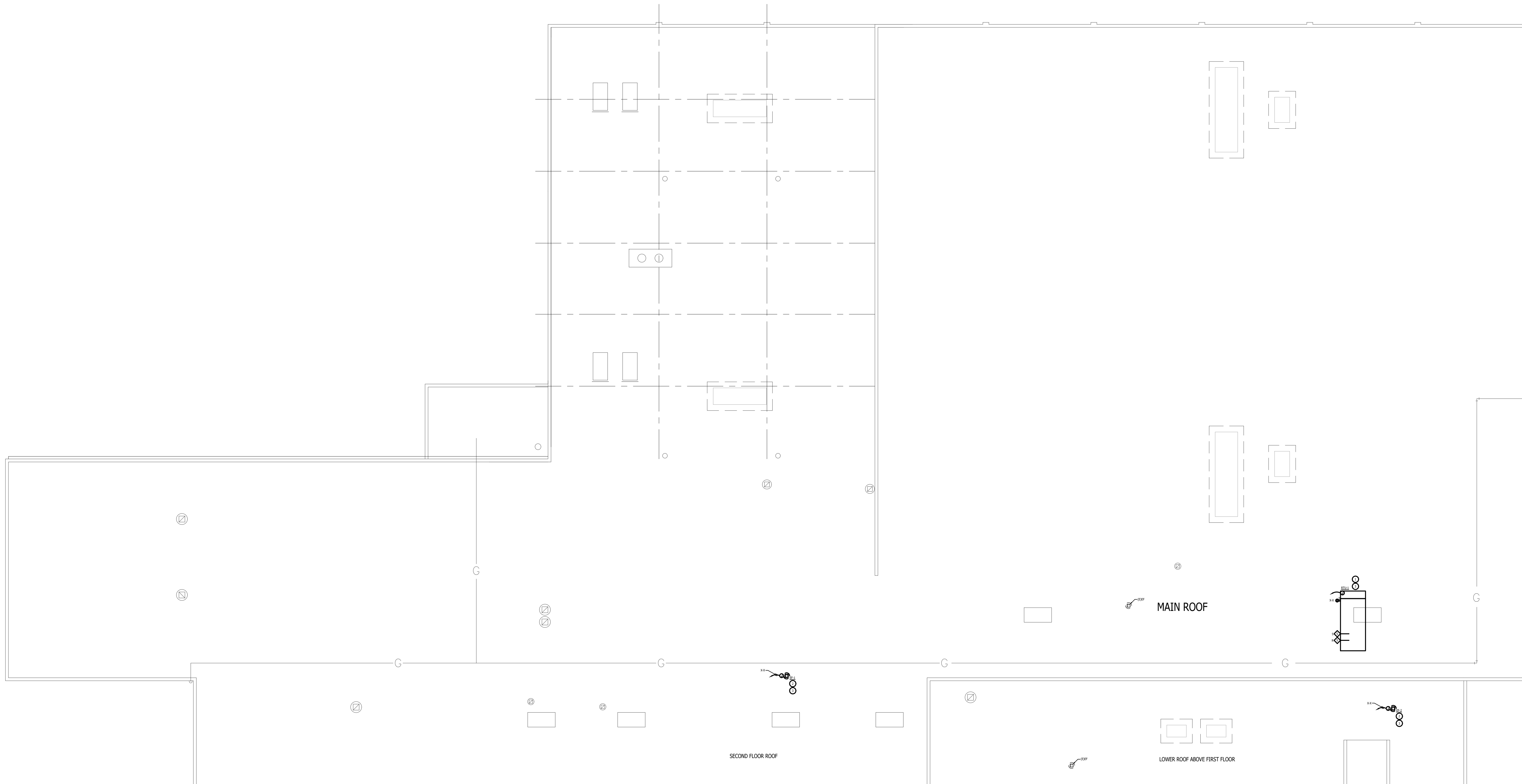
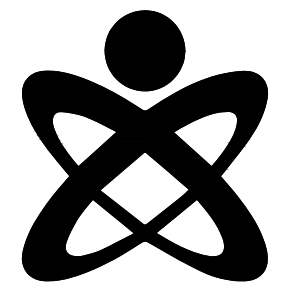
(X) NEW WORK KEYED NOTES

1	NEW LED FIXTURES. PROVIDE NEW CONTROL SENSORS AND SWITCHING AS SHOWN. PROVIDE NEW WIRELESS LIGHTING CONTROL SYSTEM. PROVIDE ALL PROGRAMMING AS REQUIRED FOR A COMPLETE SYSTEM.
2	NEW LED FIXTURES TO REPLACE EXISTING FIXTURES. PROVIDE NEW CONTROL SENSORS AND SWITCHING AS SHOWN. CONNECT TO EXISTING CIRCUIT AVAILABLE AS A RESULT OF DEMOLITION IN THIS AREA. ALL WIRING AND CONDUIT SHALL BE NEW. RE-USE EXISTING SWITCH LOCATIONS FOR NEW SWITCHES. PROVIDE NEW WIRELESS LIGHTING CONTROL SYSTEM. PROVIDE ALL PROGRAMMING AS REQUIRED FOR A COMPLETE SYSTEM.



ELECTRICAL LIGHTING NEW WORK FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

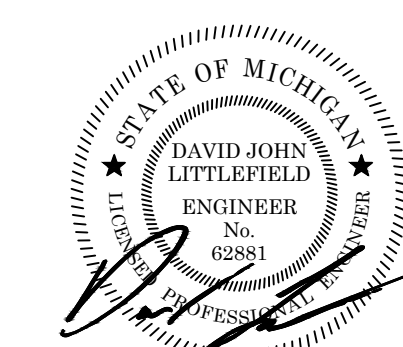


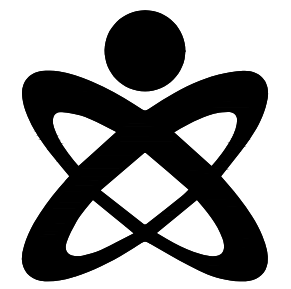


POWER GENERAL NOTES	
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H	NEW WIRES SHALL BE TYPE THHN. MINIMUM SIZE SHALL BE #12 AWG, UNLESS OTHERWISE NOTED. FINAL CONNECTIONS TO EQUIPMENT, FURNISHED AND INSTALLED BY OTHERS, SHALL BE PROVIDED BY THIS CONTRACTOR.
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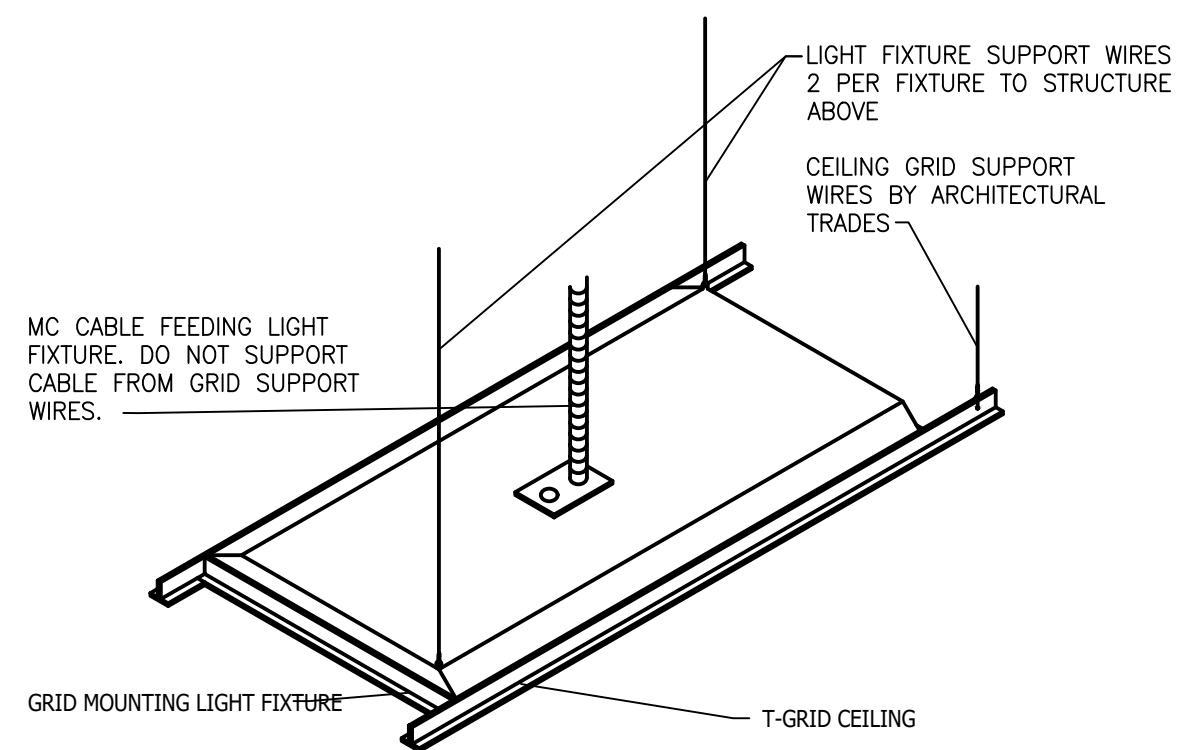
NEW WORK KEYED NOTES	
1	NEW PACKAGED ROOF TOP UNIT INSTALLED BY MECHANICAL TRADES. ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL ELECTRICAL CONNECTIONS TO EXISTING BUSWAY USING NEW CONDUIT AND WIRING. PROVIDE DUCT SMOKE DETECTORS FOR RTU. PROVIDE NEW GFCI SERVICE RECEPTACLE WITH WHILE IN USE COVER.
2	NEW EXHAUST FAN INSTALLED BY MECHANICAL TRADES. ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL ELECTRICAL CONNECTIONS USING NEW CONDUIT AND WIRING.
3	ALL FEEDERS TO MECHANICAL EQUIPMENT ON ROOF SHALL BE RUN ABOVE CEILING AND STUB UP TO DISCONNECT. NO CONDUIT TO BE RUN EXPOSED ON THE ROOF.

ELECTRICAL POWER NEW WORK ROOF PLAN
SCALE: 1/16" = 1'-0"





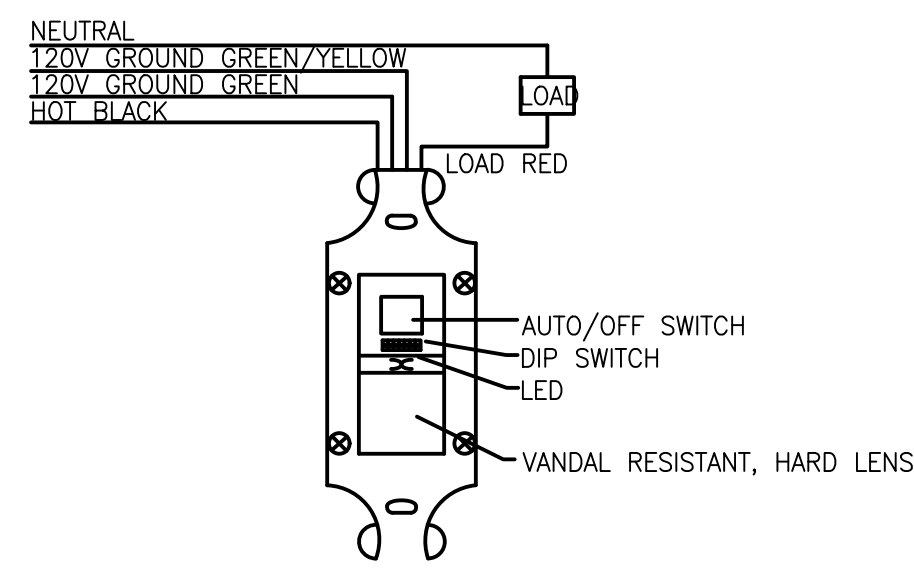
**MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036**



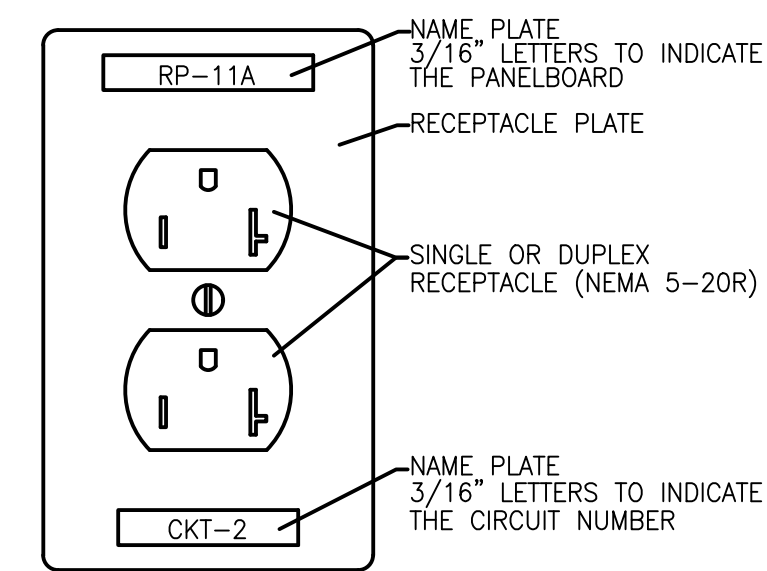
T-GRID FIXTURE MOUNTING DETAIL
NO SCALE

ELECTRICAL FIXTURES

- PENDANT MOUNTED FIXTURES SHALL BE DIRECTLY SUPPORTED FROM THE STRUCTURE ABOVE USING A #9 GAUGE WIRE OR AN APPROVED ALTERNATE SUPPORT WITHOUT USING THE CEILING SUSPENSION SYSTEM FOR DIRECT SUPPORT.
- TANDEM FIXTURES MAY UTILIZE COMMON WIRES.



**OFFICE OCCUPANCY
SENSOR SCHEMATIC**
NO SCALE



**DETAIL OF BRANCH CIRCUIT NUMBER
ON RECEPTACLE PLATE**
NO SCALE

ELECTRICAL DETAILS

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

DRAWN BY TJO

CHECKED BY DJL

REVISIONS

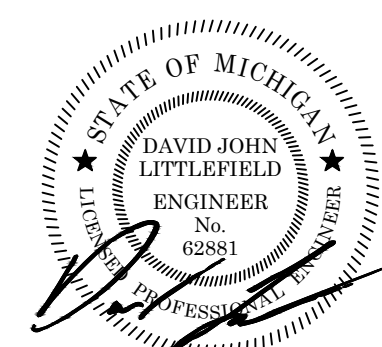
BIOS 10/31/2024

DATE: OCTOBER 31, 2024

SHEET NO.

E5.00

JOB NO.
211916





MACOMB COUNTY PURCHASING RENOVATION -VIC WERTZ RENOVATION - RTU_BOILER REPLACEMENT 44900 Vic Wertz Drive, Clinton Township, MI 48036

ELECTRICAL PANEL SCHEDULES

PRELIMINARY [] DESIGN DEVELOPMENT [] CONSTRUCTION [] FINAL RECORD []

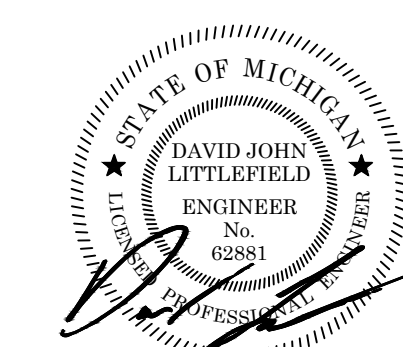
DRAWN BY: TJO CHECKED BY: DJL

REVISIONS: 10/31/2024

DATE: OCTOBER 31, 2024 SHEET NO.

E6.00

JOB NO. 211916



Panel Designation: (E) LP-C. Main: 200A MLO. Bussing: 200A N. Ground Bus: STANDARD. P-P Voltage: 480. P-N Voltage: 277. Phase: 3. Wire: 4. Includes load schedule table with columns for Remarks, Light Load, Recept Load, Cont Load, nonC Load, OC Prof, Ckt A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, and Remarks.

Panel Designation: LP-N. Main: 200A MCB. Bussing: 250A. Ground Bus: STANDARD. P-P Voltage: 480. P-N Voltage: 277. Phase: 3. Wire: 4. Includes load schedule table with columns for Remarks, Light Load, Recept Load, Cont Load, nonC Load, OC Prof, Ckt A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, and Remarks.

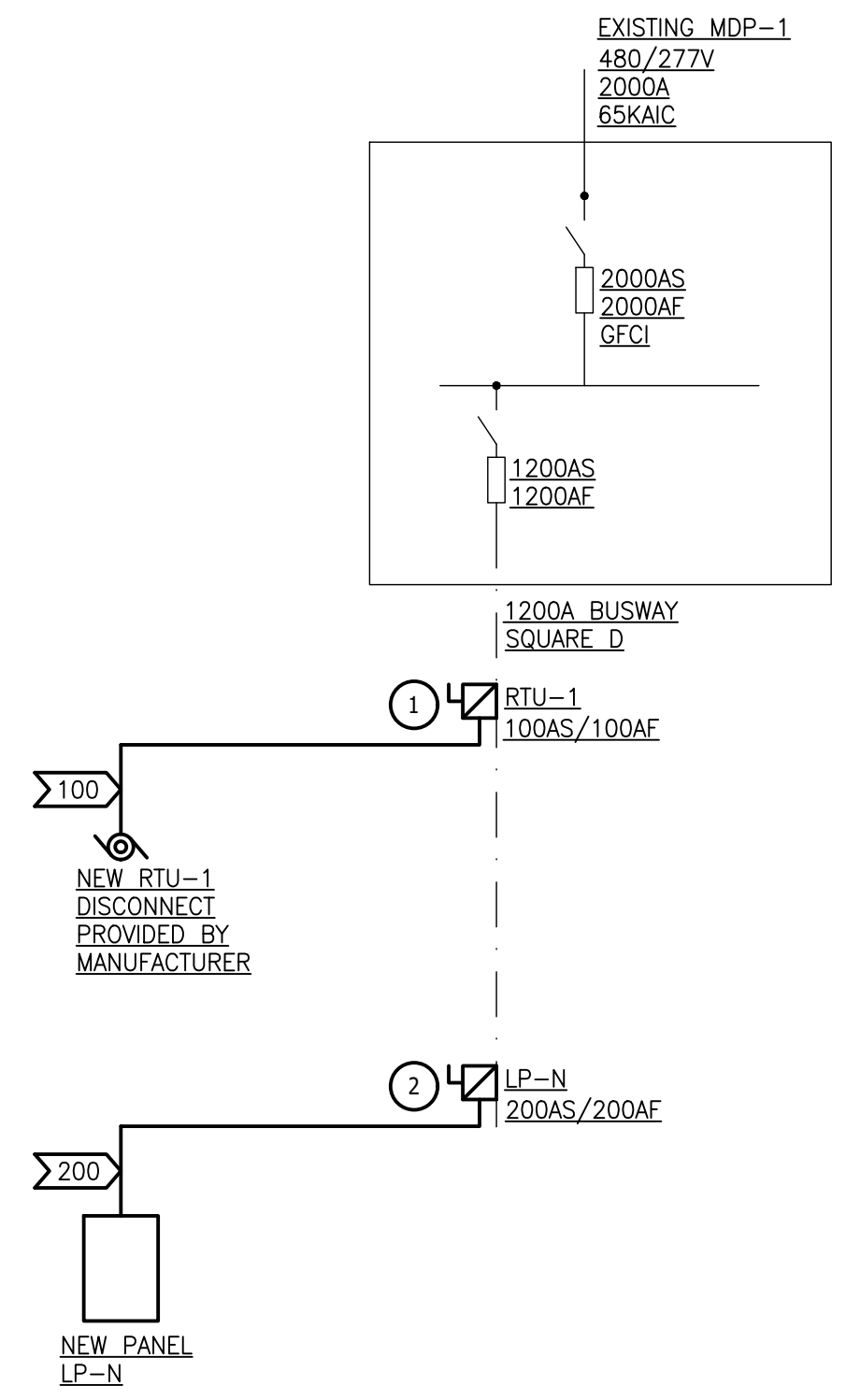
Panel Designation: (E) RP-A. Main: 150MCS. Bussing: 150A. Ground Bus: STANDARD. P-P Voltage: 208. P-N Voltage: 120. Phase: 3. Wire: 4. Includes load schedule table with columns for Remarks, Light Load, Recept Load, Cont Load, nonC Load, OC Prof, Ckt A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, and Remarks.

Panel Designation: RP-N. Main: MLO. Bussing: 100A. Ground Bus: STANDARD. P-P Voltage: 208. P-N Voltage: 120. Phase: 3. Wire: 4. Includes load schedule table with columns for Remarks, Light Load, Recept Load, Cont Load, nonC Load, OC Prof, Ckt A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, and Remarks.

Panel Designation: (E) RP-B. Main: 100A MLO. Bussing: 100A. Ground Bus: STANDARD. P-P Voltage: 208. P-N Voltage: 120. Phase: 3. Wire: 4. Includes load schedule table with columns for Remarks, Light Load, Recept Load, Cont Load, nonC Load, OC Prof, Ckt A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, and Remarks.

1200A BUSWAY SERVICE LOAD SUMMARY

	CONNECTED LOAD	DEMAND LOAD
RTU-1	73.2 KVA	73.2 KVA
LP-N	78.1 KVA	70.3 KVA
TOTAL	151.3 KVA	143.5 KVA
TOTAL DEMAND LOAD:	143.5 KVA	172.6 AMPS



PARTIAL ONE- LINE DIAGRAMS
NO SCALE

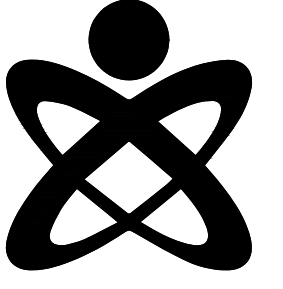
FEEDER (AMPS)	COND. SIZE	COPPER FEEDER AND CONDUIT SIZES	
		3 WIRE WITH GROUND	4 WIRE WITH GROUND
>50	8	3/4" 3#8 & 1#10 GRD.	3/4" 4#8 & 1#10 GRD.
>60	6	3/4" 3#6 & 1#10 GRD.	3/4" 4#6 & 1#10 GRD.
>80	4	1" 3#4 & 1#8 GRD.	1" 4#4 & 1#8 GRD.
>100	3	1 1/4" 3#3 & 1#8 GRD.	1 1/4" 4#3 & 1#8 GRD.
>125	1	1 1/2" 3#1 & 1#6 GRD.	1 1/2" 4#1 & 1#6 GRD.
>150	1/0	2" 3#1/0 & 1#6 GRD.	2" 4#1/0 & 1#6 GRD.
>175	2/0	1 1/2" 3#2/0 & 1#6 GRD.	1 1/2" 4#2/0 & 1#6 GRD.
>200	3/0	2" 3#3/0 & 1#6 GRD.	2" 4#3/0 & 1#6 GRD.
>225	4/0	2 1/2" 3#4/0 & 1#4 GRD.	2 1/2" 4#4/0 & 1#4 GRD.
>250	1-250	2 1/2" 3#250 & 1#4 GRD.	2 1/2" 4#250 & 1#4 GRD.
>300	1-350	2 1/2" 3#350 & 1#4 GRD.	2 1/2" 4#350 & 1#4 GRD.
>400	1-600	3" 3#600 & 1#3 GRD.	3 1/2" 4#600 & 1#3 GRD.
>500	2-250	(2) 2 1/2" 3#250 & 1#2 GRD.	(2) 3" 4#250 & 1#2 GRD.
>600	2-350	(2) 3" 3#350 & 1#1 GRD.	(2) 3" 4#350 & 1#1 GRD.
>800	2-600	(2) 3" 3#600 & 1#2/0 GRD.	(2) 3 1/2" 4#600 & 1#2/0 GRD.
>1000	3-500	(3) 3" 3#500MCM & 1#1/0 GRD.	(4) 3" 3#500MCM & 1#1/0 GRD.

- NEW WORK KEYED NOTES**
- PROVIDE NEW 100A FUSIBLE SWITCH BUS PLUG IN EXISTING SQUARE D BUSWAY. MATCH EXISTING BUSWAY AIC RATING.
 - PROVIDE NEW 200A FUSIBLE SWITCH BUS PLUG IN EXISTING SQUARE D BUSWAY. MATCH EXISTING BUSWAY AIC RATING.



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MACOMB COUNTY PURCHASING RENOVATION
-VIC WERTZ RENOVATION - RTU_BOILER REPLACEMENT
44900 Vic Wertz Drive, Clinton Township, MI 48036

ONE-LINE RISER DIAGRAMS

- PRELIMINARY
- DESIGN DEVELOPMENT
- CONSTRUCTION
- FINAL RECORD

DRAWN BY: TJO
CHECKED BY: DJL

REVISIONS
BIDS: 10/31/2024

DATE: OCTOBER 31, 2024
SHEET NO.

E7.00

JOB NO.
211916

