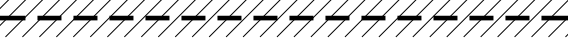
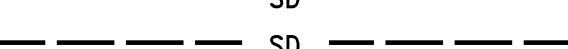
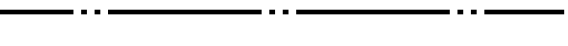
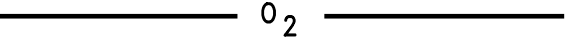
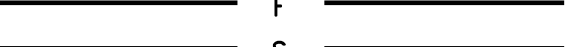
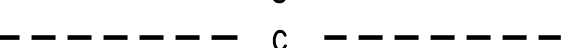
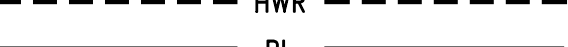
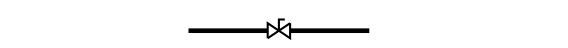
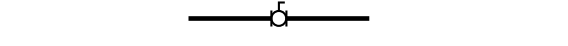
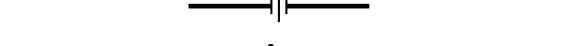
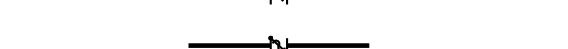
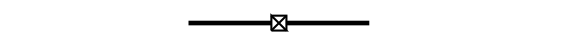
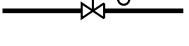
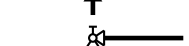
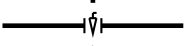
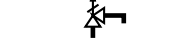
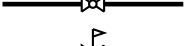
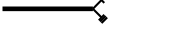
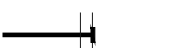
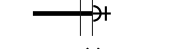
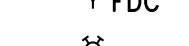
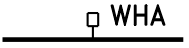
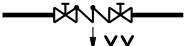
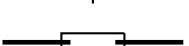
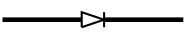
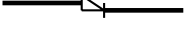
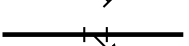
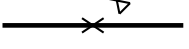
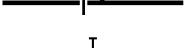
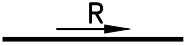
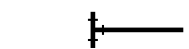
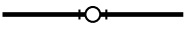
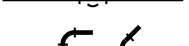
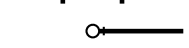
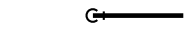
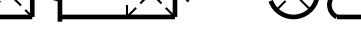


MECHANICAL SYMBOLS AND ABBREVIATIONS		
SYMBOL	ABBREV.	DESCRIPTION
	(D)	PIPING / EQUIPMENT TO BE REMOVED
	(N)	PIPING / EQUIPMENT TO BE PROVIDED
	(E)	PIPING / EQUIPMENT TO REMAIN
	(F)	FUTURE PIPING / EQUIPMENT
	W	SANITARY DRAIN (ABOVE GRADE DRAIN)
	W	SANITARY DRAIN (BELOW GRADE DRAIN)
	W	SANITARY DRAIN (PUMPED)
	SD	STORM DRAIN (ABOVE GRADE DRAIN)
	SD	STORM DRAIN (BELOW GRADE DRAIN)
	V	VENT
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN
	G	NATURAL GAS
	AIR	COMPRESSED AIR
	P	PROPANE
	O ₂	OXYGEN
	F	FIRE PROTECTION
	S	STEAM (15 PSIG)
	C	CONDENSATE RETURN
	PC	CONDENSATE RETURN (PUMPED)
	HWS	HEATING WATER SUPPLY (LOW TEMP)
	HWR	HEATING WATER RETURN
	RL	REFRIGERANT LIQUID LINE
	RS	REFRIGERANT SUCTION LINE
	CHS	CHILLED WATER SUPPLY
	CHR	CHILLED WATER RETURN
	CWS	CONDENSING WATER SUPPLY
	CWR	CONDENSING WATER RETURN
	D	DRAIN (INDIRECT)
		TRIPLE DUTY VALVE
		BALL VALVE
		BUTTERFLY VALVE
		CHECK, SWING VALVE
		CHECK, SPRING VALVE
		BALANCING VALVE
		FLOW CONTROL VALVE
		FLOAT VALVE
		GATE VALVE
		GATE ANGLE VALVE
		GLOBE ANGLE VALVE
		PLUG VALVE
		SAFETY RELIEF VALVE
		GLOBE VALVE
		PRESSURE REDUCING VALVE
		SOLENOID VALVE
		2-WAY CONTROL VALVE
		3-WAY CONTROL VALVE
		HOSE BIB
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	WCO	WALL CLEAN OUT
	CB	CATCH BASIN
		WALL HYDRANT / HOSE BIB
		FIRE DEPARTMENT CONNECTION
		FIRE HYDRANT
		WATER HAMMER ARRESTOR
	BFP	BACKFLOW PREVENTER, DOUBLE CHECK
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
		CAP
		UNION
		EXPANSION JOINT
		FLEXIBLE JOINT
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER STRAIGHT INVERT
		ECCENTRIC REDUCER STRAIGHT CROWN
		STRAINERS/FILTERS Y-PATTERN W/ PLUG
		STRAINERS/FILTERS Y-PATTERN W/ BLOWOFF
		ANCHOR
		GUIDE
	AAV	AUTOMATIC AIR VENT
		PETE'S PLUG
		RISE
		TEE
		TEE, OUTLET UP
		TEE, OUTLET DOWN
		ELBOW
		ELBOW, OUTLET UP
		ELBOW, OUTLET DOWN
	/	AND/OR
	CL	CENTER LINE
	Ø	DIAMETER/PHASE
	#	NUMBER/POUNDS

MECHANICAL SYMBOLS AND ABBREVIATIONS		
SYMBOL	ABBREV.	DESCRIPTION
	SA	SUPPLY DUCT TURN UP
	SA	SUPPLY DUCT TURN DOWN
	RA	RETURN AIR
	EXH	EXHAUST
	OSA	OUTSIDE AIR
	FSD	FIRE SMOKE DAMPER
	FD	FIRE DAMPER
	MVD	MANUAL VOLUME DAMPER
		MOTORIZED DAMPER
		BACKDRAFT DAMPER
		TEMPERATURE SENSOR
		WALL MOUNTED THERMOSTAT
		CEILING MOUNTED THERMOSTAT
		ACOUSTICAL LINER
		FLEXIBLE DUCT
		EQUIPMENT CONNECTION
		DUCT PRESSURE CLASS SYMBOL
		SUPPLY DIFFUSER/GRILLE
		RETURN DIFFUSER/GRILLE
		EXHAUST DIFFUSER/GRILLE
		LINEAR SLOT DIFFUSER
		SIDEWALL DIFFUSER/GRILLE
		DETAIL/SECTION NUMBER
		DRAWING WHERE DETAIL/SECTION APPEARS
		POINT OF CONNECTION TO (E)
		NEW EQUIPMENT IDENTIFICATION
		NEW EQUIPMENT MARK
		NEW EQUIPMENT NUMBER
		EXISTING EQUIPMENT IDENTIFICATION
		EXISTING EQUIPMENT MARK
		EXISTING EQUIPMENT NUMBER
		NECK SIZE (IN)
		DIFFUSER/GRILLE MARK
		CFM
	AD	ACCESS DOOR
	AFF	ABOVE FINISHED FLOOR
	APD	AIR PRESSURE DROP
	AVG	AVERAGE
	BHP	BRAKE HORSEPOWER
	BI	BACKWARD INCLINED (FAN)
	BLDG	BUILDING
	BOD	BOTTOM OF DUCT
	BOP	BOTTOM OF PIPE
	BTU	BRITISH THERMAL UNIT
	BTUH	BTU PER HOUR
	CFM	CUBIC FEET PER MINUTE
	CO	CLEAN OUT
	COTG	CLEAN OUT TO GRADE
	COND	CONDENS - (ER, ING, ATE)
	CONT	CONTINU - (E, ED, OUS, ATION)
	CU FT	CUBIC FEET
	dB	DECIBEL
	DB	DRY BULB
	DDC	DIRECT DIGITAL CONTROL(S)
	DEG	DEGREE
	DEMO	DEMOLISH(ED)
	DIA	DIAMETER
	DN	DOWN
	DS	DOWNSPOUT
	EA	EACH
	EAT	ENTERING AIR TEMPERATURE
	EFF	EFFICIENCY
	ELEV	ELEVATION
	ELEC	ELECTRIC(AL)
	ENT	ENTERING
	EQUIP	EQUIPMENT
	ESP	EXTERNAL STATIC PRESSURE
	EWT	ENTERING WATER TEMPERATURE
	EXH	EXHAUST (AIR)
	EXIST	EXISTING
	F	FAHRENHEIT

MECHANICAL ABBREVIATIONS	
ABBREV.	DESCRIPTION
FC	FORWARD CURVED (FAN)
FCO	FLOOR CLEAN OUT
FF	FINISHED FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FA	FREE AREA
FT	FOOT OR FEET
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD / HUB DRAIN
HG	MERCURY
HOA	HAND OFF AUTO
HP	HEAT PUMP / HORSEPOWER
HR	HOUR
HTG	HEATING
HZ	HERTZ (FREQUENCY)
IE	INVERT ELEVATION
IN	INCH(ES)
KW	KILOWATT
HWH	KILOWATT-HOUR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSANDS)
MECH	MECHANICAL
MIN	MINIMUM
N/A	NOT APPLICABLE
NC	NOISE CRITERIA / NORMALLY CLOSED
NIC	NOT IN CONTRACT
NIM	NOT IN MECHANICAL
NO	NORMALLY OPEN / NUMBER
NTS	NOT TO SCALE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER / OVERFLOW DRAIN
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OSA	OUTSIDE AIR
PD	PRESSURE DROP/ DIFFERENCE
PH	PHASE
PPM	PARTS PER MILLION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	PSI, ABSOLUTE
PSIG	PSI, GAUGE
P&T	PRESSURE & TEMPERATURE RELIEF VALVE
R	RADIUS
RA	RETURN (AIR)
RD	ROOF DRAIN
RECIRC	RECIRCULAT - (E, ING, OR)
REQ	REQUIRED
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY (AIR)
SAT	SATURATION
SCFM	CFM, STANDARD CONDITIONS
SD	SMOKE DAMPER / STORM DRAIN
SEC	SECOND
SF	SQUARE FEET
SP	STATIC PRESSURE
SPEC	SPECIFICATION(S)
SQ FT	SQUARE FEET
SS	STAINLESS STEEL
STD	STANDARD
STRUCT	STRUCTURAL
SYS	SYSTEM
TEMP	TEMPERATURE
TONS	TONS OF REFRIGERATION
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
VAC	VACUUM
VAV	VARIABLE AIR VOLUME (BOX/UNIT/SYSTEM)
VD	VOLUME DAMPER
VEL	VELOCITY
VENT	VENTILATION
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
VVT	VARIABLE VOLUME AND TEMPERATURE
W/	WITH
W	WASTE/WATT
WB	WET BULB
WPD	WATER PRESSURE DROP
WT	WEIGHT

DRAWING INDEX	
DWG.	DESCRIPTION
MT0.1	MECHANICAL TITLE SHEET
NOTE:	
NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED.	
PRELIMINARY NOT FOR CONSTRUCTION	

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DRAWN BY:
CHECKED BY:
CAD FILE:
DATE: 05/20/20

REVISIONS
Δ DATE DESCRIPTION

CONTENTS:
MECHANICAL
DETAILS

SHEET NO:

MT0.1

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VAV TERMINAL BOX																			
SYMBOL MARK	DESCRIPTION	SERVICE	CFM			MINIMUM PRESSURE DROP (IN. W.C.) NOTE 3	RATED PRESSURE DROP (IN. W.C.) NOTE 3	RADIATED SOUND (NC) NOTE 4	DISCHARGE SOUND (NC) NOTE 4	TSP (N WC)	INLET SIZE (IN)	HEATING COIL						WEIGHT (LBS)	COMMENTS
			CLG	HTG	MIN.							KW	STEPS	VOLTAGE	PH.	EAT (°F)	LAT (°F)		
VAV-1-1	SINGLE DUCT	ENTRY HALL	1,200			< 0.10	1.50	< 29	< 28		12						80		
VAV-1-2	SINGLE DUCT	LOUNGE / DINNING	1,200								12						80		
VAV-1-3	SINGLE DUCT	COLLABORATIVE NORTH	900								10						90		
VAV-1-4	SINGLE DUCT	MEETING 2	200								5						80		
VAV-1-5	SINGLE DUCT	MEETING 1	250								6						80		
VAV-2-1	SINGLE DUCT	SEMI PRIVATE OFFICES	1,400								12						80		
VAV-2-2	SINGLE DUCT	CONFERENCE 2	500								7						80		
VAV-2-3	SINGLE DUCT	CONFERENCE 3	500								7						80		
VAV-2-4	SINGLE DUCT	MEASURING	650								7						80		
VAV-2-5	SINGLE DUCT	MEN AND WOMEN RR	900								8						80		
VAV-2-6	SINGLE DUCT	EXEC OFFICE 1	200								5						80		
VAV-2-7	SINGLE DUCT	EXEC OFFICE 2	250								5						90		
NOTES: 1 STATIC PRESSURE DROP FROM UNIT INLET TO UNIT OUTLET. 2 PER AHRI 885-2008.																			

ROOF TOP UNIT																									
SYMBOL MARK	DESCRIPTION	SERVICE	CFM	VOLTAGE	PH.	HP	BHP	MCA	MOCP	ESP (IN WC)	RPM	NOMINAL CAPACITY (TONS)	EAT (°F)	AMBIENT (°F)	EER	SEER	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	AFUE (%)	EXHAUST			MINIMUM OSA CFM	WEIGHT (LBS)	COMMENTS
																				CFM	ESP (IN WC)	HP			
RTU-1	VERTICAL	OFFICE (WEST)	8,000									20	75	95						80	8,000				1, 2, 3, 5, 6, 8
RTU-2	VERTICAL	OFFICE (EAST)	8,000									20								80	8,000				1, 2, 3, 5, 6, 8
RTU-3	VERTICAL	SHOP (WEST)	12,000									30								80	12,000				1, 2, 4, 6, 7
RTU-4	VERTICAL	SHOP (EAST)	12,000									30								80	12,000				1, 2, 4, 6, 7
NOTES:																									
1 BASIS OF DESIGN: AAOB MODEL RN																									
2 INSTALL RETURN AIR DUCT SMOKE DETECTOR TO SHUT DOWN UNIT UPON DETECTION OF SMOKE. COORDINATE ELECTRICAL AND FIRE ALARM CONNECTIONS WITH OTHER TRADES.																									
3 PROVIDE VIBRATION ISOLATION CURB.																									
4 PROVIDE PLENUM CURB FOR HORIZONTAL SUPPLY AND RETURN.																									
5 PROVIDE CARBON DIOXIDE OUTSIDE AIR CONTROL MODULATE MINIMUM OUTSIDE AIR BETWEEN INDICATED SETTINGS TO MAINTAIN ZONE CARBON DIOXIDE LEVEL OF 400 PPM (ADJUSTABLE).																									
6 PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER.																									
7 PROVIDE VAV TWO SPEED CONTROL.																									
8 PROVIDE MODULATING VAV WITH FACTORY MOUNTED SUPPLY AND EXHAUST VFD																									

OUTSIDE AIR VENTILATION SINGLE ZONE SYSTEMS															
ROOM DESCRIPTION	A _Z ROOM AREA (SF)	OCCUPANT DENSITY (PEOPLE/1000 SF)	CODE MAX. OCCUPANCY (PEOPLE)	P _Z ACTUAL OCCUPANCY (PEOPLE)	R _o VENTILATION FACTOR (CFM/PERSON)	R _A AREA OUTDOOR AIR RATE (CFM/SF)	V _{BZ} BREATHING ZONE VENTILATION (CFM)	E _Z AIR DISTRIBUTION EFFECTIVENESS	V _{OZ} ZONE OUTDOOR AIRFLOW (CFM)	EXHAUST AIRFLOW RATE (CFM/SF)	EXHAUST AIRFLOW (CFM)	NATURAL VENTILATION			COMMENTS
												YES OR NO	AREA REQUIRED (SF)	AREA AVAILABLE (SF)	
MULTIPURPOSE #1	1,200	50	60	71	5.0	0.06	427	0.8	534		0	NO	N/A	0	
MULTIPURPOSE #2	1,200	50	60	71	5.0	0.06	427	0.8	534		0	NO	N/A	0	
ENTRY/RECEPTION	650	30	20	20	5.0	0.06	139	0.8	174		0	NO	N/A	0	
MEETING 1	175	50	9	9	5.0	0.06	56	0.8	70		0	NO	N/A	0	
MEETING 2	175	50	9	9	5.0	0.06	56	0.8	70		0	NO	N/A	0	
COLLABORATIVE SPACE	1,400	5	7	7	5.0	0.06	119	0.8	149		0	NO	N/A	0	
MEN	180	0	0	0	0.0	0.00	0	0.8	0		200	NO	N/A	0	
WOMEN	180	0	0	0	0.0	0.00	0	0.8	0		200	NO	N/A	0	
JANITOR	70	0	0	0	0.0	0.00	0	0.8	0	1.00	100	NO	N/A	0	
WC	65	0	0	0	0.0	0.00	0	0.8	0		100	NO	N/A	0	
LOUNGE/DINING	1,060	50	53	53	5.0	0.06	329	0.8	412		0	NO	N/A	0	
LAB 2	655		0	0			0	0.8	0		0	NO	N/A	0	
TOTAL OUTSIDE AIR/EXHAUST AIR REQUIRED FOR RTU-1									1,943		600				
MAIL/CORRIDOR	400	0	0	0	0.0	0.06	24	0.8	30		0	NO	N/A	0	
CALL BOOTHS	120	5	1	1	5.0	0.06	13	0.8	17		0	NO	N/A	0	
DATA/ELEC	75	0	0	0	0.0	0.00	0	0.8	0		0	NO	N/A	0	
PRINTING/OFFICE SUPPLY	215	5	2	2	5.0	0.06	23	0.8	29		0	NO	N/A	0	
SEMI PRIVATE OFFICES	500	5	3	3	5.0	0.06	45	0.8	57		0	NO	N/A	0	
CONFERENCE 1	300	50	15	15	5.0	0.06	93	0.8	117		0	NO	N/A	0	
CONFERENCE 2	300	50	15	15	5.0	0.06	93	0.8	117		0	NO	N/A	0	
OPEN OFFICE/WORK PODS	2,000	5	10	10	5.0	0.06	170	0.8	213		0	NO	N/A	0	
EXECUTIVE OFFICE 1	160	5	1	1	5.0	0.06	15	0.8	19		0	NO	N/A	0	
EXECUTIVE OFFICE 2	160	5	1	1	5.0	0.06	15	0.8	19		0	NO	N/A	0	
EAST CORRIDOR	410	0	0	0	0.0	0.06	25	0.8	32		0	NO	N/A	0	
WOMEN EAST	250	0	0	0	0.0	0.00	0	0.8	0		300	NO	N/A	0	
MEN EAST	210	0	0	0	0.0	0.00	0	0.8	0		250	NO	N/A	0	
WC EAST	65	0	0	0	0.0	0.00	0	0.8	0		100	NO	N/A	0	
STAFF LOCKERS	240	0	0	0	0.0	0.00	0	0.8	0	0.25	60	NO	N/A	0	
TOTAL OUTSIDE AIR/EXHAUST AIR REQUIRED FOR RTU-2									650		710				
WASH STATION	90	0	0	0	0.0	0.00	0	0.8	0		100	NO	N/A	0	
AIR LOCK	80		0	0			0	0.8	0		0	NO	N/A	0	
POWDERED METAL HANDLING	400		0	0			0	0.8	0		0	NO	N/A	0	
POWDERED METAL STORAGE	400		0	0			0	0.8	0		0	NO	N/A	0	
TOTAL OUTSIDE AIR/EXHAUST AIR REQUIRED FOR AH-2									0		100				
RESEARCH/SHOP	20,000		0	0			0	0.8	0		0				
TOTAL OUTSIDE AIR/EXHAUST AIR REQUIRED FOR RTU-3/4									0		0				
NOTES:															

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SHEET NO:

M0.1

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AIR HANDLING UNIT																																																
SYMBOL MARK	DESCRIPTION	SERVICE	SUPPLY FAN SECTION										COOLING COIL SECTION										HEATING COIL SECTION										RETURN OR EXHAUST FAN SECTION										MINIMUM OSA CFM	FILTERS			WEIGHT (LBS)	COMMENTS
			CFM	VOLTAGE	PH.	HP	MCA	FLA	ESP (IN WC)	TSP (IN WC)	RPM	WHEEL TYPE	TOTAL MBH	EAT DB/WB (°F)	LAT DB/WB (°F)	EW/T (°F)	LWT (°F)	GPM	APD (IN WC)	WPD (FT)	FACE VELOCITY (FPM)	TOTAL MBH	EAT (°F)	LAT (°F)	EW/T (°F)	LWT (°F)	GPM	APD (IN WC)	WPD (FT)	FACE VELOCITY (FPM)	CFM	VOLTAGE	PH.	HP	MCA	FLA	ESP (IN WC)	TSP (IN WC)	RPM	WHEEL TYPE	TYPE	EFFICIENCY (%)		MAX VELOCITY (FPM)				
AHU-1	CUSTOM, OUTDOOR	LAB #1	1,350								30				3.0				300	52					5.0					1,350																1, 2, 3, 4, 5		
AHU-2	CUSTOM, OUTDOOR	POWDERED MATERIAL HANDLING	1,335								30				3.0				300	50					5.0					1,335															1, 2, 3, 4, 6			
NOTES:																																																
1 PROVIDE MANUFACTURER'S SA AND RA MOTOR CONTROLLER PANEL, SINGLE POINT CONNECTION.																																																
2 PROVIDE 14 INCH CURB.																																																
3 PROVIDE 3-WAY COIL PIPING.																																																
4 SA AND RA VARIABLE FREQUENCY DRIVES REQUIRED . REFER TO P&I DIAGRAM, SHEET _____. VARIABLE FREQUENCY DRIVES TO BE IN AIR STREAM OR INDEPENDENTLY VENTED.																																																
5 UNIT TO PROVIDE PERCISE TEMPERATURE CONTROL																																																
6 UNIT TO PROVIDE PRESSURE CONTROL.																																																

FAN POWERED TERMINAL UNIT																			
SYMBOL MARK	DESCRIPTION	SERVICE	PRIMARY AIR		INLET SIZE (IN)	FAN							HEATING COIL				WEIGHT (LBS)	COMMENTS	
			MAX. CFM	MIN. CFM		CFM	VOLTAGE	PH.	HP	MCA	FLA	ESP (IN WC)	RPM	KW	EAT (°F)	LAT (°F)			STEPS
FTU-1-1	PARALLEL FAN	MULTI- PURPOSE 1	1,450		12										95				
FTU-1-2	PARALLEL FAN	MULTI- PURPOSE 2	1,450		12										95				
FTU-1-3	PARALLEL FAN	ENTRY	800		10										95				
FTU-1-4	PARALLEL FAN	COLLABORATIVE OFFICE SOUTH	700		10										95				
FTU-2-1	PARALLEL FAN	OPEN OFFICE WEST	1,400		12										95				
FTU-2-2	PARALLEL FAN	OPEN OFFICE EAST	1,200		12										95				
FTU-2-3	PARALLEL FAN	STAFF LOCKER	600		8										95				
NOTES:																			

HOT WATER BOILER																			
SYMBOL MARK	DESCRIPTION	SERVICE	FUEL	INPUT (MBH)	OUTPUT (MBH)	GPM	SUPPLY TEMP (°F)	RETURN TEMP (°F)	DOE AFUE (%)	RELIEF SETTING (PSIG)	FLUE SIZE (IN)	GAS CONN. (IN)	VOLTAGE	PH.	BURNER MOTOR HP	MCA	FLA	OPERATING WEIGHT (LBS)	COMMENTS
B-1	PACKAGED BOILER SKID	AHU-1 AND AHU-2	NAT.	150	135	10.0	140	120	90%										
NOTES:																			
1	PROVIDE PACKAGED SYSTEM WITH PUMPS, BUFFER TANK, EXPANSION TANK, AIR SEPARATOR AND ALL NECESSARY VALVES.																		
2	SYSTEM TO BE PRIMARY ONLY.																		

EXHAUST FAN																		
SYMBOL MARK	DESCRIPTION	SERVICE	CFM	ESP (IN WC)	VOLTAGE	PH.	HP	MCA	FLA	DRIVE	RPM	TIP SPEED (FPM)	INTERLOCK	WHEEL TYPE	DISCHARGE	SONES	WEIGHT (LBS)	COMMENTS
EF-1	ROOFTOP CENTRIFUGAL	MEN AND WOMEN RR (WEST)	600															
EF-2	ROOFTOP CENTRIFUGAL	MEN AND WOMEN RR (EAST)	600															
EF-3	ROOFTOP CENTRIFUGAL	TRASH	500															
EF-4	ROOFTOP CENTRIFUGAL	AIR COMPRESSOR ROOM	1,000															
EF-5	INLINE CABINET	LOUNGE / DINNING	300															
NOTES:																		

AIR COMPRESSOR																
SYMBOL MARK	DESCRIPTION	SERVICE	DISPLACEMENT CFM	OPERATING PRESSURE (PSIG)	CFM @ OPERATING PRESSURE	CFM	VOLTAGE	PH.	HP	MCA	FLA	RPM	RECEIVER (GAL)	WEIGHT (LBS)	COMMENTS	
AC-1																
NOTES:																

CHILLER																
SYMBOL MARK	DESCRIPTION	SERVICE	CAPACITY (TONS)	EWT (°F)	LWT (°F)	AMBIENT AIR (°F)	REFRIGERANT TYPE	INPUT (KW)	VOLTAGE	PH.	MCA	FLA	EER	WPD (FT)	WEIGHT (LBS)	COMMENTS
CH-1	PACKAGED AIR COOLED	AHU-1 AND AHU-2	7.5	55	45	95									800	
NOTES: 1 PROVIDE PACKAGED CHILLER WITH SCROLL COMPRESSOR, PUMP, AND TANK.																

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AIR CONDITIONING UNIT															
SYMBOL MARK	DESCRIPTION	SERVICE	CFM	VOLTAGE	PH.	HP	MCA	FLA	TSP (IN WC)	RPM	WHEEL TYPE	TOTAL MBH	EAT DB/WB (°F)	WEIGHT (LBS)	COMMENTS
AC-1	DUCTLESS WALL MOUNTED	SERVER / IT ROOM	600									24		15	
NOTES:															

OUTDOOR CONDENSING UNIT														
SYMBOL MARK	NOMINAL TONS	VOLTAGE	PHASE	MCA	MOCP	SUCTION TEMP (°F)	CONDENSING TEMP (°F)	CAPACITY TO MATCH	REFRIG.	EER	NOISE RATING (DB)	LOW AMBIENT CONTROL	WEIGHT (LBS)	COMMENTS
CU-1	2							AC-1	R-410A			YES		
NOTES:														

DIFFUSER, REGISTER, AND GRILLE SCHEDULE							
SYMBOL	TYPE	FACE	FRAME	DAMPER	FINISH	MODEL #	COMMENTS
SR-1	SUPPLY	DOUBLE DEFLECTION	SURFACE	YES	WHITE	PRICE 520D	
CD-1	SUPPLY	PERFORATED	LAY-IN	NOTE 1	WHITE	PRICE PMDC	
SD-1	SUPPLY	SLOT, NOTE 2	LAY-IN	NOTE 1	-	PRICE SDA	
SD-2	SUPPLY	SLOT, NOTE 3	DRYWALL	NOTE 1	-	PRICE SDB	
RG-1	RETURN	FIXED LOUVER	SURFACE	YES	WHITE	PRICE 530D	
NOTES: 1. PROVIDE DAMPER IN DUCT BRANCH TO DIFFUSER 2. 3 SLOT, 1" WIDTH, 48" LONG, 10" INLET 3. 4 SLOT, 1" WIDTH, 60" LONG, 10" INLET							

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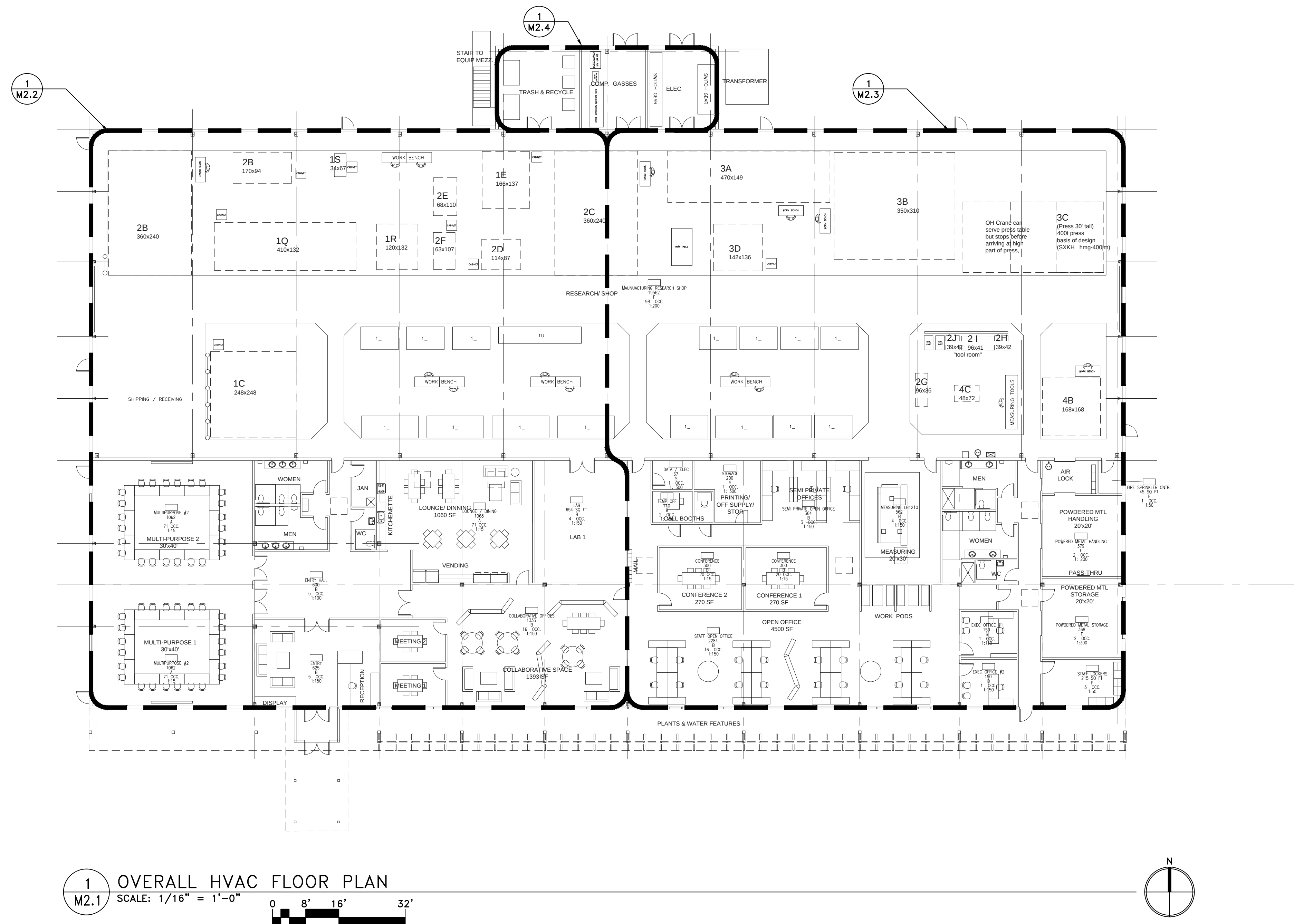
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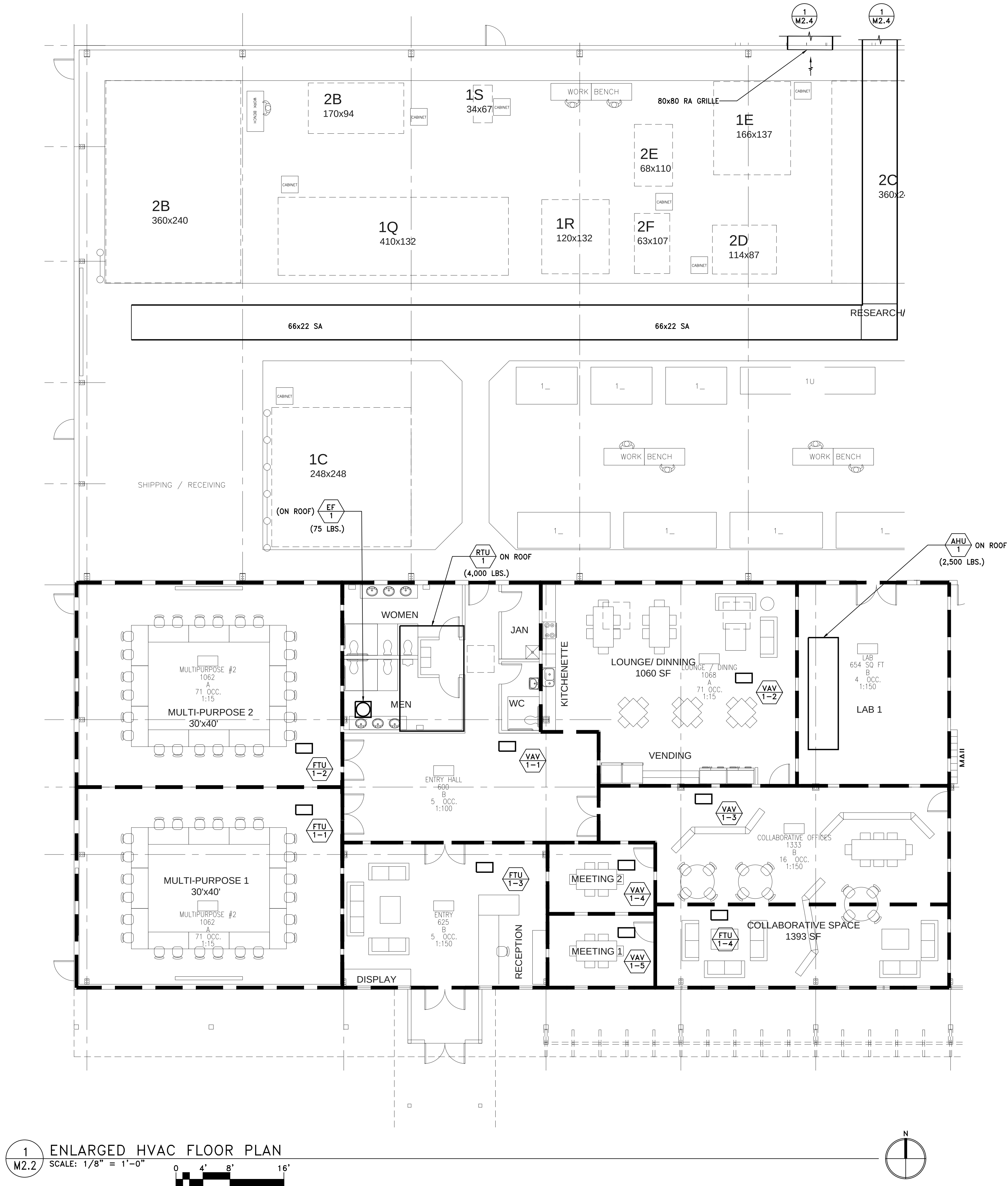
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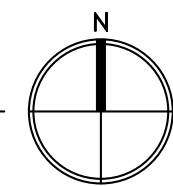
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1 ENLARGED HVAC FLOOR PLAN
M2.2 SCALE: 1/8" = 1'-0"



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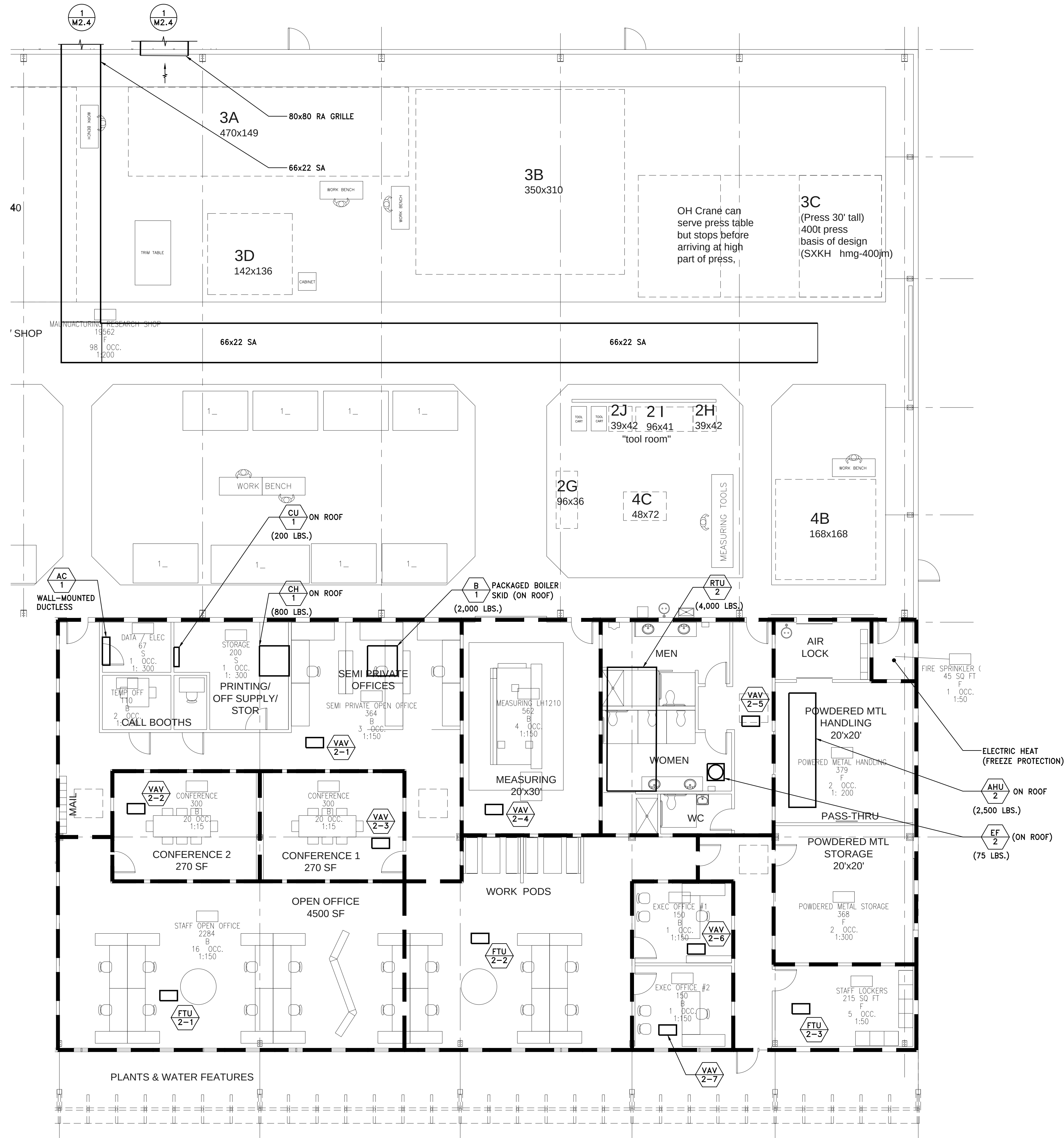
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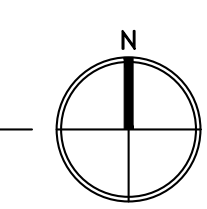
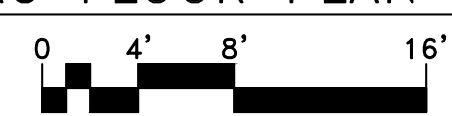
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CONTENTS:
ENLARGED HVAC
FLOOR PLAN

SHEET NO:



1 ENLARGED HVAC FLOOR PLAN
M2.3 SCALE: 1/8" = 1'-0"



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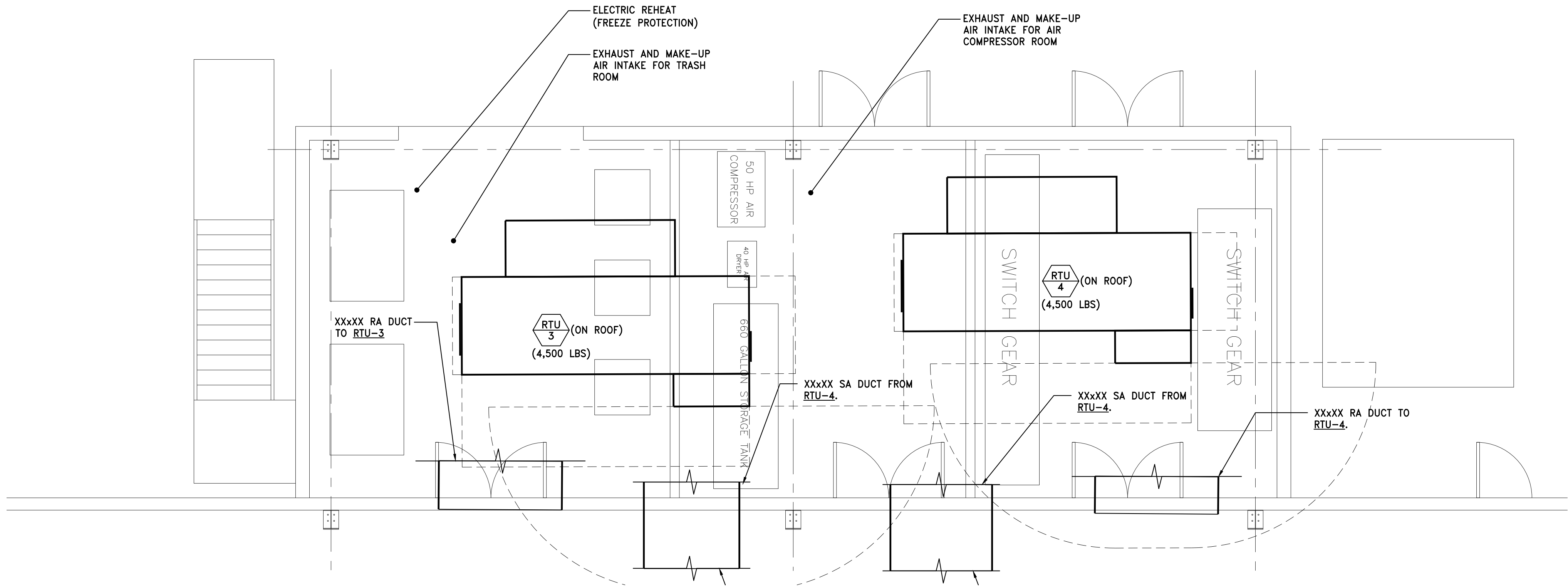
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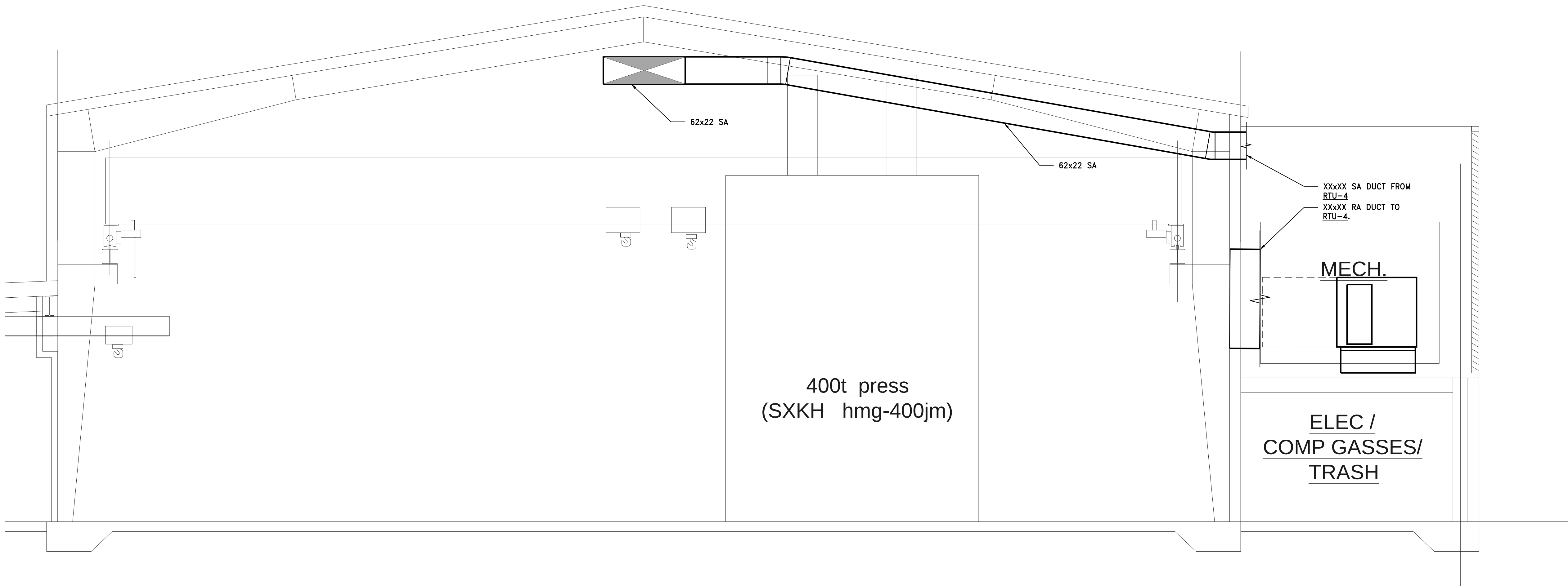
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CONTENTS:
ENLARGED HVAC
FLOOR PLAN

SHEET NO:



1 ENLARGED HVAC FLOOR PLAN
M2.4 SCALE: 1/4" = 1'-0"



2 HVAC SECTION
M2.4 SCALE: 1/4" = 1'-0"

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CONTENTS:
ENLARGED HVAC
FLOOR PLAN

SHEET NO:

PLUMBING CONNECTION SCHEDULE										
SYMBOL MARK	FIXTURE TYPE	DESCRIPTION	MANUFACTURER (NOTE 1)	MODEL (NOTE 1)	TRIM / FITTINGS	W	V	CW	HW	COMMENTS
WC-1	WATER CLOSET	FLUSH VALVE, FLOOR MOUNT	AMERICAN STANDARD	3451.001 "MADERA"	FLUSH VALVE: SLOAN ROYAL #111, 1.28 GPF SEAT: OLSONITE #95 - SOLID WHITE PLASTIC, OPEN FRONT, WITHOUT COVER	3	2	1	-	
WC-2	WATER CLOSET	FLUSH VALVE, FLOOR MOUNT, ADA	AMERICAN STANDARD	3461.001 "MADERA"	FLUSH VALVE: SLOAN ROYAL #111, 1.28 GPF SEAT: OLSONITE #95 - SOLID WHITE PLASTIC, OPEN FRONT, WITHOUT COVER	3	2	1	-	
UR-1	URINAL	WALL HUNG	AMERICAN STANDARD	6590.001 "WASHBROOK"	FLUSH VALVE: SLOAN ROYAL #186-1, 1.0 GPF CARRIER: ASME A112.6.1; CAST IRON AND STEEL FRAME WITH TUBULAR LEGS CLEANOUT: CAST IRON BODY FERRULE, THREADED BRASS COUNTER SUNK CLEANOUT PLUG	2	2	3/4	-	
LV-1	LAVATORY	WALL HUNG, RECTANGULAR	AMERICAN STANDARD	0355.012 "LUCERNE"	TRIM: DELTA MODEL 523LF-HDF (OR EQUIVALENT BY SYMMONS, MOEN OR CHICAGO), SINGLE HANDLE, 4" CENTERSET, 0.5 GPM CARRIER: ASME A112.6.1, CAST IRON AND STEEL FRAME WITH TUBULAR LEGS, CONCEALED ARM SUPPORT MIXING VALVE: SYMMONS 7-210-CK, THERMOSTATIC, ASSE 1070 (OR EQUIVALENT BY DELTA, ACORN, SLOAN OR SPEAKMAN) LAVATORY INSULATION KIT: TRUEBRO LAVGUARD 2 ACCESSORIES: CHROME PLATED BRASS OPEN GRID DRAIN, TAILPIECE, P-TRAP AND ANGLE STOPS, RIGID SUPPLIES	1 1/2	1 1/4	1/2	1/2	
LV-2	LAVATORY	COUNTER MOUNT, DROP IN, ADA	AMERICAN STANDARD	0476.028 "AQUALYN"	TRIM: DELTA MODEL 523LF-HDF (OR EQUIVALENT BY SYMMONS, MOEN OR CHICAGO), SINGLE HANDLE, 4" CENTERSET, 0.5 GPM MIXING VALVE: SYMMONS 7-210-CK, THERMOSTATIC, ASSE 1070 (OR EQUIVALENT BY DELTA, ACORN, SLOAN OR SPEAKMAN) ACCESSORIES: CHROME PLATED BRASS OPEN GRID DRAIN, TAILPIECE, P-TRAP AND ANGLE STOPS, RIGID SUPPLIES	1 1/2	1 1/4	1/2	1/2	
S-1	SINK	SINGLE COMPARTMENT, ADA	JUST	SERIES SL-ADA, "STYLIST GROUP"	BOWL: 22 X 22 X 6-1/2 INCH, 18 GA. THICK, TYPE 304 STAINLESS STEEL TRIM: DELTA MODEL 100-WFELHHDF (OR EQUIVALENT BY MOEN, CHICAGO OR SPEAKMAN), SINGLE HANDLE, 8" SWING SPOUT, 2.2 GPM ACCESSORIES: CHROME PLATED BRASS P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON, SCREWDRIIVER STOP AND RIGID SUPPLIES	2	1 1/2	1/2	1/2	
S-2	SINK	DOUBLE COMPARTMENT, ADA	JUST	SERIES DL-ADA, "STYLIST GROUP"	BOWL: 33 X 21 X 6-1/2 INCH, 18 GA. THICK, TYPE 304 STAINLESS STEEL TRIM: DELTA MODEL 100-WFELHHDF (OR EQUIVALENT BY MOEN, CHICAGO OR SPEAKMAN), SINGLE HANDLE, 8" SWING SPOUT, 2.2 GPM ACCESSORIES: CHROME PLATED BRASS P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON, SCREWDRIIVER STOP AND RIGID SUPPLIES	2	1 1/2	1/2	1/2	
MS-1	MOP SINK	CORNER MOUNT	STERN-WILLIAMS	SBC-1700 "CORLOW"	TRIM: CAMBRIDGE/DELTA MODEL 28T9 (OR EQUIVALENT BY MOEN, CHICAGO OR SPEAKMAN), EXPOSED WITH CROSS HANDLES ACCESSORIES: VACUUM BREAKER, HOSE END SPOUT, INTEGRAL SCREWDRIIVER STOPS, 5 FEET OF RUBBER HOSE WITH HOSE CLAMP HANGER AND MOP HANGER	3	2	1/2	1/2	
MS-1	MOP SINK	SIDEWALL MOUNT	STERN-WILLIAMS	HL-1800 "HILOW"	TRIM: CAMBRIDGE/DELTA MODEL 28T9 (OR EQUIVALENT BY MOEN, CHICAGO OR SPEAKMAN), EXPOSED WITH CROSS HANDLES ACCESSORIES: VACUUM BREAKER, HOSE END SPOUT, INTEGRAL SCREWDRIIVER STOPS, 5 FEET OF RUBBER HOSE WITH HOSE CLAMP HANGER AND MOP HANGER	3	2	1/2	1/2	
SH-1	SHOWER	ONE-PIECE SHOWER STALL, ADA	FIBER-FAB	MODEL 38H1, BF	CABINET: 38 X 42 X 80 INCH HIGH, REMOVABLE CHROME-PLATED STRAINER, TAILPIECE, INTEGRAL SEAT, STAINLESS STEEL GRAB BARS TRIM: SYMMONS MODEL 1-25-FSB "SAFETY MIX" (OR EQUIVALENT BY DELTA, MOEN OR SPEAKMAN), 2.5 GPM, ADJUSTABLE SLIDE BAR AND 60" HOSE, WITH PRESSURE BALANCED MIXING VALVES	2	2	1/2	1/2	
DF-1	DRINKING FOUNTAIN	WALL MOUNTED, DUAL HEIGHT, ADA	HAWES	MODEL 1119	CABINET: 18 GA. THICK, TYPE 304 STAINLESS STEEL WITH NO. 4 SATIN FINISH TRIM: MOUNTING PLATE HAWES 6700.4 AND MOUNTING BOLTS	1 1/2	1 1/4	1/2	-	
H-1	WALL HYDRANT	RECESSED BOX TYPE, FREEZE PROOF	WOODFORD	MODEL B67C	PROVIDE WITH INTEGRAL BACKFLOW PREVENTER	-	-	3/4	-	
WB-1	WASHING MACHINE WALL BOX	PLASTIC ROUGH-IN BOX FOR DRAIN AND SUPPLY	SIOUX CHIEF	696 SERIES "OXBOX"	TRIM: 1/4 TURN HANDLES, ARRESTORS, FRAME AND MOUNTING BRACKET	2	2	1/2	1/2	
FD-1	FLOOR DRAIN	FINISHED FLOOR	JAY R. SMITH	2005-A / 2005-B	ADJUSTABLE NICKEL BRONZE STRAINER TRAP PRIMER CONNECTION (PROVIDE TRAP PRIMER)	2	2	-	-	
FD-2	FLOOR DRAIN	UTILITY	JAY R. SMITH	2110 / 2130	ADJUSTABLE CAST IRON STRAINER WITH ACID RESISTANT COATING TRAP PRIMER CONNECTION (PROVIDE TRAP PRIMER)	3	2	-	-	
FS-1	FLOOR SINK	SQUARE, ENAMELED CAST IRON	JAY R. SMITH	300 SERIES	BASIN: 12" SQUARE WITH ACID RESISTANT ENAMEL INTERIOR TRIM: DOME STRAINER, FLANGE, 1/2 GRATE TRAP PRIMER CONNECTION (PROVIDE TRAP PRIMER)	3	2	-	-	
HD-1	HUB DRAIN	FLOOR TYPE WITH HUB FUNNEL	WATTS	FD-100-DD	ADJUSTABLE CAST IRON FUNNEL TRAP PRIMER CONNECTION (PROVIDE TRAP PRIMER) PROVIDE P-TRAP	4	2	-	-	
CO-1	CLEANOUT	EXTERIOR, TO GRADE	JAY R. SMITH	4250	ROUND CAST NICKEL BRONZE ACCESS FRAME AND NON-SKID COVER	-	-	-	-	
CO-2	CLEANOUT	INTERIOR, TO FINISHED FLOOR	JAY R. SMITH	4000 SERIES	PROVIDE WITH ROUND GASKETED SCORED COVER IN SERVICE AREAS PROVIDE WITH ROUND GASKETED DEPRESSED COVER TO ACCEPT FLOOR FINISH IN FINISHED FLOOR AREAS	-	-	-	-	
CO-3	CLEANOUT	WALL TYPE	JAY R. SMITH	4000 SERIES	LAQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKETED COVER STAINLESS STEEL ACCESS COVER SECURED WITH MACHINE SCREW	-	-	-	-	
NOTES:										
1	EQUIVALENT MODELS BY ALTERNATE MANUFACTURERS ARE ALSO ACCEPTABLE. APPROVED MANUFACTURERS: AMERICAN STANDARD, KOHLER, TOTO, JUST, ELKAY, MOEN, FIBER-FAB, AQUAGLASS, LASCO, ELJER, STERN-WILLIAMS, HAWS, JAY R. SMITH, MIFAB, SIOUX CHIEF AND ZURN.									

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CONTENTS:
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SCHEDULES

SHEET NO:

WASTE SERVICE CALCULATION						
FIXTURE	PUBLIC USE QUANTITY	FIXTURE UNITS (DFU)	ASSEMBLY QUANTITY	FIXTURE UNITS (DFU)	TOTAL DFU	COMMENTS
WATER CLOSET (FLUSH VALVE)	11	4		6	44	
WATER CLOSET (FLUSH TANK)		4		6	0	
DISHWASHER (DOMESTIC)		2		2	0	
DRINKING FOUNTAIN		0.5		1	0	
FLOOR DRAIN		2		2	0	
LAVATORY	12	1		1	12	
SINK	1	2		2	2	
MOP SINK	1	3		3	3	
SHOWER	2	2		2	4	
URINAL (FLUSH VALVE)	2	2		5	4	
WALL BOX (CLOTHES WASHER)		2		2	0	
EMERGENCY EYEWASH	1	1		1	1	ASSUMED 2.5 GPM
BLOW MOLDING MACHINE	1	6		6	6	30 GPM
MISCELLANEOUS EQUIPMENT	1	4		4	4	ASSUMED 20 GPM
BATH TUB	1	2		2	2	
TOTAL DRAINAGE FIXTURE UNITS					82	
PIPE SLOPE (%)					2	
MAIN SIZE (IN)					4	
NOTES:						

GAS LOAD SUMMARY				
SYMBOL MARK	DESCRIPTION	SERVICE	MBH	COMMENTS
RTU-1	ROOFTOP UNIT	WEST OFFICE AREA		
RTU-2	ROOFTOP UNIT	EAST OFFICE AREA		
RTU-3	ROOFTOP UNIT	SHOP AREA		
RTU-4	ROOFTOP UNIT	SHOP AREA		
RTU-5	ROOFTOP UNIT	SHOP AREA		
RTU-6	ROOFTOP UNIT	SHOP AREA		
RTU-7	ROOFTOP UNIT	SHOP AREA		
RTU-8	ROOFTOP UNIT	SHOP AREA		
RTU-9	ROOFTOP UNIT	POWDERED METALS AREA		
RTU-10	ROOFTOP UNIT	LAB 2		
TOTAL MBH		0		
DEVELOPED LENGTH (FT)		80		
PRESSURE (PSIG)		2		
NOTES:				
1 EXISTING 1-1/2 INCH NATURAL GAS SERVICE LINE IS ADEQUATELY SIZED FOR NEW LOAD.				

WATER SERVICE CALCULATION - SITE				
FIXTURE	PUBLIC USE		TOTAL WSFU	COMMENTS
	QUANTITY	FIXTURE UNITS (WSFU)		
FUTURE 3" TEE (60 FU)	2	60	120	
FUTURE 3" TEE (120 FU)	1	120	120	
EXISTING BUILDING	1	68	68	
NEW BUILDING	1	87.5	87.5	FROM PARCEL 2 WSFU CALC
TOTAL WSFU			395.5	
TOTAL GPM			130	
PRESSURE CALCULATIONS:				
	DISTANCE (FT)	PRESSURE (PSIG)	COMMENTS	
A. MINIMUM STATIC WATER PRESSURE AT STREET	-	66		
B. PRESSURE LOSS AT METER	-	7	ANTICIPATED	
C. PRESSURE LOSS AT BACKFLOW PREVENTER	-	7	ANTICIPATED	
D. PIPE DISTANCE FROM STREET TO FIRST TEE	70	-		
E. FRICTION LOSS IN PIPING (3/2"100' X .434 X D = PSIG)	-	1	1	
F. PIPE DISTANCE FROM FIRST TEE TO SECOND TEE	120	-		
G. FRICTION LOSS IN PIPING (2.3/100' X .434 X D = PSIG)	-	2	1	
H. PIPE DISTANCE FROM SECOND TEE TO THIRD TEE (NEW BLDG)	140	-		
I. FRICTION LOSS IN PIPING (2/100' X .434 X D = PSIG)	-	2	1	
J. PIPE DISTANCE FROM THIRD TEE (NEW BLDG) TO FOURTH TEE	260	-		
K. FRICTION LOSS IN PIPING (1.7/100' X .434 X D = PSIG)	-	3	1	
L. PIPE DISTANCE FROM FOURTH TEE TO RISER IN EXIST BLDG	300	-		
M. FRICTION LOSS IN PIPING (0.6/100' X .434 X D = PSIG)	-	1	1	
N. ELEVATION PRESSURE LOSS FROM STREET TO RISER	10	4	2	
O. PRESSURE AT RISER (A - B - C - E - F)	-	39		
P. PIPE LENGTH FROM RISER TO REMOTE FIXTURE	350	-	1	
Q. FRICTION LOSS IN PIPING (4/1100' X .434 X H = PSIG)	-	9	1	
R. ELEVATION PRESSURE LOSS FROM RISER TO REMOTE FIXTURE	3	1	2	
S. PRESSURE AVAILABLE AT REMOTE FIXTURE (G. - I. - J.)	-	28		
T. MINIMUM PRESSURE AT REMOTE FIXTURE	-	35	3	
SERVICE SIZE (INCHES) = 3				
NOTES:				
1 TOTAL EQUIVALENT PIPE LENGTH = PIPE LENGTH X 1.5. LENGTH AND ASSUMED FIXTURE COUNT OBTAINED FROM CIVIL DRAWING C300 (AKS JOB #7245, DATED: 01-24-2020)				
2 FT X .434 = PSIG				
3 35 PSIG IS THE MINIMUM ALLOWED DESIGN PRESSURE AT REMOTE FIXTURE, OTHERWISE A BOOSTER PUMP MAY BE REQUIRED.				
4 TOTAL EQUIVALENT PIPE LENGTH = PIPE LENGTH X 1.5. PIPE LOSS ASSUMED TO BE 4/1100 FT OF PIPE.				

EXPANSION TANK												
SYMBOL MARK	DESCRIPTION	SERVICE	TANK VOLUME (GAL)	MAX. ACCEPTANCE VOLUME (GAL)	AIR PRECHARGE (PSIG)	CONNECTION SIZE (IN)	BUILDING SUPPLY PRESSURE (PSIG)	MAX. SYSTEM OPERATING PRESSURE (PSIG)	START TEMP (°F.)	MAXIMUM TEMP (°F.)	OPERATING WEIGHT (LBS)	COMMENTS
ET-1	EXPANSION TANK	WH-1	2.0	0.9	50	3/4		150	40	200	25	
NOTES:												

ELECTRIC WATER HEATER											
SYMBOL MARK	DESCRIPTION	SERVICE	INPUT (KW)	VOLTAGE	PH.	MCA	FLA	STORAGE CAPACITY (GAL)	RECOVERY RATE AT 100° F (GPH)	OPERATING WEIGHT (LBS)	COMMENTS
WH-1	STORAGE TYPE WATER HEATER	OFFICE	12	240	1	-	-	50	49	700	
WH-2											
WH-3											
WH-4											
WH-5											
NOTES:											

WATER SERVICE CALCULATION - PARCEL 2 BUILDING							
FIXTURE	PUBLIC USE		ASSEMBLY		TOTAL WSFU	HOT WATER 0.75	COMMENTS
	QUANTITY	FIXTURE UNITS (WSFU)	QUANTITY	FIXTURE UNITS (WSFU)			
WATER CLOSET (FLUSH VALVE)	11	5		8	55	0	
WATER CLOSET (FLUSH TANK)		2.5		3.5	0	0	
DISHWASHER (DOMESTIC)		1.5		1.5	0	0	
DRINKING FOUNTAIN		0.5		0.75	0	0	
HOSE BIBB		1		1	0	0	
LAVATORY	12	1		1	12	9	
SINK	1	1.5		1.5	1.5	1.125	
MOP SINK	1	3		3	3	2.25	
SHOWER	2	2		2	4	3	
URINAL (FLUSH VALVE)	2	4		5	8	0	
WALL BOX (CLOTHES WASHER)		4		4	0	0	
EMERGENCY EYEWASH	2	2		2	4	3	
BATH TUB		4		4	0	0	
TOTAL WSFU					87.5	18.375	
TOTAL GPM					63	15	
PRESSURE CALCULATIONS:							
		DISTANCE (FT)		PRESSURE (PSIG)	COMMENTS		
A. MINIMUM STATIC WATER PRESSURE AT STREET		-		67			
B. PRESSURE LOSS AT METER		-		7	ANTICIPATED		
C. PRESSURE LOSS AT BACKFLOW PREVENTER		-		7	ANTICIPATED		
D. PIPE DISTANCE FROM STREET TO FIRST TEE		70		-			
E. FRICTION LOSS IN PIPING (3.2/100' X .434 X D = PSIG)		-		1	1		
F. PIPE DISTANCE FROM FIRST TEE TO SECOND TEE		120		-			
G. FRICTION LOSS IN PIPING (2.3/100' X .434 X D = PSIG)		-		2	1		
H. PIPE DISTANCE FROM SECOND TEE TO THIRD TEE (NEW BLDG)		140		-			
G. FRICTION LOSS IN PIPING (2.3/100' X .434 X D = PSIG)		-		2	1		
H. PIPE DISTANCE FROM THIRD TEE TO NEW BUILDING RISER		75		-			
G. FRICTION LOSS IN PIPING (.8/1100' X .434 X D = PSIG)		-		0	1		
F. ELEVATION PRESSURE LOSS FROM STREET TO RISER		10		4	2		
G. PRESSURE AT RISER (A - B - C - E - F)		-		43			
H. PIPE LENGTH FROM RISER TO REMOTE FIXTURE		250		-	1		
I. FRICTION LOSS IN PIPING (4/1100' X .434 X H = PSIG)		-		7	1		
J. ELEVATION PRESSURE LOSS FROM RISER TO REMOTE FIXTURE		3		1	2		
K. PRESSURE AVAILABLE AT REMOTE FIXTURE (G. - I. - J.)		-		35			
L. MINIMUM PRESSURE AT REMOTE FIXTURE		-		35	3		
SERVICE SIZE (INCHES) = 3							
NOTES:							
1 TOTAL EQUIVALENT PIPE LENGTH = PIPE LENGTH X 1.5.							
2 FT X .434 = PSIG							
3 40 PSIG IS THE MINIMUM ALLOWED DESIGN PRESSURE AT REMOTE FIXTURE, OTHERWISE A BOOSTER PUMP MAY BE REQUIRED.							



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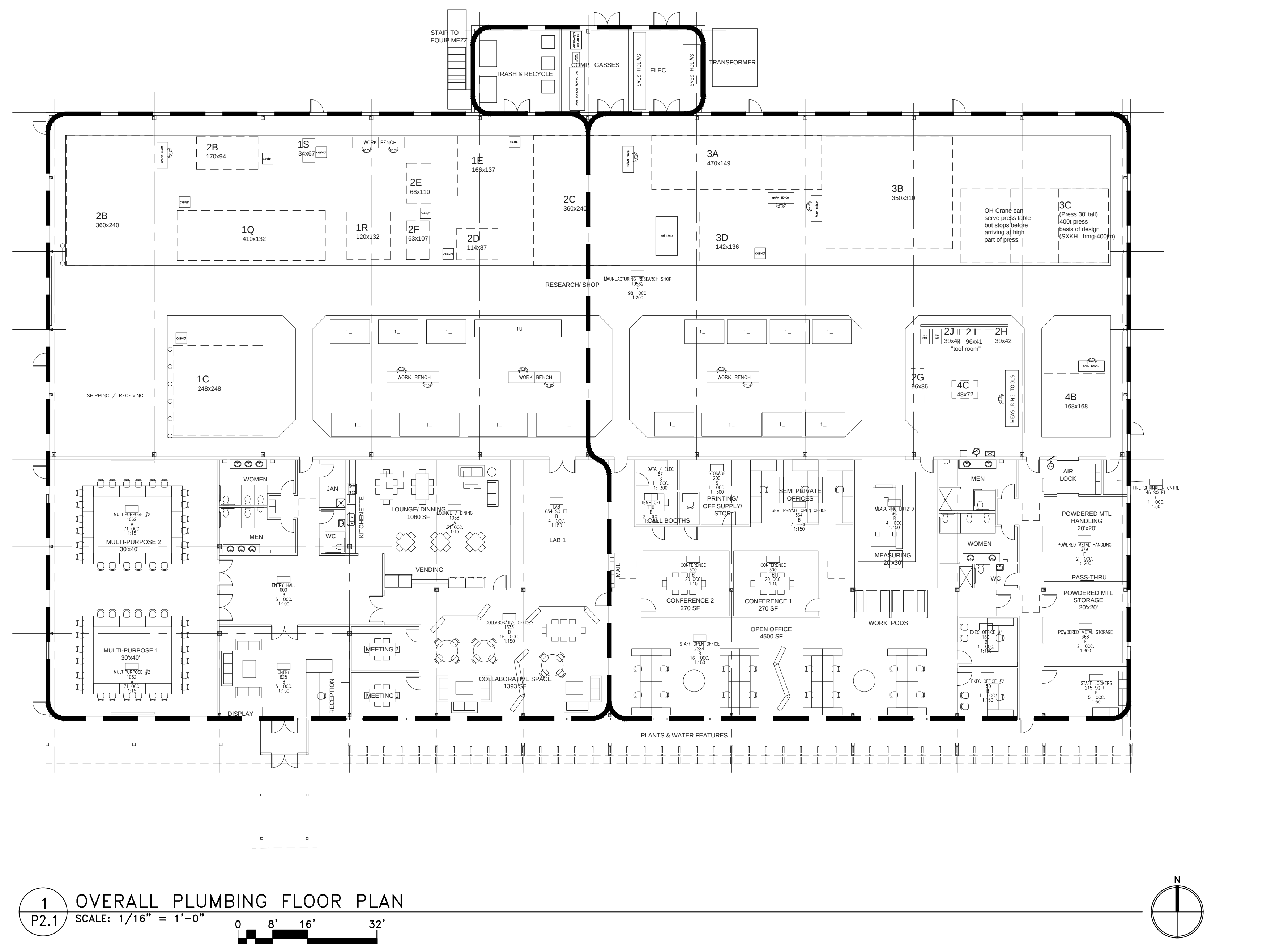
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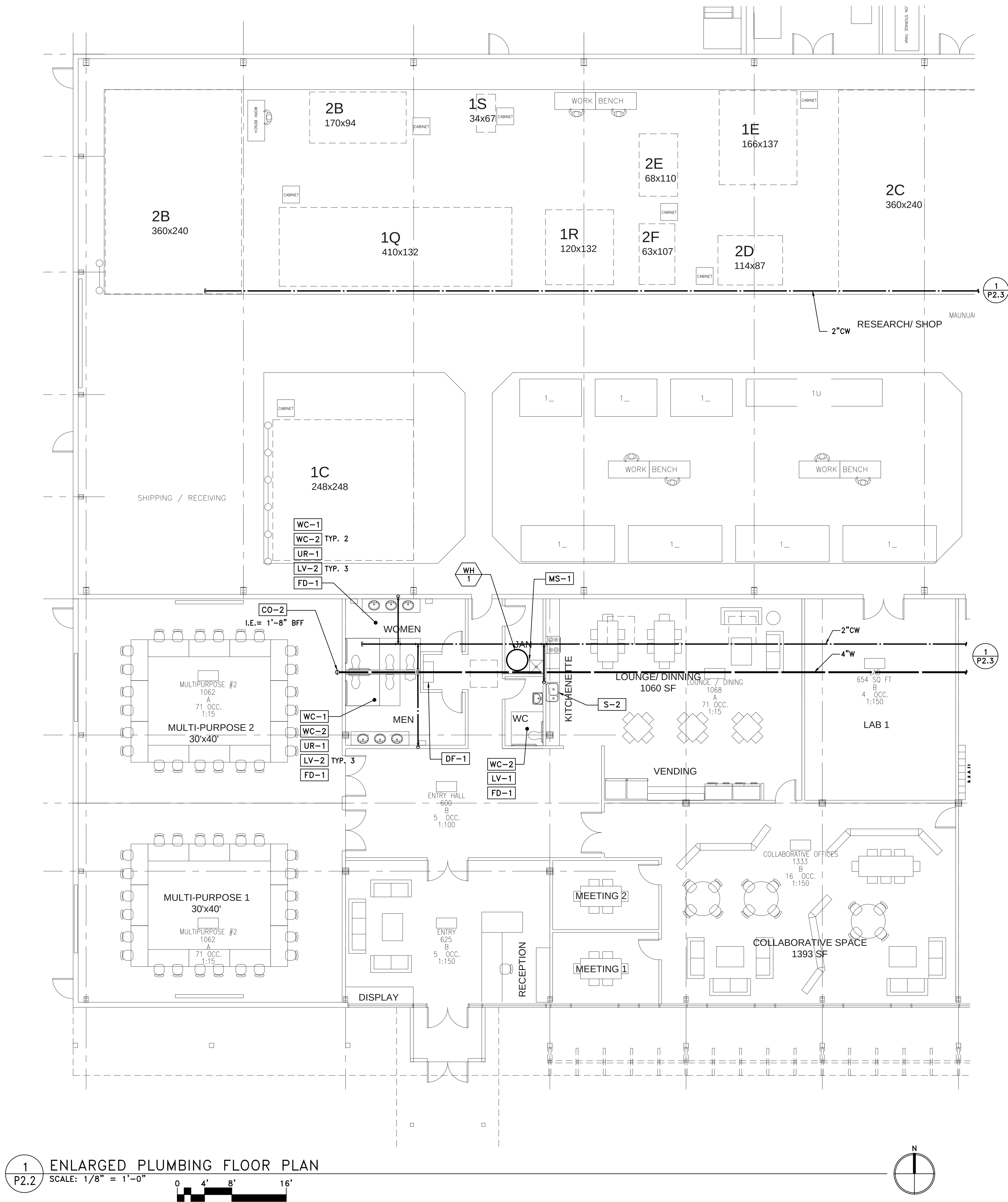
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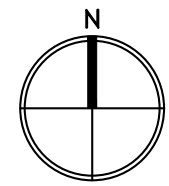
OVERALL PLUMBING
FLOOR PLAN

SHEET NO:





1
P2.2 ENLARGED PLUMBING FLOOR PLAN
SCALE: 1/8" = 1'-0"



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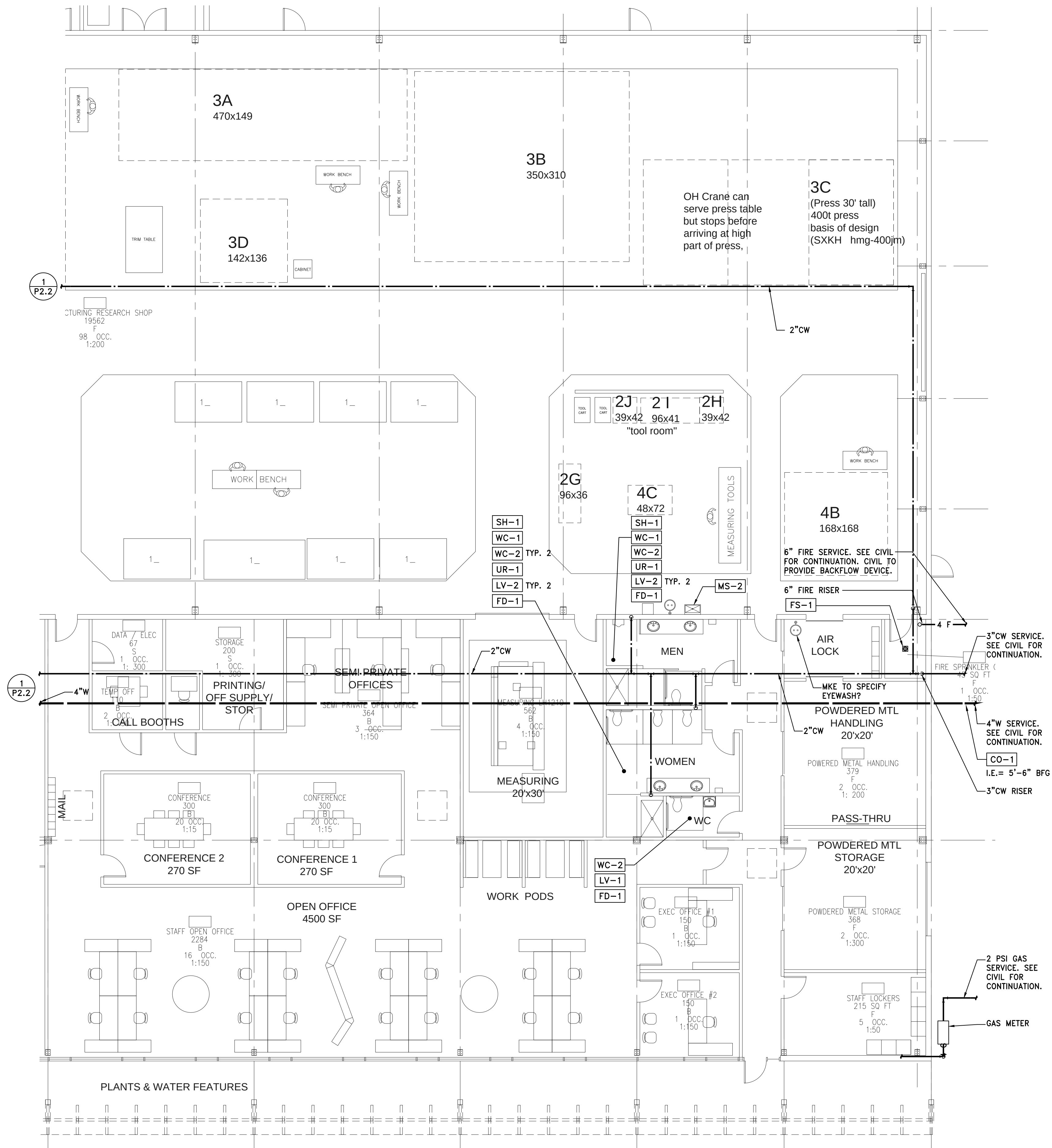
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CONTENTS:
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FLOOR PLAN

SHEET NO:



1 ENLARGED PLUMBING FLOOR PLAN
P2.3 SCALE: 1/8" = 1'-0"



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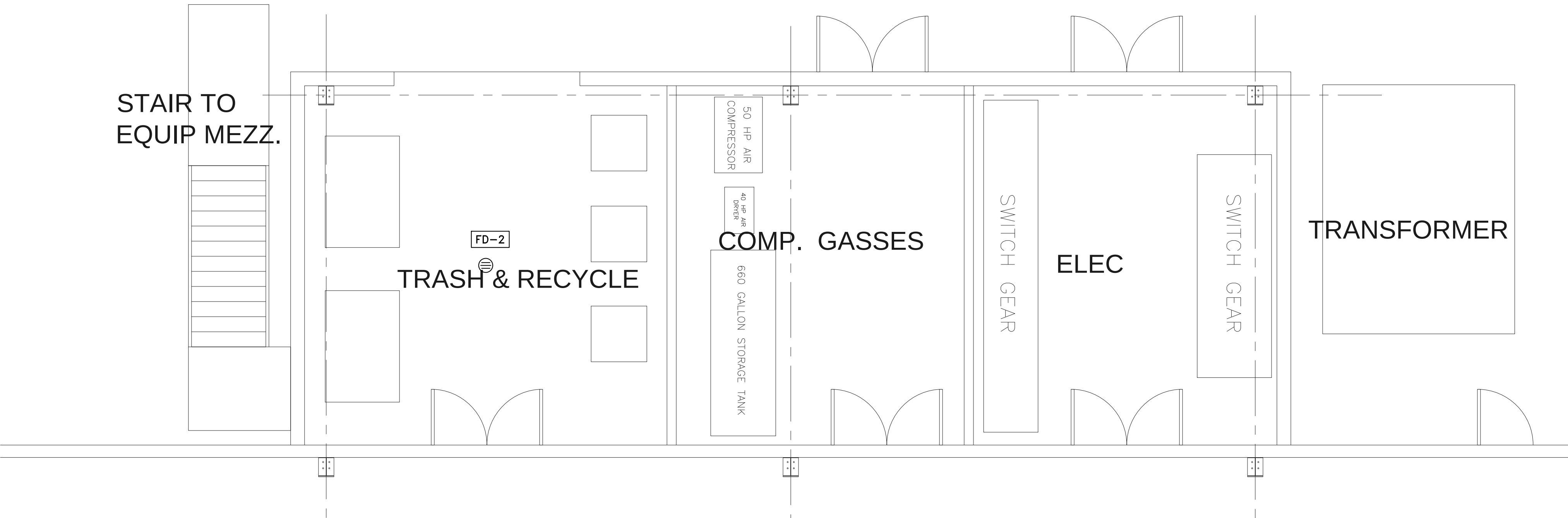
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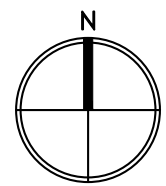
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CONTENTS:
ENLARGED PLUMBING
FLOOR PLAN

SHEET NO:



1 ENLARGED PLUMBING FLOOR PLAN
P2.4 SCALE: 1/4" = 1'-0"



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