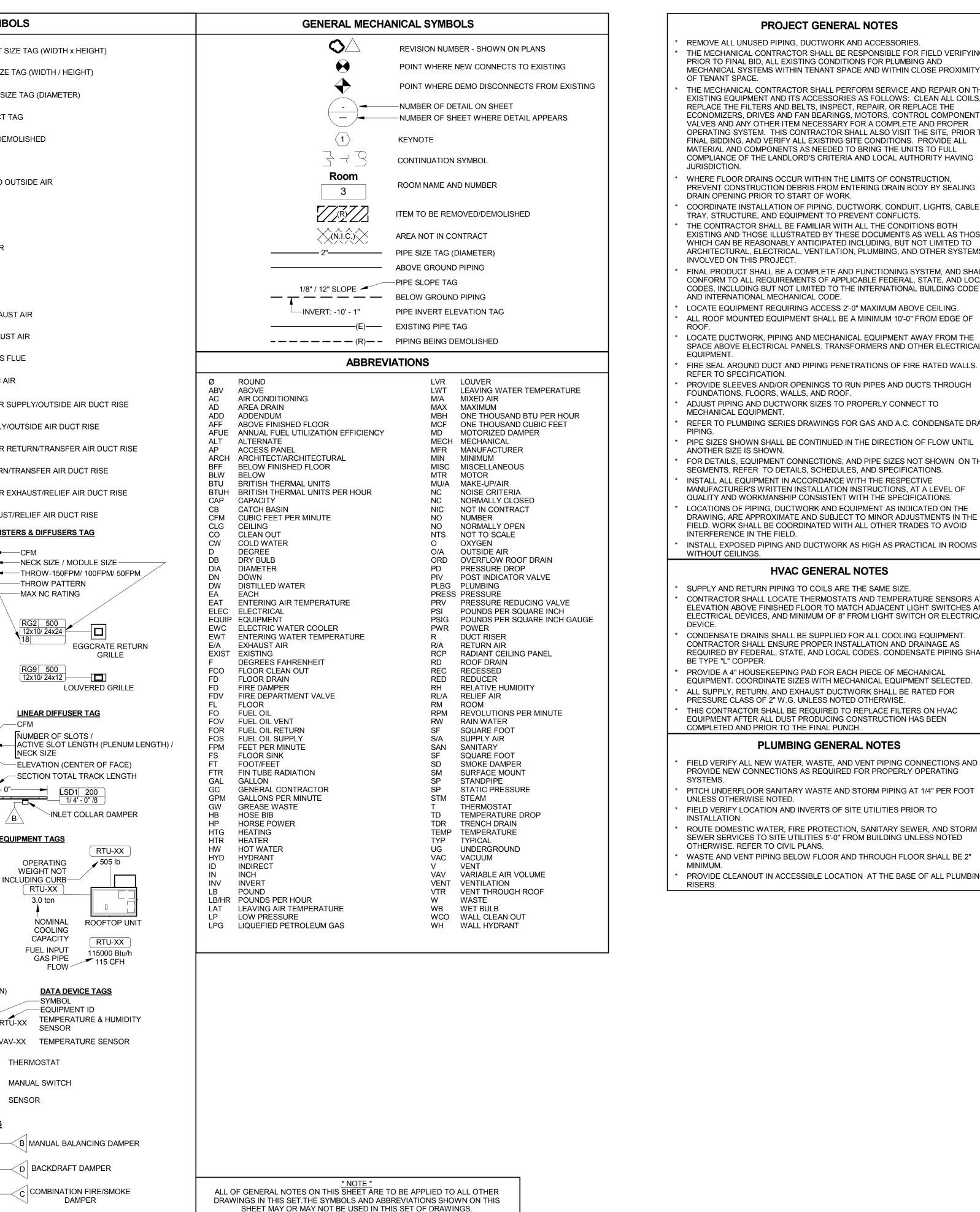
	PIPING SYMBOLS	HVAC SYME
CHWR		
CHWK	CHILLED WATER RETURN CHILLED WATER SUPPLY	16x8 SQUARE DUCT S
CHWS CD		16/8 OVAL DUCT SIZE
CD CWR	CONDENSATE DRAINAGE CONDENSER WATER RETURN	
CWS	CONDENSER WATER SUPPLY	16Ø ROUND DUCT SI
	HEATING WATER RETURN	(E) EXISTING DUCT
	HEATING WATER SUPPLY	DUCT BEING DE
G	NATURAL GAS	
PG	PROPANE GAS	SA SUPPLY AIR
	REFRIGERANT-LIQUID	S-OA CONDITIONED
	REFRIGERANT-SUCTION	
REF-HG-	REFRIGERANT-HOT GAS	OA OUTSIDE AIR
STM	STEAM	RA RETURN AIR
CDR	CONDENSATE RETURN	
CWV	COMBINATION WASTE & VENT	TA TRANSFER AIR
СА	COMPRESSED AIR	EA EXHAUST AIR
CW	DOMESTIC COLD WATER	
——————————————————————————————————————	HARD COLD WATER	LA RELIEF AIR
S-CW	SOFT COLD WATER	G-EA GREASE EXHAU
F-CW	FILTERED COLD WATER	
RO	REVERSE OSMOSIS WATER	S-EA SMOKE EXHAU
HW	HOT WATER	FLUE EXHAUST GAS
——————————————————————————————————————	HOT WATER 140°	
——————————————————————————————————————	HOT WATER RECIRCULATION	CA COMBUSTION A
—————————————————————————————————————	HOT WATER RECIRCULATION 140°	DROP 🖾 🛛 🕅 RECTANGULAR
— — — — GV — — — —	GREASE VENT	
GW	GREASE WASTE	DROP 🔇 🚺 🖸 ROUND SUPPLY
- – – – – – – – IW – – – – – –	INDIRECT WASTE	
OV	OIL VENT	
OW	OIL WASTE	
PD	PUMP DISCHARGE	DROP
	SANITARY VENT	DROP 🖉 🗌 😰 ROUND EXHAUS
SS	SANITARY SEWER	GRILLES, REGIS
SHWR	SOLAR HOT WATER RETURN	TYPE (SEE SCHEDULE)
SHWS	SOLAR HOT WATER SUPPLY	3-CONE DIFFUSER
SD		3-CONE DIFFUSER
OSD	OVERFLOW STORM DRAINAGE	
PIPE DROP 4 PIPE RISE C PIPE TEE CAP	4"PLUG REDUCING 45 DEGREE TEE	PERFORATED DIFFUSER WITH DEFLECTORS ROUND DIFFUSER WITH ADJUSTABLE DATTERNS
	45 DEGREE TEE	FATTERNS
2" DOM. WM	2" M-CNTRL	
		DEFLECTION GRILLE
	2" 3-WAY CNTRL	LINEAR BAR GRILLE
2" SHUTOFF	3 WAY MOTORIZED CONTROL VALVE	
-10 - 1/4 TURN BALL VALVE	PRESSURE REDUCING VALVE	TYPE (SEE SCHEDULE)
	IS	1/ 4' - 0" /8 8' - 0" AFF
2" TMV	2" BUTTERFLY	LSD1 200 1/4' - 0" /8
DRAIN TAG		LINEAR SLOT
FLOOR DRAIN 🛛 4" FD-1 - TYP	4" AD-6 AREA DRAIN	
(SEE SCHE FLOOR DRAIN ■- 4" FD-3P - INDIC		
	DNNECTION 4" SD-29 - O DECK DRAIN FLOW	VAV-XX
FLOOR SINK - 4" FS-4	(4" SD-12 ► CONTROL DRAIN	Htg: 3.7 GPM-HEATING COIL
HUB DRAIN •- (4" FD-13) 8 WFU- FIXTURE	(4" SD-15) ► C STORM DRAIN	
8 WFU - FIXTORE UNITS		VAV BOX
ROOF		10' - 0"- BOTTOM OF
PLUMBING FIXTURE TAGS DRAIN		
TYPE (SEE SCHEDULE)		EXISTING
	1.5 CWFU 1.5 HWFU	REMAIN
CLOSET -		EQUIPMENT BY OTHERS
WALL HUNG - WC-1 WC		DISCIPLINE FOR
PIPE ACCESORY		ADDITIONAL INFORMATION)
TAG		
4" WCO	<u>⊖ +⁷• ⊖ ~ ⊖ ~ ⊖ ~ ⊖ ~ </u> ∋ •4" WCO	
EQUIPMENT A	BBREVIATIONS	
	EWH ELECTRIC WATER HEATER	
	FCU FAN COIL UNIT FP FIRE PUMP	
AC AIR CONDITIONING UNIT ACC AIR COOLED CONDENSER ACCU AIR COOLING CONDENSING UNIT		
ACC AIR COOLED CONDENSER ACCU AIR COOLING CONDENSING UNIT AHU AIR HANDLING UNIT	GI GREASE INTERCEPTOR	
ACC AIR COOLED CONDENSER ACCU AIR COOLING CONDENSING UNIT AIR HANDLING UNIT AS AIR SEPARATOR BOILER	GI GREASE INTERCEPTOR GRV GRAVITY ROOF VENTILATOR HWP HEATING WATER PUMP	
ACC AIR COOLED CONDENSER ACCU AIR COOLING CONDENSING UNIT AHU AIR HANDLING UNIT AS AIR SEPARATOR BOILER CH CHILLER CT COOLING TOWER	GI GREASE INTERCEPTOR GRV GRAVITY ROOF VENTILATOR HWP HEATING WATER PUMP HX HEAT EXCHANGER HRU HEAT RECOVERY UNIT	HUMIDISTAT HIS DAMPER TAGS
ACC AIR COOLED CONDENSER ACCU AIR COOLING CONDENSING UNIT AHU AIR HANDLING UNIT AS AIR SEPARATOR BOILER CH CHILLER CT COOLING TOWER CUH CABINET UNIT HEATER CWP CONDENSER WATER PUMP	GI GREASE INTERCEPTOR GRV GRAVITY ROOF VENTILATOR HWP HEATING WATER PUMP HX HEAT EXCHANGER HRU HEAT RECOVERY UNIT PRV POWER ROOF VENTILATOR RE RETURN/EXHAUST FAN	
ACC AIR COOLED CONDENSER ACCU AIR COOLING CONDENSING UNIT AHU AIR HANDLING UNIT AS AIR SEPARATOR B BOILER CH CHILLER CT COOLING TOWER CUH CABINET UNIT HEATER	GI GREASE INTERCEPTOR GRV GRAVITY ROOF VENTILATOR HWP HEATING WATER PUMP HX HEAT EXCHANGER HRU HEAT RECOVERY UNIT PRV POWER ROOF VENTILATOR	
ACCAIR COOLED CONDENSERACCUAIR COOLING CONDENSING UNITAHUAIR HANDLING UNITASAIR SEPARATORBOILERBOILERCHCHILLERCTCOOLING TOWERCUHCABINET UNIT HEATERCWPCONDENSER WATER PUMPCHWPCHILLED WATER PUMPDBPDOMESTIC WATER BOOSTER PUMPDCDUCT MOUNTED COIL	GI GREASE INTERCEPTOR GRV GRAVITY ROOF VENTILATOR HWP HEATING WATER PUMP HX HEAT EXCHANGER HRU HEAT RECOVERY UNIT PRV POWER ROOF VENTILATOR RE RETURN/EXHAUST FAN RTU ROOFTOP UNIT SEP SEWAGE EJECTOR PUMP SF SUPPLY FAN	
ACCAIR COOLED CONDENSERACCUAIR COOLING CONDENSING UNITAHUAIR COOLING UNITASAIR SEPARATORBBOILERCHCHILLERCTCOOLING TOWERCUHCABINET UNIT HEATERCWPCONDENSER WATER PUMPCHWPCHILLED WATER PUMPOBPDOMESTIC WATER BOOSTER PUMP	GI GREASE INTERCEPTOR GRV GRAVITY ROOF VENTILATOR HWP HEATING WATER PUMP HX HEAT EXCHANGER HRU HEAT RECOVERY UNIT PRV POWER ROOF VENTILATOR RE RETURN/EXHAUST FAN RTU ROOFTOP UNIT SEP SEWAGE EJECTOR PUMP	



PROJECT GENERAL NOTES

REMOVE ALL UNUSED PIPING, DUCTWORK AND ACCESSORIES. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN TENANT SPACE AND WITHIN CLOSE PROXIMITY

THE MECHANICAL CONTRACTOR SHALL PERFORM SERVICE AND REPAIR ON THE EXISTING EQUIPMENT AND ITS ACCESSORIES AS FOLLOWS: CLEAN ALL COILS, REPLACE THE FILTERS AND BELTS, INSPECT, REPAIR, OR REPLACE THE ECONOMIZERS, DRIVES AND FAN BEARINGS, MOTORS, CONTROL COMPONENTS, VALVES AND ANY OTHER ITEM NECESSARY FOR A COMPLETE AND PROPER OPERATING SYSTEM. THIS CONTRACTOR SHALL ALSO VISIT THE SITE, PRIOR TO FINAL BIDDING, AND VERIFY ALL EXISTING SITE CONDITIONS. PROVIDE ALL MATERIAL AND COMPONENTS AS NEEDED TO BRING THE UNITS TO FULL COMPLIANCE OF THE LANDLORD'S CRITERIA AND LOCAL AUTHORITY HAVING

WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE

THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS

FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM. AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE. LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.

ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF

SPACE ABOVE ELECTRICAL PANELS. TRANSFORMERS AND OTHER ELECTRICAL

REFER TO SPECIFICATION. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF. ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO

REFER TO PLUMBING SERIES DRAWINGS FOR GAS AND A.C. CONDENSATE DRAIN PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.

FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID

INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS

HVAC GENERAL NOTES SUPPLY AND RETURN PIPING TO COILS ARE THE SAME SIZE.

CONTRACTOR SHALL LOCATE THERMOSTATS AND TEMPERATURE SENSORS AT ELEVATION ABOVE FINISHED FLOOR TO MATCH ADJACENT LIGHT SWITCHES AND ELECTRICAL DEVICES, AND MINIMUM OF 8" FROM LIGHT SWITCH OR ELECTRICAL

CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPING SHALL

PROVIDE A 4" HOUSEKEEPING PAD FOR EACH PIECE OF MECHANICAL EQUIPMENT. COORDINATE SIZES WITH MECHANICAL EQUIPMENT SELECTED. ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE. THIS CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN

PLUMBING GENERAL NOTES

FIELD VERIFY ALL NEW WATER, WASTE, AND VENT PIPING CONNECTIONS AND PROVIDE NEW CONNECTIONS AS REQUIRED FOR PROPERLY OPERATING PITCH UNDERFLOOR SANITARY WASTE AND STORM PIPING AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.

FIELD VERIFY LOCATION AND INVERTS OF SITE UTILITIES PRIOR TO ROUTE DOMESTIC WATER, FIRE PROTECTION, SANITARY SEWER, AND STORM

SEWER SERVICES TO SITE UTILITIES 5'-0" FROM BUILDING UNLESS NOTED OTHERWISE, REFER TO CIVIL PLANS. WASTE AND VENT PIPING BELOW FLOOR AND THROUGH FLOOR SHALL BE 2"

PROVIDE CLEANOUT IN ACCESSIBLE LOCATION AT THE BASE OF ALL PLUMBING

MECHANICAL & PLUMBING SHEET INDEX

M000 MECHANICAL TITLE SHEET MD101 MECHANICAL DEMOLITION PLANS

- M101 BASEMENT & LEVEL 1 MECHANICAL PLANS M102 MECHANICAL ROOF PLAN
- M200 MECHANICAL DETAILS & SCHEDULES M300 MECHANICAL SEQUENCES & DIAGRAMS
- PD101 BASEMENT AND LEVEL 1 PLUMBING DEMOLITION PLANS
- P101 PLUMBING DOMESTIC WATER PLANS P102 PLUMBING SANITARY & STORM PLANS P110 ROOF PLUMBING PLAN
- P200 PLUMBING RISER DIAGRAMS P201 PLUMBING SCHEDULES & DETAILS

ABCHITECTURE ENGINEERING PLANNING INTERIOR DESIG BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104

EDDYSTONE. PA 19022 T 215.218.4747 F 215.405.2729

CONSULTANTS

NEWARK, DE 19711

T 302.738.7172

CIVIL ENGINEER CHARLES E. SHOEMAKE, INC. 1007 EDGE HILL ROAD ABINGTON, PA 19001 STRUCTURAL ENGINEER MACINTOSH ENGINEERING 300 DELAWARE AVENUE, SUITE 820 WILMINGTON, DE 19801 T 302.252.9200 F 302.252.9201 MECHANICAL \ ELECTRICAL \ PLUMBING ENGINEER DEDC ENGINEERING DESIGN CONSULTING 315 S. CHAPEL STREET

SEAL

PROJECT # **6203.00** ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION DO NOT SCALE DRAWINGS © 2018 VITETTA

PROJECT TITLE

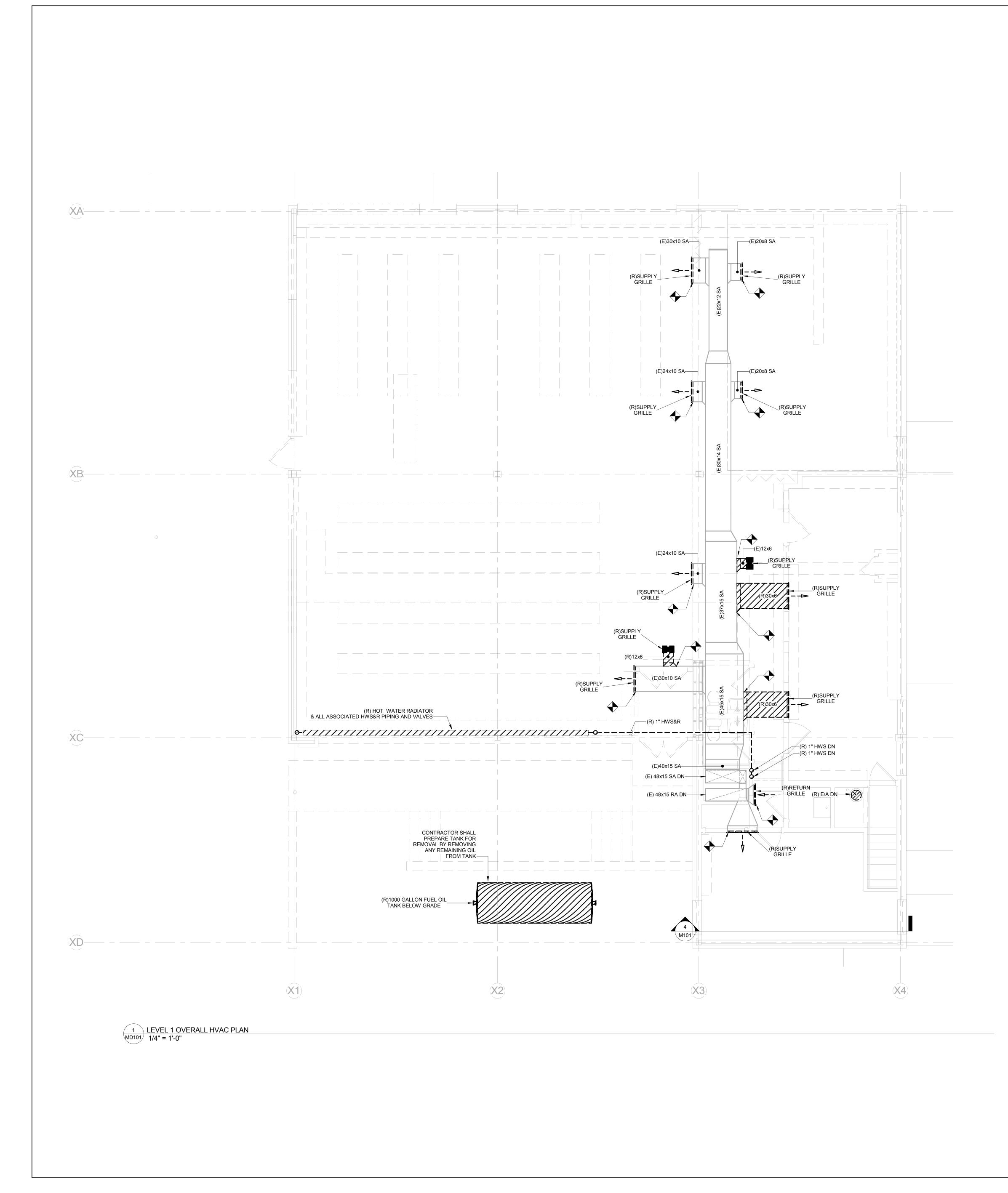


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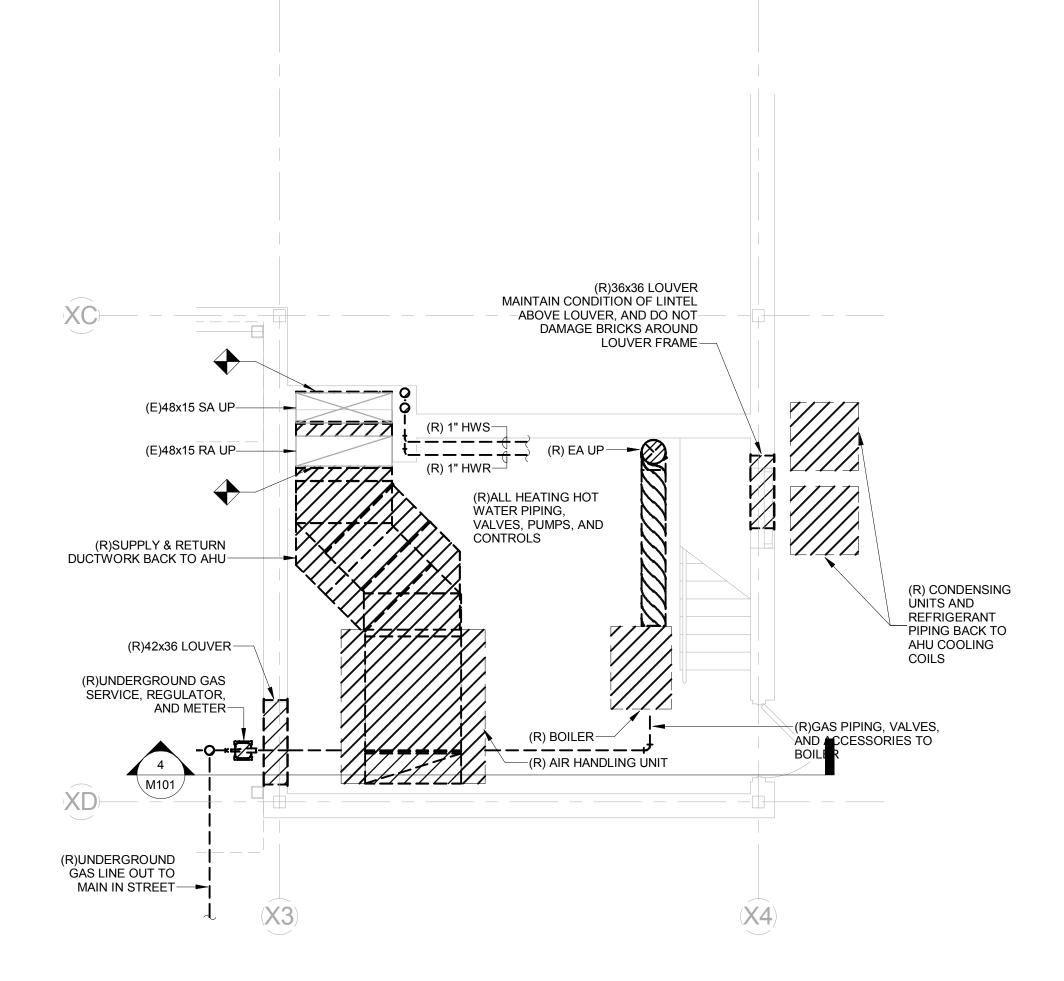
MECHANICAL TITLE SHEET

SCALE	AS NOTED	
D R A W N	AH	
CHECKED	NC	
A P P R O V E D	SAF	
DATE	2018	
REVISIONS		
SYMBOL	DATE	DESCRIPTION
L	9-28-2018	DD SUBMISSION
	10-31-2018	50% CD SUBMISSION
	1-11-2019	100% CD SUBMISSION
	6-21-2019	FOR BIDS AND PERMITS ONLY
I		
L		

DRAWING #



2 BASEMENT HVAC PLAN MD101 1/4" = 1'-0"



ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN BALDWIN TOWER 1510 CHESTER PIKE SUITE 104

1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

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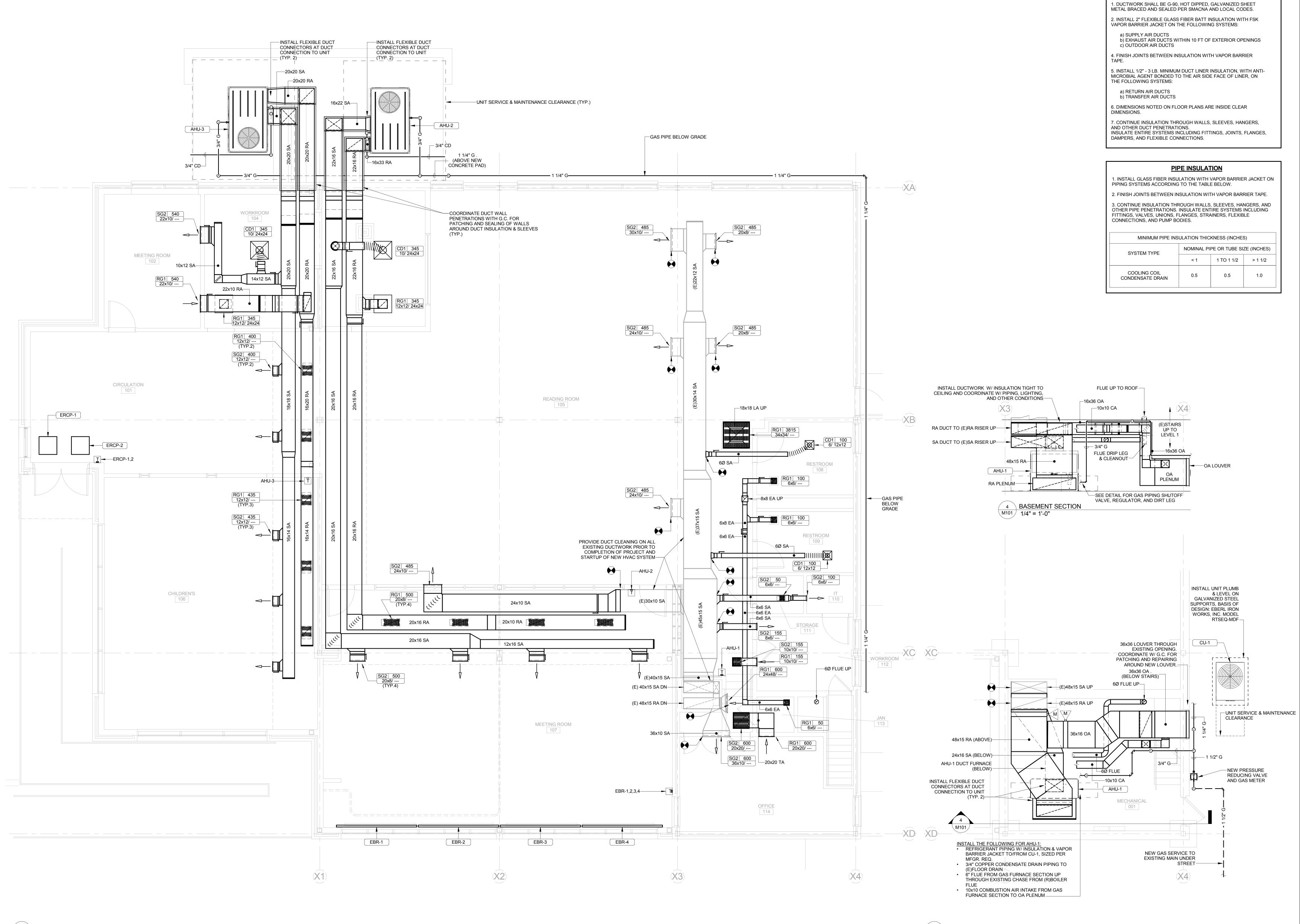


DRAWING TITLE

MECHANICAL DEMOLITION PLANS

SCALE	AS NOTED	
D R A W N	AH	
CHECKED	NC	
A P P R O V E D	SAF	
DATE	2018	
REVISIONS		
SYMBOL	DATE	DESCRIPTION
	9-28-2018	DD SUBMISSION
	10-31-2018	50% CD SUBMISSION
	1-11-2019	100% CD SUBMISSION
L	6-21-2019	FOR BIDS AND PERMITS ONL
L		l
]
D R A W I N G	#	

MD101



1 LEVEL 1 OVERALL HVAC PLAN M101 1/4" = 1'-0"

DUCT CONSTRUCTION & INSULATION	
1. DUCTWORK SHALL BE G-90, HOT DIPPED, GALVANIZED SHEET METAL BRACED AND SEALED PER SMACNA AND LOCAL CODES.	
2. INSTALL 2" FLEXIBLE GLASS FIBER BATT INSULATION WITH FSK VAPOR BARRIER JACKET ON THE FOLLOWING SYSTEMS:	
a) SUPPLY AIR DUCTS b) EXHAUST AIR DUCTS WITHIN 10 FT OF EXTERIOR OPENINGS c) OUTDOOR AIR DUCTS	
4. FINISH JOINTS BETWEEN INSULATION WITH VAPOR BARRIER TAPE.	
5. INSTALL 1/2" - 3 LB. MINIMUM DUCT LINER INSULATION, WITH ANTI- MICROBIAL AGENT BONDED TO THE AIR SIDE FACE OF LINER, ON THE FOLLOWING SYSTEMS:	
a) RETURN AIR DUCTS b) TRANSFER AIR DUCTS	
6. DIMENSIONS NOTED ON FLOOR PLANS ARE INSIDE CLEAR DIMENSIONS.	
7. CONTINUE INSULATION THROUGH WALLS, SLEEVES, HANGERS, AND OTHER DUCT PENETRATIONS. INSULATE ENTIRE SYSTEMS INCLUDING FITTINGS, JOINTS, FLANGES, DAMPERS, AND FLEXIBLE CONNECTIONS.	

MINIMUM PIPE INS	ULATION THIC	KNESS (INCHE	S)
SYSTEM TYPE	NOMINAL PI	PE OR TUBE SI	ZE (INCHES)
0.0.2	< 1	1 TO 1 1/2	> 1 1/2
COOLING COIL CONDENSATE DRAIN	0.5	0.5	1.0

2 BASEMENT HVAC PLAN M101 1/4" = 1'-0"

ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN BALDWIN TOWER

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CONSULTANTS

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SEAL

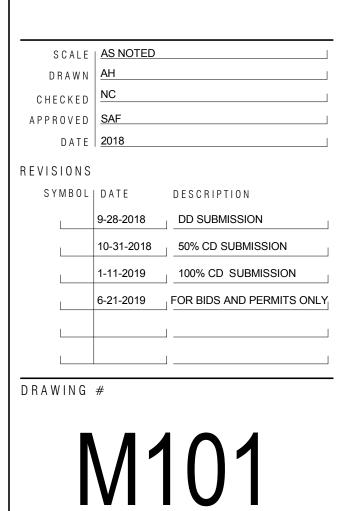
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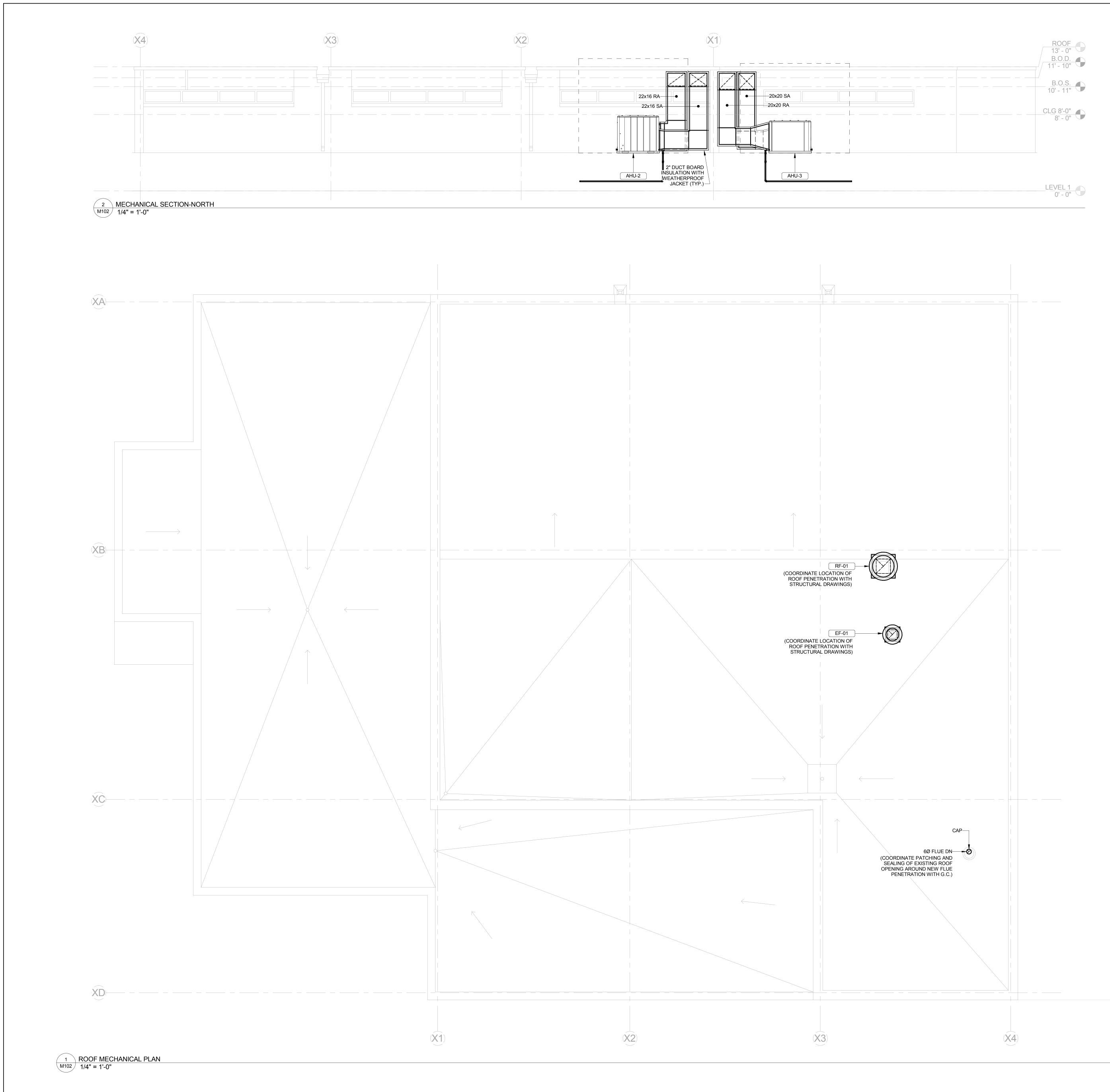
PROJECT TITLE



DRAWING TITLE

BASEMENT & LEVEL 1 MECHANICAL PLANS





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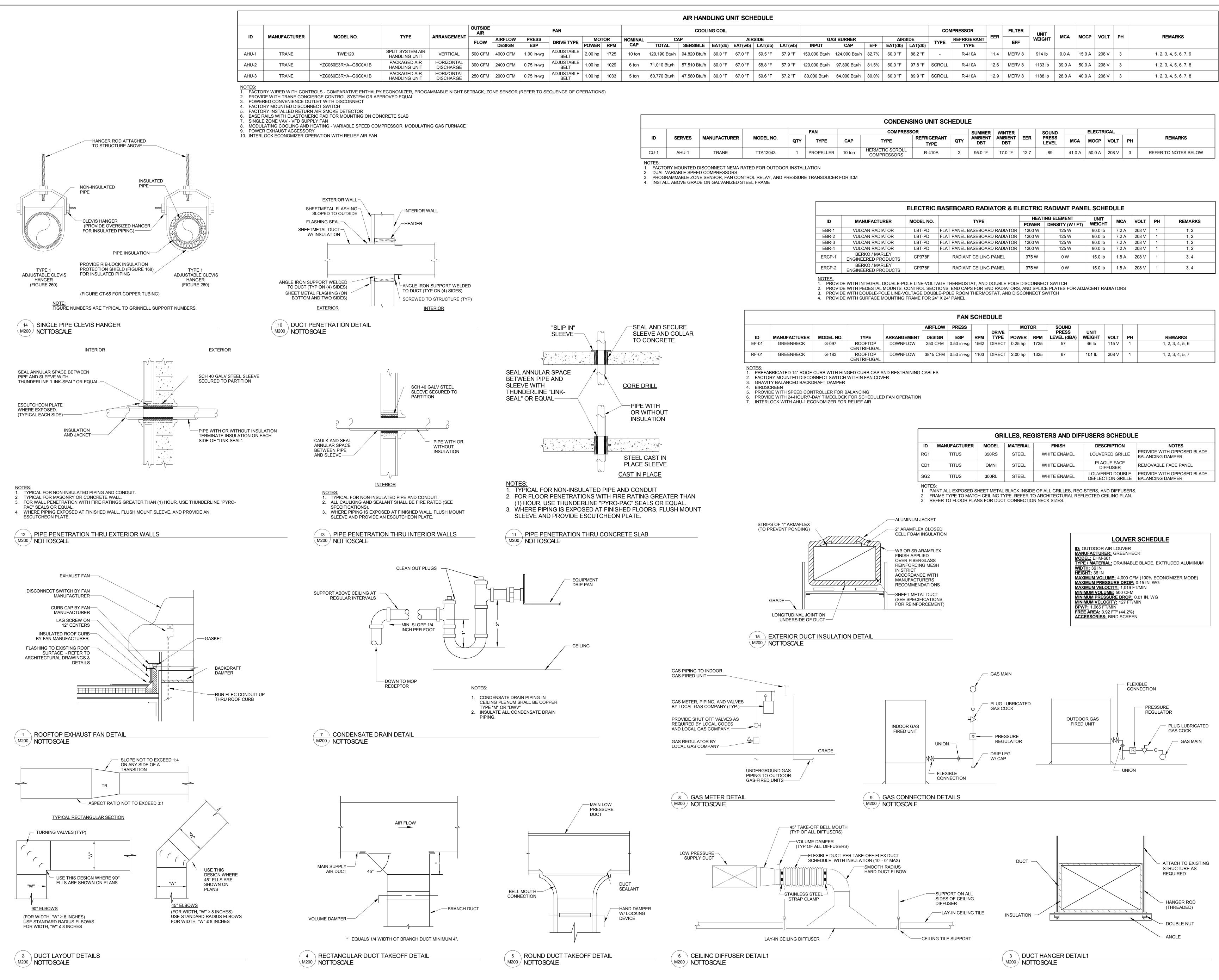


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MECHANICAL ROOF PLAN

SCALE	AS NOTED	
D R A W N	AH	
CHECKED	NC	
A P P R O V E D	SAF	
DATE	2018	
REVISIONS		
SYMBOL	DATE	DESCRIPTION
L	9-28-2018	DD SUBMISSION
	10-31-2018	50% CD SUBMISSION
L	1-11-2019	100% CD SUBMISSION
L	6-21-2019	FOR BIDS AND PERMITS ONLY
I		

M102



									AIR HAND	LING U	NIT SCH	EDULE																
TYPE		OUTSIDE AIR			FAN				COOLII	IG COIL									CO	MPRESSOR		FILTER	UNIT	MOA	MOOD	VOLT	DU	
TYPE	ARRANGEMENT	FLOW	AIRFLOW	PRESS	DRIVE TYPE	MOTOR	NOMINAL	CA	P		AIR	SIDE		G	S BURNER		AIRS	SIDE	TYPE	REFRIGERANT	EER	EFF	WEIGHT	MCA	MOCP	VOLT	PH	REMARKS
		FLOW	DESIGN	ESP		POWER RPM	CAP	TOTAL	SENSIBLE	EAT(db)	EAT(wb)	LAT(db)	LAT(wb)	INPUT	CAP	EFF	EAT(db)	LAT(db)		TYPE		EFF						
SPLIT SYSTEM AIR HANDLING UNIT	VERTICAL	500 CFM	4000 CFM	1.00 in-wg	ADJUSTABLE BELT	2.00 hp 1725	10 ton	120,190 Btu/h	94,820 Btu/h	80.0 °F	67.0 °F	59.5 °F	57.9 °F	150,000 Btu/h	124,000 Btu/h	82.7%	60.0 °F	88.2 °F	-	R-410A	11.4	MERV 8	914 lb	9.0 A	15.0 A	208 V	3	1, 2, 3, 4, 5, 6, 7, 9
PACKAGED AIR HANDLING UNIT	HORIZONTAL DISCHARGE	300 CFM	2400 CFM	0.75 in-wg	ADJUSTABLE BELT	1.00 hp 1029	6 ton	71,010 Btu/h	57,510 Btu/h	80.0 °F	67.0 °F	58.8 °F	57.9 °F	120,000 Btu/h	97,800 Btu/h	81.5%	60.0 °F	97.8 °F	SCROLL	R-410A	12.6	MERV 8	1133 lb	39.0 A	50.0 A	208 V	3	1, 2, 3, 4, 5, 6, 7, 8
PACKAGED AIR HANDLING UNIT	HORIZONTAL DISCHARGE	250 CFM	2000 CFM	0.75 in-wg	ADJUSTABLE BELT	1.00 hp 1033	5 ton	60,770 Btu/h	47,580 Btu/h	80.0 °F	67.0 °F	59.6 °F	57.2 °F	80,000 Btu/h	64,000 Btu/h	80.0%	60.0 °F	89.9 °F	SCROLL	R-410A	12.9	MERV 8	1188 lb	28.0 A	40.0 A	208 V	3	1, 2, 3, 4, 5, 6, 7, 8

							CONDENS	SING UNIT SCH	IEDUL	E								
					FAN		COMPRESS	SOR		SUMMER	WINTER		SOUND		ELECT	RICAL		
ID	SERVES	MANUFACTURER	MODEL NO.	QTY	TYPE	CAP	ТҮРЕ	REFRIGERANT TYPE	QTY	AMBIENT DBT	AMBIENT DBT	EER	PRESS LEVEL	MCA	МОСР	VOLT	PH	REMARKS
CU-1	AHU-1	TRANE	TTA12043	1	PROPELLER	10 ton	HERMETIC SCROLL COMPRESSORS	R-410A	2	95.0 °F	17.0 °F	12.7	89	41.0 A	50.0 A	208 V	3	REFER TO NOTES BELOW
I <u>OTES:</u> . FACTC		DISCONNECT NEMA R	ATED FOR OUTDOC		LATION		1	I		1	1			1	1	1	11	

		ELECTRIC	BASEBOARD RADIATOR & EL	ECTRIC	RADIANT PANE		DULE			
ID	MANUFACTURER	MODEL NO.	ТҮРЕ	HEAT	ING ELEMENT	UNIT	МСА	VOLT	РН	REMARKS
U	MANUFACIURER	WODEL NO.	ITE	POWER	DENSITY (W / FT)	WEIGHT	INICA	VOLI	FN	KEWARNS
EBR-1	VULCAN RADIATOR	LBT-PD	FLAT PANEL BASEBOARD RADIATOR	1200 W	125 W	90.0 lb	7.2 A	208 V	1	1, 2
EBR-2	VULCAN RADIATOR	LBT-PD	FLAT PANEL BASEBOARD RADIATOR	1200 W	125 W	90.0 lb	7.2 A	208 V	1	1, 2
EBR-3	VULCAN RADIATOR	LBT-PD	FLAT PANEL BASEBOARD RADIATOR	1200 W	125 W	90.0 lb	7.2 A	208 V	1	1, 2
EBR-4	VULCAN RADIATOR	LBT-PD	FLAT PANEL BASEBOARD RADIATOR	1200 W	125 W	90.0 lb	7.2 A	208 V	1	1, 2
ERCP-1	BERKO / MARLEY ENGINEERED PRODUCTS	CP378F	RADIANT CEILING PANEL	375 W	0 W	15.0 lb	1.8 A	208 V	1	3, 4
ERCP-2	BERKO / MARLEY ENGINEERED PRODUCTS	CP378F	RADIANT CEILING PANEL	375 W	0 W	15.0 lb	1.8 A	208 V	1	3, 4

					FAN S	SCHE	DULE							
				AIRFLOW	PRESS			MOT	OR	SOUND				
ER	MODEL NO.	TYPE	ARRANGEMENT	DESIGN	ESP	RPM	DRIVE TYPE	POWER	RPM	PRESS LEVEL (dBA)	UNIT WEIGHT	VOLT	РН	REMARKS
	G-097	ROOFTOP CENTRIFUGAL	DOWNFLOW	250 CFM	0.50 in-wg	1562	DIRECT	0.25 hp	1725	57	46 lb	115 V	1	1, 2, 3, 4, 5, 6
	G-183	ROOFTOP CENTRIFUGAL	DOWNFLOW	3815 CFM	0.50 in-wg	1103	DIRECT	2.00 hp	1325	67	101 lb	208 V	1	1, 2, 3, 4, 5, 7

	GR	ILLES, REG	SISTERS AND DIF	FUSERS SCHEDUL	E
MANUFACTURER	MODEL	MATERIAL	FINISH	DESCRIPTION	NOTES
TITUS	350RS	STEEL	WHITE ENAMEL	LOUVERED GRILLE	PROVIDE WITH OPPOSED BLADE BALANCING DAMPER
TITUS	OMNI	STEEL	WHITE ENAMEL	PLAQUE FACE DIFFUSER	REMOVABLE FACE PANEL
TITUS	300RL	STEEL	WHITE ENAMEL	LOUVERED DOUBLE DEFLECTION GRILLE	PROVIDE WITH OPPOSED BLADE BALANCING DAMPER
	TITUS	MANUFACTURERMODELTITUS350RSTITUSOMNI	MANUFACTURERMODELMATERIALTITUS350RSSTEELTITUSOMNISTEEL	MANUFACTURERMODELMATERIALFINISHTITUS350RSSTEELWHITE ENAMELTITUSOMNISTEELWHITE ENAMEL	TITUS 350RS STEEL WHITE ENAMEL LOUVERED GRILLE TITUS OMNI STEEL WHITE ENAMEL PLAQUE FACE DIFFUSER TITUS 200PL STEEL WHITE ENAMEL LOUVERED DOUBLE

ID: OUTDOOR AIR LOUVER MANUFACTURER: GREENHECK MODEL: EHM-601
TYPE / MATERIAL: DRAINABLE BLADE, EXTRUDED ALUMINUM WIDTH: 36 IN HEIGHT: 36 IN MAXIMUM VOLUME: 4,000 CFM (100% ECONOMIZER MODE) MAXIMUM PRESSURE DROP: 0.15 IN. WG MAXIMUM VELOCITY: 1,019 FT/MIN MINIMUM VOLUME: 500 CFM MINIMUM PRESSURE DROP: 0.01 IN. WG MINIMUM VELOCITY: 127 FT/MIN BPWP: 1,065 FT/MIN FREE AREA: 3.92 FT ² (44.2%) ACCESSORIES: BIRD SCREEN

ABCHITECTURE ENGINEERING PLANNING INTERIOR DESIG BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104

EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

CONSULTANTS

NEWARK, DE 19711 T 302.738.7172

CIVIL ENGINEER CHARLES E. SHOEMAKE, INC. 1007 EDGE HILL ROAD ABINGTON, PA 19001 STRUCTURAL ENGINEER MACINTOSH ENGINEERING 300 DELAWARE AVENUE, SUITE 820 WILMINGTON, DE 19801 T 302.252.9200 F 302.252.9201 MECHANICAL \ ELECTRICAL \ PLUMBING ENGINEER DEDC ENGINEERING DESIGN CONSULTING 315 S. CHAPEL STREET

SEAL

PROJECT # 6203.00 ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION DO NOT SCALE DRAWINGS © 2018 VITETTA

PROJECT TITLE



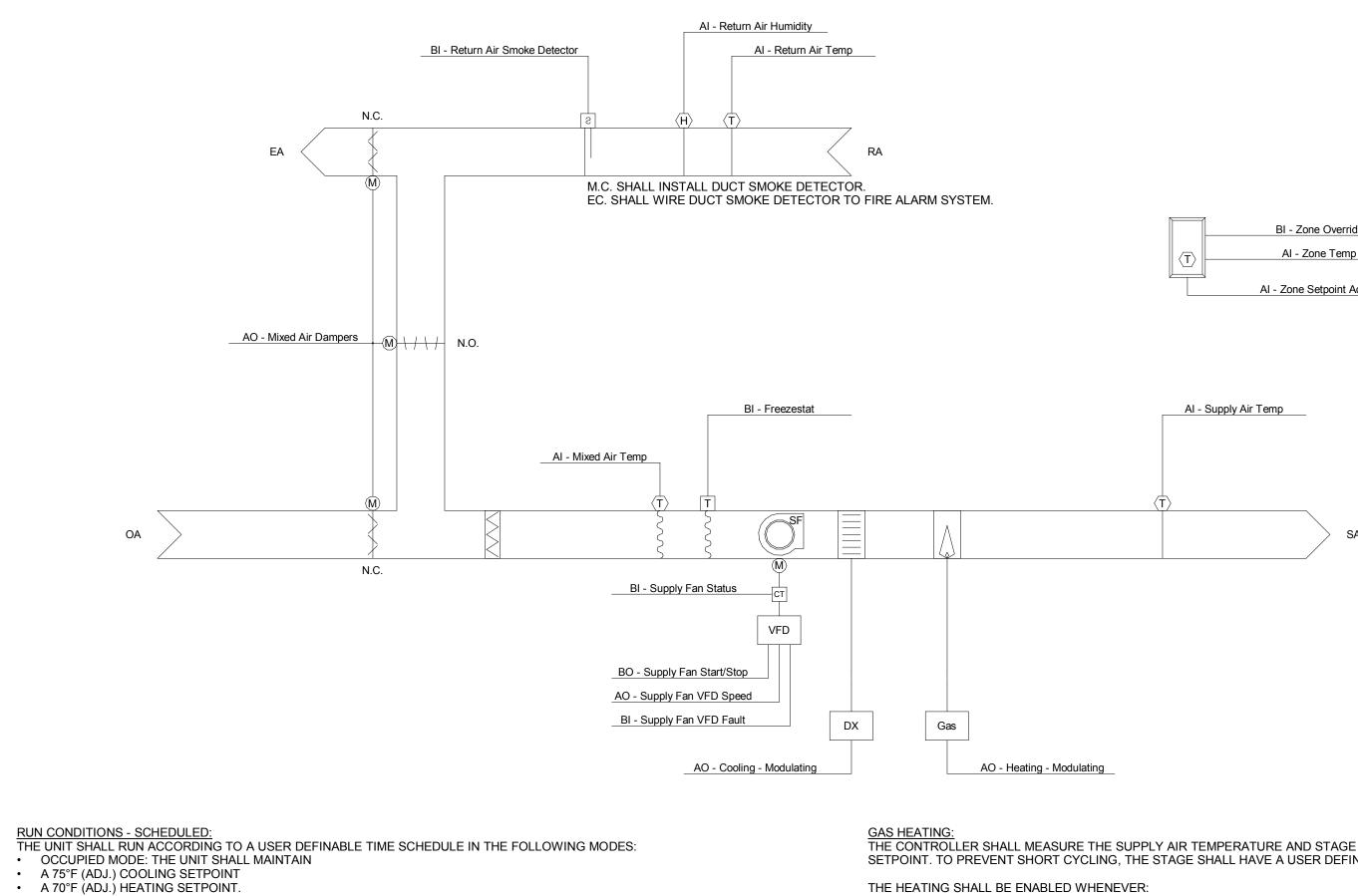
DRAWING TITLE

MECHANICAL DETAILS & SCHEDULES

SCALE	AS NOTED	
D R A W N	AH	
CHECKED	NC	
A P P R O V E D	SAF	
DATE	2018	
REVISIONS		
SYMBOL	DATE	DESCRIPTION
	9-28-2018	DD SUBMISSION
	10-31-2018	50% CD SUBMISSION
	1-11-2019	100% CD SUBMISSION
	6-21-2019	FOR BIDS AND PERMITS ONLY
]]

DRAWING





- UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN • A 85°F (ADJ.) COOLING SETPOINT.
- A 55°F (ADJ.) HEATING SETPOINT.
- ALARMS SHALL BE PROVIDED AS FOLLOWS: • HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.). LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

<u>ZONE SETPOINT ADJUST:</u> THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE

<u>ZONE OPTIMAL START:</u> THE UNIT SHALL USE AN OPTIMAL START ALGORITHM FOR MORNING START-UP. THIS ALGORITHM SHALL MINIMIZE THE UNOCCUPIED WARM-UP OR COOL-DOWN PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD.

ZONE UNOCCUPIED OVERRIDE: A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR AN ADJUSTABLE PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

FREEZE PROTECTION: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZESTAT STATUS.

RETURN AIR SMOKE DETECTION: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS.

SUPPLY FAN: THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME. ALARMS SHALL BE PROVIDED AS FOLLOWS:

• SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF. SUPPLY FAN IN HAND: COMMANDED OFF. BUT THE STATUS IS ON. • SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

ZONE TEMPERATURE CONTROL: THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND SHALL MODULATE THE SUPPLY FAN VFD SPEED TO MAINTAIN ZONE TEMPERATURE SETPOINT. THE FAN SPEED SHALL INCREASE AS THE ZONE TEMPERATURE RISES ABOVE COOLING SETPOINT, OR AS THE ZONE TEMPERATURE DROPS BELOW HEATING SETPOINT. THE SUPPLY FAN VFD SPEED SHALL NOT DROP BELOW 30% (ADJ.).

DX COOLING: THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING TO MAINTAIN ITS COOLING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME THE COOLING SHALL BE ENABLED WHENEVER:

- OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.). • AND THE ECONOMIZER (IF PRESENT) IS DISABLED OR FULLY OPEN. AND THE SUPPLY FAN STATUS IS ON.
- AND THE HEATING (IF PRESENT) IS NOT ACTIVE.
- ALARMS SHALL BE PROVIDED AS FOLLOWS: • HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 5°F (ADJ.) GREATER THAN SETPOINT.

• HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.). LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:

SUPPLY AIR TEMPERATURE: THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE.

• HIGH RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 90°F (ADJ.). • LOW RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

ECONOMIZER CONTROL (IF PRESENT). ALARMS SHALL BE PROVIDED AS FOLLOWS:

<u>RETURN AIR TEMPERATURE:</u> THE CONTROLLER SHALL MONITOR THE RETURN AIR TEMPERATURE AND USE AS REQUIRED FOR SETPOINT CONTROL OR

ALARMS SHALL BE PROVIDED AS FOLLOWS: HIGH RETURN AIR HUMIDITY: IF THE RETURN AIR HUMIDITY IS GREATER THAN 70% (ADJ.). LOW RETURN AIR HUMIDITY: IF THE RETURN AIR HUMIDITY IS LESS THAN 35% (ADJ.)

THE CONTROLLER SHALL MONITOR THE RETURN AIR HUMIDITY AND USE AS REQUIRED FOR ECONOMIZER CONTROL.

• HIGH MIXED AIR TEMP: IF THE MIXED AIR TEMPERATURE IS GREATER THAN 90°F (ADJ.). • LOW MIXED AIR TEMP: IF THE MIXED AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

MIXED AIR TEMPERATURE: THE CONTROLLER SHALL MONITOR THE MIXED AIR TEMPERATURE AND USE AS REQUIRED FOR ECONOMIZER CONTROL. ALARMS SHALL BE PROVIDED AS FOLLOWS:

AND BE CLOSED DURING UNOCCUPIED HOURS.

MINIMUM OUTSIDE AIR VENTILATION - FIXED PERCENTAGE: THE OUTSIDE AIR DAMPERS SHALL MAINTAIN A MINIMUM ADJUSTABLE POSITION DURING BUILDING OCCUPIED HOURS

THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE AND THE RETURN AIR DAMPER SHALL OPEN WHEN THE UNIT IS OFF. IF OPTIMAL START UP IS AVAILABLE THE MIXED AIR DAMPER SHALL OPERATE AS DESCRIBED IN THE OCCUPIED MODE EXCEPT THAT THE OUTSIDE AIR DAMPER SHALL MODULATE TO FULLY CLOSED.

THE ECONOMIZER SHALL CLOSE WHENEVER: • MIXED AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.) OR THE FREEZESTAT (IF PRESENT) IS ON. OR ON LOSS OF SUPPLY FAN STATUS.

 AND THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE. AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY. AND THE SUPPLY FAN STATUS IS ON.

THE ECONOMIZER SHALL BE ENABLED WHENEVER: • OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.). • AND THE OUTSIDE AIR ENTHALPY IS LESS THAN 22BTU/LB (ADJ.)

ECONOMIZER: THE CONTROLLER SHALL MEASURE THE MIXED AIR TEMPERATURE AND MODULATE THE ECONOMIZER DAMPERS IN SEQUENCE TO MAINTAIN A SETPOINT 2°F (ADJ.) LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT. THE OUTSIDE AIR DAMPERS SHALL MAINTAIN A MINIMUM ADJUSTABLE POSITION OF 20% (ADJ.) OPEN WHENEVER OCCUPIED.

ALARMS SHALL BE PROVIDED AS FOLLOWS: LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 5°F (ADJ.) LESS THAN SETPOINT.

• SUPPLY AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.). AND THE SUPPLY FAN STATUS IS ON.

THE HEATING STAGE SHALL RUN FOR FREEZE PROTECTION WHENEVER:

 AND THE SUPPLY FAN STATUS IS ON. AND THE COOLING (IF PRESENT) IS NOT ACTIVE.

THE HEATING SHALL BE ENABLED WHENEVER: • OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).

THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND STAGE THE HEATING TO MAINTAIN ITS HEATING SETPOINT. TO PREVENT SHORT CYCLING, THE STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

BI - Zone Override AI - Zone Temp AI - Zone Setpoint Adjust

> AND THE HEATING (IF PRESENT) IS NOT ACTIVE. ALARMS SHALL BE PROVIDED AS FOLLOWS:

THE COOLING SHALL BE ENABLED WHENEVER: • OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.). • AND THE ECONOMIZER (IF PRESENT) IS DISABLED OR FULLY OPEN. • AND THE SUPPLY FAN STATUS IS ON.

DX COOLING: THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING TO MAINTAIN ITS COOLING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

<u>ZONE TEMPERATURE CONTROL:</u> THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND SHALL MODULATE THE SUPPLY FAN VFD SPEED TO MAINTAIN ZONE TEMPERATURE SETPOINT. THE FAN SPEED SHALL INCREASE AS THE ZONE TEMPERATURE RISES ABOVE COOLING SETPOINT, OR AS THE ZONE TEMPERATURE DROPS BELOW HEATING SETPOINT. THE SUPPLY FAN VFD SPEED SHALL NOT DROP BELOW 30% (ADJ.).

• SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF. • SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON. SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

<u>SUPPLY FAN:</u> THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME. ALARMS SHALL BE PROVIDED AS FOLLOWS:

RETURN AIR SMOKE DETECTION: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS.

THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZESTAT STATUS.

ZONE UNOCCUPIED OVERRIDE: A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR AN ADJUSTABLE PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

ZONE OPTIMAL START: THE UNIT SHALL USE AN OPTIMAL START ALGORITHM FOR MORNING START-UP. THIS ALGORITHM SHALL MINIMIZE THE UNOCCUPIED WARM-UP OR COOL-DOWN PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD.

ZONE SETPOINT ADJUST: THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR.

• HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.). • LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

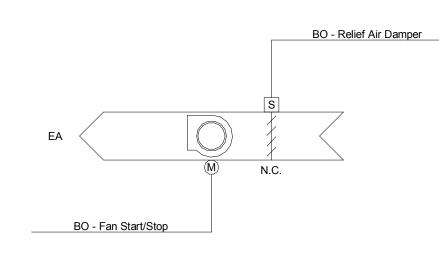
ALARMS SHALL BE PROVIDED AS FOLLOWS:

 UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN • A 85°F (ADJ.) COOLING SETPOINT. • A 55°F (ADJ.) HEATING SETPOINT.

FOLLOWING MODES: OCCUPIED MODE: THE UNIT SHALL MAINTAIN A 75°F (ADJ.) COOLING SETPOINT • A 70°F (ADJ.) HEATING SETPOINT.

N.C.



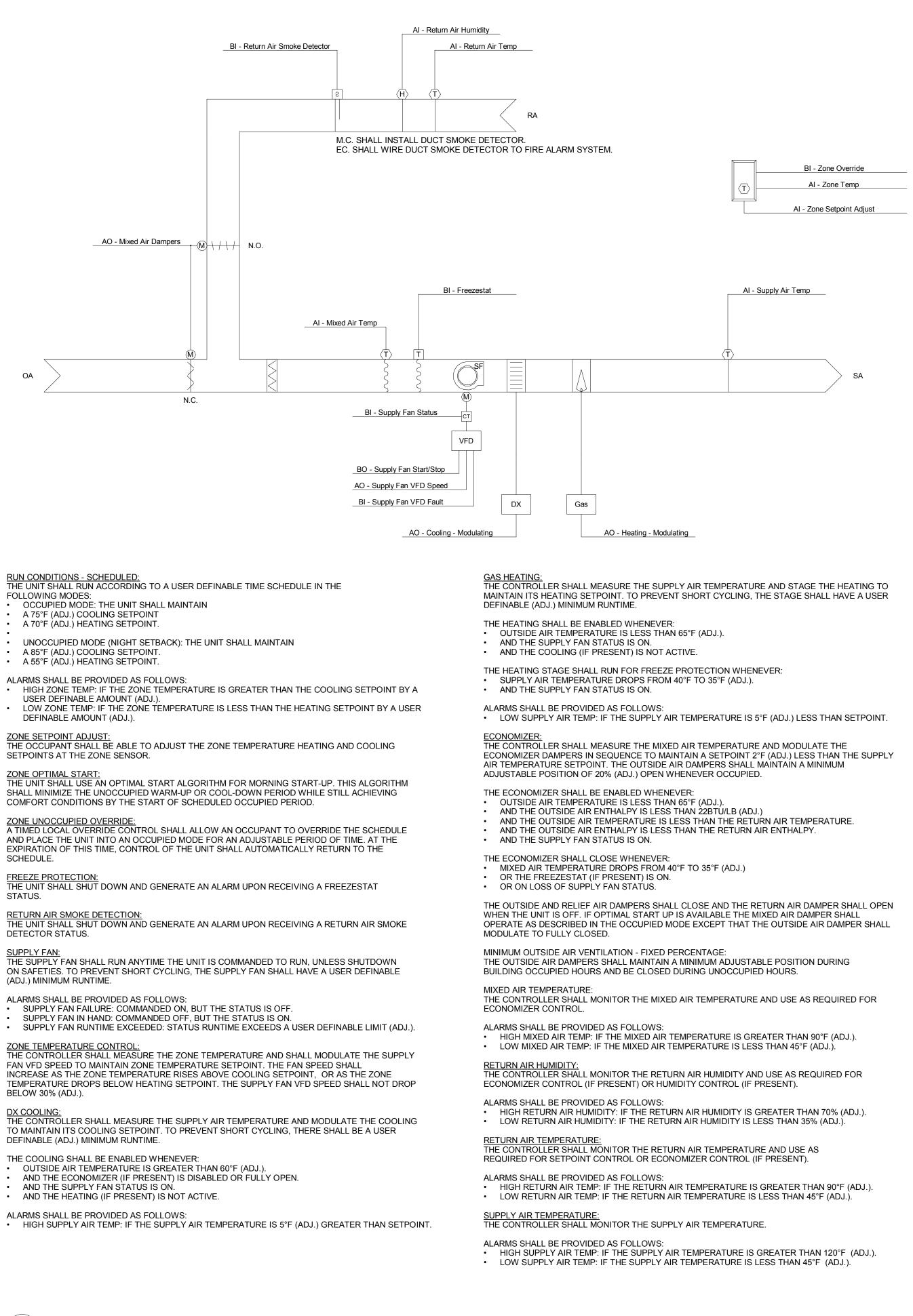


RUN CONDITIONS - INTERLOCKED: THE FAN(S) RF-02 SHALL BE INTERLOCKED TO RUN WHENEVER AIR HANDLING UNIT AHU-1 OPERATES IN ECONOMIZER MODE.

FAN THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

RELIEF AIR DAMPER: THE RELIEF AIR DAMPER SHALL OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE RELIEF AIR DAMPER SHALL CLOSE 30 SEC (ADJ.) AFTER THE FAN STOPS.

 $3 \rightarrow$ ECONOMIZER RELIEF AIR FAN SEQUENCE OF OPERATIONS M300 / NOTTOSCALE



ABCHITECTURE ENGINEERING PLANNING INTERIOR DESIG BALDWIN TOWER

1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

CONSULTANTS

NEWARK, DE 19711

T 302.738.7172

CIVIL ENGINEER CHARLES E. SHOEMAKE, INC. 1007 EDGE HILL ROAD ABINGTON, PA 19001 STRUCTURAL ENGINEER MACINTOSH ENGINEERING 300 DELAWARE AVENUE, SUITE 820 WILMINGTON, DE 19801 T 302.252.9200 F 302.252.9201 MECHANICAL \ ELECTRICAL \ PLUMBING ENGINEER DEDC ENGINEERING DESIGN CONSULTING 315 S. CHAPEL STREET

SEAL

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PROJECT TITLE



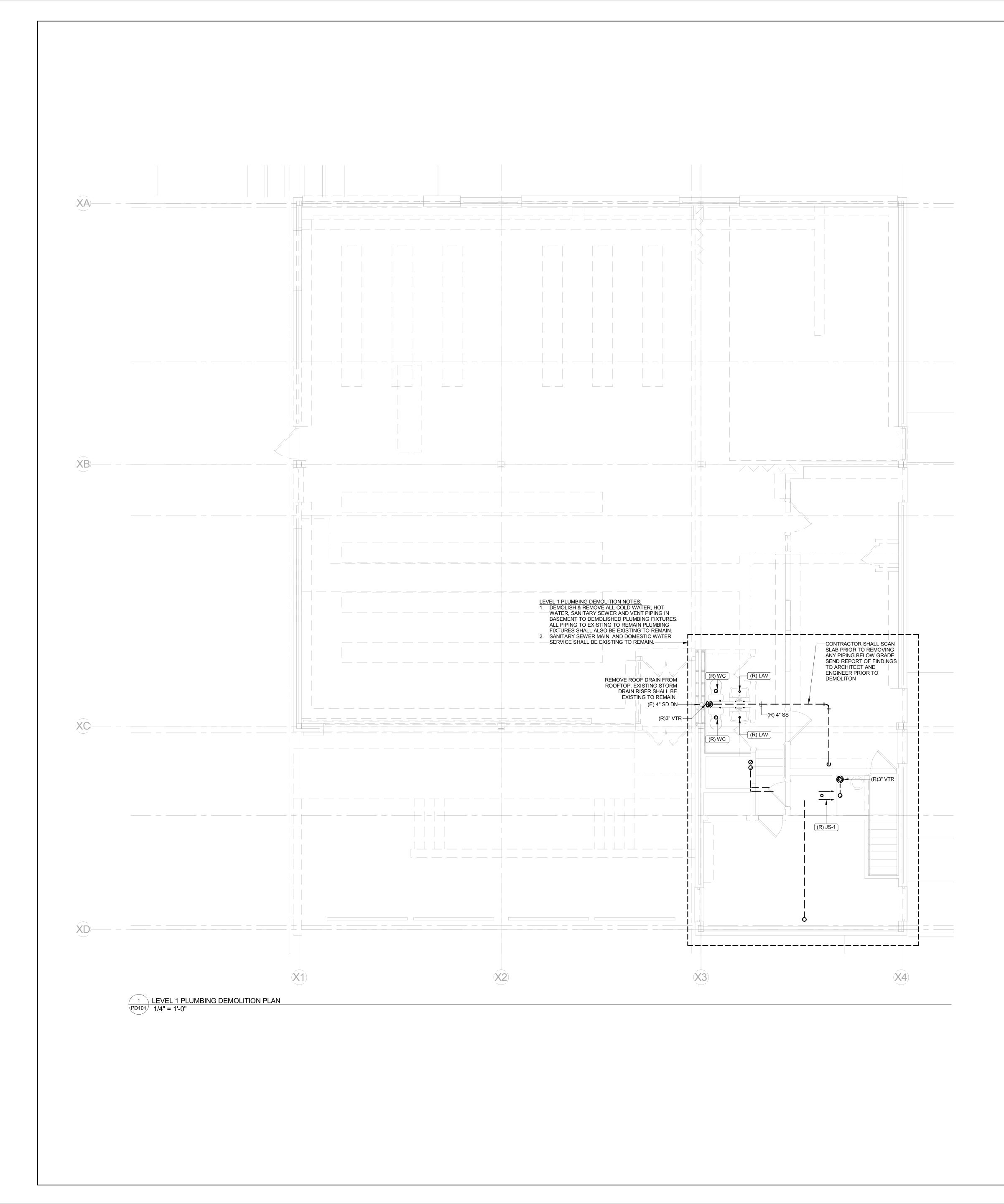
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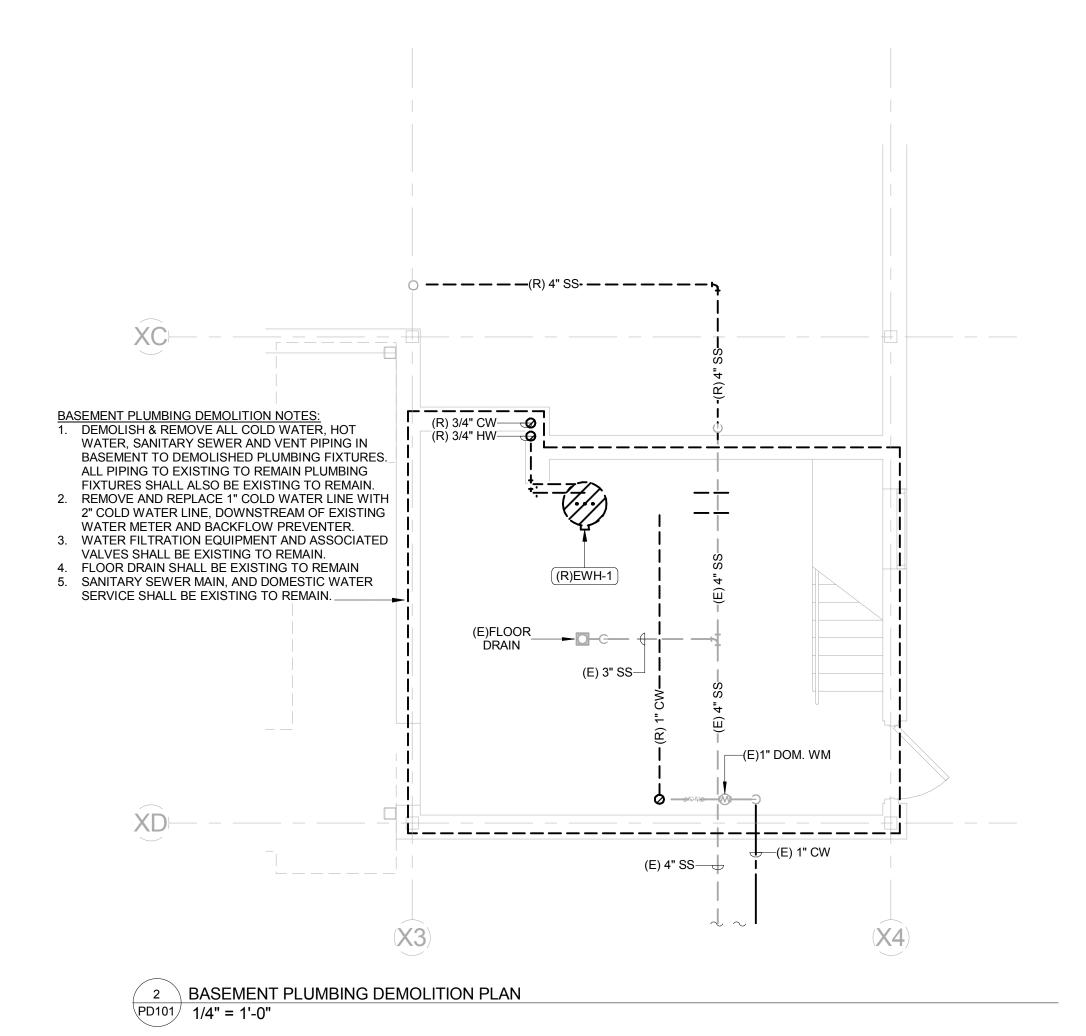
MECHANICAL SEQUENCES DIAGRAMS

SCALE	AS NOTED	
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DATE	2018	
REVISIONS		
SYMBOL	DATE	DESCRIPTION
L	9-28-2018	DD SUBMISSION
	10-31-2018	50% CD SUBMISSION
	1-11-2019	100% CD SUBMISSION
L	6-21-2019	FOR BIDS AND PERMITS ONLY
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ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104

BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

CONSULTANTS

NEWARK, DE 19711

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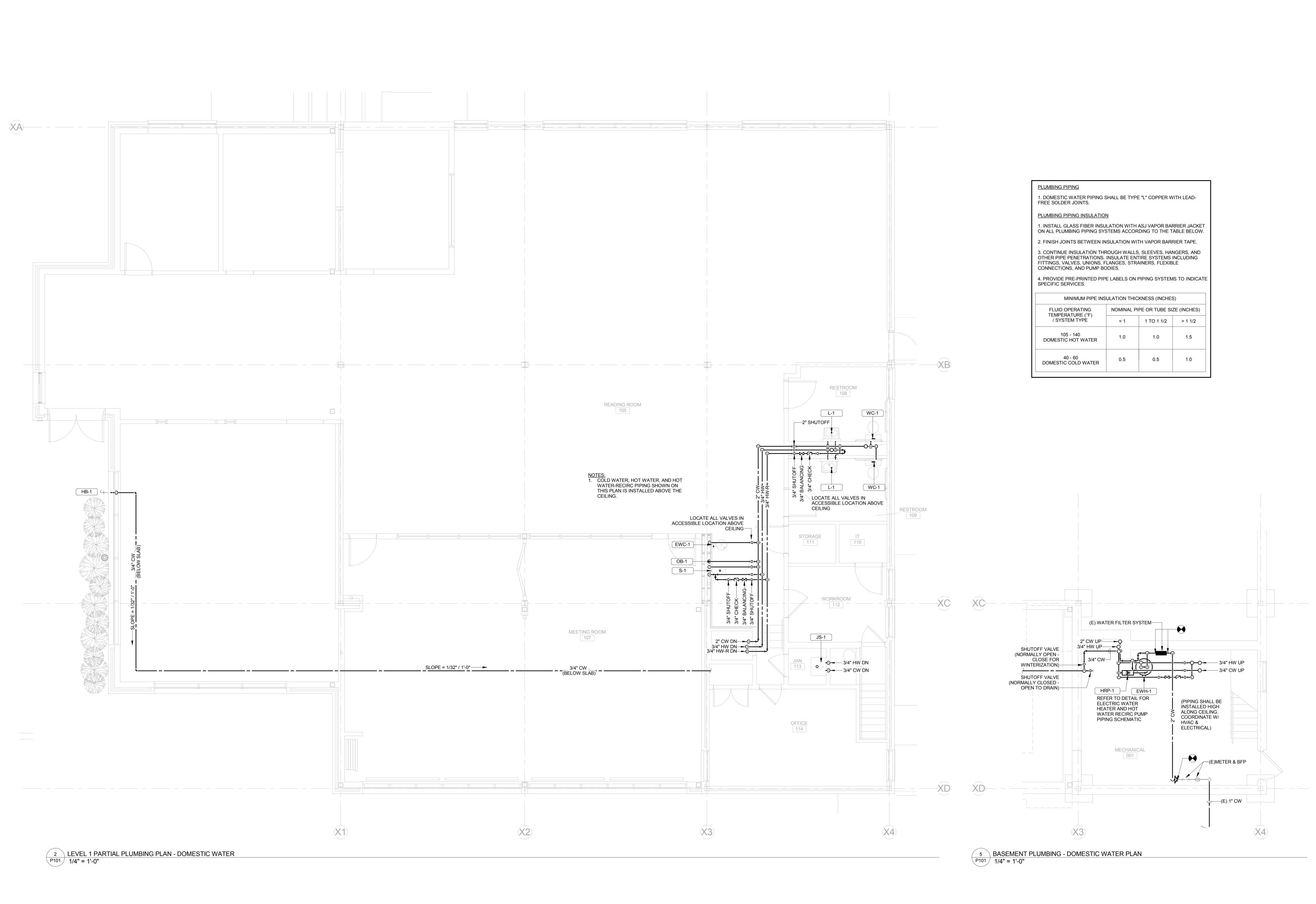
PROJECT TITLE

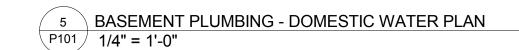


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BASEMENT AND LEVEL 1 PLUMBING DEMOLITION PLANS

S C	ALE	AS NOTED	
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SYM	BOL	DATE	DESCRIPTION
L		9-28-2018	DD SUBMISSION
L		10-31-2018	50% CD SUBMISSION
L		1-11-2019	100% CD SUBMISSION
L		6-21-2019	FOR BIDS AND PERMITS ONLY
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SPECIFIC SERVICES.								
MINIMUM PIPE INSULATION THICKNESS (INCHES)								
FLUID OPERATING TEMPERATURE (°F)	NOMINAL PIPE OR TUBE SIZE (INCHES)							
/ SYSTEM TYPE	< 1	1 TO 1 1/2	> 1 1/2					
105 - 140 DOMESTIC HOT WATER	1.0	1.0	1.5					
40 - 60 DOMESTIC COLD WATER	0.5	0.5	1.0					

1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

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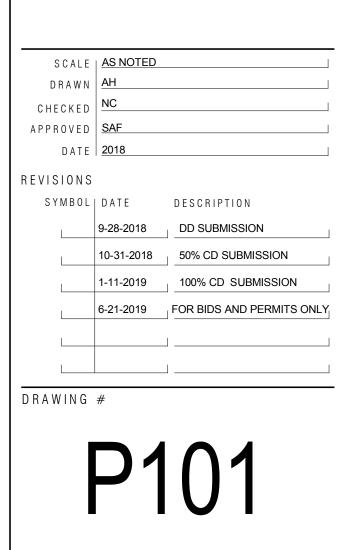
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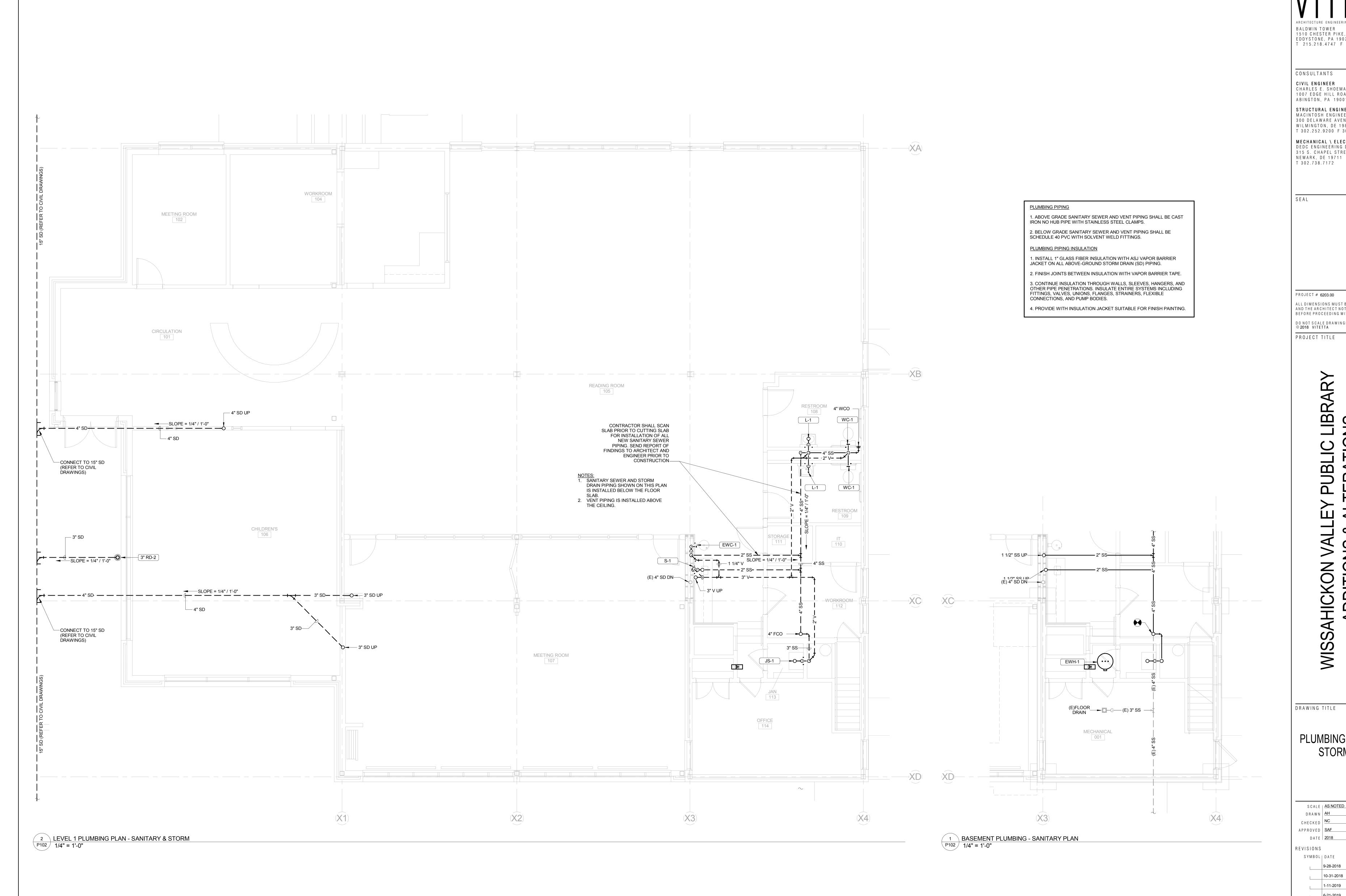
PROJECT TITLE



DRAWING TITLE

PLUMBING DOMESTIC WATER PLANS





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CONSULTANTS

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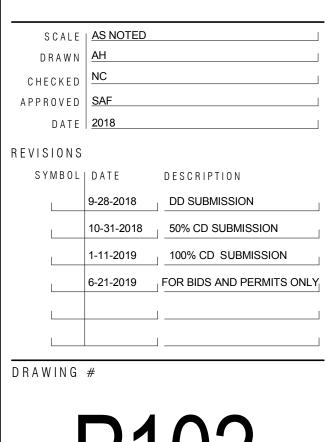
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PROJECT TITLE



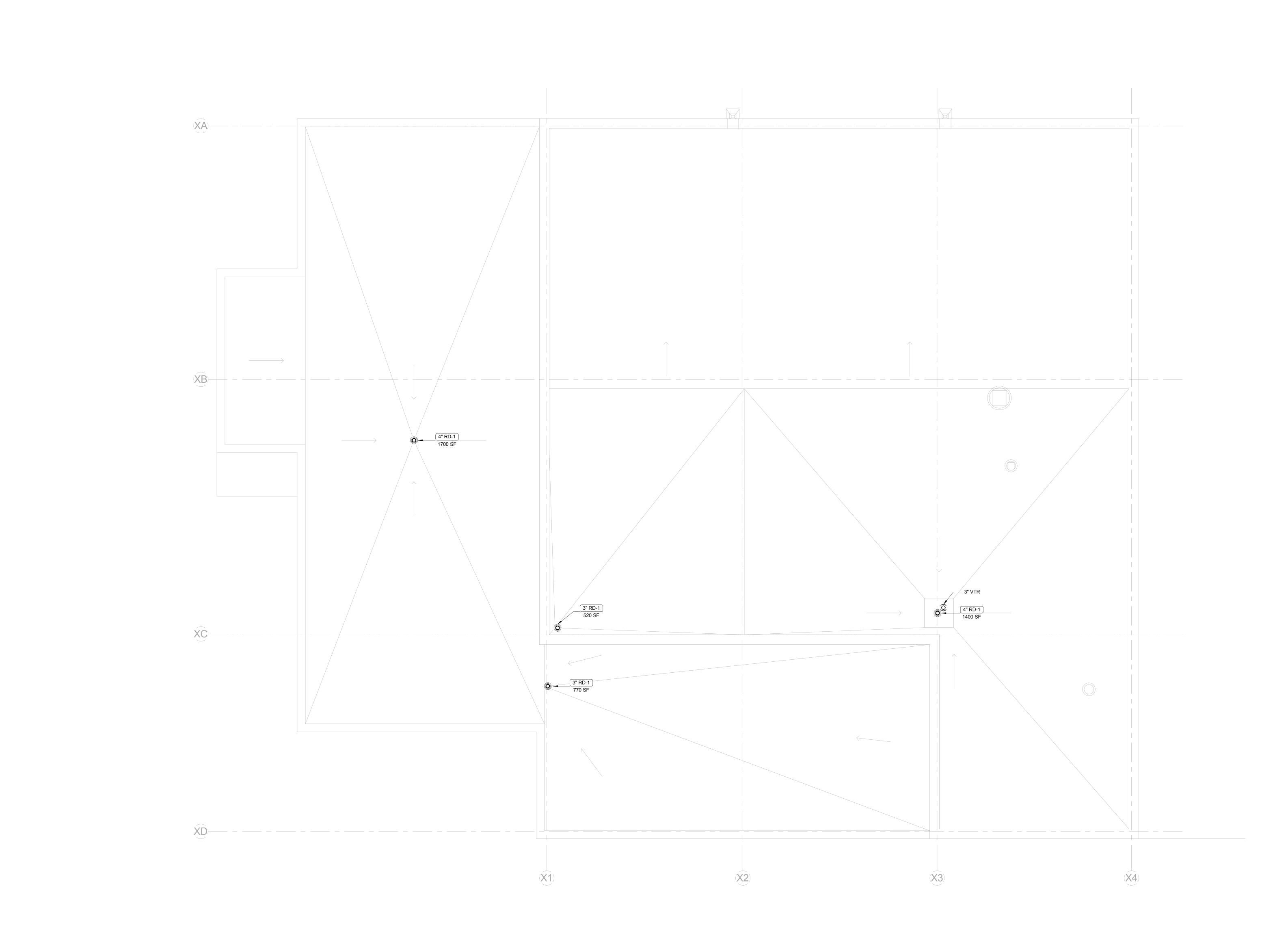
DRAWING TITLE

PLUMBING SANITARY & STORM PLANS





1 ROOF PLUMBING PLAN P110 1/4" = 1'-0"



ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN BALDWIN TOWER 1510 CHESTER PIKE SHITE 104

BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

CONSULTANTS

CIVIL ENGINEER CHARLES E. SHOEMAKE, INC. 1007 EDGE HILL ROAD ABINGTON, PA 19001 STRUCTURAL ENGINEER MACINTOSH ENGINEERING 300 DELAWARE AVENUE, SUITE 820 WILMINGTON, DE 19801 T 302.252.9200 F 302.252.9201 MECHANICAL \ ELECTRICAL \ PLUMBING ENGINEER DEDC ENGINEERING DESIGN CONSULTING 315 S. CHAPEL STREET NEWARK, DE 19711 T 302.738.7172

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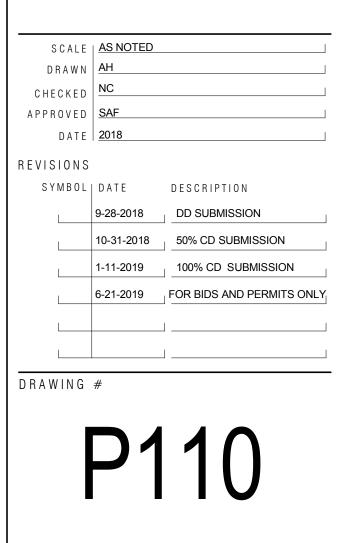
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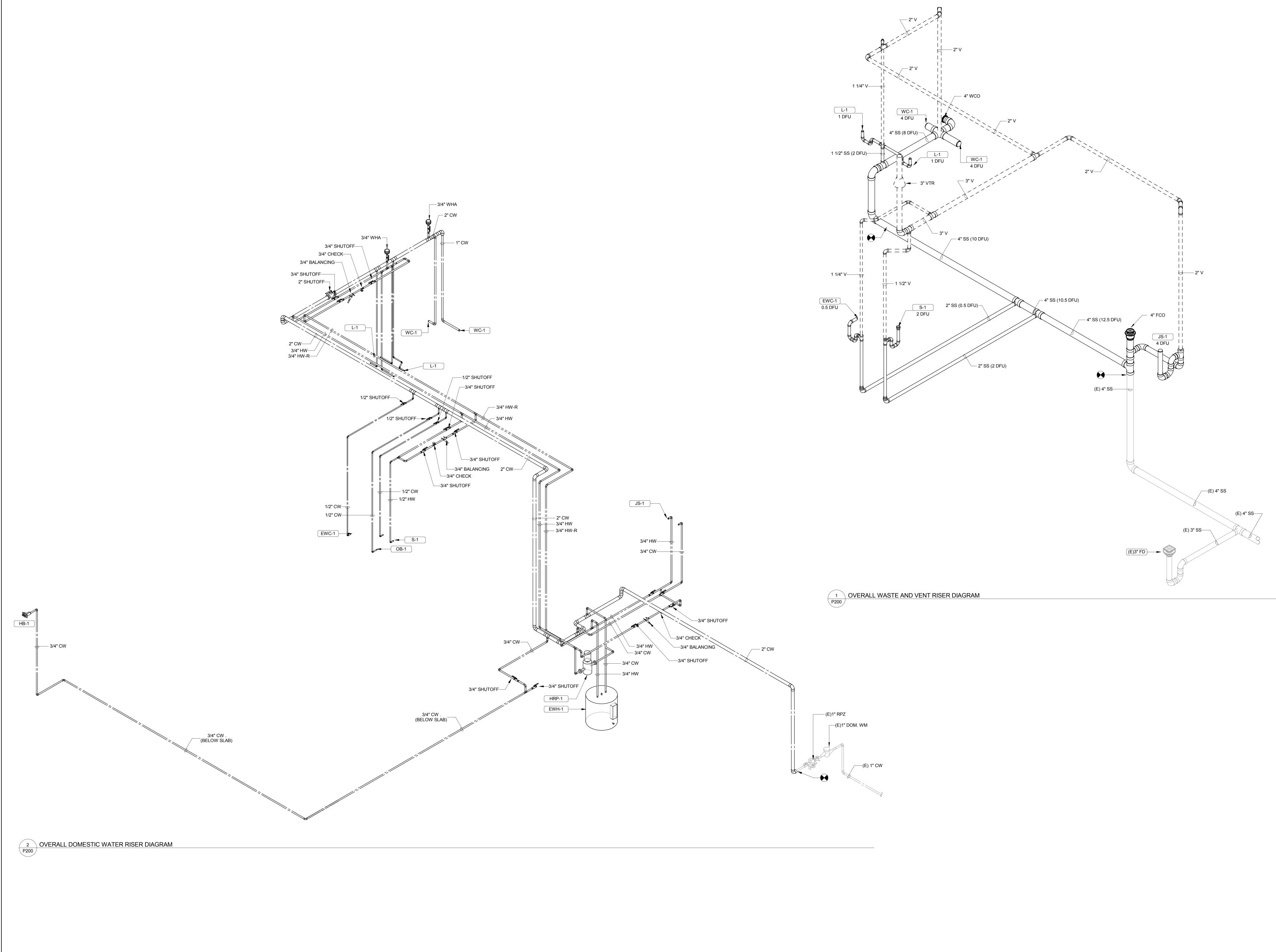
PROJECT TITLE



DRAWING TITLE

ROOF PLUMBING PLAN





ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN

BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

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PROJECT TITLE



DRAWING TITLE

PLUMBING RISER DIAGRAMS

SCALE | <u>AS NOTED</u> DRAWN AH CHECKED NC APPROVED <u>SAF</u> DATE **2018** REVISIONS SYMBOL | DATE DESCRIPTION 9-28-2018 DD SUBMISSION 10-31-2018 50% CD SUBMISSION 1-11-2019 100% CD SUBMISSION 6-21-2019 FOR BIDS AND PERMITS ONLY DRAWING #



									PL	UMBIN	IG FIXT	URE S	CHEDU	ULE	
				MATERIAL		FAUCET OR	FLUSH VALVE	WATER	VOL.		PIPE	PIPE SIZE			
ID	DESCRIPTION	MANUFACTURER	MODEL	DESCRIPTION	FINISH	MANUFACTURER	MODEL	FLOW	PER FLUSH	WASTE		COLD WATER	HOT WATE	TRIM AND ACCESSORIES	REMARKS
EWC-1	WATER COOLER - ADA	HALSEY TAYLOR	OVLERGRN-VRWF	GALVANIZED STEEL	STAINLESS STEEL CABINET			0.1 GPM		1-1/2"	1-1/2"	1/2"		SINGLE LEVEL WALL HUNG WATER COOLER. THE UNIT SHALL BE COMPLETE WITH CABINET, MOUNTING FRAME, SELF CLOSING EASY TOUCH FRONT PUSHBAR CONTROLS, CHROME PLATED BUBBLER, REFRIGERATING SYSTEM, AIR COOLED, 120 VOLT, 60 CYCLE, SINGLE PHASE POWER CONNECTION, FULLY AUTOMATIC, COMPLETE AND READY TO OPERATE. COORDINATE W/ ARCHITECTURAL DRAWINGS FOR IN-WALL FRAME/PLATE MOUNTING.	
HB-1	EXTERIOR WALL HYDRANT	JAY R. SMITH	GUARDIAN PLUS DUAL CHECK	BRONZE	STAINLESS STEEL FACE	-	-	2.5 GPM				3/4"		NON-FREEZE TYPE WALL HYDRANT, WITH DOUBLE CHECK BACKFLOW PREVENTER, VALVE ON THE INSIDE OF THE WALL, SPOUT WITH BACKFLOW PREVENTER, AND LOOSE KEY SOCKET ON THE OUTSIDE OF THE WALL. MAKE ARRANGEMENTS WITH THE GENERAL CONTRACTOR TO PROVIDE THE NECESSARY RECESS IN THE WALL. WHERE A RISER TO A WALL HYDRANT OCCURS IN AN OUTSIDE WALL THE CONTRACTOR SHALL INSULATE THE CHASE WITH 2" STYROFOAM INSULATION ON ALL SIDES OF THE CHASE, EXCEPT THE INSIDE WALL OF THE CHASE. PROVIDE SHUTOFF VALVE IN ACCESSIBLE LOCATION.	
JS-1	JANITOR SINK	AMERICAN STANDARD	LAKEWELL	ENAMELED CAST IRON	WHITE ENAMEL	AMERICAN STANDARD	8341.076	2.5 GPM		3"	2"	3/4"	3/4"	SERVICE BASIN WITH CAP ON TWO SIDES, WITH CHROME PLATED 3" DRAIN AND CAST IRON TRAP. FAUCET SHALL INCLUDE PAIL HOOK AND ATMOSPHERIC VACUUM BREAKER SPOUT. FURNISH 5'-0" LENGTH OF 5-PLY GARDEN HOSE AND FITTINGS.	
L-1	LAVATORY - WALL HUNG - ADA	AMERICAN STANDARD	LUCERNE	WHITE VITREOUS CHINA	WHITE	SLOAN	ETF-880-4-BOX-AD M-CP-0.5GPM-MLM- IR-BT-FCT	0.5 GPM		1-1/4"	1-1/4"	1/2"	1/2"	WALL HUNG LAVATORY WITH BACKSPLASH, FAUCET HOLES ON 4" CENTERS. DECK-MOUNTED FAUCET WITH SENSOR, HARD-WIRED POWER WITH VANDAL RESISTANT SPRAY, EXTERNAL ASSE 1070 COMPLIANT THERMOSTATIC MIXING VALVE, GRID DRAIN, LOOSE KEY ANGLE STOPS AND SUPPLIES. INSULATE WATER AND WASTE WITH ADA INSULATION KIT. MOUNT AT ADA COMPLIANT HEIGHT.	
OB-1	COFFEE MAKER OUTLET BOX	SIOUX CHIEF	696-G1010MF	ABS PLASTIC	WHITE			0.1 GPM				1/2"		FULLY RECESSED ICE MAKER SUPPLY BOX WITH COVER. PROVIDE 1/4 TURN BALL VALVE AND WATER HAMMER ARRESTOR IN BOX. PROVIDE A BACKFLOW PREVENTER CONCEALED IN WALL SPACE.	COORDINATE MOUNTING HEIGHT LOCATION WITH ARCHITECTURAL DRAWINGS
S-1	SINGLE BOWL SINK	ELKAY	LRAD221955-3	STAINLESS STEEL	STAINLESS STEEL	ELKAY	LK1000	1.0 GPM		1-1/2"	1-1/2"	1/2"	1/2"	SINGLE COMPARTMENT, ADA COMPLIANT, SELF-RIMMING, 18 GAUGE. SINGLE LEVER SWIVEL FAUCET. ONE ELKAY MODEL NO. LK35 BASKET STRAINER, P-TRAP, TAILPIECES, SUPPLIES AND STOPS. INSULATE WATER AND WASTE TO MEET ADA REQUIREMENTS.	
WC-1	WATER CLOSET - WALL HUNG - ADA	AMERICAN STANDARD	AFWALL	WHITE VITREOUS CHINA	WHITE	SLOAN	ROYAL 111 ESS HARDWIRED-1.6-BN -TMO-HW		1.6 gal	4"	2"	1"		ELONGATED WALL HUNG WATER CLOSET, 1-1/2" TOP SPUD, WITH CHURCH 295CT ELONGATED OPEN FRONT SEAT. HARD-WIRED SENSOR ACTIVATED FLUSHOMETER. INSTALL AT ADA COMPLIANT HEIGHT.	

DESCRIP ID RD-1 ROOF DF RD-2 PLANTING AF

	ID	MANUF
E۷	VH-1	BRADFC
<u>NO</u> 1. 2. 3. 4. 5. 6. 7. 8. 9.	SCREV SEDIM VITRIC 1" NON FACTO PROTE T&P R	AUTOMAT W-IN STYLE IENT REDU GLAS LININ N-CFC FOA DRY-INSTAI ECTIVE MA ELIEF VAL DE WITH E

WATER HAMMER ARRESTOR D: WHA

MANUFACTURER: WATTS MODEL: LF15M2

DESCRIPTION: MAINTENANCE FREE, AIR PRE-LOAD 60PSI, FACTORY AIR CHARGED AND PERMANENTLY SEALED FLOOR CLEANOUT

ID: FCO MANUFACTURER: JAY R. SMITH

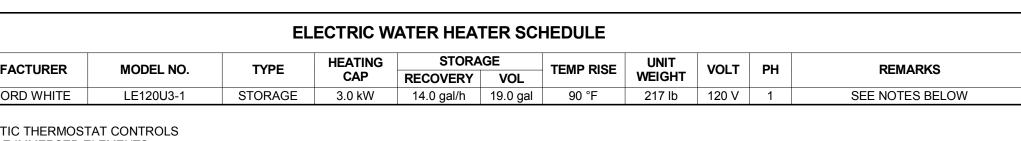
MODEL: 4023S DESCRIPTION: DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED SECURED NICKEL BRONZE TOP. TAPER THREAD - BRONZE PLUG CLOSURE TYPE.

WALL CLEANOUT

MANUFACTURER: JAY R. SMITH MODEL: 4422C

DESCRIPTION: DUCO CAST IRON CAULK FERRULE WITH CAST BRONZE TAPER THREAD PLUG, WITH SHALLOW COVER AND SCREW.

STORM DRAIN SCHEDULE										
			MATERIAL D	MATERIAL DESCRIPTION						
RIPTION	MANUFACTURER	MODEL	DRAIN BODY	STRAINER	PIPE SIZE	SPECIFICATION	REMARKS			
DRAIN	JAY R. SMITH	1010BS	LACQUERED CAST IRON	CAST IRON			PROVIDE WITH UNDERDECK (AND VANDAL PROOF DOME.			
AREA DRAIN	JAY R. SMITH	1930	LACQUERED CAST IRON	CAST IRON	-	DUCO CAST IRON WIDE FLANGE BODY WITH PERFORATED STAINLESS STEEL EXTENSIONS WITH FLASHING CLAMPS, BUCKET AND CAST IRON GRATE				

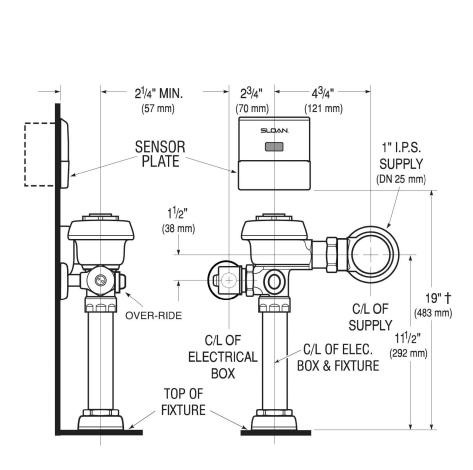


LE IMMERSED ELEMENTS UCING DEVICE

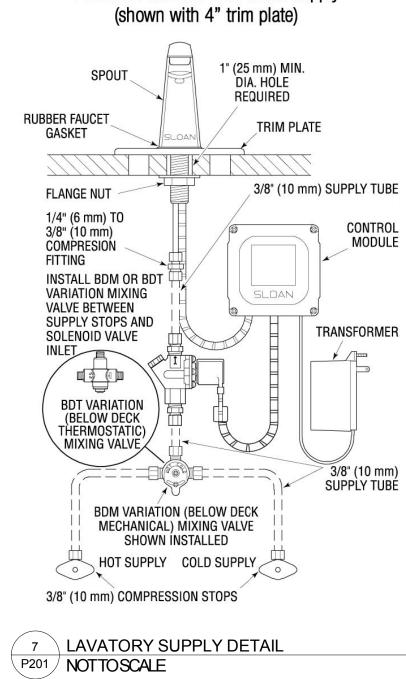
AM INSULATION ALLED HEAT TRAPS

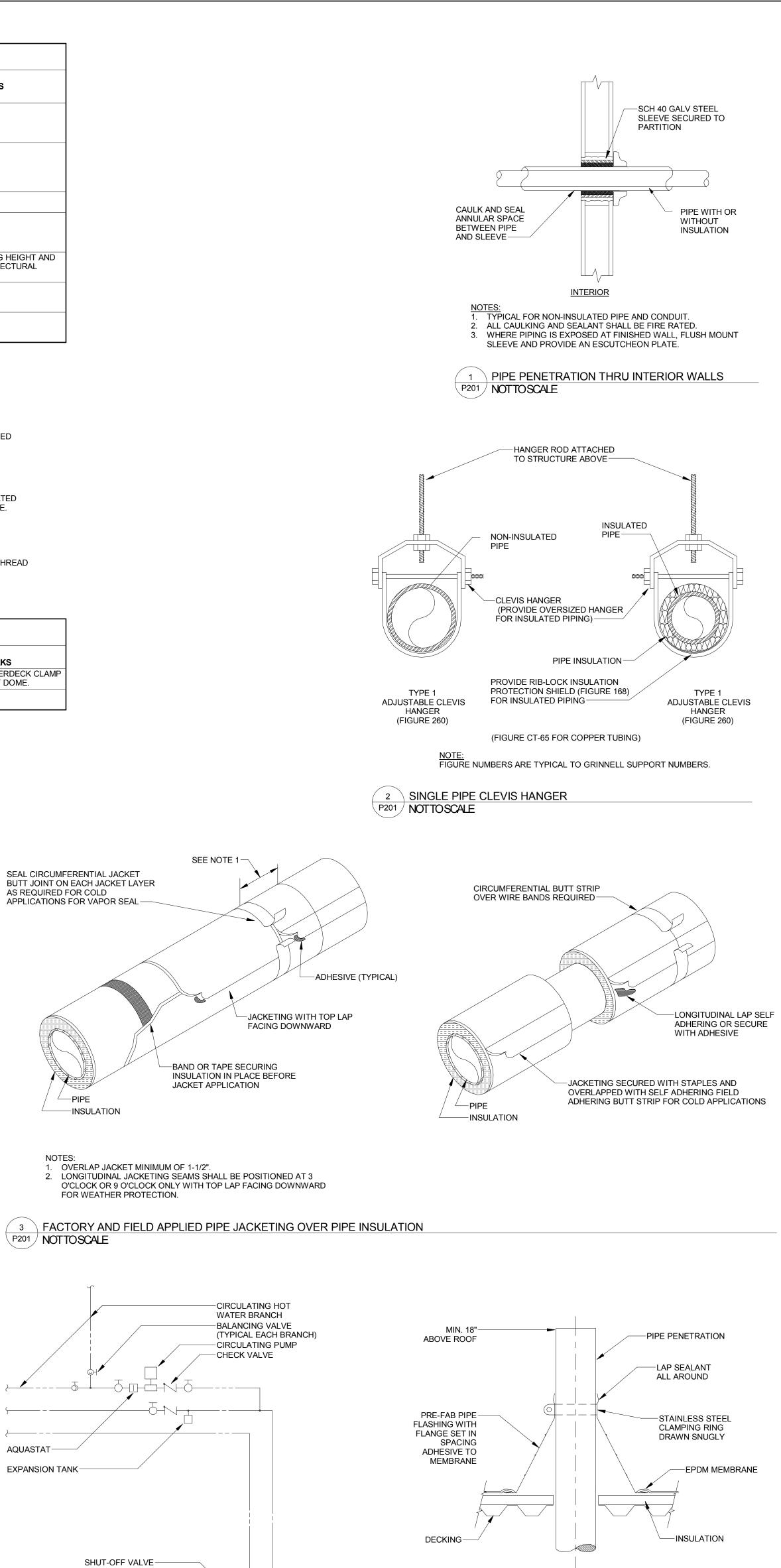
AGNESIUM ANODE ROD VE INSTALLED EXPANSION TANK

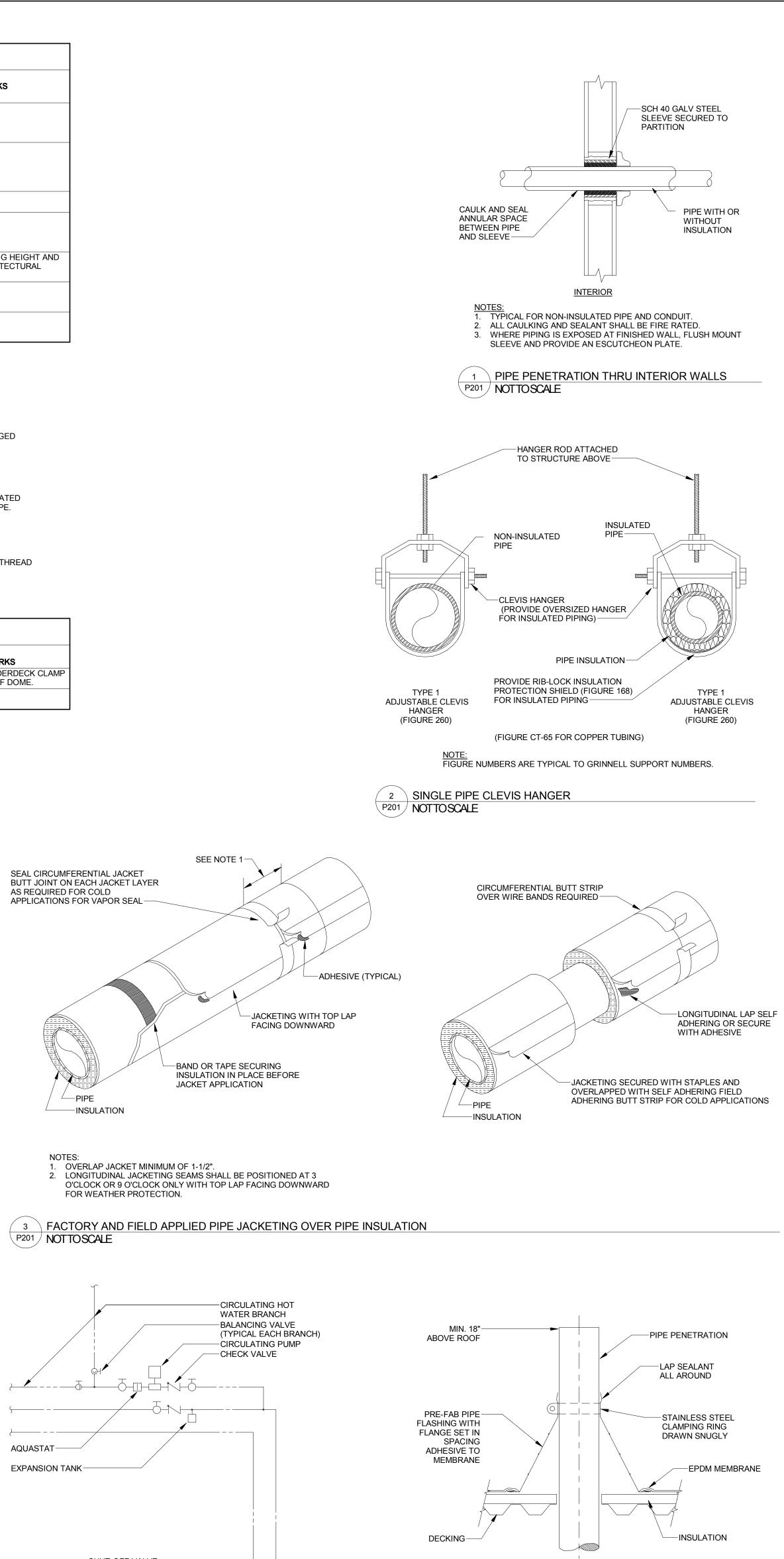
> ETF-880 Faucet with BDM and BDT Variation Mixing Valves for Hot and Cold Water Supply (shown with 4" trim plate)



8 WATER CLOSET SUPPLY DETAIL P201 NOTTOSCALE









WATER HEATER PIPING 5 DETAIL - SINGLE W/RECIRCULATION P201 NOTTOSCALE

HOUSEKEEPING PAD

WATER HEATER

UNION-

RELIEF VALVE-

DRAIN VALVE

ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN BALDWIN TOWER

1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

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SEAL

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PROJECT TITLE



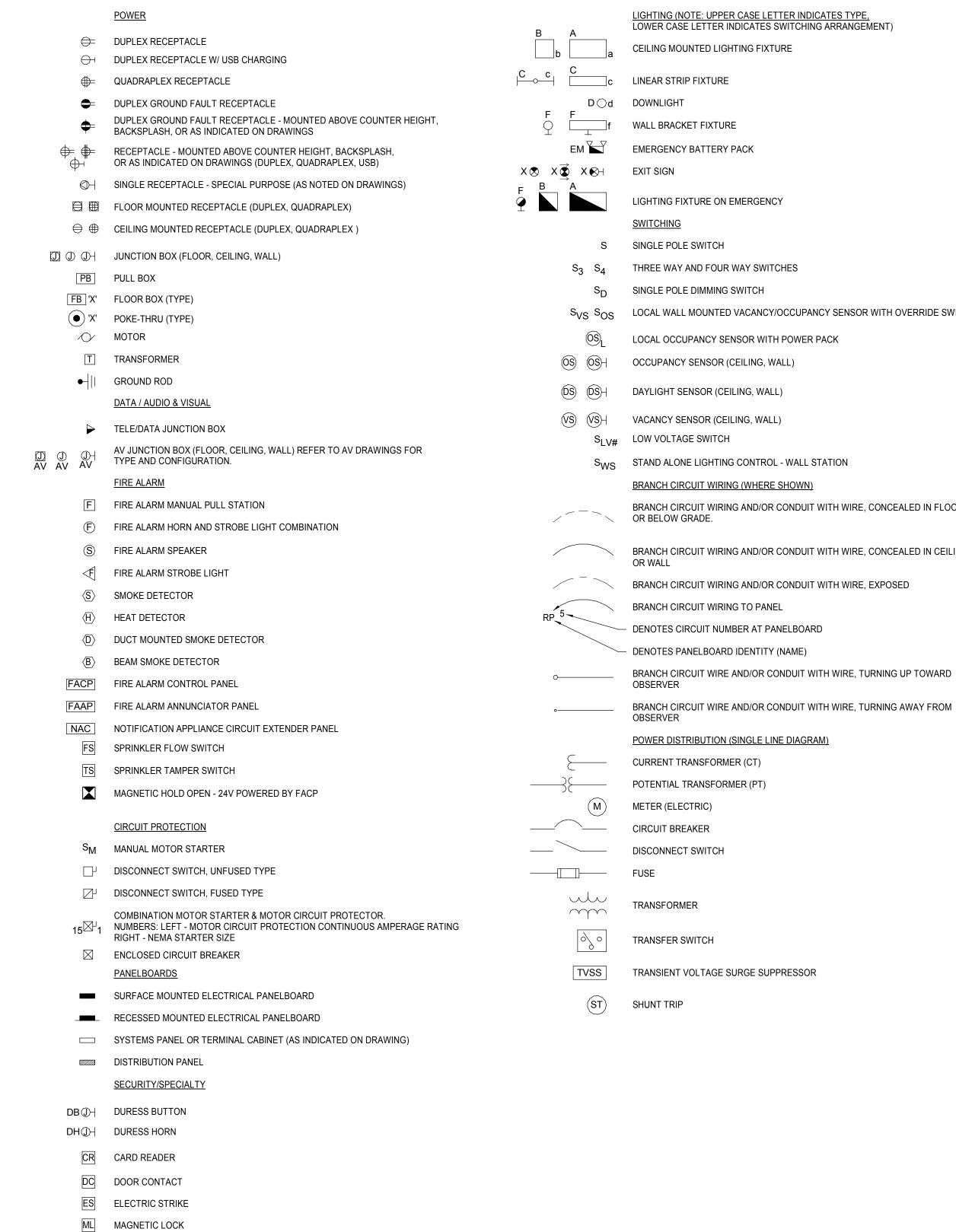
DRAWING TITLE

PLUMBING SCHEDULES & DETAILS

SCALE | <u>AS NOTED</u> DRAWN AH CHECKED NC APPROVED <u>SAF</u> DATE **2018** REVISIONS SYMBOL | DATE DESCRIPTION 9-28-2018 DD SUBMISSION 10-31-2018 50% CD SUBMISSION 1-11-2019 100% CD SUBMISSION 6-21-2019 FOR BIDS AND PERMITS ONLY DRAWING #



ELECTRICAL SYMBOL LIST



- PT POWER TRANSFER DEVICE
- IC INTERCOM
- (MS) REQUEST TO EXIT MOTION SENSOR
- (PB) REQUEST TO EXIT PUSH BUTTON

LIGHTING (NOTE: UPPER CASE LETTER INDICATES TYPE, OWER CASE LETTER INDICATES SWITCHING ARRANGEMENT)

LOCAL WALL MOUNTED VACANCY/OCCUPANCY SENSOR WITH OVERRIDE SWITCH LOCAL OCCUPANCY SENSOR WITH POWER PACK

BRANCH CIRCUIT WIRING (WHERE SHOWN)

BRANCH CIRCUIT WIRING AND/OR CONDUIT WITH WIRE, CONCEALED IN FLOOR

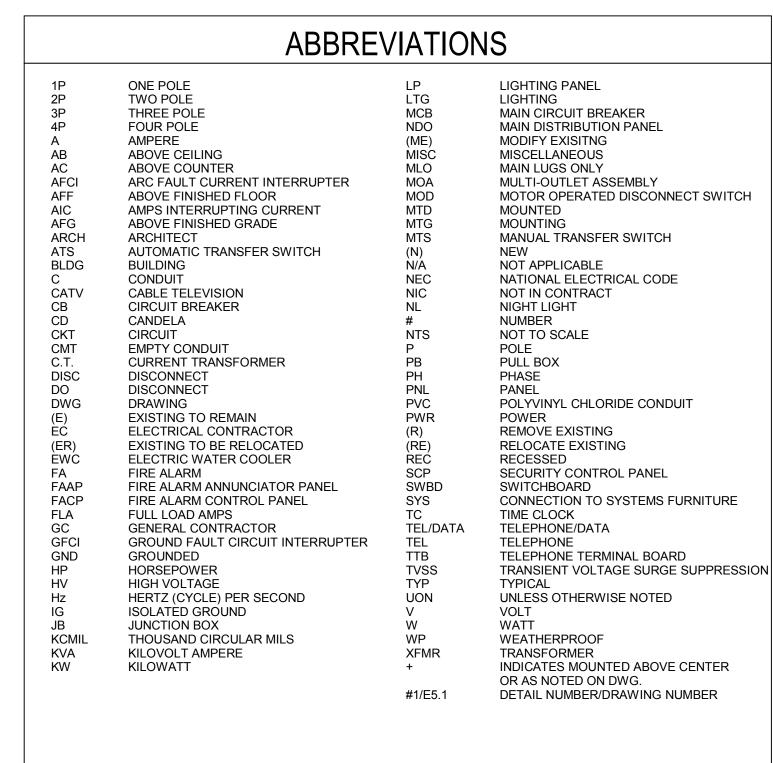
BRANCH CIRCUIT WIRING AND/OR CONDUIT WITH WIRE, CONCEALED IN CEILING

BRANCH CIRCUIT WIRING AND/OR CONDUIT WITH WIRE, EXPOSED

- DENOTES CIRCUIT NUMBER AT PANELBOARD

BRANCH CIRCUIT WIRE AND/OR CONDUIT WITH WIRE, TURNING AWAY FROM

POWER DISTRIBUTION (SINGLE LINE DIAGRAM)



DEMOLITION NOTES:

- DEVICES SHOWN SHALL NOT LIMIT THE EXTENT OF DEMOLITION WORK TO BE PERFORMED. WORK SHALL INCLUDE DISCONNECTION AND REMOVAL OF ALL FIRE ALARM DEVICES WITHIN PROJECT BOUNDARY UNLESS OTHERWISE NOTED.
- 2. WHERE DEVICES AND CONNECTIONS ARE TO BE REMOVED (R), DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE UNLESS OTHERWISE NOTED.
- 3. COORDINATE DEVICES TO BE SALVAGED AND REUSED BY OWNER PRIOR TO DEMOLITION. TURN OVER ALL SUCH DEVICES TO OWNER IN ORIGINAL CONDITION. DISPOSAL OF EQUIPMENT NOT TO BE SALVAGED IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- 4. ELECTRICAL CONTRACTOR SHALL PATCH ALL WALLS, FLOORS, AND CEILINGS THAT ARE EXISTING TO REMAIN AND HAVE BEEN AFFECTED BY ELECTRICAL DEMOLITION WORK TO MATCH SURROUNDING MATERIALS. SURFACES SHALL BE PREPARED FOR PAINTING BY GENERAL CONTRACTOR.
- 5. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO OBTAIN THE ACTUAL SCOPE OF DEMOLITION. 6. DISCONNECTION OF DEVICES AND/OR CABLING SHALL ALSO INCLUDE:
- 6.1. THE RECONNECTION AND EXTENSION OF EXISTING WIRING TO MAINTAIN CIRCUIT CONTINUITY TO DOWNSTREAM DEVICES THAT ARE TO REMAIN. DOWNSTREAM DEVICES ARE NOT SHOWN. 6.2. THE REPROGRAMMING OF CONTROL TO ACCEPT REMOVAL OF ASSOCIATED EQUIPMENT.

GENERAL NOTES:

- THE FLOOR PLANS ARE DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED TO MARK EXACT LOCATIONS OF DEVICES. IN ALL CASES, ARCHITECTURAL FLOOR PLANS, FURNITURE PLANS, MILLWORK, DETAILS, CEILING PLANS, ELEVATIONS AND ACCOMPANYING DIMENSIONS SHALL BE USED FOR EXACT LOCATIONS OF DEVICES.
- UNLESS NOTED OTHERWISE, ALL EMPTY CONDUITS (EMT) SHALL BE RUN TO ABOVE NEAREST ACCESSIBLE CEILING IN CORRIDOR AND INCLUDE FISHWIRE.
- COORDINATE ALL EQUIPMENT AND CONNECTION REQUIREMENTS FOR DOOR HARDWARE WITH THE DOOR HARDWARE CONTRACTOR.
- EXAMINE JOB SITE AND VERIFY ALL SITE CONDITIONS PRIOR TO SIGNING CONTRACT. BRING ANY DISCREPANCY BETWEEN THE CONTRACT DOCUMENTS AND THE ACTUAL FIELD CONDITIONS TO THE ATTENTION OF THE ENGINEER.
- PROVIDE PROGRAMMING AT EXISTING FIRE ALARM CONTROL PANEL TO ACCEPT NEW DEVICES.
- COORDINATE ALL FLOOR AND CEILING PENETRATIONS. EXACT PENETRATION SIZE AND LOCATION SHALL BE DETERMINED BY STRUCTURAL ENGINEER AND ARCHITECT.

FIRE ALARM DESIGN INTENT:

THE CONTRACTOR SHALL SECURE THE SERVICES OF THE BUILDING OWNER'S APPROVED AND LICENSED FIRE ALARM SIGNALING SYSTEMS CONTRACTOR TO DESIGN AND INSTALL A FIRE ALARM SIGNALING SYSTEM TO MEET THE REQUIREMENTS OF NFPA, LOCAL CODES, STATE FIRE MARSHALL'S OFFICE, AND PROPOSED PROGRAMMING REQUIREMENTS. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT SIGNED AND SEALED PLANS TO THE APPROVING AUTHORITY AND OBTAIN APPROVAL FROM THAT AUTHORITY PRIOR TO COMMENCEMENT OF WORK.

INSTALLATION OF NEW, ADDITIONS OR MODIFICATIONS DESIGN SHALL BE DONE ON FULL SIZE DRAWINGS AND SUBMITTED ALONG WITH OTHER REQUIRED DESCRIPTIVE DATA TO THE APPROVING AUTHORITY FOR APPROVAL AS REQUIRED BY STATE FIRE REGULATIONS.

CONTRACTOR SHALL MODIFY AND/OR REMOVE EXISTING FIRE ALARM DEVICES AS REQUIRED. CONTRACTOR SHALL PROVIDE PROGRAMMING OF EXISTING AND NEW SYSTEM DEVICES AS REQUIRED. FIRE ALARM DEVICES ARE SHOWN FOR COORDINATION ONLY.

2. ITEMS TO BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, CONNECTED AND WIRED BY ELECTRICAL

A. DISCONNECT SWITCHES (NOT INTEGRAL PART OF MECHANICAL

B. MOTOR STARTERS, MOTOR CONTROL CENTERS, COMBINATION

STARTERS, ETC., NOT FURNISHED AS PART OF MECHANICAL

REQUIREMENTS FOR HVAC WORK:

MECHANICAL CONTROLS.

CONTRACTOR:

EQUIPMENT)

CONTRACTOR).

CONTRACTOR:

3. DUCT SMOKE DETECTORS:

CONTRACTOR:

B. THERMOSTATS.

1. ITEMS OF EQUIPMENT TO BE PROVIDED BY ELECTRICAL

C. CIRCUIT BREAKERS, FUSED SWITCHES IN PANELS,

D. ALL 120V CIRCUITS, WIRING, CONDUIT, ETC., FOR

DISTRIBUTION BOARDS AND STAND ALONE DEVICES.

A. STARTERS, COMBINATION STARTERS, SWITCHES, CIRCUIT BREAKERS, ETC., WHICH ARE INTEGRAL PART OF MECHANICAL EQUIPMENT. B. CONTROL PANELS AND STARTERS AS INTEGRAL PART OF MECHANICAL EQUIPMENT.

C. VARIABLE FREQUENCY DRIVES. D. DISCONNECT SWITCHES, WHICH ARE AN INTEGRAL PART OF MECHANICAL EQUIPMENT.

A. FURNISHED BY ELECTRICAL CONTRACTOR (F.A. VENDOR) B. INSTALLED BY MECHANICAL CONTRACTOR. C. CONNECTED AND WIRED BY ELECTRICAL CONTRACTOR. 4. ITEMS TO BE FURNISHED AND INSTALLED BY MECHANICAL A. LOW-VOLTAGE CONTROL WIRING.

C. CONTROL DEVICES FOR MECHANICAL EQUIPMENT. 5. ELECTRICAL CONTRACTOR TO FURNISH THE LABOR, WIRING, CONDUIT, ETC. FOR CONNECTION OF ELECTRICAL CIRCUITS TO EQUIPMENT FURNISHED BY MECHANICAL CONTRACTOR.

INDEX OF ELECTRICAL DRAWINGS					
ELECTRICAL COVER SHEET					
BASEMENT & LEVEL 1 ELECTRICAL DEMOLITION PLAN					
BASEMENT & LEVEL 1 LIGHTING PLANS					
BASEMENT & LEVEL 1 POWER PLANS					
ROOF POWER PLANS					
ELECTRICAL DIAGRAMS					
ELECTRICAL SCHEDULES					

ABCHITECTURE ENGINEERING PLANNING INTERIOR DESIG BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104

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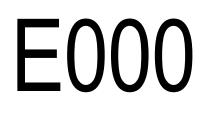
PROJECT TITLE

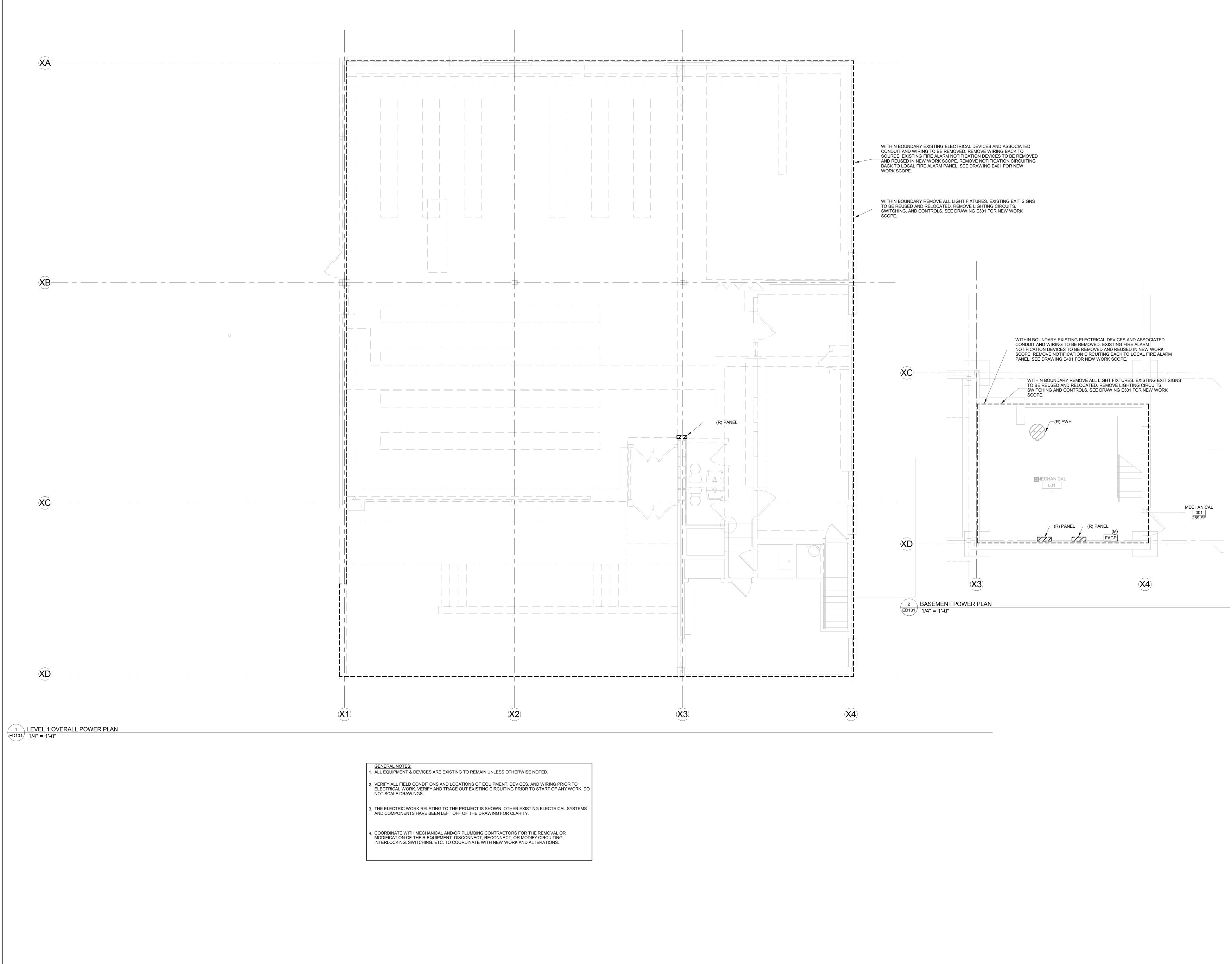


DRAWING TITLE

ELECTRICAL COVER SHEE

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CMF	J
SAF	
2018	
DATE	DESCRIPTION
9-28-2018	DD SUBMISSION
10-31-2018	50% CD SUBMISSION
1-11-2019	100% CD SUBMISSION
6-21-2019	FOR BIDS AND PERMITS ONLY
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	SAF 2018 DATE 9-28-2018 10-31-2018 1-11-2019





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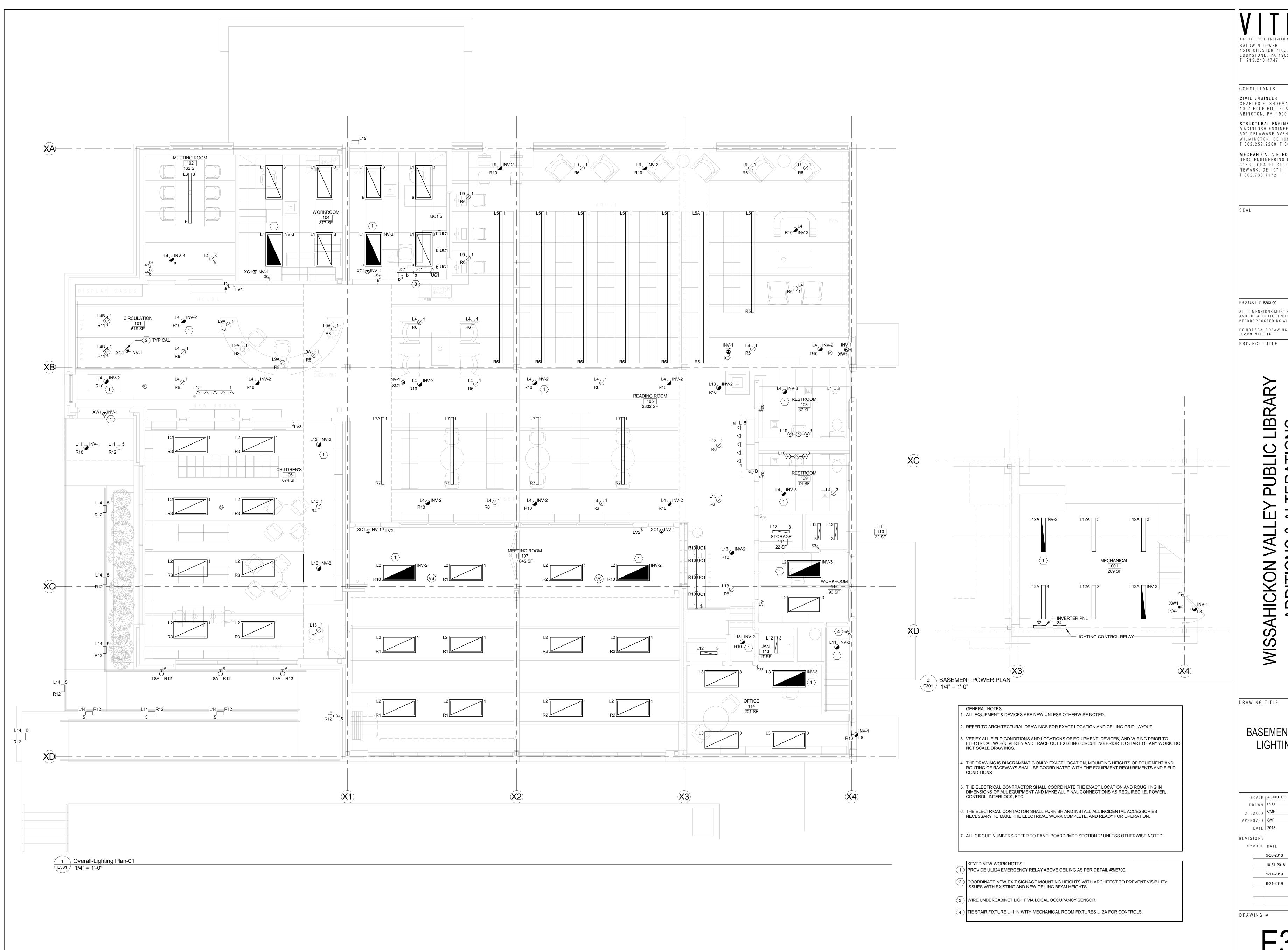
PROJECT TITLE



DRAWING TITLE

BASEMENT & LEVEL 1 ELECTRICAL DEMOLITION PLAN

SCALE	AS NOTED	
D R A W N	Author	
CHECKED	Checker	
A P P R O V E D	SAF	
DATE	2018	
REVISIONS		
SYMBOL	DATE	DESCRIPTION
L	9-28-2018	DD SUBMISSION
	10-31-2018	50% CD SUBMISSION
L	1-11-2019	100% CD SUBMISSION
L	6-21-2019	FOR BIDS AND PERMITS ONLY
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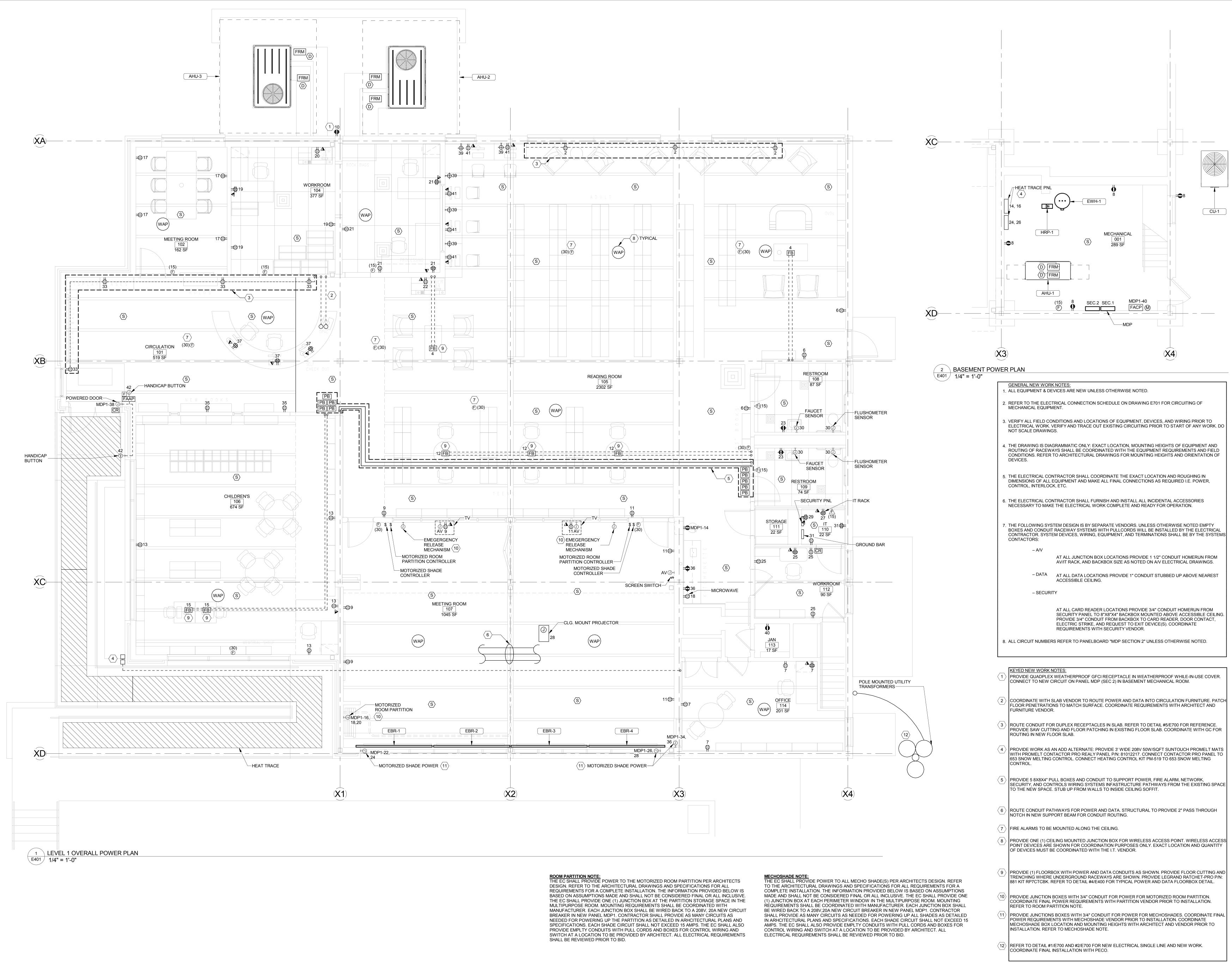


DRAWING TITLE

BASEMENT & LEVEL 1 LIGHTING PLANS

SCALE | <u>AS NOTED</u> DRAWN RLO CHECKED CMF APPROVED <u>SAF</u> DATE **2018** REVISIONS SYMBOL | DATE DESCRIPTION 9-28-2018 DD SUBMISSION 10-31-2018 50% CD SUBMISSION 1-11-2019 100% CD SUBMISSION 6-21-2019 FOR BIDS AND PERMITS ONLY DRAWING #





RCHITECTURE ENGINEERING PLANNING INTERI BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104

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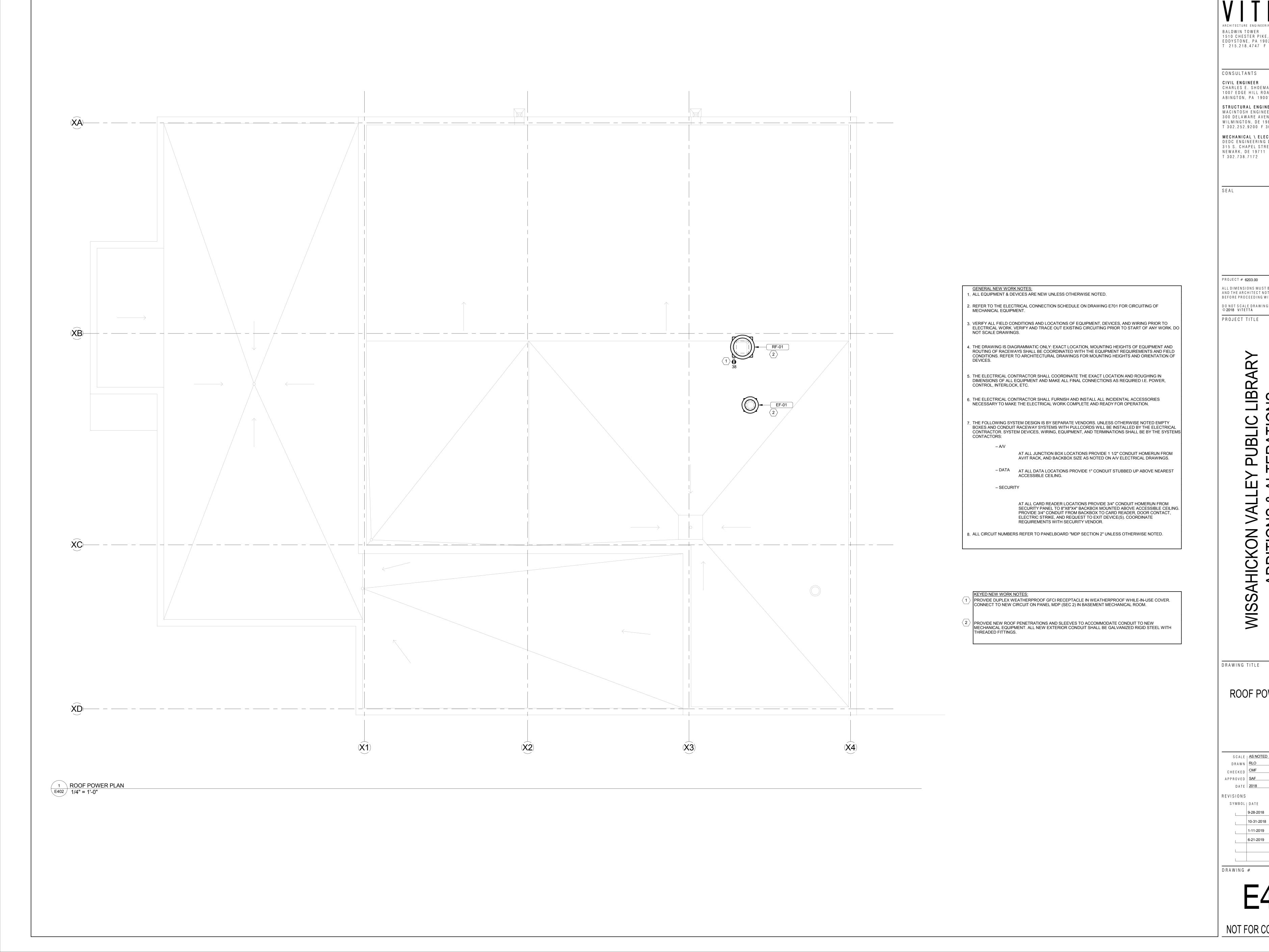


DRAWING TITLE

BASEMENT & LEVEL 1 POWER PLANS

SCALE | <u>AS NOTED</u> DRAWN RLO ≎HECKED | <u>CMF</u> APPROVED SAF DATE **2018** REVISIONS SYMBOL | DATE DESCRIPTION 9-28-2018 DD SUBMISSION 10-31-2018 50% CD SUBMISSION 1-11-2019 100% CD SUBMISSION 6-21-2019 FOR BIDS AND PERMITS ONLY DRAWING #





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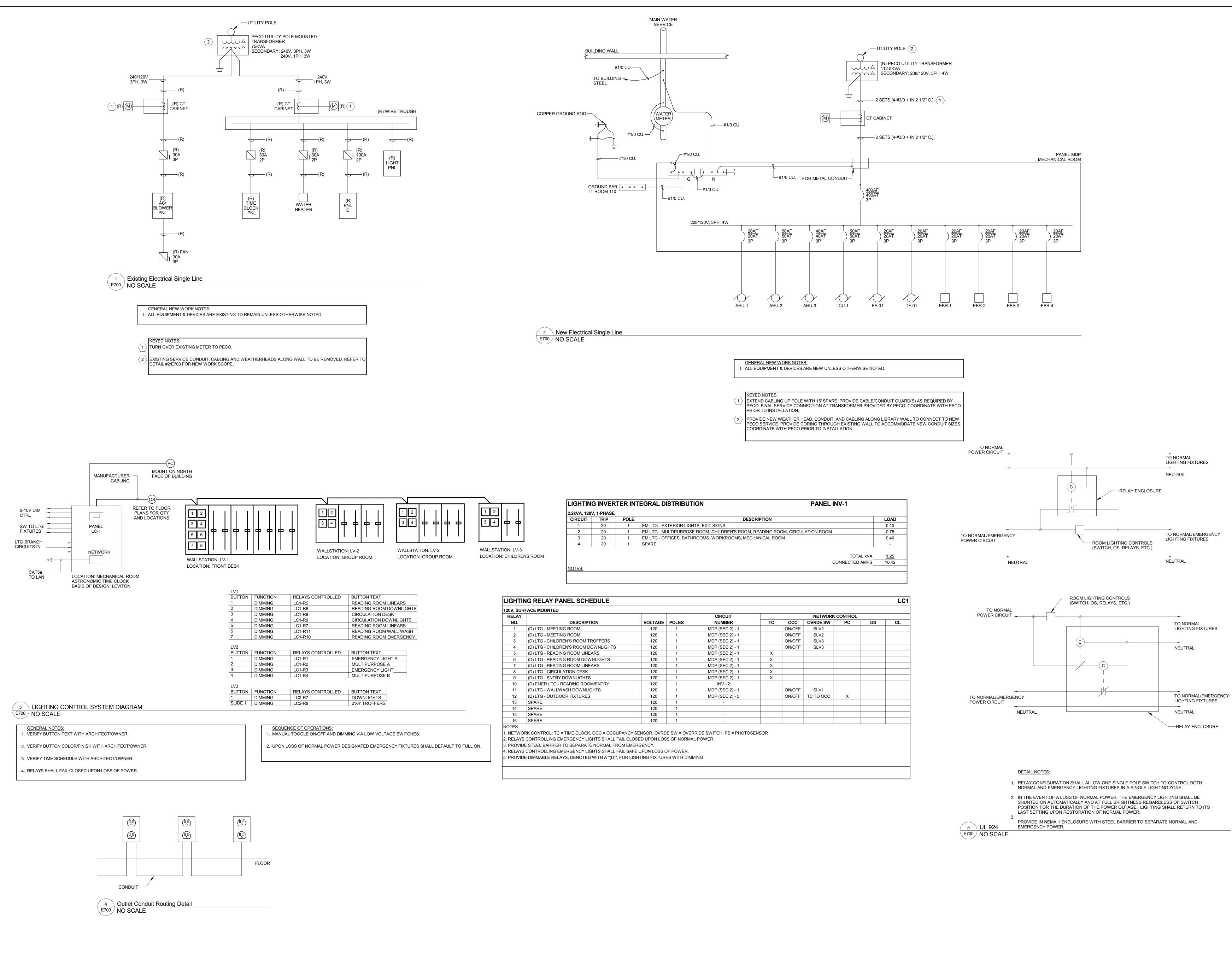


DRAWING TITLE

ROOF POWER PLANS

SCALE | <u>AS NOTED</u> DRAWN RLO CHECKED CMF APPROVED <u>SAF</u> DATE **2018** REVISIONS SYMBOL | DATE DESCRIPTION 9-28-2018 DD SUBMISSION 10-31-2018 50% CD SUBMISSION 1-11-2019 100% CD SUBMISSION 6-21-2019 FOR BIDS AND PERMITS ONLY DRAWING #





120	V, 1-PHASE		
IT	TRIP	POLE	DESCRIPTION
	20	1	EM LTG - EXTERIOR LIGHTS, EXIT SIGNS
	20	1	EM LTG - MULTIPURPOSE ROOM, CHILDREN'S ROOM, READING ROOM, CIRCULATION
	20	1	EM LTG - OFFICES, BATHROOMS, WORKROOMS, MECHANICAL ROOM
	20	1	SPARE

120V, SURI	FACE MOUNTED						
RELAY				CIRCUIT			NE
NO.	DESCRIPTION	VOLTAGE	POLES	NUMBER	тс	000	OVRD
1	(D) LTG - MEETING ROOM	120	1	MDP (SEC 2) - 1		ON/OFF	SL\
2	(D) LTG - MEETING ROOM	120	1	MDP (SEC 2) - 1		ON/OFF	SL\
3	(D) LTG - CHILDREN'S ROOM TROFFERS	120	1	MDP (SEC 2) - 1		ON/OFF	SL\
4	(D) LTG - CHILDREN'S ROOM DOWNLIGHTS	120	1	MDP (SEC 2) - 1		ON/OFF	SL\
5	(D) LTG - READING ROOM LINEARS	120	1	MDP (SEC 2) - 1	Х		
6	(D) LTG - READING ROOM DOWNLIGHTS	120	1	MDP (SEC 2) - 1	Х		
7	(D) LTG - READING ROOM LINEARS	120	1	MDP (SEC 2) - 1	Х		
8	(D) LTG - CIRCULATION DESK	120	1	MDP (SEC 2) - 1	X		
9	(D) LTG - ENTRY DOWNLIGHTS	120	1	MDP (SEC 2) - 1	Х		
10	(D) EMER LTG - READING ROOM/ENTRY	120	1	INV - 2			
11	(D) LTG - WALLWASH DOWNLIGHTS	120	1	MDP (SEC 2) - 1		ON/OFF	SL\
12	(D) LTG - OUTDOOR FIXTURES	120	1	MDP (SEC 2) - 5		ON/OFF	тс то
13	SPARE	120	1	-			
14	SPARE	120	1	-			
15	SPARE	120	1	-			
16	SPARE	120	1	-			

ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104

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PROJECT TITLE



ELECTRICAL DIAGRAMS

DRAWING TITLE

SCALE	AS NOTED	
D R A W N	RLO	
CHECKED	CMF]
A P P R O V E D	SAF	
DATE	2018	
REVISIONS		
SYMBOL	DATE	DESCRIPTION
	9-28-2018	DD SUBMISSION
	10-31-2018	50% CD SUBMISSION
	1-11-2019	100% CD SUBMISSION
L	6-21-2019	
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LIGHTING FIXTURE SCHEDULE												
PE DESCRIPTION	MANUFACTURER & CATALOG NUMBER			LAMPS			VA/FIXTURE	VOLTAGE	MOUNTING	REMARKS		
PE DESCRIPTION	MANOFACTORER & CATALOG NOWBER	NO.	TYPE	CRI	CCT	LUMENS	VAVEIATORE	VOLTAGE	MOONTING	NEWARA		
1 2' X 4' LED TROFFER, UNIVERSAL VOLTAGE, 0-10V DIMMING, GRID MOUNT	PINNACLE: AD24-A-835LO-G1-U-OL1-1-0-W	-	LED	80+	3500	3003	25	120V	GRID			
2 2' X 4' LED TROFFER, UNIVERSAL VOLTAGE, 0-10V DIMMING, SURFACE MOUNT	PINNACLE: AD24-A-835HO-S-U-OL1-1-0-W	-	LED	80+	3500	4934	45	120V	SURFACE			
3 2' X 4' LED TROFFER, UNIVERSAL VOLTAGE, 0-10V DIMMING, SURFACE MOUNT	PINNACLE: AD24-A-835LO-S-U-OL1-1-0-W	-	LED	80+	3500	3003	25	120V	SURFACE			
4 6" LED CYLINDER DOWNLIGHT, UNIVERSAL VOLTAGE, 0-10V DIMMING	LITON: LCALD6-X-151-FL-D10P1-T35	-	LED	80+	3500	3000	40.7	120V	SURFACE			
4B 6" LED CYLINDER DOWNLIGHT, WALLWASH, WHITE, UNIVERSAL VOLTAGE, 0-10V DIMMING	LITON: DL360J-X-B45-UE-DUN-T35	-	LED	80+	3500	3000	40.7	120V	SURFACE			
5 17' LINEAR CABLE SUSPENDED LED, 0-10V DIMMING, DIRECT/INDIRECT, SATIN LENS, UNIVERSIAL VOLTAGE	FORUM LIGHTING: SAUD-43-45LED35/65LED35-SAT/SAT-Cx17-UNV-WH	-	LED	80+	3500	18700	187	120V	SUSPENDED			
A 17' LINEAR SURFACE MOUNT LED, 0-10V DIMMING, DIRECT, SATIN LENS, UNIVERSIAL VOLTAGE	FORUM LIGHTING: SAD-43-65LED35-SAT-Cx17-UNV-WH	-	LED	80+	3500	11050	111	120V	SURFACE			
6' LINEAR CABLE SUSPENDED LED, 0-10V DIMMING, DIRECT/INDIRECT, SATIN LENS, UNIVERSAL VOLTAGE	FORUM LIGHTING: SAUD-43-45LED35/65LED35-SAT/SAT-Cx6-UNV-WH	-	LED	80+	3500	6600	39	120V	SUSPENDED			
8' LINEAR CABLE SUSPENDED LED, 0-10V DIMMING, DIRECT/INDIRECT, SATIN LENS, UNIVERSAL VOLTAGE	FORUM LIGHTING: SAUD-43-45LED35/65LED35-SAT/SAT-Cx8-UNV-WH	-	LED	80+	3500	8800	88	120V	SUSPENDED			
8' LINEAR SURFACE MOUNT LED, 0-10V DIMMING, DIRECT, SATIN LENS, UNIVERSAL VOLTAGE	FORUM LIGHTING: SAUD-43-65LED35-SAT-Cx8-UNV-WH	-	LED	80+	3500	5200	52	120V	SURFACE			
4" LED WALL MOUNT, WET LOCATION	LITON: WD1340-X-L15-T35	-	LED	80+	3500	600	15	120V	SURFACE			
4" LED DOWNLIGHT/UPLIGHT, WET LOCATION	LITON: WD2340-X-L15-T35	-	LED	80+	3500	600	15	120V	SURFACE			
8" LED CYLINDER DOWNLIGHT, 18" PENDANT, WHITE, UNIVERSAL VOLTAGE, 0-10V DIMMING	PRESCOLITE: LCC8LED-V1-P-30L-35K-8-WFL45-WH	-	LED	80+	3500	3000	40.7	120V	PENDANT			
8" LED CYLINDER DOWNLIGHT, WHITE, UNIVERSAL VOLTAGE, 0-10V DIMMING	PRESCOLITE: LCC8LED-V1-S-30L-35K-8-WFL45-WH	-	LED	80+	3500	3000	40.7	120V	SURFACE			
THREE LIGHT VANITY FIXTURE, WHITE LENS, BRUSHED NICKEL	KICHLER: 10799NILED	-	LED	80+	2700	2640	48	120V	SURFACE			
6" LED RECESSED DOWNLIGHT, WET LOCATION	PRESCOLITE: LC6SL	-	LED	80+	3500	1400	15	120V	SURFACE			
2 2' LED LENSED STRIP LIGHT	PRESCOLITE: LCL	-	LED	80+	3500	2800	25	120V	SURFACE			
A 4' LED LENSED STRIP LIGHT	PRESCOLITE: LCL	-	LED	80+	3500	3400	32	120V	SUSPENDED			
7" LED SURFACE MOUNT DOWNLIGHT, WET LOCATION	LITON: LCMPD7R-T35	-	LED	80+	3500	1000	15	120V	SURFACE			
4 LED PATH LIGHT, WET LOCATION,	KIM LIGHTING: EL807 / 9L4KUV	-	LED	80+	4200	-	10.8	120V	SURFACE			
LED TRACK LIGHTS	LITELAB: M29L2000-9AC-RL-A-98-35-NT-20	-	LED	80+	3500	2000	27	120V	SURFACE			
UNDERCABINET LED LIGHT STRIP	TIVOLI: TIVOTAPE	-	LED	80+	3000	454	8.1	120V	SURFACE			
1 WALL MOUNT, RED SINGLE FACE LED EXIT SIGN WITH UNIVERSAL VOLTAGE, 120/277V, INTEGRAL BATTERY BACKUP	EMERGI-LITE: PRESTIGE ECONOMIZER SERIES	-	LED	-	-	-	5	120	SURFACE			
C1 CEILING MOUNT, RED SINGLE FACE LED EXIT SIGN WITH UNIVERSAL VOLTAGE, 120/277V, INTEGRAL BATTERY BACKUP	EMERGI-LITE: PRESTIGE ECONOMIZER SERIES	-	LED	-	-	-	5	120V	SURFACE			

												ELEC	CTRICA	L CON	NECTION	SCHEDU	LE				
	ELECTRICAL CHARACTERISTICS						LOCAL DISCONNECT DEVICE						STARTER								
		UNFUSED FUSED MANUAL MOTOR						COMBINATION ACCESSORIES					ORIES								
							SWITCH	SWITCH	SWITCH				-	SW/	SW/	HOA	PILOT				
AG	V/PH/HZ	MCA	MOCP	FLA	KW	HP		SW/FU	OL	W/O OL	DIV	TYPE	SIZE	UNFU	FUSE MC	P	C	IV	WIRE & CONDUIT	CIRCUITING	REMARKS
J-1	208/3/60	9.0	20	7.2	2.6			20A			26								3-#12 + 1-#12G IN 3/4" C.	MDP1 - 1, 3, 5	
U-2	208/3/60	39.0	50	31.2	11.2		60A	20A			26								3-#8 + 1-#10G IN 3/4" C.	MDP1 - 7, 9, 11	
IU-3	208/3/60	28.0	40	22.4	8.1		60A				26								3-#8 + 1-#10G IN 3/4" C.	MDP1 - 13, 15, 17	
.0-3	208/3/60	20.0	40	22.4	0.1		60A				20								5-#6 + 1-#10G IN 5/4 C.	MDP1-13, 15, 17	
J-1	208/3/60	41.0	50	32.8	11.8			50A			26								3-#6 + 1-#10G IN 1" C.	MDP1 - 19, 21, 23	
R-1	208/1/60	7.2	20	5.8	1.2		30A				23								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 25, 27	WIRE VIA INTEGRAL THERMOSTAT.
R-2	208/1/60	7.2	20	5.8	1.2		30A				23								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 29, 31	WIRE VIA INTEGRAL THERMOSTAT.
R-3	208/1/60	7.2	20	5.8	1.2		30A				23								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 33, 35	WIRE VIA INTEGRAL THERMOSTAT.
R-4	208/1/60	7.2	20	5.8	1.2		30A				23								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 37, 39	WIRE VIA INTEGRAL THERMOSTAT.
CP-1	208/1/60	1.8	20	1.4	0.4		30A				26								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 6, 8	WIRE VIA THERMOSTAT PROVIDED BY MC.
RCP-2	208/1/60	1.8	20	1.4	0.4		30A				26								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 30, 32	WIRE VIA THERMOSTAT PROVIDED BY MC.
P-1	120/1/60	6.0	20	4.0	0.2		30A				26								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 12	
.01	120/1/60	7.3	20	5.8	0.7	0.25				X	23								2-#12 + 1-#12G IN 3/4" C.	MDP1 - 41	WIRE VIA TIMECLOCK PROVIDED BY MC. FACTORY MOUNTED DISCONNECT SWITCH.
-01	208/1/60	16.5	25	13.2	2.7	2				Х	23	FVNR	00	Х	X	X	X 2	26	2-#12 + 1-#12G IN 3/4" C.	MDP1 - 2, 4, 6	
'C-1	120/1/60	5.0	20	4.0	0.4														2-#12 + 1-#12G IN 3/4" C.	MDP1 - 14	REFER TO DETAIL #1/E401 FOR RECEPTACLE LOCATION.
/H-1	120/1/60	31.3	40	25.0	3.0		60A				26								2-#8 + 1-#10G IN 3/4" C.	MDP1 - 10	

ELECTRICAL PANEL SCHEDULE 3 PHASE 4 WIRE 208/ 120V 42 - VAIC

42	KAIC										
SURFA	CE MO	UNTED									
LOCAT	ION:	BASE	MENT MECH ROOM								
CKT	TR	P	DESCRIPTION	A	В	С		А	В	С	DESCRIPTION
1				0.86				1.35			
3	20	3	AHU-1		0.86				1.35		
5						0.86				0.20	
7				3.70				0.20			
9	50	3	AHU-2		3.70				3.00		
11						3.70				0.17	
13				2.70				0.37			
15	40	3	AHU-3		2.70				0.72		
17						2.70				0.72	MOTORIZED
19				3.93				0.72			
21	50	3	CU-1		3.93				0.36		
23						3.93				0.36	
25	20	2	EBR-1	0.60				0.36			
27	20	2			0.60				0.36		
29	20	2	EBR-2			0.60				0.20	
31	20	2	LDN-Z	0.60				0.20			
33	20	2	EBR-3		0.60				0.36		
35	20	2	EDIT-5			0.60				0.36	
37	20	2	EBR-4	0.60				0.36			
39	20	2			0.60				0.75		
41	20	1	EF-01			0.70				-	
				SECTION	KVA A	16.5	5				TOTAL CONN
				SECTION	KVA B	19.8	9				TOTAL CONN
				SECTION	KVA C	15.1	0				TOTAL
											τοται ο

NOTES: ALL LOADS SHOWN ARE NEW UNLESS OTHERWISE NOTED.
PROVIDE HACR TYPE CIRCUIT BREAKERS FOR MECHANICAL LOADS.
PROVIDE FEED THROUGH TO LIBRARY SECTION 2 AND CONDUCTORS MATCHING PANEL FEEDER.

NNEC TOTAL CO TOTAL CONN

	MD	P (SP	EC 1)			
MAIN BUS F	RATING:	40	0A			
	MAINS:	400A	MCB			
NEU	Х					
GR	D. BUS:)	X			
ISOL .GR	D. BUS:					
	Р	TR	CKT			
TE 01	2	20	2			
1F-01	2	20	4			
	2	$\begin{array}{c c c c c c c c c c c c c c c c c c c $				
	2	20	8			
EWH-1	1	40	10			
HRP-01	1	20	12			
EWC-1	1	20	14			
			16			
ROOM PARTITION	3	20	18			
			20			
MECHOSHADES	2	20	22			
WECHOSHADES	2	20	24			
MECHOSHADES	2	20	26			
WECHOSHADES	2	$\begin{tabular}{ c c c c } \hline $400A$ & MC \\ \hline X & $$	28			
ERCP-2	2	20	30			
LNGF-2	MAINS: 400A MCB NEUT. BUS: X GRD. BUS: X L.GRD. BUS: X P TR CKT F-01 2 20 4 CP-1 2 20 4 CP-1 2 20 6 VH-1 1 400 10 CP-1 2 20 14 CP-1 1 20 14 VH-1 1 20 14 CP-01 2 20 18 ZOC-1 1 20 14 MARE 2 20 18 ZODES 2 20 24 ADES 2 20 26 ADES 2 20 30 CP-2 2 20 30 GROR 1 20 34 ADES 2 20 36 COOR 1 20 40 ARE 1 20 42 KVA					
MECHOSHADES	$\begin{array}{c c c c c c c c c c c c c c c c c c c $					
WECHOSHADES	2	20	36			
POWERED DOOR	1	20	38			
FACP	1	20	40			
SPARE	1	20	42			
ECTED SEC 1 KVA		51	.54			
ECTED SEC 2 KVA		31	.13			
CONNECTED KVA		82	.67			
ONNECTED AMPS		229	9.74			

			PANEL SCHEDULE											DP (S
B PHAS		4 WIR	E								MAIN	BUS R	ATING:	4
208/	120V												-	400A
42												-	T. BUS:	
	CE MOU												D. BUS:	
OCATI	-	-			1	1				1		L .GRI	D. BUS:	-
CKT	TR	Р	DESCRIPTION	A	В	С		Α	В	С	DESCRIPTION		Р	TR
1	20	1	LTG - READING, CHILD, MEET	1.50				0.54			RCPTL - READING R		1	20
3	20	1	LTG - OFFICES		1.50				0.72		RCPTL - READING RM	URN	1	20
5	20	1	LTG - OUTDOOR			1.50				0.54	RCPTL - READING RM	-	1	20
7	20	1	RCPTL - OFFICE 114	0.90				0.72			RCPTL - MECH R		1	20
9	20	1	RCPTL - MEETING RM 107		0.72				0.36		RCPTL - /		1	20
11	20	1	RCPTL - MEETING RM 107			0.72				1.08	RCPTL - READING RM	URN	1	20
13	20	1	RCPTL - CHILD RM 106	0.72				1.00			HEAT TRACE - NO	DTF 5	2	30
15	20	1	RCPTL - CHILD RM 106		0.72				1.00		-		-	
17	20	1	RCPTL - MEETING RM 102			0.72				1.30	RCPTL - MICROV		1	20
19	20	1	RCPTL - WORK RM 104	0.72				0.18			RCPTL - PRI	NTER	1	20
21	20	1	RCPTL - WORK RM 104		1.08				0.18		RCPTL - PRI	NTER	1	20
23	20	1	RCPTL - RESTROOMS			0.54				1.00	HEAT TRACE - NO		2	30
25	20	1	RCPTL - WORK RM 112	0.90				1.00					2	
27	20	1	RCPTL - IT RACK		0.36				1.00		RCPTL - PROJE	CTOR	1	20
29	20	1	RCPTL - SECURITY PNL			0.36				0.36	BATHROOM SENS	SORS	1	20
31	20	1	RCPTL - IT ROOM	0.54				1.25			LIGHTING INVE	RTER	1	20
33	20	1	RCPTL - CIRCULATION RM 101		0.72				0.36		LIGHTING CONTROL P	ANEL	1	20
35	20	1	RCPTL - CIRCULATION RM 101			0.36				0.36	RCPTL - COU	NTER	1	20
37	20	1	RCPTL - CIRCULATION FURNITURE	1.08				0.18			RCPTL - I		1	20
39	20	1	RCPTL - COMPUTERS		0.90				0.18		RCPTL - JAN	IITOR	1	20
41	20	1	RCPTL - COMPUTERS			0.90				0.36	HANDICAP BU	TTON	1	20
				SECTIO	N KVA A	11.2	3				TOTAL CONNECTED) KVA		:
				SECTIO	N KVA B	9.80					TOTAL CONNECTED	AMPS		

ALL LOADS SHOWN ARE NEW UNLESS OTHERWISE NOTED.
PROVIDE HACR TYPE CIRCUIT BREAKERS FOR MECHANICAL LOADS.
PROVIDE CIRCUIT BREAKER LOCK ON ALL CIRCUIT BREAKERS SERVING THE FIRE ALARM SYSTEM.
PROVIDE FEED THROUGH FROM LIBRARY SECTION 1.
PROVIDE GFCI CIRCUIT BREAKERS.

ARCHITECTURE ENGINEERING PLANNING INTERIOR DESIGN

BALDWIN TOWER 1510 CHESTER PIKE, SUITE 104 EDDYSTONE, PA 19022 T 215.218.4747 F 215.405.2729

CONSULTANTS

CIVIL ENGINEER Charles E. Shoemake, inc. 1007 EDGE HILL ROAD ABINGTON, PA 19001 STRUCTURAL ENGINEER MACINTOSH ENGINEERING 300 DELAWARE AVENUE, SUITE 820 WILMINGTON, DE 19801 T 302.252.9200 F 302.252.9201 MECHANICAL \ ELECTRICAL \ PLUMBING ENGINEER DEDC ENGINEERING DESIGN CONSULTING 315 S. CHAPEL STREET NEWARK, DE 19711 T 302.738.7172

SEAL

PROJECT # 6203.00 ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION DO NOT SCALE DRAWINGS © 2018 VITETTA

PROJECT TITLE



ELECTRICAL SCHEDULES SCALE | <u>AS NOTED</u> DRAWN <u>RLO</u> CHECKED <u>CMF</u> APPROVED <u>SAF</u> DATE **2018** REVISIONS SYMBOL | DATE DESCRIPTION 9-28-2018 DD SUBMISSION 10-31-2018 50% CD SUBMISSION 1-11-2019 100% CD SUBMISSION 6-21-2019 FOR BIDS AND PERMITS ONLY

DRAWING #

DRAWING TITLE

