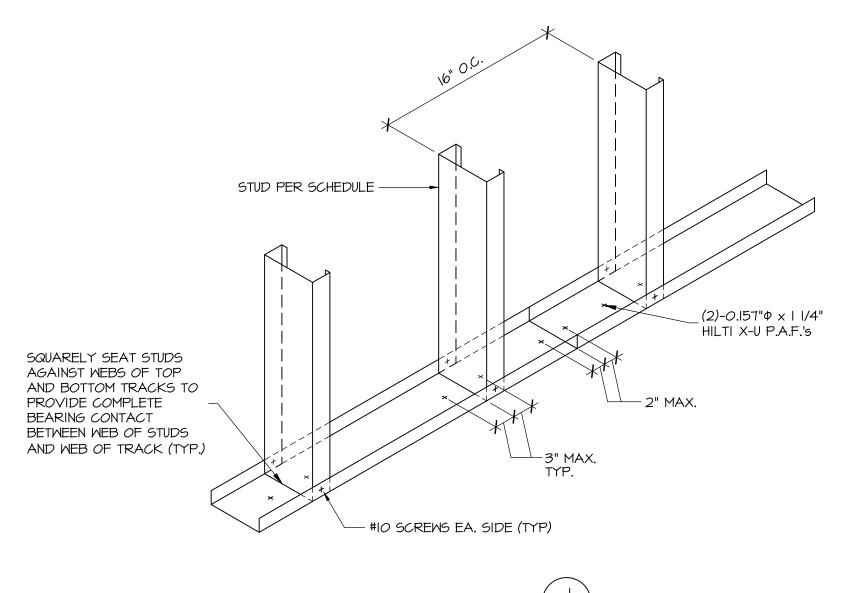
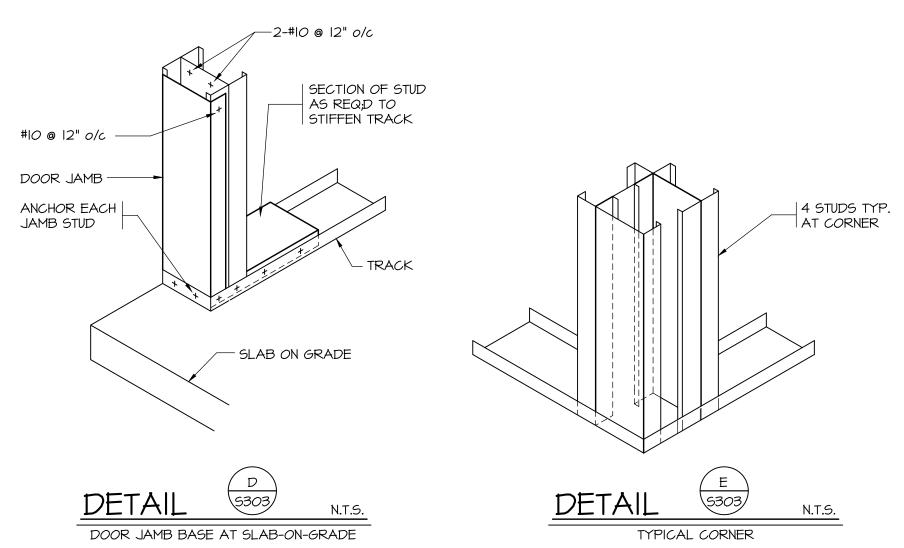


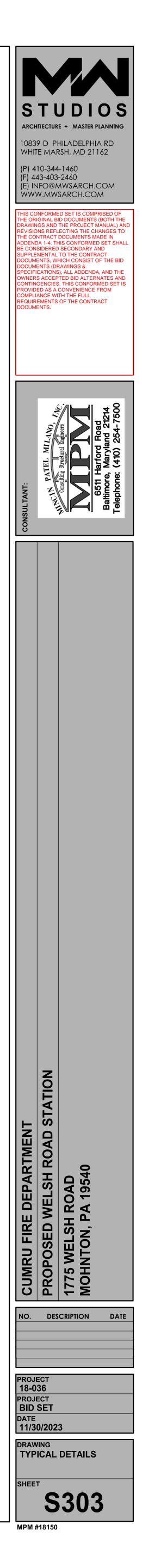
	STUD WA	LL LINT	EL SCHEI	DULE
MARK	TYPE	CONFIGURATION	FULL HEIGHT JAMBS	REMARKS
LLI	BY LT. GA. DESIGNER. ASSUME (2)-600SI62-54 + (2)-600TI25-54		ASSUME MIN. (2)-STUDS + (1)-TRACK	CONNECTIONS BY LIGHTGAUGE DESIGNER.
LL2	BY LT. GA. DESIGNER. ASSUME (2)-8005162-54 + (3)-600T125-54 + (1)-6005162-54		ASSUME MIN. (2)-STUDS + (1)-TRACK	CONNECTIONS BY LIGHTGAUGE DESIGNER.
LL3	BY LT. GA. DESIGNER. ASSUME (2)-8005162-54 + (2)-800T125-54		ASSUME MIN. (2)-STUDS + (I)-TRACK	CONNECTIONS BY LIGHTGAUGE DESIGNER.

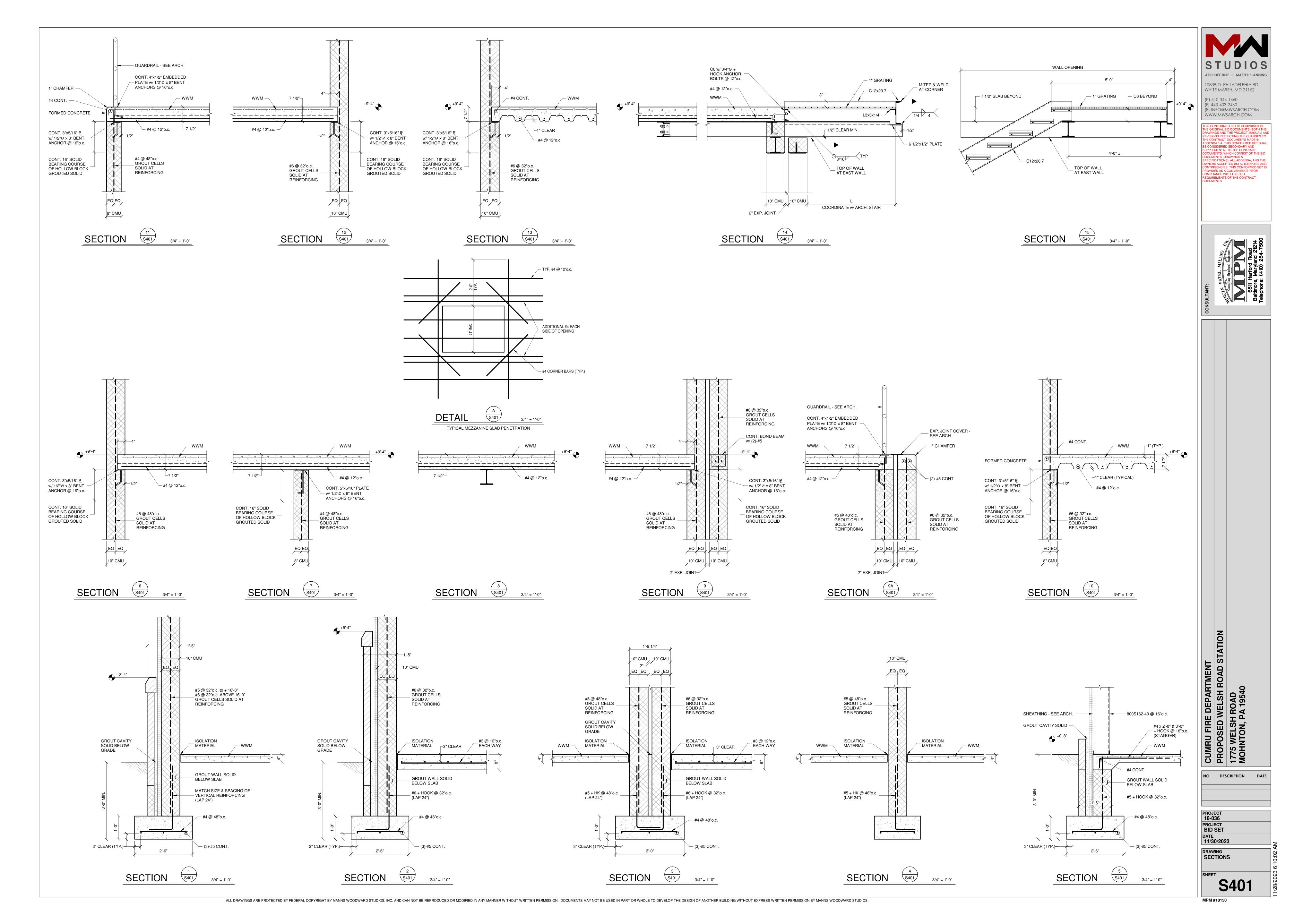
NOTE: LINTELS ARE TYPICALLY NOT SHOWN ON PLAN. USE LL3 AT ALL OPENINGS WHERE THE WALLS CONSIST OF 8" STUDS. COORDINATE ALL OTHER LINTELS WITH OPENING WIDTHS PER DETAILS K/S303 AND L/S303.

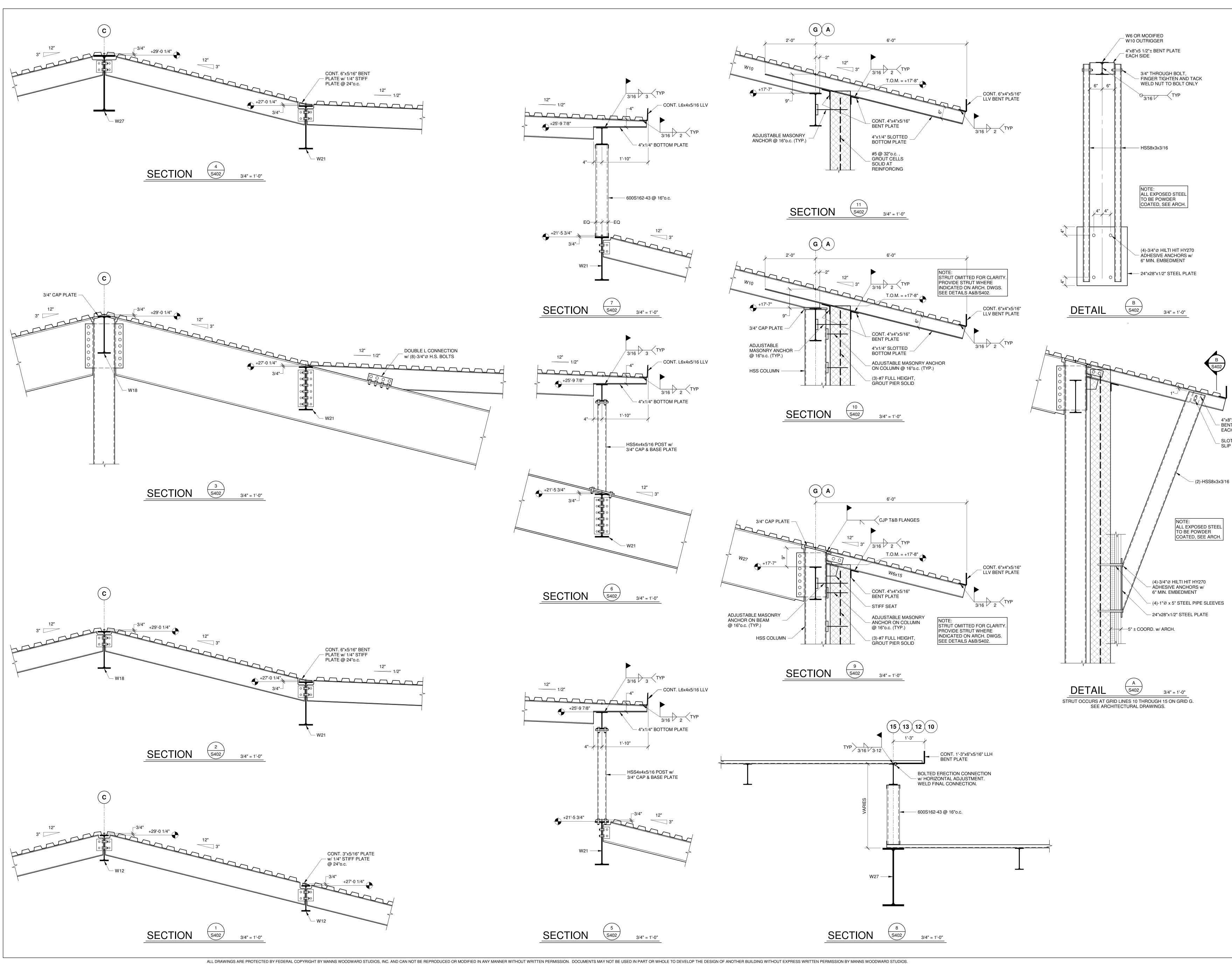


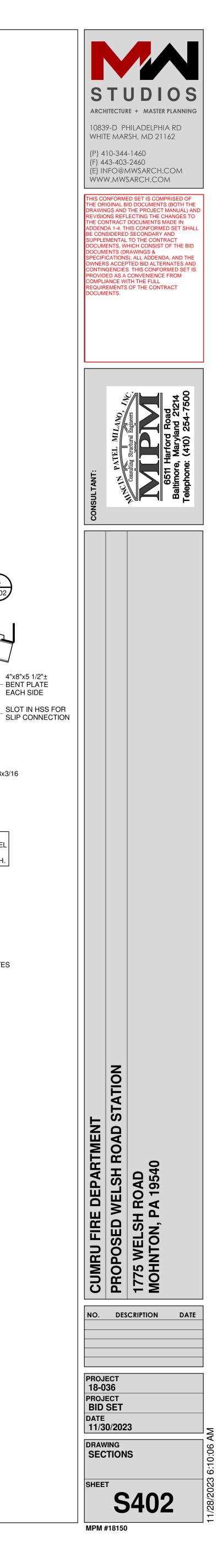


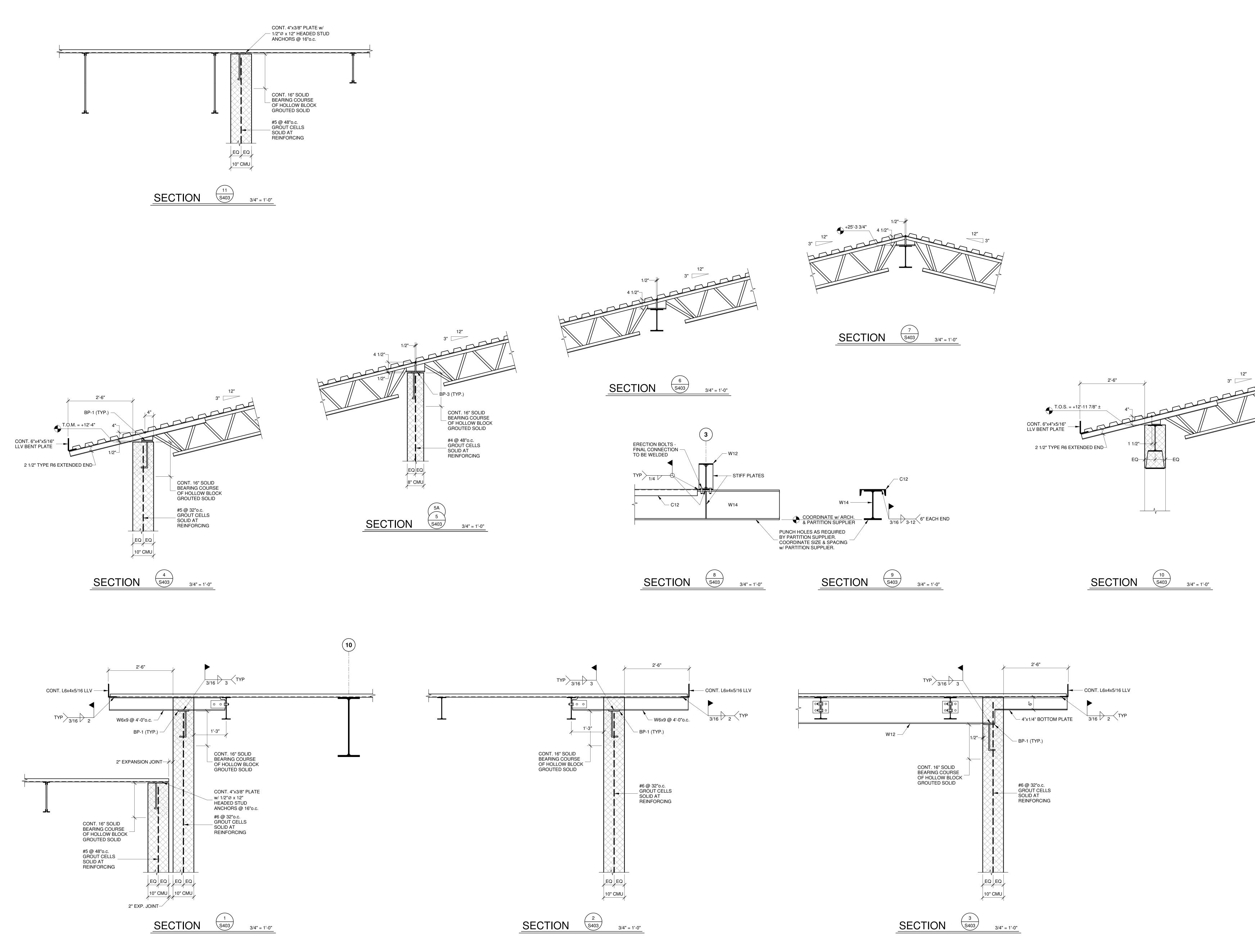




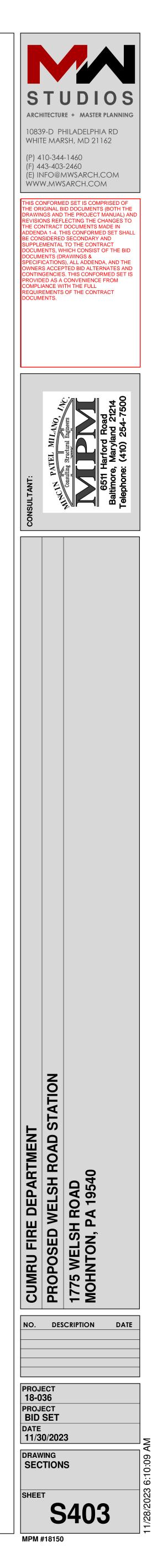




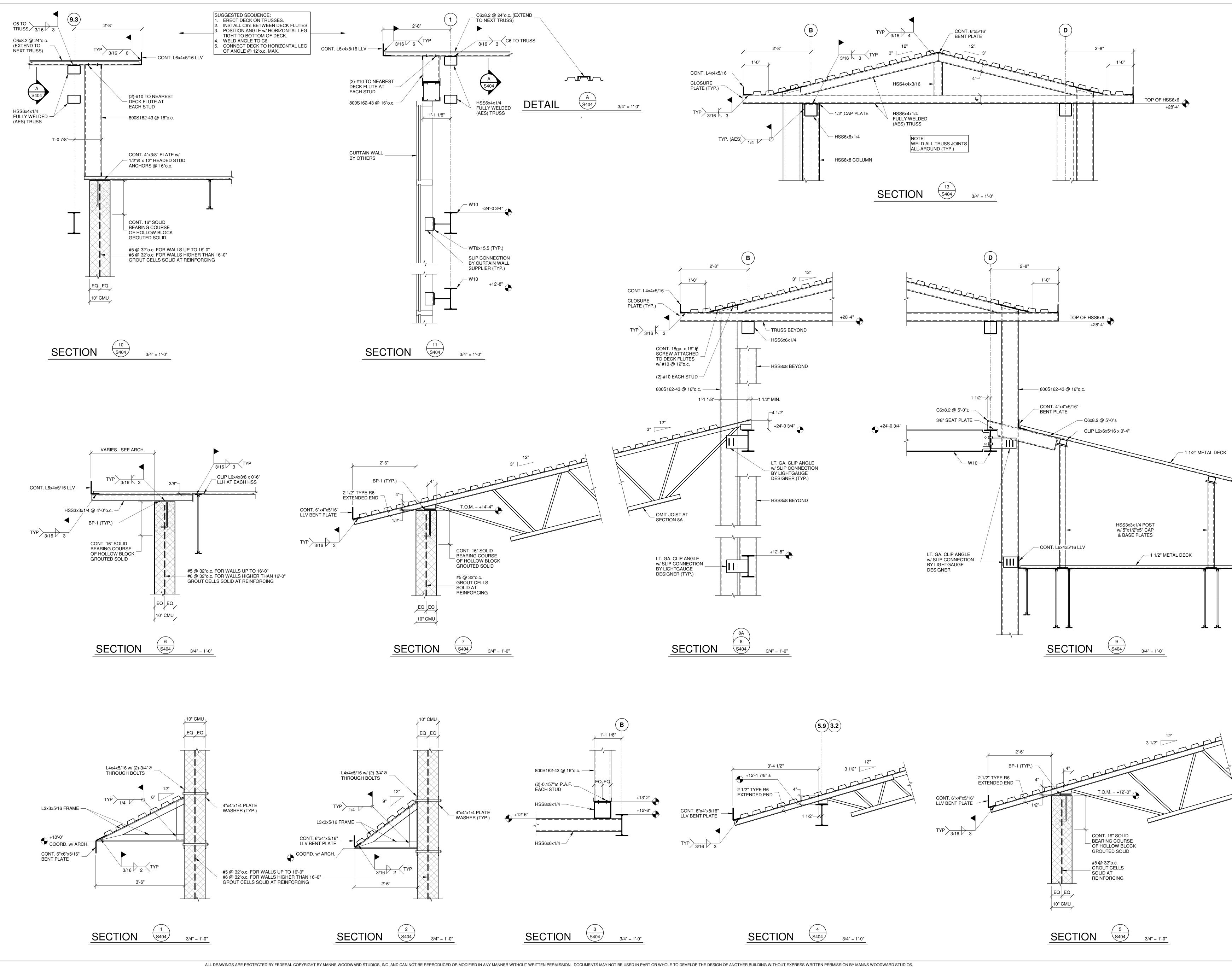


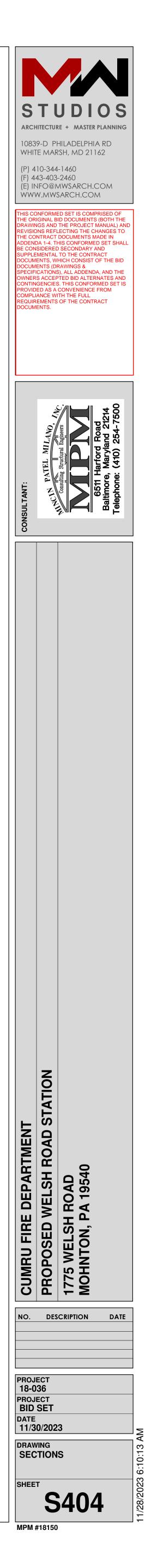


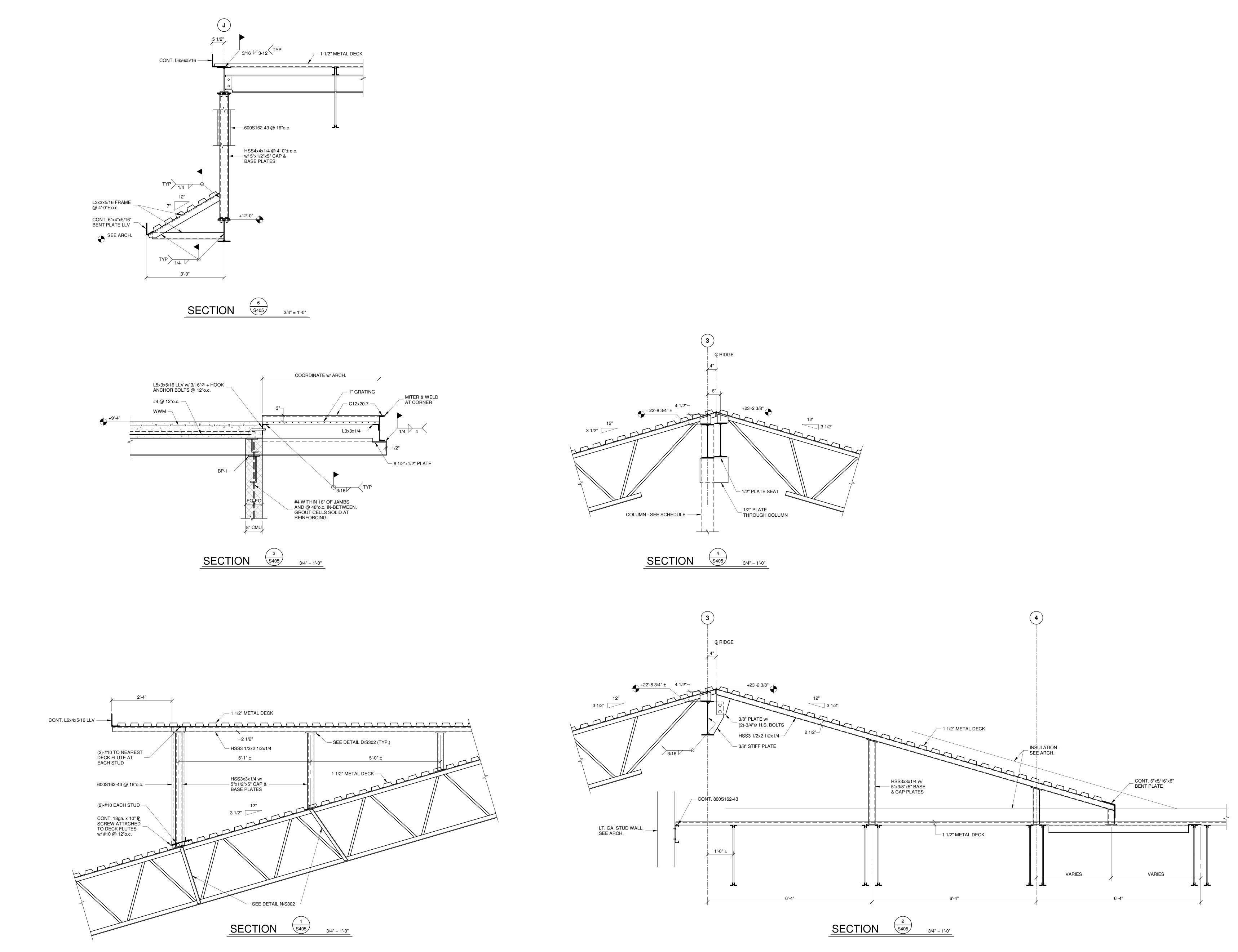
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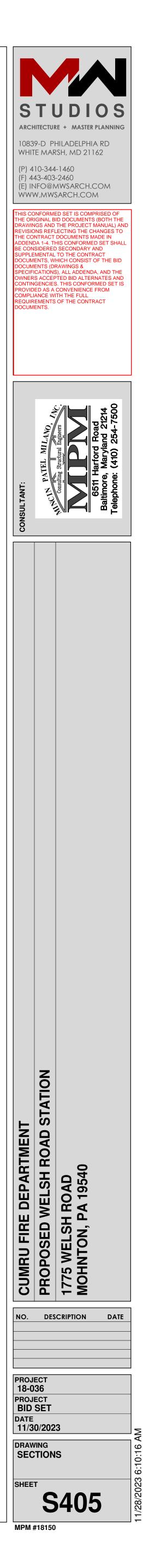












MECHANICAL GENERAL NOTES

- 1. THE MECHANICAL AND PLUMBING CONTRACT DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO INDICATE SCOPE AND THE GENERAL ARRANGEMENT OF THE SYSTEMS. WHERE APPLICABLE THE FOLLOWING NOTES SHALL APPLY TO ALL MECHANICAL (HVAC, PLUMBING, PIPING AND FIRE PROTECTION) SYSTEMS.
- 2. THOUGH SOME DUCTWORK AND PIPING OFFSETS AND TRANSITIONS ARE INDICATED, IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW ALL OFFSETS AND TRANSITIONS REQUIRED. THE CONTRACTOR SHALL FULLY COORDINATE THE MECHANICAL WORK WITHIN ITSELF AND WITH THE WORK OF ALL OTHER TRADES TO PROVIDE COMPLETE AND OPERABLE SYSTEMS WITHOUT INTERFERENCES.
- 3. PROVIDE APPROVED FIRE STOPPING MATERIAL AROUND ALL DUCTWORK AND PIPING PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED FLOORS AND WALLS. PROVIDE FIRE DAMPERS AT ALL DUCT PENETRATIONS THROUGH FLOORS AND FIRE RATED WALLS AND FIRE/SMOKE DAMPERS AT ALL PENETRATIONS THROUGH SHAFT ENCLOSURES.
- 4. SUPPORT ALL EQUIPMENT (I.E. DOAS, FANS, ETC.) FROM STRUCTURE WITH SPECIFIED VIBRATION ISOLATION. 5. PROVIDE ACCESS PANELS WHERE REQUIRED FOR ADEQUATE ACCESS TO ALL CONCEALED EQUIPMENT, VALVES,
- DAMPERS AND CONTROLS. 6. ALL DUCT SIZES REFER TO INTERNAL FREE AREA. REFER TO DRAWINGS AND SPECIFICATIONS FOR INTERNAL INSULATION
- AND SOUND LINING PRIOR TO FABRICATION.
- 7. ALL DUCTWORK SHALL BE CONSTRUCTED OF RIGID SHEET METAL UNLESS OTHERWISE NOTED.
- 8. REFER TO DOOR SCHEDULE ON ARCHITECTURAL DRAWINGS FOR UNDER CUT DIMENSIONS AND DOOR LOUVER SIZES. 9. COORDINATE DIFFUSER, REGISTER AND GRILLE LOCATIONS AND BORDER TYPES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
- 10. INSTALL DUCTWORK AND PIPING MAINS TIGHT TO UNDERSIDE OF STRUCTURE UNLESS OTHERWISE INDICATED.
- 11. REFER TO MECHANICAL DETAILS FOR TYPICAL EQUIPMENT CONNECTIONS.
- 12. PROVIDE CONDENSATE DRAIN PIPING FROM EACH AIR HANDLING UNIT TO NEAREST FLOOR DRAIN. PROVIDE CLEAN OUT AT EACH ELBOW. SIZE PER MANUFACTURER. 13. AIR CONDITIONING (A/C) CONDENSATE PIPING SHALL BE EXTENDED FROM ALL A/C CONDENSATE SOURCE EQUIPMENT
- (DOAS, VRF INDOOR UNITS, SPLIT SYSTEM A/C UNITS, ETC.) AND CONNECTED TO THE NEAREST STORM WATER PIPE/DRAIN LOCATION. SIZE PER MANUFACTURER.
- 14. AS AN INTEGRAL PART OF THESE DOCUMENTS, THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 15. PRIOR TO THE BALANCING OF SYSTEMS BY THE AABC CERTIFIED BALANCING CONTRACTOR, ALL LOW PRESSURE SYSTEMS SHALL BE TESTED BY THE MECHANICAL CONTRACTOR FOR DUCT LEAKAGE. DUCT LEAKAGE SHALL NOT EXCEED 1% FOR A DURATION OF TEN (10) MINUTES. SEE SPECIFICATIONS FOR ADDITIONAL TESTING CRITERIA. INSULATION MATERIALS SHALL NOT BE APPLIED UNTIL SYSTEMS HAVE BEEN WITNESSED, DOCUMENTED AND SUBMITTED TO MEET THE ABOVE TESTING REQUIREMENTS. REFER SPECIFICATIONS FOR SYSTEMS INDICATED AS LOW PRESSURE. THE BALANCE CONTRACTOR SHALL WITNESS AND CERTIFY ALL DUCT PRESSURE TESTS.
- 16. CONTRACTOR SHALL TEST/BALANCE ALL AIR AND HYDRONIC EQUIPMENT AND DEVICES INDICATED ON THE DOCUMENTS. AIR SYSTEM EQUIPMENT AND DEVICES SHALL INCLUDE, BUT NOT BE LIMITED TO: AIR HANDLING EQUIPMENT (DOAS UNITS, VRF INDOOR UNITS, ETC.), FANS, AIR VOLUME TERMINAL UNITS, AIR DEVICES, DUCT MOUNTED VOLUME DAMPERS, HOODS, ETC. HYDRONIC EQUIPMENT AND DEVICES SHALL INCLUDE, BUT NOT BE LIMITED TO: BOILERS, RADIANT FLOOR SYSTEMS, COILS, BALANCING VALVES, ETC. BALANCE ALL EQUIPMENT AND DEVICES TO THE AIR/WATER FLOWS (CFM OR GPM) INDICATED ON THE DOCUMENTS (WHERE FLOWS ARE NOT CLEARLY INDICATED, CONTACT THE A/E FOR CLARIFICATION).
- 17. SEE SPECIFICATIONS FOR SEISMIC REQUIREMENTS, WHERE APPLICABLE.
- 18. WHERE PIPING PENETRATES CONCRETE WALL AND SLABS, PROVIDE GROUND PENETRATING RADAR (GPR) SCAN TO IDENTIFY THE LOCATION OF REBAR. SUBMIT RESULTS TO OWNER AND ENGINEER FOR REVIEW.
- 19. SEE ARCHITECTURAL DOCUMENTS FOR ROOFING REQUIREMENTS.
- 20. PROVIDE SURFACE PREPARATION, PRIMING AND PAINTING OF ALL MECHANICAL AND BOILER ROOM FLOORS TO PROVIDE A SMOOTH, CLEANABLE SURFACE. PRIMER AND PAINT SHALL BE APPROPRIATE FOR CONCRETE SLAB SURFACES. SEE SPECIFICATION SECTIONS "PAINTING" AND "HVAC RELATED WORK", WHERE APPLICABLE, FOR ADDITIONAL PAINTING REQUIREMENTS. COLOR SHALL BE SELECTED BY THE A/E.
- 21. WHERE MOTOR STARTERS AND/OR VARIABLE FREQUENCY DRIVES (VFD'S) ARE INDICATED FOR MECHANICAL EQUIPMENT, THEY SHALL COMPLY WITH ALL REQUIREMENTS OUTLINED WITH THE ELECTRICAL SPECIFICATIONS FOR MOTOR STARTERS AND VFD'S. WHERE MOTOR STARTERS AND/OR VFD'S ARE PROVIDED BY THE MECHANICAL CONTRACTOR, OR AS A PORTION OF A PACKAGED MECHANICAL UNIT, THE ELECTRICAL SPECIFICATIONS SHALL ALSO APPLY. ALL VFD'S FOR THE PROJECT, WHETHER PROVIDED BY THE MECHANICAL OR ELECTRICAL CONTRACTOR, SHALL BE PROVIDED BY A SINGLE MANUFACTURER, AND SHALL INCLUDE THE SAME FEATURES AND OPTIONS.
- 22. UNLESS INDICATED OTHERWISE, ALL EXPOSED PIPING IN ALL FINISHED AREAS SHALL BE COVERED WITH A 16-GAUGE STEEL PRIMED AND PAINTED METAL COVER. THE COVER SHALL BE SECURED TO AN ADJACENT STRUCTURE AND PAINTED TO MATCH ADJACENT SURFACES.
- 23. EXPANSION LOOPS AND ANCHORS SHALL BE PROVIDED ON ALL HYDRONIC AND REFRIGERANT PIPING SYSTEMS WHICH CROSS BUILDING EXPANSION JOINTS AND ALL HORIZONTAL AND VERTICAL PIPE LENGTHS EXCEEDING 100 FEET. REFRIGERANT EXPANSION LOOPS SHALL BE INSTALLED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

SEISMIC DESIGN REQUIREMENTS

- 1. THIS FIRE STATION IS ASSIGNED TO SEISMIC DESIGN CATEGORY D AND IS OCCUPANCY CATEGORY IV AS DEFINED BY CHAPTER 1 OF ASCE 7. SEE STRUCTURAL DRAWINGS FOR SEISMIC DESIGN DATA.
- 2. ALL HVAC, PLUMBING & FIRE PROTECTION SYSTEMS AND EQUIPMENT ARE REQUIRED FOR THE CONTINUED OPERATION OF THE FIRE STATION AFTER AN EARTHQUAKE AND SHALL BE ASSIGNED A COMPONENT SEISMIC IMPORTANCE FACTOR OF 1.5 IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7.
- 3. THE MECHANICAL/PLUMBING/FIRE PROTECTION CONTRACTORS SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS PREPARED IN ACCORDANCE WITH THE IBC AND ASCE 7 BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PENNSYLVANIA WHO IS QUALIFIED TO DESIGN SEISMIC RESTRAINT SYSTEMS. AS AN ALTERNATIVE TO EQUIPMENT SEISMIC CALCULATIONS, CONTRACTORS MAY SUBMIT EQUIPMENT SEISMIC CERTIFICATES BY A NATIONALLY RECOGNIZED TESTING STANDARD PROCEDURE. SHOP DRAWINGS SHALL INCLUDE SEPARATE DETAILS AND CALCULATIONS FOR EACH SEPARATE SYSTEM, DEVICE OR ELEMENT. THE APPROVAL OF SEISMIC BRACING SHOP DRAWINGS SHALL BE REQUIRED PRIOR TO THE INSTALLATION OF ANY BUILDING SYSTEMS OR COMPONENTS.

2-PIPE VRF (CONSISTING OF REFRIGERANT SUCTION AND LIQUID) 3-PIPE VRF (CONSISTING OF REFRIGERANT

SUCTION, LIQUID, AND GAS)

- REFRIGERANT SUCTION
- REFRIGERANT LIQUID
- REFRIGERANT GAS
- PUMPED DISCHARGE
- HEATING WATER SUPPLY HEATING WATER RETURN
- CHECK VALVE
- BALL VALVE
- GATE VALVE
- BUTTERFLY VALVE

GLOBE VALVE

- BALANCING VALVE W/ FLOW METER FITTING (VENTURI TYPE)
- MULTI-PURPOSE VALVE

3-PORT MODULATING CONTROL VALVE

- 2-PORT MODULATING CONTROL VALVE
- RELIEF VALVE
- BUCKET STRAINER
- Y-STRAINER W/HOSE-END VALVE
- FLANGED CONNECTION

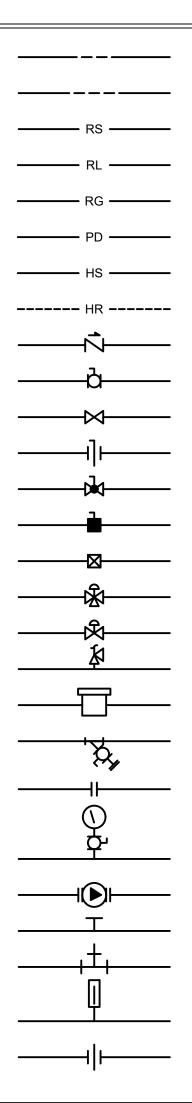
GAUGE AND VALVE

- INLINE CIRCULATING PUMP
- TEMPERATURE/PRESSURE TEST PORT TEE

THERMOMETER

UNION

AIR CHANGES / H AIR COOLED CON ABOVE FINISHED AIR PRESSURE DI ARCHITECTURAL AUTOMATIC TEMP BUILDING AUTOMA BACK-FLOW PRE\ BRAKE HORSEPO BACKWARD INCLI BRITISH THERMAL BRITISH THERMAL CAPACITY CUBIC FEET PER CUBIC FEET PER M COLD WATER (DO CONNECT TO EXIS DRY BULB DIFFERENTIAL BY DESIGNATION DIAMETER DOWN DIFFERENTIAL PR DRAWING(S) EXHAUST AIR ENTERING AIR TE ENERGY EFFICIEN ENERGY MANAGE EXTERNAL STATION



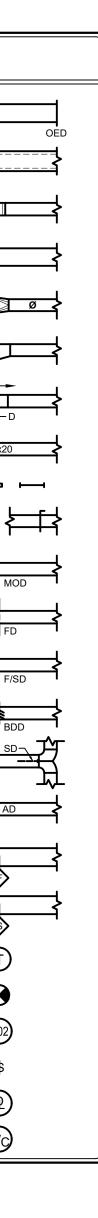
MECHANICAL LEGEND

PIPING CAP	————————————————————
CONCENTRIC REDUCER	
ECCENTRIC REDUCER	—— <u>D</u> ——
MANUAL AIR VENT	<u> </u>
AUTOMATIC AIR VENT	Ŷ
PIPE GUIDE OR SLEEVE	
PIPE ANCHOR	——————————————————————————————————————
GAS COCK	——————————————————————————————————————
PIPING ELBOW DOWN	———Э
PIPING ELBOW UP	O
PIPE CONNECTION BOTTOM	
PIPE CONNECTION TOP	—
FLOOR CLEANOUT	
WALL CLEANOUT	co
HOSE-END VALVE	<u>⊥</u>
VALVE IN VERTICAL POSITION	₹
HEAT TRACED AND INSULATED PIPE	00000000
FLOOR DRAIN	Øfd
BALL AND TUBE MONITOR	•
WATER LEAK DETECTOR	\bigotimes
GAS METER	G
SUPPLY AIR DUCT UP (DASHED LINES FOR DOWN)	\bowtie
RETURN DUCT UP (DASHED LINES FOR DOWN)	
OUTSIDE AIR & EXHAUST DUCT UP (DASHED LINES FOR DOWN)	\square
FLEXIBLE CONNECTION	
FLEXIBLE DUCT	
DOUBLE THICKNESS TURNING VANES	

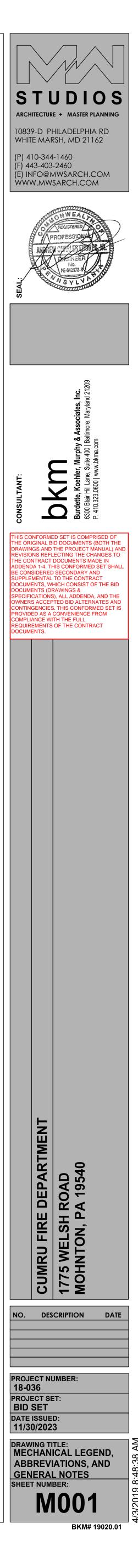
OPEN ENDED DUCT	}
DUCTWORK WITH SOUND LINING	<u> </u>
FLEXIBLE DUCT AND EQUIPMENT CONNECTOR	<u>}</u>
NEW DUCTWORK	<u>}</u>
DUCT TRANSITION ROUND TO RECTANGULAR	
DUCT TRANSITION	
CHANGE IN DUCT ELEVATION (R-RISE, D-DROP)	
DUCT SIZE (FIRST FIGURE IS SIDE SHOWN)	12x20
LINEAR SLOT DIFFUSER	
BALANCING DAMPER	╞┲╤┥╞
MOTOR OPERATED DAMPER	
FIRE DAMPER WITH ACCESS PANEL	
COMBINATION FIRE/SMOKE DAMPER WITH SMOKE DETECTORS AND ACCESS PANEL	F/S
BACKDRAFT DAMPER	
SPLITTER DAMPER	
ACCESS DOOR	
FIRE DETECTOR (FIRESTAT)	
SMOKE DETECTOR	
THERMOSTAT) T
CONNECT TO EXISTING	Θ
CARBON DIOXIDE SENSOR	C 02
FAN SWITCH	\$
DOOR LOUVER	
UNDERCUT DOOR	

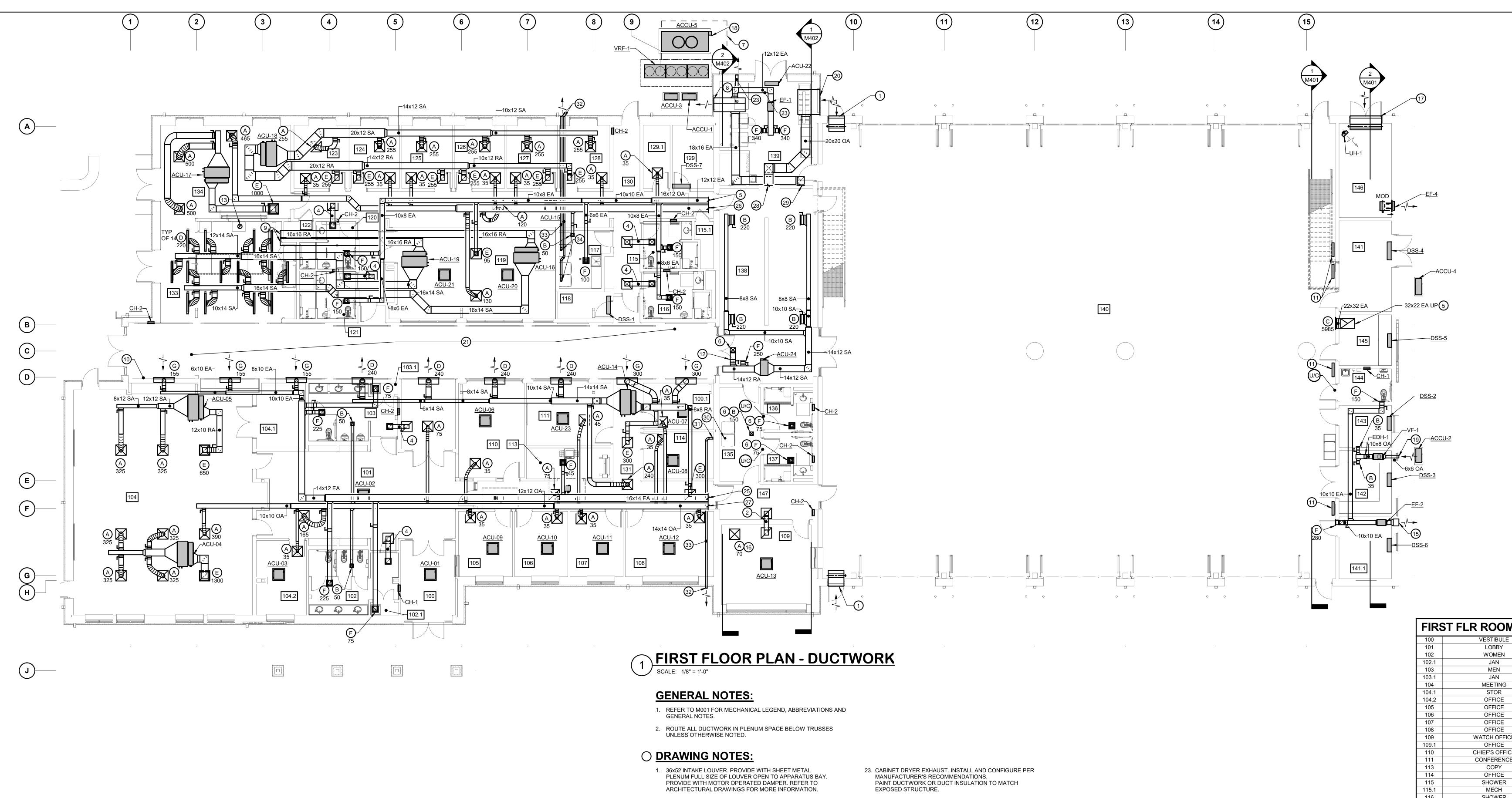
MECHANICAL ABBREVIATIONS

				1	
AIR CHANGES / HOUR	AC / HR	ENTERING WATER TEMPERATURE	EWT	NOT IN CONTRACT	NI
AIR COOLED CONDENSING UNIT	ACCU	FLEXIBLE CONNECTION / FORWARD CURVED	FC	NORMALLY OPEN / NUMBER	NO
ABOVE FINISHED FLOOR	AFF	FULL LOAD AMPS	FLA	NON-POTABLE COLD WATER	NF
AIR PRESSURE DROP	APD	FINS PER INCH	FPI	OUTSIDE AIR	OA
ARCHITECTURAL	ARCH	FEET PER MINUTE	FPM	OPEN END DUCT	OE
AUTOMATIC TEMPERATURE CONTROLS	ATC	FEET	FT	POUNDS PER SQUARE INCH	PS
BUILDING AUTOMATION SYSTEM	BAS	FACE VELOCITY	FV	PRESSURE	PF
BACK-FLOW PREVENTER	BFP	GALLON(S)	GAL	PUMPED DISCHARGE	PD
BRAKE HORSEPOWER	BHP	GALLONS PER MINUTE	GPM	QUANTITY	QT
BACKWARD INCLINED	BI	HEIGHT	н	RETURN AIR	RA
BRITISH THERMAL UNIT	BTU	HORSEPOWER	HP	RETURN AIR FAN	RA
BRITISH THERMAL UNITS PER HOUR	BTUH	HEATING WATER SUPPLY	HS	RELATIVE HUMIDITY	RF
CAPACITY	CAP	HEATING WATER RETURN	HR	REVOLUTIONS PER MINUTE	RF
CUBIC FEET PER HOUR	CFH	HEATER	HTR	REMOVE EXISTING	RX
CUBIC FEET PER MINUTE	CFM	HERTZ	HZ	SUPPLY AIR	SA
COLD WATER (DOMESTIC)	CW	INCH(ES)	IN	STATIC PRESSURE	SF
CONNECT TO EXISTING	СХ	KILOWATT	KW	TESTING AND BALANCING	TA
DRY BULB	DB	LENGTH	L	TOTAL STATIC PRESSURE	TS
DIFFERENTIAL BYPASS VALVE	DBV	LEAVING AIR TEMPERATURE	LAT	TYPICAL	TY
DESIGNATION	DESIG	POUNDS	LBS	UNLESS OTHERWISE NOTED	UC
DIAMETER	DIA	LOCKED ROTOR AMPS	LRA	VARIABLE REFRIGERANT FLOW	VF
DOWN	DN	LEAVING WATER TEMPERATURE	LWT	VEHICLE EXHAUST AIR	VE
DIFFERENTIAL PRESSURE SENSOR	DPS	MAXIMUM	MAX	VOLTS	V
DRAWING(S)	DWG	THOUSAND BRITISH THERMAL UNITS PER HOUR	MBH	VARIABLE FREQUENCY DRIVE	VF
EXHAUST AIR	EA	MINIMUM CIRCUIT AMPACITY	MCA	WIDTH	W
ENTERING AIR TEMPERATURE	EAT	MECHANICAL EQUIPMENT ROOM	MER	WET BULB	W
ENERGY EFFICIENCY RATIO	EER	MAXIMUM FUSE SIZE	MFS	WATER COLUMN	W
ENERGY MANAGEMENT CONTROL SYSTEM	EMCS	MINIMUM	MIN	WATER GAUGE	W
EXTERNAL STATIC PRESSURE	ESP	MAXIMUM OVERCURRENT PROTECTION	MOP	WATER PRESSURE DROP	W
EXISTING TO REMAIN	ETR	NORMALLY CLOSED	NC		



NIC
NO
NPCW
OA
OED
PSI
PRESS
PD
QTY
RA
RAF
RH
RPM
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WB
WC
WG
WPD



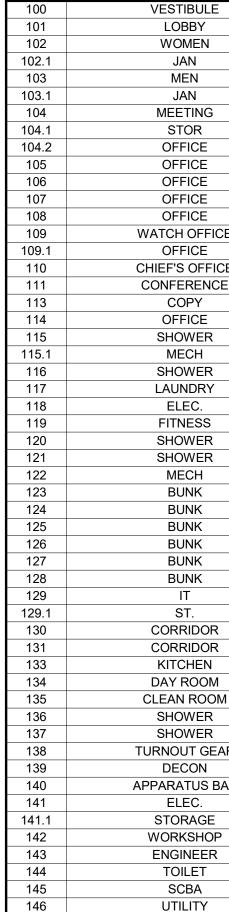


- 2. 10x10 TRANSFER DUCT. AIR DEVICES SHALL BE TYPE E.
- 3. REFER TO M301 FOR WORK IN THIS AREA.
- 4. 10x10 TRANSFER DUCT. AIR DEVICE WITHIN TOILET ROOM SHALL BE TYPE F. OTHER DEVICE SHALL BE TYPE E.
- 5. 12x12 EXHAUST AIR DUCT TO MEZZANINE 201. REFER TO
- M301 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 6. 10x12 OUTSIDE AIR DUCT UP TO MEZZANINE 201. REFER TO M301 FOR CONTINUATION.
- 7. EQUIPMENT CLEARANCE (TYPICAL). 8. 32x32 EXHAUST LOUVER. PROVIDE WITH SHEET METAL
- PLENUM FULL SIZE OF LOUVER. PROVIDE PLENUM WITH BAFFLE SEPERATING THE TWO EXHAUST AIRFLOWS. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- 9. OPENED ENDED DUCT IN KITCHEN PLENUM SPACE ABOVE
- CLOUD CEILING. PROVIDE WITH SCREEN. 10. SPACE PRESSURE SENSOR FOR CONTROL OF DOAS-1
- RELIEF FAN. MOUNT AT 8 FEET ABOVE FINISHED FLOOR.
- 11. RADIANT FLOOR MANIFOLD CABINET MOUNTED ON WALL. 12. BALANCE OUTDOOR AIR DAMPER TO 625 CFM.
- 13. KITCHEN RANGE EXHAUST DUCT UP. TERMINATE AT ROOF.
- 14. 10x8 OUTDOOR AIR DUCT UP.
- 15. EXHAUST LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- 16. AIR DEVICE SERVED FROM MEZZANINE ABOVE. REFER TO M301 FOR CONTINUATION.
- 17. 72x8 INTAKE LOUVER. PROVIDE WITH SHEET METAL PLENUM FULL SIZE OF LOUVER OPEN TO APPARATUS BAY. PROVIDE WITH MOTOR OPERATED DAMPER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- 18. CONCRETE PAD (TYP). REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
- 19. INTAKE LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- 20. 57X30 INTAKE LOUVER. PROVIDE WITH SHEET METAL PLENUM FULL SIZE OF LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- 21. CORRIDOR TO REMAIN FREE OF ANY EXPOSED DUCTWORK OR PIPING THAT DOES NOT PERTAIN TO THE IMMEDIATE FUNCTION OF THE CORRIDOR.
- 22. RADIANT FLOOR MANIFOLD CABINET MOUNTED ON WALL UNDER STAIR CASE.

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- M301 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 25. 16x12 OUTSIDE AIR DUCT TO MEZZANINE 201. REFER TO M301 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 26. 14x14 OUTSIDE AIR DUCT TO MEZZANINE 201. REFER TO M301 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 27. 20x20 OUTSIDE AIR DUCT TO MEZZANINE 201. REFER TO M301 FOR CONTINUATION.
- 28. 18x16 EXHAUST AIR DUCT TO MEZZANINE 201. REFER TO M301 FOR CONTINUATION.
- 29. 4" RIGID DRYER EXHAUST DUCTWORK DOWN TO DRYER AND UP TO MEZANINE 201. REFER TO M301 FOR CONTINUATION.
- 30. 4" RIGID DRYER EXHAUST DUCTWORK TO MEZZANINE 201. REFER TO M301 FOR CONTINUATION.
- 31. TERMINATE DRYER EXHAUST PER MANUFACTURER'S RECOMMENDATIONS.
- 32. CONFIGURE DRYER EXHAUST PER MANUFACTURER'S RECOMMENDATIONS.
- 33. 4" RIGID DRYER EXHAUST DUCTWORK DOWN TO DRYER.

24. 16x14 EXHAUST AIR DUCT TO MEZZANINE 201. REFER TO

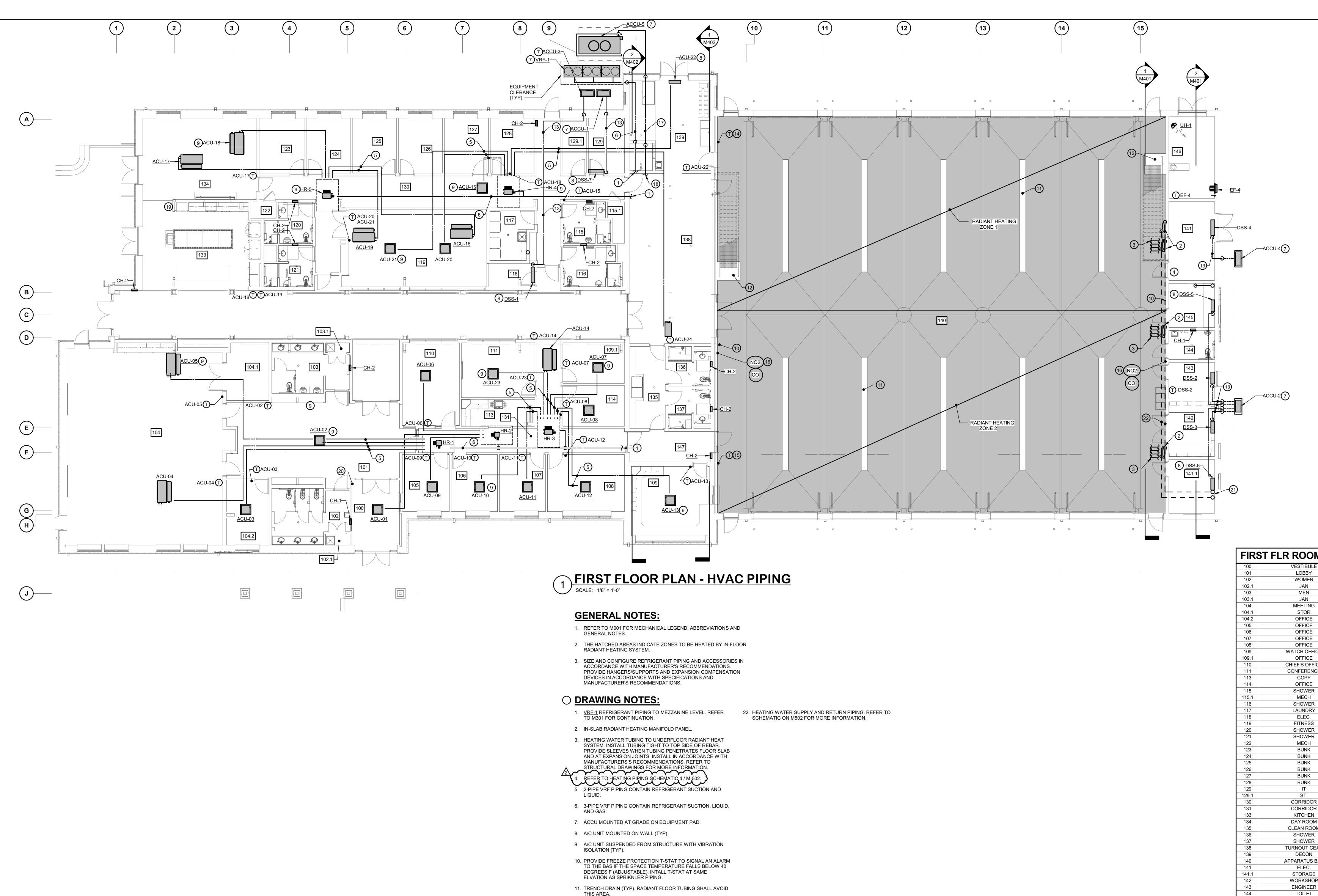




CORDINATION OF THE CONTRACT STATE ST	THIS CONFORMED SET IS COMPRISED OF THE ORIGINAL BID DOCUMENTS (BOTH THE DRAWINGS AND THE PROJECT MANUAL) AN REVISIONS REFLECTING THE CHANGES TO THE CONTRACT DOCUMENTS MADE IN ADDENDA 1-4. THIS CONFORMED SET SHALL BE CONSIDERED SECONDARY AND SUPPLEMENTAL TO THE CONTRACT DOCUMENTS, WHICH CONSIST OF THE BID DOCUMENTS, WHICH CONSIST OF THE BID DOCUMENTS, WHICH CONSIST OF THE BID DOCUMENTS (DRAWINGS & SPECIFICATIONS), ALL ADDENDA, AND THE OWNERS ACCEPTED BID ALTERNATES AND CONTINGENCIES. THIS CONFORMED SET IS PROVIDED AS A CONVENIENCE FROM COMPLIANCE WITH THE FULL REQUIREMENTS OF THE CONTRACT	THIS CONFORMED SET IS THE ORIGINAL BID DOCU DRAWINGS AND THE PRO REVISIONS REFLECTING THE CONTRACT DOCUME ADDENDA 1-4. THIS CONF BE CONSIDERED SECONI SUPPLEMENTAL TO THE DOCUMENTS, WHICH CO DOCUMENTS, WHICH CO DOCUMENTS (DRAWINGS SPECIFICATIONS), ALL AI OWNERS ACCEPTED BID CONTINGENCIES. THIS C PROVIDED AS A CONVEN COMPLIANCE WITH THE REQUIREMENTS OF THE	COMPRISED OF MENTS (BOTH THE DJECT MANUAL) AN THE CHANGES TO SORMED SET SHALL ORMED SET SHALL DARY AND CONTRACT NSIST OF THE BID & & DDENDA, AND THE ALTERNATES AND ONFORMED SET IS IENCE FROM FULL
REQUIREMENTS OF THE CONTRACT	BEQUIREMENTS OF THE CONTRACT	REQUIREMENTS OF THE	

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M AR AY	M AR AY	
AR AY	AR AY	E
AR AY	AR AY	
AY	AY	N
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AY	AY	AR
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VESTIBULE



- THIS AREA.
- 12. BOLT DOWN ZONE FOR STAIRS. RADIANT FLOOR TUBING SHALL AVOID THIS AREA.
- 13. RS AND RL PIPING. SIZE PER MANUFACTURER'S
- RECOMMENDATIONS. 14. RADIANT FLOOR ZONE 1 THERMOSTAT.
- 15. RADIANT FLOOR ZONE 2 THERMOSTAT.
- 16. PROVIDE CO AND NO2 SENESORS. MOUNT CO SENSOR ON WALL AT 5 FEET ABOVE FINISHED FLOOR. MOUNT NO2 SENSOR ON WALL AT 1 FOOT ABOVE FINISHED FLOOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 17. DOAS-1 REFRIGERANT PIPING.

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- 18. DOAS-1 REFRIGERANT PIPING TO MEZZANINE LEVEL. REFER TO M301 FOR CONTINUATION.
- 19. PROVIDE ACU-19 REMOTE TEMPERATURE SENSOR.
- 20. PROVIDE <u>ACU-01</u> REMOTE TEMPERATURE SENSOR.
- 21. HEATING WATER SUPPLY AND RETURN PIPING UP TO MEZZANINE 202. REFER TO M301 FOR CONTINUATION.

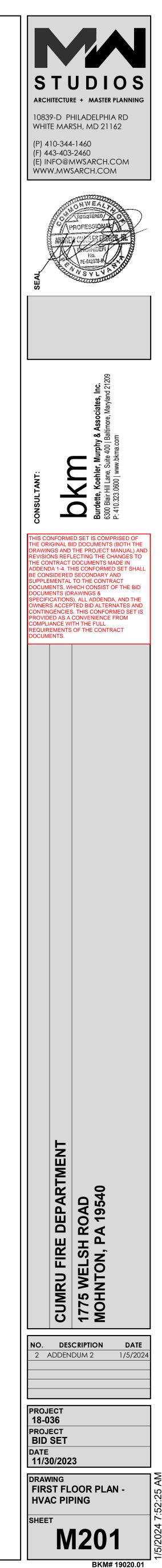
VESTIBUL LOBBY WOMEN JAN MEN JAN MEETING STOR OFFICE OFFICE OFFICE OFFICE OFFICE WATCH OFFIC OFFICE CHIEF'S OFFIC CONFERENC COPY OFFICE SHOWER MECH SHOWER LAUNDRY ELEC. FITNESS SHOWER SHOWER MECH BUNK BUNK BUNK BUNK BUNK BUNK IT CORRIDOR CORRIDOR KITCHEN DAY ROOM CLEAN ROOM SHOWER SHOWER TURNOUT GE DECON APPARATUS BA ELEC. STORAGE WORKSHOP ENGINEER TOILET SCBA 145



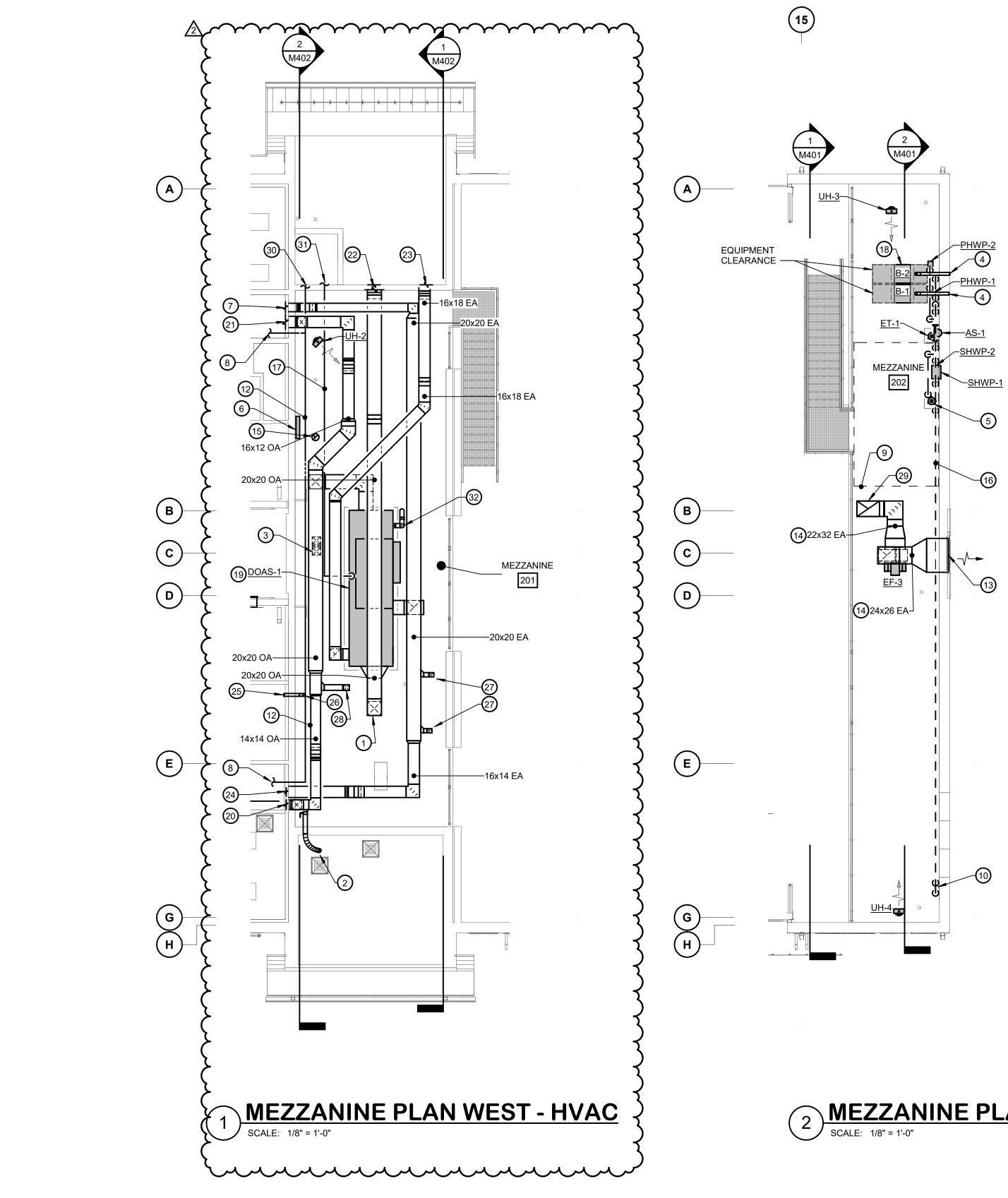
146

UTILITY

VESTIBULE



M LIST
CE
CE
E
М
AR
BAY
D



2 MEZZANINE PLAN EAST - HVAC SCALE: 1/8" = 1'-0"

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GENERAL NOTES:

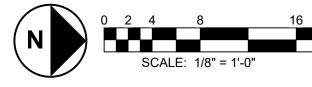
- 1. REFER TO M001 FOR MECHANICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- 2. SIZE AND CONFIGURE REFRIGERANT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- 3. REFER TO M502 FOR HEATING WATER PIPE SIZES AND

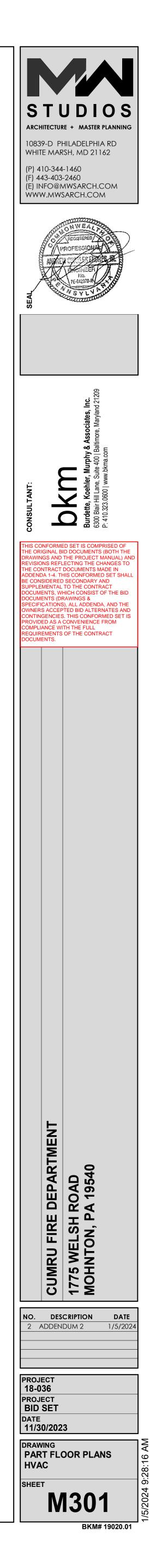
○ DRAWING NOTES:

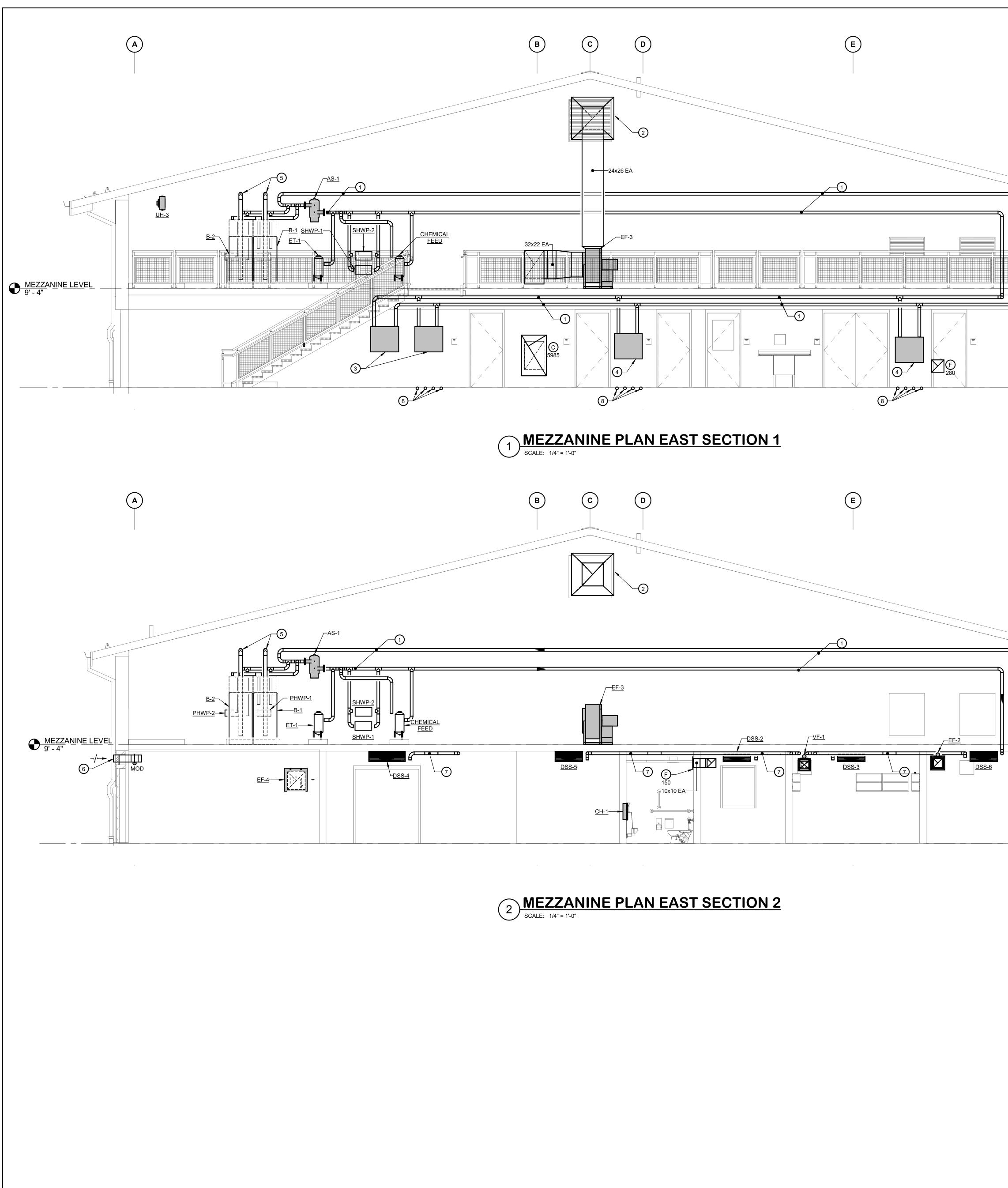
CONFIGURATION.

- 1. 20x20 OUTDOOR AIR DUCT DOWN TO DOAS-1.
- 2. 6" OUTDOOR AIR DUCT DOWN TO DEVICE SERVING 109 -WATCH OFFICE. REFER TO M101 FOR CONTINUATION.
- 3. 10x12 OUTSIDE AIR DUCT DOWN TO 138 TURNOUT GEAR.
- REFER TO M101 FOR CONTINUATION. 4. CONCENTRIC BOILER VENT KIT.
- 5. CHEMICAL BYPASS FEEDER.
- 6. <u>DOAS-1</u> DDC PANEL MOUNTED ON WALL.
- 7. 12x12 EXHAUST AIR DUCT TO ADMINISTRATION AREA OF BUILDING. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 8. <u>VRF-1</u> REFRIGERANT PIPING TO ADMINISTRATION AREA OF BUILDING. REFER TO M201 FOR CONTINUATION.
- 9. DASHED LINE RERESENTS ELECTRICAL ROOM LOCATED BELOW MEZZANINE. NO MECHANICAL WORK SHALL PENETRATE MEZZANINE WITHIN THE DASHED LINE.
- 10. 2 1/2" HEATING WATER SUPPLY/RETURN DOWN TO FIRST FLOOR. REFER TO M201 FOR CONTINUATION
- 11. REFRIGERANT SUCTION AND LQUID PIPING. SIZE PER
- MANUFACTURER'S RECOMMENDATIONS. 12. REFRIGERANT SUCTION, LIQUID, AND GAS PIPING. SIZE PER
- MANUFACTURER'S RECOMMENDATIONS. 13. EXHAUST LOUVER. REFER TO ARCHITECTURAL DRAWINGS
- FOR MORE INFORMATION. 14. PROVIDE DUCTWORK WITH SOUND LINING.
- 15. DOMESTIC WATER HEATER FLUE UP THROUGH ROOF.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS. 16. HEATING WATER SUPPLY AND RETURN PIPING RACKED ON
- WALL. REFER TO M401 AND M502 FOR MORE INFORMATION.
- 17. DOAS-1 REFRIGERANT PIPING.
- 18. MOUNT BOILERS ON SINGLE EQUIPMENT PAD. 19. <u>DOAS-1</u> SHALL BE MOUNTED ON EQUIPMENT PAD.
- 20. 14x14 OUTSIDE AIR DUCT TO ADMINISTRATION AREA OF BUILDING. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 21. 16x12 OUTSIDE AIR DUCT TO ADMINISTRATION AREA OF BUILDING. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 22. 20x20 OUTSIDE AIR DUCT TO SPACE 139 DECON. REFER TO M101 FOR CONTINUATION. 23. 16x18 EXHAUST AIR DUCT TO SPACE 139 DECON. REFER TO
- M101 FOR CONTINUATION.
- 24. 16x14 EXHAUST AIR DUCT TO SPACE 139 DECON. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
- 25. 4" RIGID DRYER EXHAUST TO ADMINISTRATION SIDE OF BUILDING. REFER TO M301 FOR CONTINUATION.
- 26. 4" RIGID DRYER EXHAUST DUCTWORK DOWN TO 135 CLEAN ROOM. REFER TO M101 FOR CONTINUATION.
- 27. 6x6 EXHAUST DUCT DOWN TO TOILET ROOM AIR DEVICE. REFER TO M101 FOR CONTINUATION.
- 28. 8x8 OUTSIDE AIR DUCT DOWN TO 135 CLEAN ROOM. REFER TO M101 FOR CONTINUATION.
- 29. 32x22 EXHAUST AIR DUCT DOWN TO 145 SCBA. REFER TO M101 FOR CONTINUATION.
- 30. <u>VRF-1</u> REFRIGERANT PIPING TO 139 DECON. REFER TO M201 FOR CONTINUATION.
- 31. <u>DOAS-1</u> REFRIGERANT PIPING TO 139 DECON. REFER TO M201 FOR MORE INFORMATION.

32. DOAS-1 6" SCHEDULE 40 PVC FLUE PIPE UP THROUGH ROOF. TERMINATE WITH GOOSENECK AND BIRD SCREEN. SIZE, CONFIGURE, AND TERMINATE PER MANUFACTURER;S RECOMMENDATIONS. REFER TO MECHANICAL DETAILS FOR







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GH

<u>UH-4</u> ____FIRST FLOOR 0' - 0" ____

GH

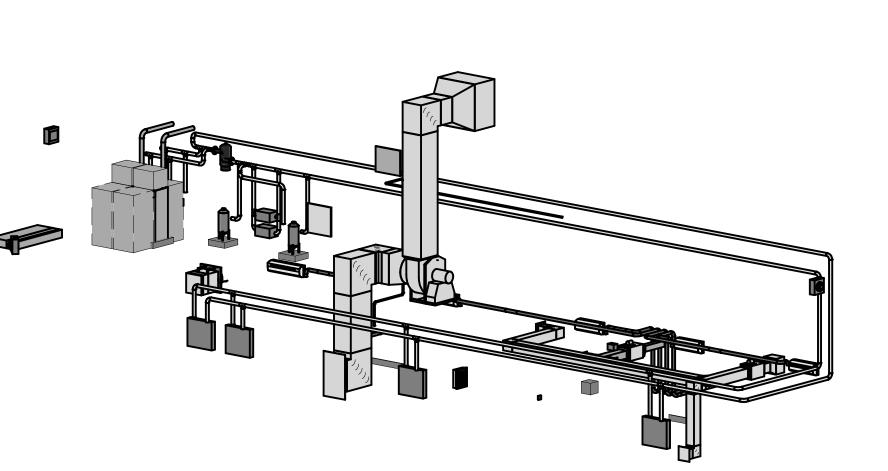
_____FIRST_FLOOR______

DRAWING NOTES: HEATING WATER SUPPLY AND RETURN PIPING. REFER TO HEATING WATER SCHEMATIC ON M502 FOR PIPE SIZES AND ADDITIONAL INFORMATION.

48x48 EXHAUST AIR LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.

GENERAL NOTES:

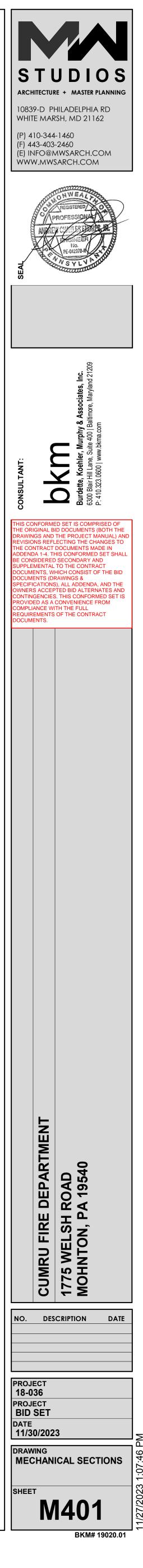
- 3. RADIANT FLOOR ZONE 1 MANIFOLD CABINET. 4. RADIANT FLOOR ZONE 2 MANIFOLD CABINET.
- 5. BOILER FLUE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 6. 8x72 INTAKE LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- 7. REFRIGERANT PIPING. SIZE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- HEATING WATER TUBING TO UNDERFLOOR RADIANT HEAT SYSTEM. INSTALL TUBING TIGHT TO TOP SIDE OF REBAR. PROVIDE SLEEVES WHEN TUBING PENETRATES FLOOR SLAB AND AT EXPANSION JOINTS. INSTALL IN ACCORDANCE WITH MANUFACTURERS'S RECOMMENDATIONS. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.

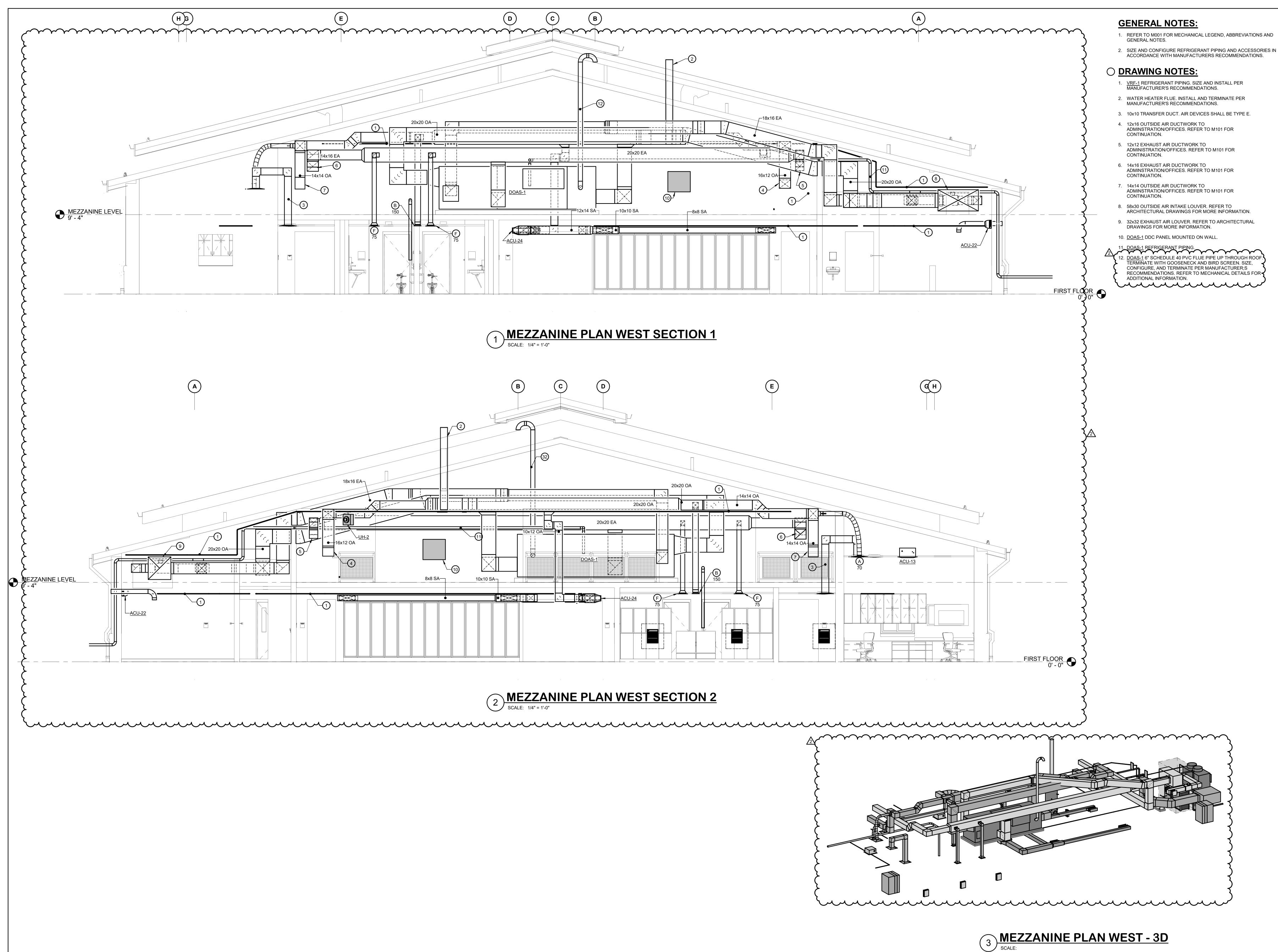




1. REFER TO M001 FOR MECHANICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.

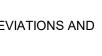
2. SIZE AND CONFIGURE REFRIGERANT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



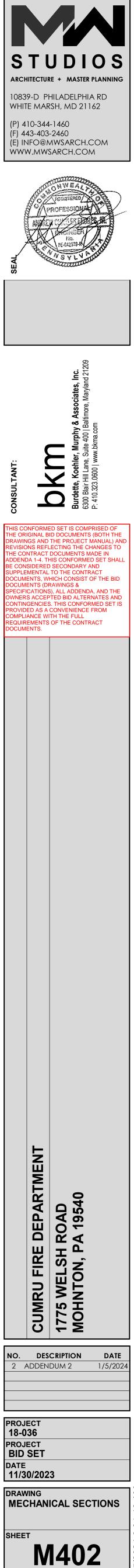


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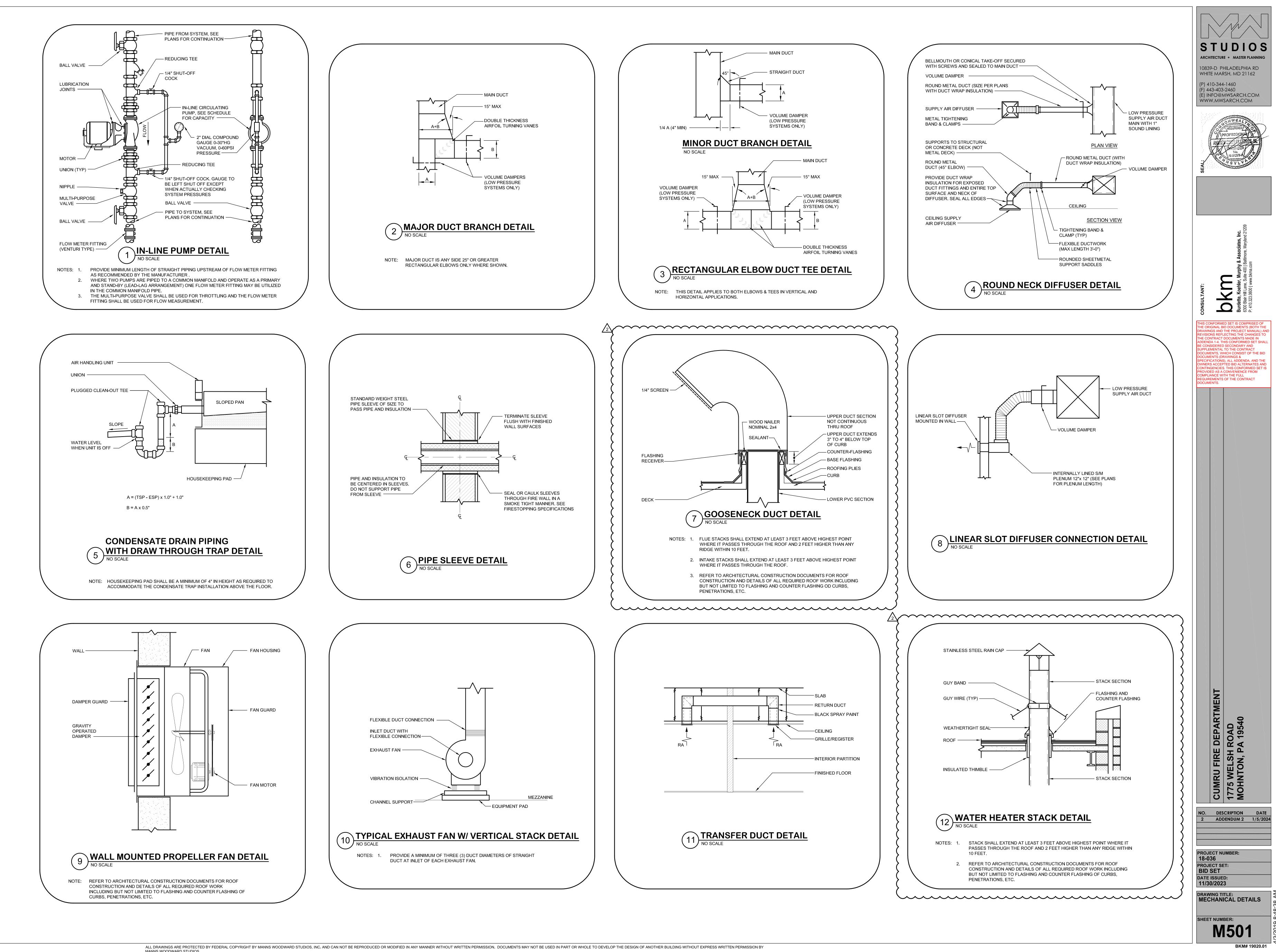


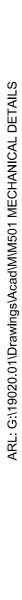


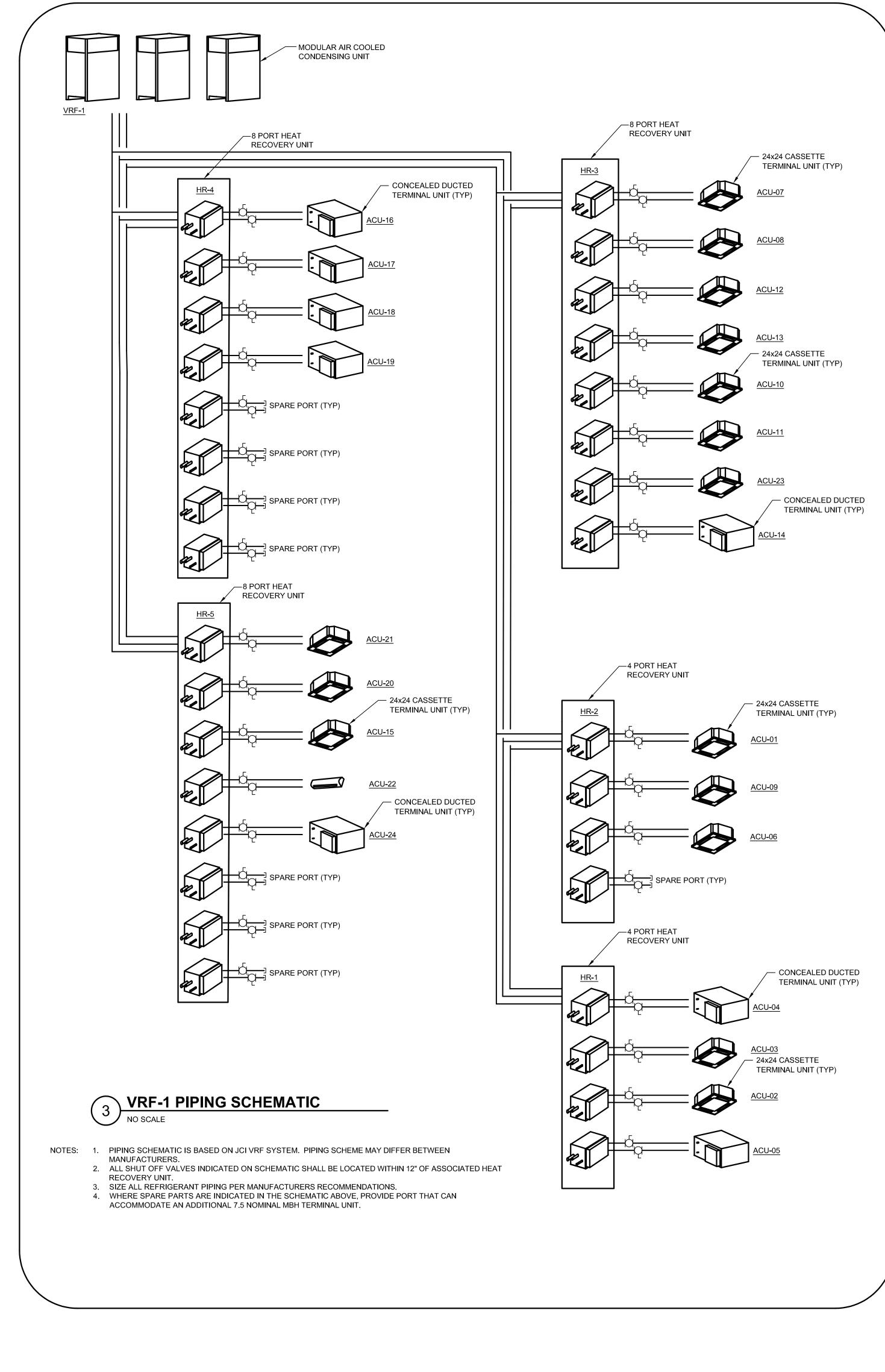




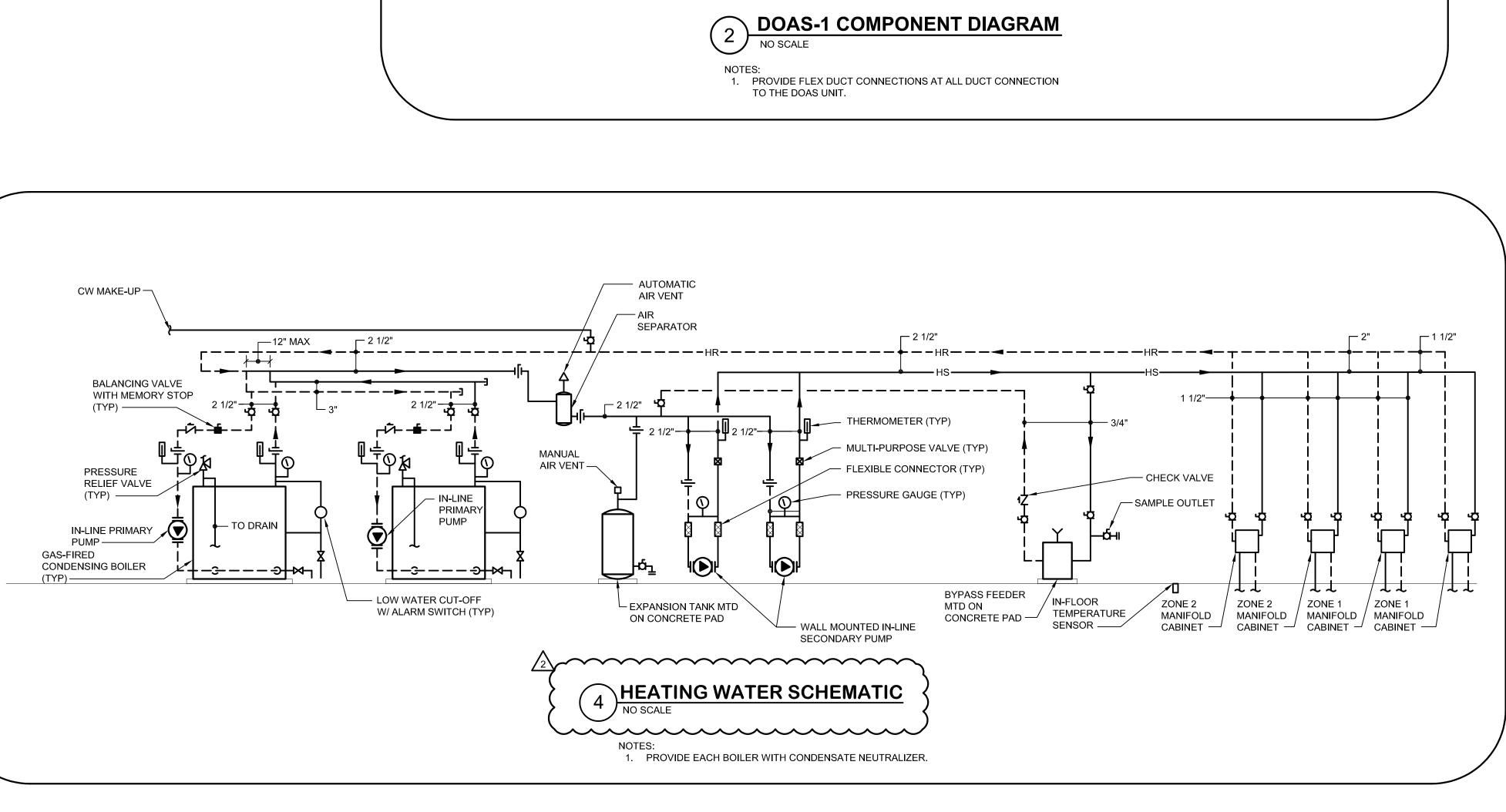
BKM# 19020.01





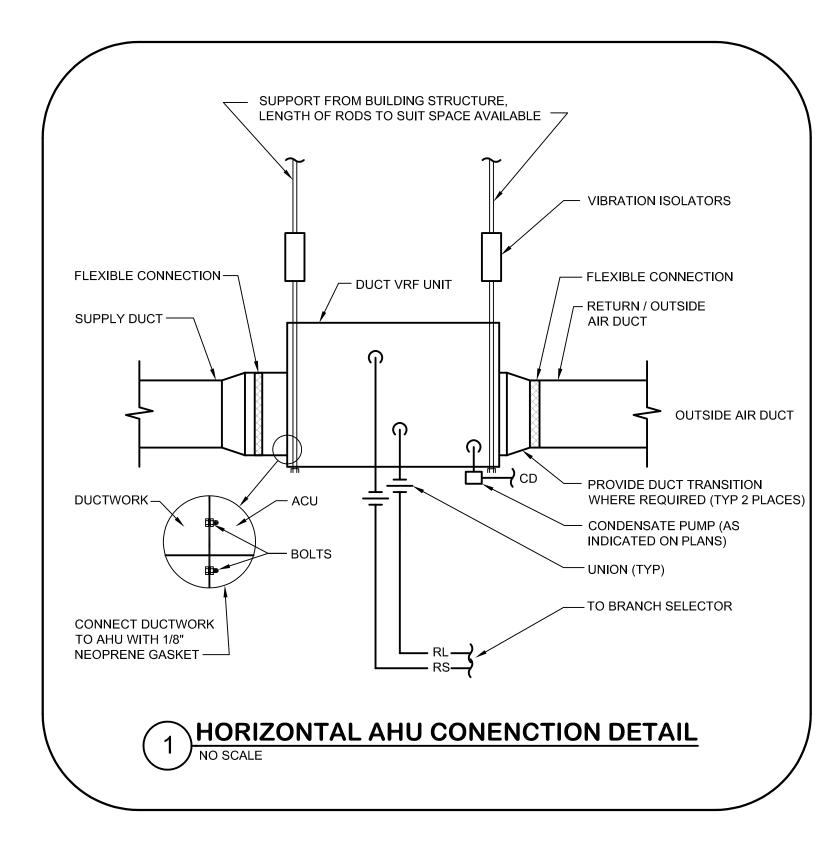


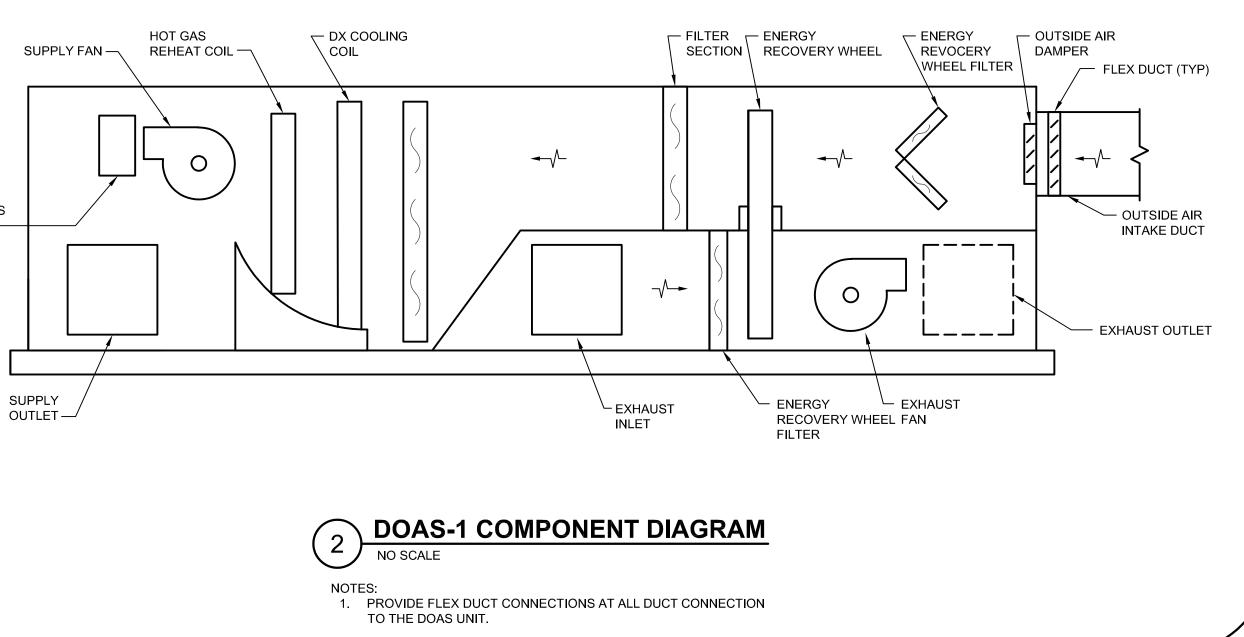
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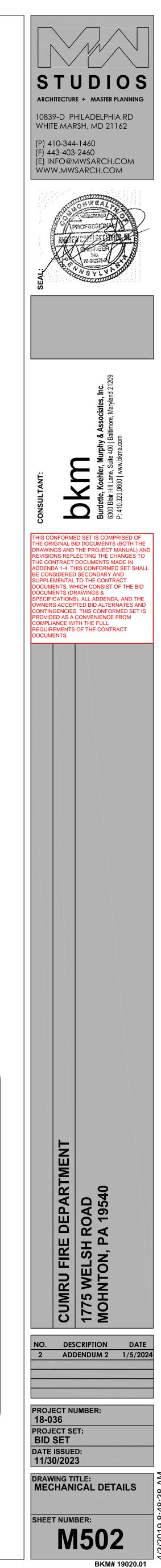


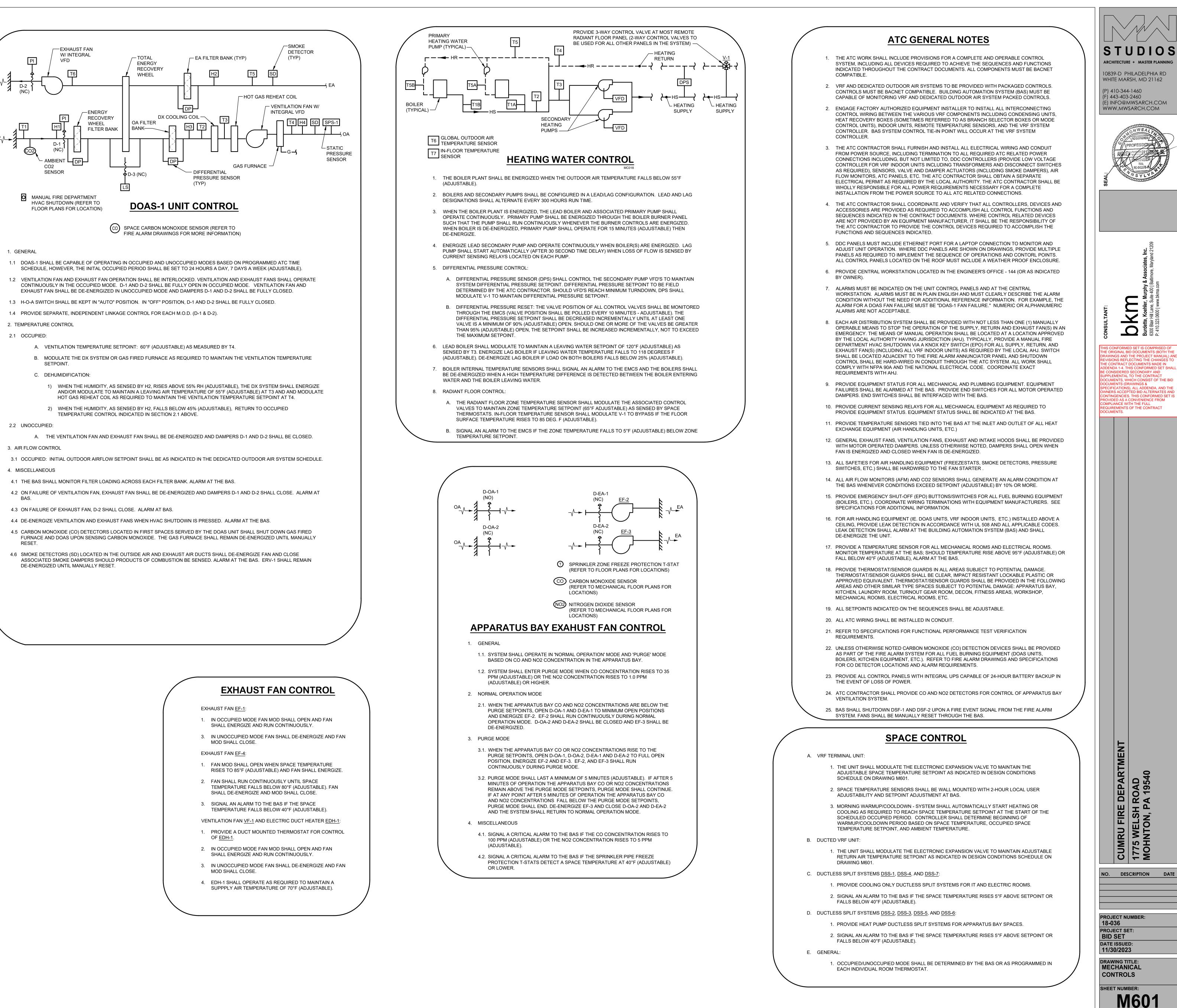
NATURAL GAS

FURNACE -----









MANNS WOODWARD STUDIOS

BKM# 19020.01

			VENTL	
DESIG	AREA SERVED	СҒМ	ESP (IN)	TSP
DOAS-1	ADMINISTRATION SPACES	3015	1.00	5.
	SPACES ACITIES BASED ON A N E UNIT WITH HOT-GAS F G COIL ENTERING AIR C E FACTORY WIRED DIS RNACE SHALL BE SIZEI	REHEAT I CONDITION	FOR HUMI NS BASEE T SWITCH	NTIC NO (

				A	R DE	/ICE	SCHI	EDULE		
 	1			0511	INLET /	T			BASIS	OF DESIGN
DESIG	DUTY	SIZE (IN)	MOUNTING	CFM RANGE	NECK SIZE (IN)	MAXSP	MAXNC	DESCRIPTION	MANUFACTURER	MODEL
A	SUPPLY / OUTDOOR AIR	24 x 24 MODULE	LAY-IN	0-120	6.00	0.10°	20	18 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
A	SUPPLY / OUTDOOR AIR	24 x 24 MODULE	LAY-IN	121 - 210	8.00	0.10"	20	19 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
Α	SUPPLY / OUTDOOR AIR	24 x 24 MODULE	LAY-IN	211-325	10.00	0.10"	25	20 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
A	SUPPLY / OUTDOOR AIR	25 x 24 MODULE	LAY-IN	326-470	12.00	0.10"	25	21 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
A	SUPPLY / OUTDOOR AIR	26 x 24 MODULE	LAY-IN	471-640	14.00	0.10"	25	22 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
B	SUPPLY / OUTDOOR AIR	8 x 8	SURFACE	0-135	6 x 6	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45" DEFLECTION 3/4" SPACING	TITUS	271 RL
В	SUPPLY / OUTDOOR AIR	10 x 10	SURFACE	136-219	8 x 8	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45° DEFLECTION 3/4" SPACING	TITUS	271 RL
В	SUPPLY / OUTDOOR AIR	12 x 8	SURFACE	220-254	10 x 6	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45" DEFLECTION 3/4" SPACING	TITUS	271 RL
В	SUPPLY / OUTDOOR AIR	14 x 8	SURFACE	255	12 x 6	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45° DEFLECTION 3/4" SPACING	TITUS	271 RL
C	EXHAUST	42 x 24	SURFACE	0-5985	42 x 24	0.20"	45	FIXED LOUVER. 35" DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FS
D	SUPPLY / OUTDOOR	4 FT LONG	SURFACE	0-240	12.00	0.10"	30	LINEAR SLOT, 3/4" SLOT (2 SLOTS)	TITUS	ML-38 W/ MPI-38 INSULATED PLENUM
E	RETURN / EXHAUST	24 x 24	LAY-IN	0-125	6 x 6	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
	RETURN / EXHAUST	24 x 24	LAY-IN	126-220	8 x 8	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
E	RETURN / EXHAUST	24 x 24	LAY-IN	221-340	10 x 10	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
E	RETURN / EXHAUST	24 x 24	LAY-IN	341-500	12 x 12	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
E	RETURN / EXHAUST	24 x 24	LAY-IN	501-1300	22 x 22	0.10"	25	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
F	RETURN / EXHAUST	6 x 6	SURFACE	0-100	6 x 6	0.06"	20	FIXED LOUVER. 35 DEFLECTION 3/4" SPACING - REGISTER	τιτυς	350 FL
F	RETURN / EXHAUST	8 x 8	SURFACE	101-185	8 x 8	0.06"	20	FIXED LOUVER: 35" DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
F	RETURN / EXHAUST	10 x 10	SURFACE	186-340	10 x 10	0.06"	20	FIXED LOUVER. 35 DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
۴	RETURN / EXHAUST	50 × 50	SURFACE	3060	48 x 48	0.10"	20	FIXED LOUVER. 35° DEFLECTION 3/4" SPACING - SUPPLY	TITUS	350 FL
G	RETURN / EXHAUST	4 FT LONG	SURFACE	0-155	8×6	0,10"	30	LINEAR SLOT, 3/4" SLOT (2 SLOTS)	TITUS	MLR-38
G	RETURN / EXHAUST	4 FT LONG	SURFACE	156-300	10 x 8	0.10"	30	LINEAR SLOT, 3/4" SLOT (2 SLOTS)	TITUS	MLR-38

NOTES: 1. PROVIDE ALL AIR DEVICES WITH OPPOSED BLADE VOLUME DAMPER. 2. CONTRACTOR MAY PROVIDE ALUMINUM OR STEEL AIR DEVICES UNLESS OTHERWISE INDICATED. ALL AIR DEVICES IN HIGH HUMIDITY AREAS (ie. TOILET ROOMS, ETC) MUST BE ALUMINUM.

		OCCUPIE	D HOURS		l	JNOCCUP	ED HOURS	
ROOM DESCRIPTION	SUMMER		WINTE	ER	SUMN	IER	WINT	ER
	DB (DEG F)	% RH	DB (DEG F)	% RH	DB (DEG F)	% RH	DB (DEG F)	% R⊦
GENERAL OFFICE,								
DORM, CONFERENCE	75	60	70		80	60	0.5	
ROOMS, EOC,	75	60	70	-	80	60	65	-
FITNESS ROOM							1	
IT SPACE	72	55	72	-	72	55	72	55
UTILITY ROOMS	85 (MAX)	-	40 (MIN)	-	85 (MAX)	-	40 (MIN)	-
TOILET ROOMS,								
SHOWERS,	AIR	-	70	-	AIR	_	70	-
UNOCCUPIED	TRANSFER			·	TRANSFER	·		
STORAGE								
APPARATUS BAY,	AMBIENT	~	65		AMBIENT	-	60	-
LOCKER ROOMS	7 (1914-956-1913				7 (1016)36.381	•		-

VRF H	IEAT REC	OVERY (BR	ANCH	SELE	ECTO	R) BOX SCH	IEDULE
	LOCATION	NUMBER OF	EL	ECTRICA	L	BASIS OF D	DESIGN
	LOCATION	CONNECTED UNITS	VOLTS/PH	MCA	MOCP	MANUFACTURER	MODEL
	• • • • • • • • • • • • • • • • • •		•••••		•••••	·····	
HR-1	101 - LOBBY	4	208/1	0.2	15	JCI	COB
HR-2	101 - LOBBY	3	208/1	0.2	15	JCI	COB
HR-3	131 - CORRIDOR	8	208/1	0.4	15	JCI	COB
HR-4	130 - CORRIDOR	5	208/1	0.4	15	JCI	COB
HR-5	130 - CORRIDOR	4	208/1	0.2	15	JCI	COB

SY LOW PRESSU OR SL

LOW PRESSI LOW PRESS NOTES:

											DI	EDICA	ED	OUT	DOO	R AIR	SYS	ΓEM S	CHEDUL												
ON FAN DA	TA			EX	HAUST F	AN			COOI	ING DATA			HE	ATING D	ΑΤΆ					ENE	RGY RECOVERY WI	HEEL				ELECTE	NCAL			DESIGN	
SP (IN) HP	P FAN	RPM	CFM E	SP (IN)	TSP (IN)	HP	FAN RPM TY	E TOTA MBH		EAT DB/WB (DEG F)	LAT DB/WB (DEG F)	TYPE	EAT	LAT	INPUT MBH	OUTPUT MBH	AIRF OA CFM	EXHAUST		UMMER CONDIT RETURN AIR DB/ %RH		OUTSIDE AIR (DEG F)	WINTER CONDITION DB RETURN AIR D (DEG F)	DNS B WHEEL LEAVING DB (DEG F)	VOLTS	PHASE	MCA	МОСР	OPER WT (LBS)	MANUFACTUREF	NOTES
5.00 5	31	75	2130	1.10	2.65	2	2396 D.	(194.4	121.5	85.1 / 69.8	49.9 / 49.6	NATURAL GAS	0	83.3	350.0	384.0	3015	2130	95 / 78	75 / 50%	85.1 / 69.8	0.0	70.0	34.6	460	3	49.6	60.0	5600	INNOVENT	1,2,3,4,5,6

R PRESSURE DROP AS INDICATED. CONTROL

NENERGY RECOVERY WHEEL LEAVING AIR CONDITION.

RERGY RECOVERY WHEEL IS NONOPERATIONAL. E 0.25 IN WG DIRTY FILTER ALLOWANCE.

IDE 0.25 IN WG DIRTY FILTER ALLOWANCE.

HAUST FANS.

DUCT CO	ONSTRUC	TION S	CHED	ULE	
YSTEM	DUCT PRESSURE CLASS (IN WC)	DUCT SEAL CLASS	TEST PRESSURE (IN WC)	MAX ALLOWABLE LEAKAGE	NOTES
URE OUTDOOR AIR	2"	A	2"	1%	1, 2 & 3
SURE RETURN AIR	2"	A	2"	1%	1,2&3
SSURE EXHAUST	2"	A	2"	1%	1,2&3

1. SEE SPECIFICATIONS FOR ADDITIONAL DUCTWORK REQUIREMENTS AS WELL AS DETAILED PRODUCT AND INSTALLATION REQUIREMENTS. WHERE DRAWINGS AND SPECIFICATIONS CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

2. SUCCESSFUL COMPLETION OF DUCT PRESSURE TESTING SHALL OCCUR PRIOR TO THE INSTALLATION OF INSULATION. VERIFICATION OF SUCCESSFUL PRESSURE TEST RESULTS SHALL BE SUBMITTED TO THE A/E AND INCLUDED IN THE PROJECT O & M MANUALS. 3. TEST PRESSURE SHALL BE 125% OF SYSTEM OPERATING PRESSURE, BUT NOT LESS THAN THE PRESSURE INDICATED.

	UNITID				NAMEPLATE			COOLING	COIL DATA	\	HEATIN	VG COIL		
NDOOR UNIT	ASSOCIATED OUTDOOR UNIT(S)	HEAT RECOVERY UNIT	AREA SERVED	TYPE	SUPPLY AIR CFM	VOLTS/PH	TOTAL MBH	SENS MBH	EAT DB (DEG F)	EAT WB (DEG F)	MBH	EAT (DEG F)	NOTES	BASIS OF DES
101104			100 ME 070111 F		1	0004	4.0							
ACU-01	VRF-1	HR-2	100 - VESTIBULE	CASSETTE	424	208/1	4.0	3.5	75.1	61.0	4.0	70.0	1	JCI YICM
ACU-02	VRF-1	HR-1	101 - LOBBY	CASSETTE	424	208/1	4.3	4.3	75.1	57.0	3.9	70.0		JCI YICM
ACU-03	VRF-1	HR-1	104.2 - EOC OFFICE	CASSETTE	424	208/1	7.2	6.2	75.1	61.3	3.9	70.0		JCI YICM
ACU-04	VRF-1	HR-1	104 - MEETING	DUCTED	1059	208/1	28.5	21.8	75.1	62.6	16.3	70.0		JCI YIDM
ACU-05	VRF-1	HR-1	104 - MEETING	DUCTED	424	208/1	28.5	21.8	75.1	62.6	16.3	70.0	1	JCI YICM
ACU-06	VRF-1	HR-2	110 - CHIEFS OFFICE	CASSETTE	424	208/1	2.7	2.5	75.1	60.5	1.3	70.0		JCI YICM
ACU-07	VRF-1	HR-3	109.1 OFFICE	CASSETTE	424	208/1	2.1	1.9	75.1	61.0	0.7	70.0		JCI YICM
ACU-08	VRF-1	HR-3	114 - OFFICE	CASSETTE	424	208/1	2.1	1.9	75.1	61.0	0.7	70.0		JCI YICM
ACU-09	VRF-1	HR-2	105 - OFFICE	CASSETTE	424	208/1	7.3	6.3	75.1	61.3	3.9	70.0		JCI YICM
ACU-10	VRF-1	HR-3	106 - OFFICE	CASSETTE	424	208/1	7.3	6.3	75.1	61.3	3.9	70.0		JCI YICM
ACU-11	VRF-1	HR-3	107 - OFFICE	CASSETTE	424	208/1	7.3	6.3	75.1	61.3	3.9	70.0		JCI YICM
ACU-12	VRF-1	HR-3	108 - OFFICE	CASSETTE	953	208/1	17.9	16.3	75.1	60.5	7.7	70.0		JCI YIC4
ACU-13	VRF-1	HR-3	109 - WATCH OFFICE	CASSETTE	953	208/1	19.0	16.5	75.1	61.2	9.5	70.0		JCI YIC4
ACU-14	VRF-1	HR-3	131 - CORRIDOR	DUCTED	1183	208/1	29.2	26.8	75.1	60.0	21.7	70.0		JCI YIDM
ACU-15	VRF-1	HR-5	130 - CORRIDOR	CASSETTE	424	208/1	5.8	5.4	75.1	60.2	5.8	70.0		JCI YICM
ACU-16	VRF-1	HR-6	133 - KITCHEN	DUCTED	1271	208/1	36.2	33.7	75.1	60.2	12.2	70.0		JCI YIDM
ACU-17	VRF-1	HR-6	134 - DAY ROOM	DUCTED	1059	208/1	27.7	22.3	75.1	61.2	16.0	70.0		JCI YIDM
ACU-18	VRF-1	HR-6	123-128 - DORM	DUCTED	1271	208/1	42.4	36.5	75.1	61.4	21.7	70.0		JCI YIDM
ACU-19	VRF-1	HR-6	133 - KITCHEN	DUCTED	1271	208/1	36.2	33.7	75.1	60.2	12.2	70.0	1	JCI YIDM
ACU-20	VRF-1	HR-5	119 - FITNESS	CASSETTE	424	208/1	6.8	7.6	75.1	65.9	1.5	70.0		JCI YICM
ACU-21	VRF-1	HR-5	119 - FITNESS	CASSETTE	424	208/1	6.8	5.6	75.1	65.9	1.5	70.0		JCI YICM
ACU-22	VRF-1	HR-5	139 - DECON	WALL MOUNTED	494	208/1	8.5	5.8	75.1	60.2	10.1	70.0	 	JCI TIWM
ACU-23	VRF-1	HR-3	111 - CONFERENCE	CASSETTE	424	208/1	5.3	4.1	75.1	62.6	1.1	70.0		JCI YICM
ACU-24	VRF-1	HR-5	138 - TURNOUT GEAR	DUCTED	318	208/1	5.1	4.8	75.1	60.2	3.8	70.0		JCI YIDS

GENERAL NOTES (NOTES APPLY TO ALL ACUs): A. PROVIDE REFRIGERANT PIPING (INCLUDING DOUBLE SUCTION RISERS WITH TRAPS IF REQUIRED) AS RECOMMENDED BY MANUFACTURER. PIPE LENGTHS AND SIZING SHALL BE AS RECOMMENDED BY MANUFACTURER.

B. FULLY COORDINATED REFRIGERANT PIPING DRAWINGS SHALL BE INCLUDED WITH THE EQUIPMENT SUBMITTAL. C. SHOULD A MANUFACTURER OTHER THAN THE BASIS OF DESIGN BE PROVIDED, CONTRACTOR SHALL COORDINATE ELECTRICAL REVISIONS REQUIRED AT NO COST TO THE OWNER. D. COOLING CAPACITIES INDICATED SHALL BE AT 75 DEG. F / 50% RH RETURN AIR.

E. PROVIDE WALL MOUNTED THERMOSTATS CAPABLE OF LOCAL TEMPERATURE SETPOINT ADJUSTMENT OR THROUGH SIGNAL FROM EMCS.

F. PROVIDE CONDENSATE LEAK DETECTION IN ACCORDANCE WITH UL 508 AN ALL APPLICABLE CODES FOR ALL VRF TERMINAL UNITS. LEAK DETECTION SHALL ALARM AT THE BUILDING EMCS AND SHALL DE-ENERGIZE THE G. PROVIDE REFRIGERANT LEAK DETECTION AND ALARM AT VRF CONTROL PANEL AND EMCS. H. CAPACITIES INDICATED ARE NET CAPACITIES AFTER PIPE LENGTHE DE-RATINGS HAVE BEEN ACCOUNTED FOR.

L. PROVIDE UNITS WITH CONDENSATE PUMP.

NOTES (APPLY TO SPECIFIC ACUs):

								FAN	SCH	EDUL	E							
DESIG	LOCATION	AREA SERVED	CFM	ESP (IN)			MOTOR			RPM		WHEEL	CLASS	DRIVE	METHOD OF	MANUFACTURER	MODEL	NOTES
					HP	MAX BHP	VOLTS	PHASE	VFD		DIA	TYPE		TYPE	CONTROL			
EF-1	139 - DECON	139 - DECON	675	0.5	1/4	0.2	115	1	N	1542	15	BI	1	DIRECT	ATC	GREENHECK	SQ	1
EF-2	141.1 - STORAGE	140 - APPARATUS BAY	430	0.6	1/4	0.16	115	1	N	1578	15	BI	1	DIRECT	ATC	GREENHECK	SQ	1
EF-3	202 - MEZZANINE	140 - APPARATUS BAY	5985	1.0	3	2.5	460	3	N	1091	40	BI	1	BELT	ATC	GREENHECK	USF	1
EF-4	146 - UTILITY	146 - UTILITY	990	0.5	1/4	0.18	115	1	N	1349	26	AF	1	DIRECT	ATC	GREENHECK	AER	1
VF-1	143 - WORKSHOP	143 - WORKSHOP/ 142 ENGINEER	70	0.5	1/4	0.05	115	1	N	1212	15	BI		DIRECT	ATC	GREENHECK	SQ	1

NOTES: 1. PROVIDE WITH FACTORY WIRED DISCONNECT SWITCH.

	DESIG	SNATION	
AREA SERVED	INDOOR UNIT	OUTDOOR UNIT	
			*
118 - ELEC	DSS-1	ACCU-1	
143 -ENGINEER	DSS-2	ACCU-2	
142 - WORK SHOP	DSS-3	ACCU-2	
141 - ELEC	DSS-4	ACCU-4	
145 - SCBA	DSS-5	ACCU-2	
141.1 - STORAGE	DSS-6	ACCU-2	
129 - IT	DSS-7	ACCU-3	

NOTES: 1. PROVIDE DOUBLE SUCTION REFRIGERANT PIPING RISERS AND TRAPS AS RECOMMENDED BY MANUFACTURER.

2. COOLING CAPACITIES INDICATED SHALL BE AT 75°F / 50% RH RETURN AIR AND 95°F OUTSIDE AIR. 3. REFRIGERANT SYSTEM ACCESSORIES AND PIPE SIZES SHALL BE AS RECOMMEND BY MANUFACTURER.

4. PROVIDE UNITS WITH CONDENSATE PUMP. 5. UNIT MUST BE CAPABLE OF LOW AMBIENT COOLING DOWN TO 0 DEGREES F. 6. CONTRACTOR SHALL VERIFY LINE LENGTHS AND INCLUDE ANY ASSOCIATED DE-RATING.

'RF	AIR	CONDIT	IONING	UNIT S	SCHEDLUE	

I. PROVIDE CONDENSATE DRAINS FROM HEAT RECOVERY UNITS AS REQUIRED BY MANUFACTURER. EXTEND CONDENSATE PIPING AND CONNECT NEAREST STORM WATER PIPING OR DRAIN. J. ALL DUCTED UNITS SHALL HAVE AN EXTERNAL STATIC PRESSURE OF 0.6" WG.

K. PROVIDE SELECTIONS FOR VRF SYSTEM BASED ON PROJECT SPECIFIC PIPING LENGTHS AND CONFIGURATION.

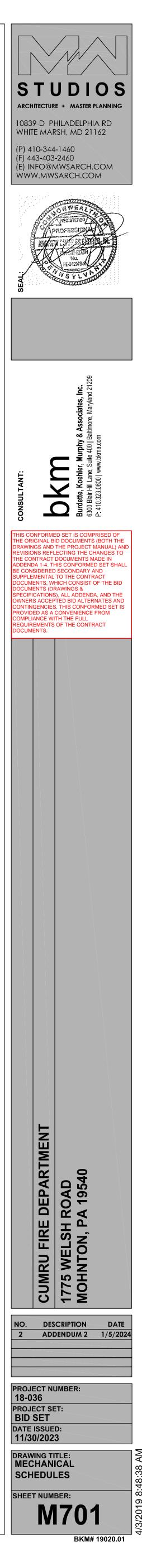
1. PROVIDE UNIT WITH REMOTE TEMPERATURE SENSOR.

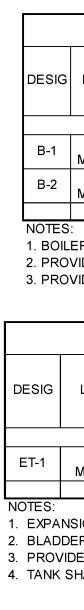
		DUCT	LESS	SPLIT S	YSTE	M SCI	HEDUL	E						
		C00	LING	HEATING			ELECTRICA	L CHARAC	TERISTICS			BASIS OF DE	SIGN	
CFM	UNIT TYPE		SENS MBH	TOTAL MBH	١١	DOOR UN	IT		OUTDO	OR UNIT			MODEL	REMARKS
			SENS MOR		FAN FLA	VOLTS	PHASE	MCA	VOLTS	PHASE	MOCP	MANOFACIONEN	NODEL	
400	WALL MOUNT	6.1	5.2	-	0.1	208	1	15.0	208	1	25	YORK	DHX/DHX	1,2,3,4,5,6
350	WALL MOUNT	4.9	3.2	1.5	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
350	WALL MOUNT	4.0	2.4	1.4	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
580	WALL MOUNT	20.2	16.8	-	0.1	208	1	18.1	208	1	30	YORK	DHX/DHX	1,2,3,4,5,6
350	WALL MOUNT	3.0	1.8	1.1	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
350	WALL MOUNT	4.1	2.7	2.0	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
430	WALL MOUNT	17.0	14.4	-	0.1	208	1	12.7	208	1	20	YORK	DHX/DHX	1,2,3,4,5,6

				AIR		CONDEN	ISING UN	IT SCH	EDULE				
	DESIG		REFRIGERANT	COO	LING	HEA	TING		ELECTRICAL	*	NOTES	BASIS OF D	DESIGN
	DESIG	LOCATION	KEFKIGEKANI	OA TEMP	TOTAL MBH	OA TEMP	TOTAL MBH	VOLTS/PH	MCA	MOCP	NUIES	MANUFACTURER	MODE
			-h			•••••••••••••••••••••••••••••••••••••••	a.			•		••••••••••••••••••••••••••••••••••••••	
\bigwedge	VRF-1	GRADE	R-410A	95	4320		486.0	208/3	<u>58x3</u>	70×3	12		
- (ACCU-5	GRADE	R-410A	95	194.4	-	-	460/3	4.6	6		INNOVENT	RÁC
											\sim		
	NOTES:												

1. CAPACITIES FOR REFERENCE ONLY. UNIT SHALL BE ABLE TO SERVE INDOOR UNITS WITH ALL DE-RATES ACCOUNTED FOR. 2. PROVIDE SELECTIONS FOR VRF SYSTEM BASED ON PROJECT SPECIFIC PIPING LENGTHS.







							BOIL	ER SCH	IEDUL	E				
DESIG	LOCATION	SYSTEM	TYPE	INPUT	OUTPUT	DESIGN PRESS	OPER PRESS	FUEL TYPE	NET MIN OUTPUT	GAS PRESSURE	ELECI	RICAL	BASIS OF	DESIGN
				MBH	MBH	(PSI)	(PSI)		(MBH)	(IN WG)	VOLTS	PHASE	MANUFACTURER	MODEL
								•		-				
B-1	EAST MEZZANINE	HEATING WATER	CONDENSING	400	392	75	22	NATURAL GAS	390	14	120	1	LOCHINVAR	FTXL
B-2	EAST MEZZANINE	HEATING	CONDENSING	400	392	75	22	NATURAL GAS	390	14	120	1	LOCHINVAR	FTXL

1. BOILER SHALL BE CONDENSING TYPE.

2. PROVIDE BOILER WITH CONDENSATE NEUTRLIZATION KIT. 3. PROVIDE BOILER WITH CONCENTRIC VENT KIT.

					EXPA	NSION /	TANK S	SCHE	DULE					
					MIN ACCEP	AIR CH	ANGE		DIMEN	ISIONS		BASIS OF DES	SIGN	
ESIG	LOCATION	SYSTEM	TYPE	TANK VOL (GAL)		PRECHARGE PSIG	OPER PSIG	DIA (IN)	H/L (IN)	SYSTEM CONN (IN)	FIELD WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
ET-1	EAST MEZZANINE	RADIANT FLOOR	DIAPHRAGM	10	2.3	12.0	22	10	37.0	1.0	144	BELL & GOSSETT	B-35	1,2,3,4

1. EXPANSION TANK SHALL BE FACTORY PRECHARGED TO CAPACITIES SHOWN.

BLADDER SHALL BE REMOVABLE THRU ACCESS HANDHOLE.
 PROVIDE ALL PIPING SPECIALTIES AS SHOWN IN TYPICAL PIPING DIAGRAM.

4. TANK SHALL BE A.S.M.E. STAMPED.

				I	PUN	IP SC	HED	ULE							
DESIG	SERVICE	LOCATION	GPM	HEAD (FT)		1	NOTOR			RPM	CONTROL	BASIS OF DE	ESIGN	NOTES	Γ
DEGIG	OLIVIOL	LOOAHON			HP	MAX BHP	VOLTS	PHASE	VFD			MANUFACTURER	MODEL		
			_			_				-	_		-	-	_
PHWP-1	RADIANT FLOOR	EAST MEZZANINE	40	13.0	0.5	0.2	208	1	-	2637	ATC	BELL & GOSSETT	ECORCIRC	2	
PHWP-2	RADIANT FLOOR	EAST MEZZANINE	40	13.0	0.5	0.2	208	1	-	2637	ATC	BELL & GOSSETT	ECORCIRC XL	2	
SHWP-1	RADIANT FLOOR	EAST MEZZANINE	40	45.0	1.5	1.1	480	3	Y	3228	ATC	BELL & GOSSETT	E-90	1	
SHWP-2	RADIANT FLOOR	EAST MEZZANINE	40	45.0	1.5	1.1	480	3	Y	3228	ATC	BELL & GOSSETT	E-90	1	

1. VARIABLE SPEED PUMPS. PROVIDE PUMPS WITH GROUNDING RINGS AND INVERTER DUTY MOTORS. COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR VARIABLE FREQUENCY DRIVE REQUIREMENTS. SELECT MOTORS SO THAT DRIVES OPERATE AT 60 HZ OR LESS AT THE CONDITIONS INDICATED. 2. PROVIDE PUMP WITH ECM MOTOR OR INTEGRAL VFD.

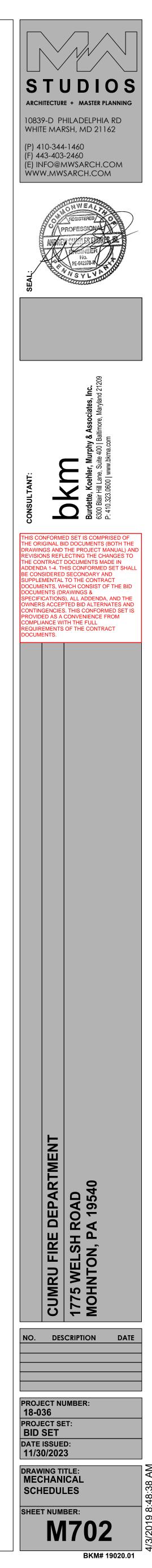
			AIR S	SEPA	RATOF	R SCHEDL	JLE	
DESIG	LOCATION	SYSTEM	SIZE (IN)	GPM	STRAINER	BASIS OF	DESIGN	REMAR
				_		MANUFACTURER	MODEL	
AS-1	MEZZANINE	RADIANT FLOOR HEATING	3.0	40	Y	BELL & GOSSETT	RL-3F	1,2,3
NOTES	:							

MAXIMUM PRESSURE DROP THRU AIR SEPARATORS SHALL BE ONE FOOT OF HEAD.
 PROVIDE HIGH CAPACITY AUTOMATIC AIR VENT ON AIR VENT PORT OF SEPARATOR.

3. CONSTRUCTION SHALL BE A.S.M.E. STAMPED FOR 125 PSI WORKING PRESSURE.

	ELECTRIC HEATER SCHEDULE										
DESIG	MOUNTING	CFM	BTU / HR	кw		FAN MOTOR		EAT (°F)	LAT (°F)	BASIS OF I	DESIGN
DESIG	MOONTING	CEIN			VOLTS	PHASE	CYCLE			MANUFACTURER	MODEL
CH-1	RECESSED	100	3,413	1.0	120	1	60 HZ	68	99.6	QMARK	CWH
CH-2	RECESSED	100	1,706	0.5	120	1	60 HZ	68	83.8	QMARK	CWH
UH-1	SUSPENDED	350	10,200	3.0	208	1	60 HZ	65	92.1	QMARK	MUH
UH-2	SUSPENDED	350	7,500	2.2	208	1	60 HZ	65	84.9	QMARK	MUH
UH-3	SUSPENDED	350	7,500	2.2	208	1	60 HZ	65	84.9	QMARK	MUH
UH-4	SUSPENDED	350	7,500	2.2	208	1	60 HZ	65	84.9	QMARK	MUH
EDH-1	DUCT	70	5,460	1.6	120	1	60 HZ	0	70.0	INDEECO	QUA

PROVIDE FACTORY WIRED DISCONNECT SWITCH.
 PROVIDE WITH SCR CONTROLLER AND THERMOSTAT.

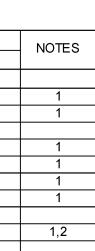


	REMARKS
EL	
-	1,2,3
-	1,2,3

TYPE	
IN-LINE	
IN-LINE	
IN-LINE	
IN-LINE	

RKS		

,2,3			



	PLUMBING	G LEGEND
COLD WATER (CW)		FLOW SWITCH
HOT WATER (HW)		FLOOR CLEANOUT
HOT WATER RECIRCULATION (HWR)		WALL CLEANOUT
NONPOTABLE COLD WATER	NPCW	
CONDENSATE DRAIN LINE	CD	GAUGE AND VALVE
FOUNDATION DRAINAGE	FD	INLINE CIRCULATING PUMP
INDIRECT WASTE PIPING	IW	
PUMPED DISCHARGE	PD	PIPE ANCHOR
SANITARY PIPING		PIPE GUIDE OR SLEEVE
STORM WATER PIPING	SW	PIPING CAP
OVERFLOR STORM WATER		PIPE CONNECTION BOTTOM
VENT PIPING		PIPE CONNECTION TOP
FIRE LINE	F	
SPRINKLER PIPING		
COMPRESSED AIR	———— A ————	
PROPANE GAS	P	TEE
BACKWATER VALVE	BWV	TEMPERATURE/PRESSURE TEST PORT
BALL VALVE	à	THERMOMETER
BALANCING VALVE W/ FLOW METER FITTING (VENTURI TYPE)	è	UNION
BUTTERFLY VALVE]	WATER HAMMER ARRESTOR
CHECK VALVE	Ŕ	Y-STRAINER W/HOSE-END VALVE
FIRE DEPARTMENT SIAMESE CONNECTION	———-K	
FIRE DEPARTMENT VALVE		AREAWAY DRAIN
GATE VALVE		FLOOR DRAIN
GLOBE VALVE	b	FLOOR SINK
GAS COCK		FUNNEL FLOOR DRAIN
OS & Y VALVE	¢	ROOF DRAIN
PRESSURE REGULATOR	¢	DOUBLE CHECK VALVE BACKFLOW PREVENTE
	Å	REDUCED PRESSURE ZONE BACKFLOW PREVE
RELIEF VALVE	т	HEAT TRACED AND INSULATED PIPE
BUCKET STRAINER	Ţ _	HOSE BIBB
		HOSE-END VALVE
CONCENTRIC REDUCER		VALVE IN VERTICAL POSITION
ECCENTRIC REDUCER	<u>D</u>	
FLANGED CONNECTION	I	VENT THRU ROOF
FLOW SWITCH	Ч	WALL HYDRANT

SEISMIC DESIGN REQUIREMENTS

- 1. THIS FIRE STATION IS ASSIGNED TO SEISMIC DESIGN CATEGORY D AND IS OCCUPANCY CATEGORY IV AS DEFINED BY CHAPTER 1 OF ASCE 7. SEE STRUCTURAL DRAWINGS FOR SEISMIC DESIGN DATA.
- 2. ALL HVAC, PLUMBING & FIRE PROTECTION SYSTEMS AND EQUIPMENT ARE REQUIRED FOR THE CONTINUED OPERATION OF THE FIRE STATION AFTER AN EARTHQUAKE AND SHALL BE ASSIGNED A COMPONENT SEISMIC IMPORTANCE FACTOR OF 1.5 IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7.
- 3. THE MECHANICAL/PLUMBING/FIRE PROTECTION CONTRACTORS SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS PREPARED IN ACCORDANCE WITH THE IBC AND ASCE 7 BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PENNSYLVANIA WHO IS QUALIFIED TO DESIGN SEISMIC RESTRAINT SYSTEMS. AS AN ALTERNATIVE TO EQUIPMENT SEISMIC CALCULATIONS, CONTRACTORS MAY SUBMIT EQUIPMENT SEISMIC CERTIFICATES BY A NATIONALLY RECOGNIZED TESTING STANDARD PROCEDURE. SHOP DRAWINGS SHALL INCLUDE SEPARATE DETAILS AND CALCULATIONS FOR EACH SEPARATE SYSTEM, DEVICE OR ELEMENT. THE APPROVAL OF SEISMIC BRACING SHOP DRAWINGS SHALL BE REQUIRED PRIOR TO THE INSTALLATION OF ANY BUILDING SYSTEMS OR COMPONENTS.

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PLUMBING ABBREVIATIO	PLUMBING ABBREVIATIONS					
ABOVE FINISHED FLOOR	AFF					
AIR HANDLING UNIT	AHU					
BRAKE HORSEPOWER	BHP					
BACKWATER VALVE	BWV					
CONNECTION	CONN					
COLD WATER (DOMESTIC)	CW					
DESIGNATION	DESIG					
DOUBLE CHECK VALVE BACKFLOW PREVENTER	DCVBP					
FEET	FT					
FIRE DEPARTMENT VALVE	FDV					
HORSEPOWER	HP					
HOT WATER (DOMESTIC)	HW					
HOT WATER RECIRCULATE (DOMESTIC)	HWR					
INDIRECT WASTE	IW					
KILOWATT(S)	KW					
POUNDS	LBS					
MAXIMUM	MAX					
THOUSAND BRITISH THERMAL UNITS PER HOUR	MBH					
NORMALLY CLOSED	NC					
NOT IN CONTRACT	NIC					
NORMALLY OPEN	NO					
REDUCED PRESSURE ZONE BACKFLOW PREVENTER	RPZBP					
REVOLUTIONS PER MINUTE	RPM					
SANITARY	SAN					
SHOWER DRAIN	SD					
STANDPIPE	STP					
TRAP PRIMING LINE	TPL					
UNLESS OTHERWISE NOTED	UON					
WASTE	W					

PLUMBING GENERAL NOTES

- MAKE ALL WATER CONNECTIONS TO FIXTURES ABOVE FLOOR.
- PROVIDE PIPE SLEEVE EXTENDING FULL WIDTH OF FOOTINGS FOR PIPING THROUGH FOOTINGS, FOUNDATION
- WALLS, ETC.
- 4. LIMIT SANITARY AND WASTE PIPING DEAD END TO 12 INCHES FROM MAIN OR MAIN BRANCH. 5. PROVIDE A MINIMUM OF 24 INCHES CLEARANCE FOR RODDING OF CLEANOUTS.
- 6. CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL OTHER DISCIPLINES PRIOR TO CONSTRUCTION.
- ACCESS SHALL BE PROVIDED FOR ALL CONCEALED VALVES, CLEANOUTS ETC. LOCATED AT/IN CEILINGS, WALLS OR FLOORS.
- 8. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING FIXTURES, FLOOR DRAINS AND OTHER EQUIPMENT.
- 9. ALL FLOOR DRAINS AND SHOWER DRAINS CONNECTED TO THE SANITARY SHALL BE PROVIDED WITH A PRIMED TRAP UNLESS OTHERWISE NOTED.
- 10. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL FLUSH TYPE CLEANOUTS WITH WALLS, EQUIPMENT,
- DUCTWORK, PIPE, STRUCTURAL MEMBERS, ETC. 11. ALL SPECIFICATIONS AND DRAWINGS (I.E., ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL) ARE COMPLEMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN
- COMPLETE CONSTRUCTION INFORMATION. 12. ALL CUTTING, DRILLING AND PATCHING OF WALLS, FLOORS OR STRUCTURAL MEMBERS FOR THE INSTALLATION OF THE PLUMBING SYSTEMS SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR. STRUCTURAL COMPONENTS SHALL NOT BE CUT, DRILLED OR MODIFIED IN ANY WAY WITHOUT THE
- STRUCTURAL ENGINEER'S REVIEW AND APPROVAL. 13. PROVIDE ONE (1) TRAP PRIMER VALVE FOR EACH FLOOR DRAIN WITHOUT A CONSTANT SOURCE OF WATER SUPPLY TO MAINTAIN TRAP SEAL. PRIMER VALVE SHALL BE LOCATED IN AN ACCESSIBLE AREA AND CONNECTED TO THE NEAREST 3/4" COLD WATER LINE SERVING A FIXTURE.
- 14. BACKFLOW PREVENTER ASSEMBLY SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION (NOT TO EXCEED 48"
- 15. ALL PIPING, SYSTEMS, VALVES AND EQUIPMENT SHALL BE PROPERLY IDENTIFIED.
- 16. ALL PIPING VALVES, AND ACCESSORIES SERVING EQUIPMENT SHALL BE INSTALLED TO ALLOW SERVICING OR REMOVAL WITHOUT DISCONNECTING ALL PIPING ACCESSORIES.
- 17. ALL VALVES SHALL HAVE THEIR NORMAL (IN OPERATION) POSITION IDENTIFIED, SUCH AS "NORMALLY OPEN"
- 18. EXPANSION LOOPS AND ANCHORS SHALL BE PROVIDED ON ALL PIPING SYSTEMS WHICH CROSS BUILDING EXPANSION JOINTS AND ALL HORIZONTAL AND VERTICAL PIPING LENGTHS EXCEEDING 100 FEET OR EACH PORTION THEREOF.
- 19. ALL ROUGH-IN AND FINAL CONNECTION FOR EQUIPMENT SPECIFIED BY OTHERS SHALL BE PROVIDED.
- 20. VERIFY EQUIPMENT LOCATIONS WITH OTHER CONSULTANTS OR SUPPLIERS BEFORE PROCEEDING WITH ANY ROUGH-IN.
- 21. ALL PIPING SHALL BE INSTALLED ABOVE CEILING OR IN A CONCEALED SPACE UNLESS NOTED OR INDICATED OTHERWISE.
- 22. THOUGH SOME PIPING OFFSETS ARE INDICATED, IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW ALL OFFSETS THAT ARE REQUIRED. THE CONTRACTOR SHALL FULLY COORDINATE THE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES TO PROVIDE COMPLETE SYSTEM WITHOUT INTERFERENCES.
- 23. ALL PLUMBING VENTS SHALL BE A MINIMUM OF FIFTEEN FEET (15') FROM OUTSIDE AIR INTAKES. 24. AIR CONDITIONING (A/C) CONDENSATE PIPING SHALL BE EXTENDED FROM ALL A/C CONDENSATE SOURCE EQUIPMENT (AHU'S, FAN COIL UNITS, UNIT VENTILATORS, SPLIT SYSTEM A/C UNITS, ETC.) AND CONNECTED TO
- THE NEAREST STORM WATER PIPE/DRAIN LOCATION. SIZE PER MANUFACTURER. 25. SEE SPECIFICATIONS FOR SEISMIC REQUIREMENTS, WHERE APPLICABLE.
- 26. CONTRACTOR SHALL NOT LOCATE ANY PLUMBING OR FIRE PROTECTION PIPING OVER ELECTRICAL

OR "NORMALLY CLOSED".

	PLUMBING PIPE AND EQUIPMENT INSULATION SCHEDULE								
SYSTEM	PIPE SIZE	TYPE	THICKNESS	MAX K-VALUE @ 75°F	JACKET	NOTES			
DOMESTIC COLD WATER	ALL SIZES	RIGID FIBERGLASS	1"	0.23	ASJ	1, 2, 3 & 4			
	1" AND SMALLER		1"						
DOMESTIC HOT WATER AND RECIRCULATING	1 1/4" AND 1 1/2"	RIGID FIBERGLASS	1 1/2"	0.23	ASJ	1, 2 & 3			
	2" AND LARGER		2"						
HORIZONTAL SANITARY AND VENTS WITHIN 6FT OF ROOF	ALL SIZES	RIGID FIBERGLASS	1"	0.23	ASJ	1, 2 & 3			
HORIZONTAL STORM WATER AND DRAIN BODIES	ALL SIZES	RIGID FIBERGLASS	1"	0.23	ASJ	1, 2 & 3			
DOMESTIC WATER HEATER EQUIPMENT (EXPANSION TANK, ETC)	UP TO 200°F FLUID TEMP	RIGID FIBERGLASS	2"	0.23	ASJ	1 & 2			

NOTES:

1. SEE SPECIFICATIONS FOR ADDITIONAL INSULATION REQUIREMENTS AS WELL AS DETAILED PRODUCT AND INSTALLATION REQUIREMENTS. WHERE DRAWINGS AND SPECIFICATIONS CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

2. ASJ (ALL SERVICE JACKET) SHALL INCLUDE VAPOR RETARDER. 3. FOR PIPING INSTALLED BELOW 8'-0" ABOVE FINISHED FLOOR, PROVIDE PVC JACKET.

4. ALL EXTERIOR FIBERGLASS INSULATION SHALL BE PROVIDED WITH A WEATHERPROOF ALUMINUM JACKET.

PLUMBING DRAIN SCHEDULE							
	BASIS OF I	NOTEO					
AREA	MANUFACTURER	MODEL	NOTES				
TOILET ROOMS MECH ROOMS AUNDRY ROOMS DN & TURNOUT GEAR ROOMS	WATTS WATTS WATTS WATTS	FD-100-A FD-320-Y FD-100-A FD-100-A	1 & 2 1 & 2 1 & 2 1 & 2 1 & 2				
MECH ROOMS CHEN (ICEMAKER)	WATTS WATTS	FD-340 FD-100-A	1, 2 & 4 1, 2 & 3				
APPARATUS BAY	DURATRENCH	DTPF SERIES	8				
DECON ROOM	JR SMITH	SQ-TD-850	10				
WER THRESHHOLD	INFINITY DRAIN	FXIG SERIES	1, 5 & 9				
	OWER THRESHHOLD	OWER THRESHHOLD INFINITY DRAIN	OWER THRESHHOLD INFINITY DRAIN FXIG SERIES				

PROVIDE ASSE 1072 FLOOR DRAIN TRAP SEAL DEVICE, MIFAB MI-GUARD OR EQUIVALENT. ADJUSTABLE NICKEL BRONZE STRAINER.

PROVIDE WITH 4" DIAMETER FUNNEL

PROVIDE WITH 6" DIAMETER FUNNEL. 5. VANDAL PROOF.

6. ADJUSTABLE EXTENSION FLANGE. UNDERDECK CLAMP.

8. PROVIDE FIBER REINFORCED POLYMER, HEAVY DUTY LOAD RATING, WITH 0.5% SLOPE. 9. ADA COMPLIANT.

10. 12" WIDE x 12-1/2" DEEP X 102" LONG LINT TYPE 304 STAINLESS STEEL TROUGH WITH

STAINLESS STEEL BAR GRATE AND SOLID COVER, DUAL REMOVABLE STAINLESS STEEL FILTER SCREENS AND A DOME BOTTOM STRAINER AND 4" DRAIN CONNECTION, JAY R SMITH

MODEL SQ-TD-850 OR EQUIVALENT.

- 2. PROVIDE VACUUM BREAKERS ON ALL HOSE CONNECTION TYPE FITTING HOSE BIBBS, WALL HYDRANTS, ETC.
- ABOVE THE FINISHED FLOOR). PIPE RELIEF OUTLET DISCHARGE TO NEAREST FLOOR DRAIN.

- EQUIPMENT, PANELS, ETC. AND THROUGH THEIR REQUIRED CLEARANCE AREAS.

SPRINKLER GENERAL NOTES

- 1. SPRINKLER CONTRACTOR SHALL PROVIDE COMPLETE SPRINKLER COVERAGE AND DETERMINE THE HAZARD CLASSIFICATION IN ALL AREAS UNDER THIS CONTRACT. CONTRACTOR SHALL LOCATE SPRINKLER HEADS AND SIZE PIPING IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13, AND AUTHORITY HAVING JURISDICTION.
- 2. CONTRACTOR SHALL HYDRAULICALLY DESIGN AND INSTALL THE SPRINKLER SYSTEM IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13. SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13, AND THE AUTHORITY HAVING JURISDICTION.
- 3. CONTRACTOR SHALL PROVIDE AN INDEPENDENT FLOW TEST AS REQUIRED TO CONFIRM FLOW AND PRESSURE AVAILABILITY.
- 4. CONTRACT DRAWINGS FOR SPRINKLER WORK ARE DIAGRAMMATIC, INTENDED TO CONVEY
- SCOPE AND GENERAL ARRANGEMENT. CONTRACTOR SHOULD VISIT SITE TO DETERMINE EXACT QUANTITIES AND SCOPE OF WORK. 5. PRIOR TO THE INSTALLATION OF THE SPRINKLER SYSTEM, THE SPRINKLER CONTRACTOR
- SHALL COORDINATE PIPING, VALVES, SPRINKLER HEADS, ETC. WITH ALL DUCTWORK, PIPING, CABLE TRAYS, STRUCTURAL MEMBERS AND OTHER DISCIPLINES. 6. ALL PENETRATIONS IN FIRE RATED WALLS, CEILINGS AND FLOORS SHALL BE SEALED TO THE
- FULL THICKNESS OF THE PENETRATION WITH A MATERIAL OF EQUAL FIRE RESISTANCE. 7. ALL CUTTING, DRILLING AND PATCHING OF WALLS, FLOORS OR STRUCTURAL MEMBERS FOR THE INSTALLATION OF THE SPRINKLER SYSTEMS SHALL BE PROVIDED BY THE SPRINKLER
- CONTRACTOR. STRUCTURAL COMPONENTS SHALL NOT BE CUT, DRILLED OR MODIFIED IN ANY WAY WITHOUT THE STRUCTURAL ENGINEER'S REVIEW AND APPROVAL. 8. ALL SPRINKLER PIPING INSTALLED IN FINISHED AREAS SHALL BE CONCEALED.
- 9. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES OR OMISSIONS ON THE DRAWINGS OR IN THE SPECIFICATIONS, HE SHALL NOTIFY THE ENGINEER OF SUCH CONDITIONS PRIOR TO THE BID DATE OTHERWISE. IT WILL BE UNDERSTOOD THAT THE DRAWINGS AND SPECIFICATIONS ARE CLEAR AS TO WHAT IS INTENDED AND SHALL BE AS INTERPRETED BY THE ENGINEER.
- 10. SPRINKLER CONTRACTOR SHALL CENTER SPRINKLER HEADS IN CEILING TILES. 11. THOUGH SOME PIPING OFFSETS ARE INDICATED, IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW ALL OFFSETS THAT ARE REQUIRED. THE CONTRACTOR SHALL FULLY COORDINATE THE FIRE PROTECTION AND SPRINKLER WORK WITH THE WORK OF ALL OTHER TRADES TO
- PROVIDE COMPLETE SYSTEM WITHOUT INTERFERENCES. 12. PROVIDE NFPA APPROVED SPRINKLER HEAD GUARDS IN ALL AREAS SUBJECT TO POTENTIAL DAMAGE. SPRINKLER HEAD GUARDS SHALL BE PROVIDED IN THE FOLLOWING AREAS AND OTHER SIMILAR TYPE SPACES SUBJECT TO POTENTIAL DAMAGE: GYMNASIUMS, MULTI-PURPOSE ROOMS, FITNESS AREAS, ACTIVITY ROOMS, MECHANICAL ROOMS,
- 13. SEE SPECIFICATIONS FOR SEISMIC REQUIREMENTS, WHERE APPLICABLE.

ELECTRICAL ROOMS, ETC.

14. CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATIONS TO DETERMINE FINAL SIZING OF SPRINKLER MAINS AND BRANCH LINES AND OVERSIZED MAINS AND BRANCH LINES WILL BE NECESSARY TO OVERCOME FRICTION PRESSURE LOSSES.

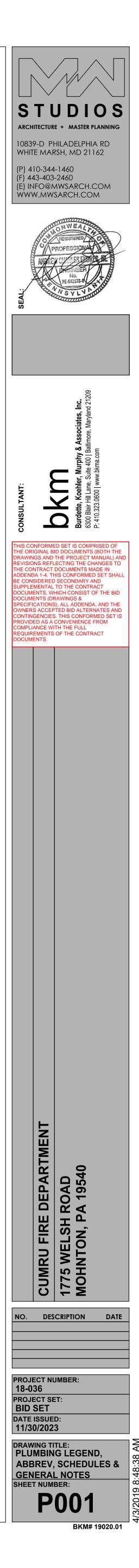
	PLUMBING FIXTURE SCHEDULE							
DESIG	DESCRIPTION	CW	HW	SAN	VENT	TRAP	FLOW	NOTES
I		•		I				
WC-1	WATER CLOSET	1 1/4"	-	4"	2"	'INT'	1.28 GPF	4
WC-2	WATER CLOSET	1 1/4"	-	4"	2"	'INT'	1.28 GPF	1 & 4
UR-1	URINAL	1"	-	2"	1 1/2"	'INT'	0.125 GPM	3
UR-2	URINAL	1"	-	2"	1 1/2"	'INT'	0.125 GPM	1 & 3
L-1	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	'P'	0.5 GPM	1 & 3
L-2	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	'P'	0.5 GPM	1 & 2
S-1	SINK	1/2"	1/2"	1 1/2"	1 1/2"	'P'	0.5 GPM	1 & 2
S-2	SINK	1/2"	1/2"	1 1/2"	1 1/2"	'P'	0.5 GPM	1 & 2
S-3	3 COMP SINK	(2) 1/2"	(2) 1/2"	-	(3) 1 1/2" IW	-	1.5 GPM	4
S-4	SINGLE COMPARTMENT SINK W/ DRAINBOARDS	1/2"	1/2"	-	1 1/2" IW	-	1.5 GPM	4
SH-1	SHOWER WITH FAUCET	1/2"	1/2"	2"	1 1/2"	'P'	1.5 GPM	1 & 3
SH-2	SHOWER	1/2"	1/2"	2"	1 1/2"	'P'	1.5 GPM	1 & 3
MB-1	MOP BASIN	3/4"	3/4'	3"	1 1/2"	'P'	1.5 GPM	4
IMC-1	ICE MAKER CONNECTION	1/2"	-	-	-	-	-	3
WMC-1	WASHING MACHINE CONNECTION	1/2"	1/2"	2"	1 1/2"	'P'	-	3

NOTES: 1. ADA COMPLIANT.

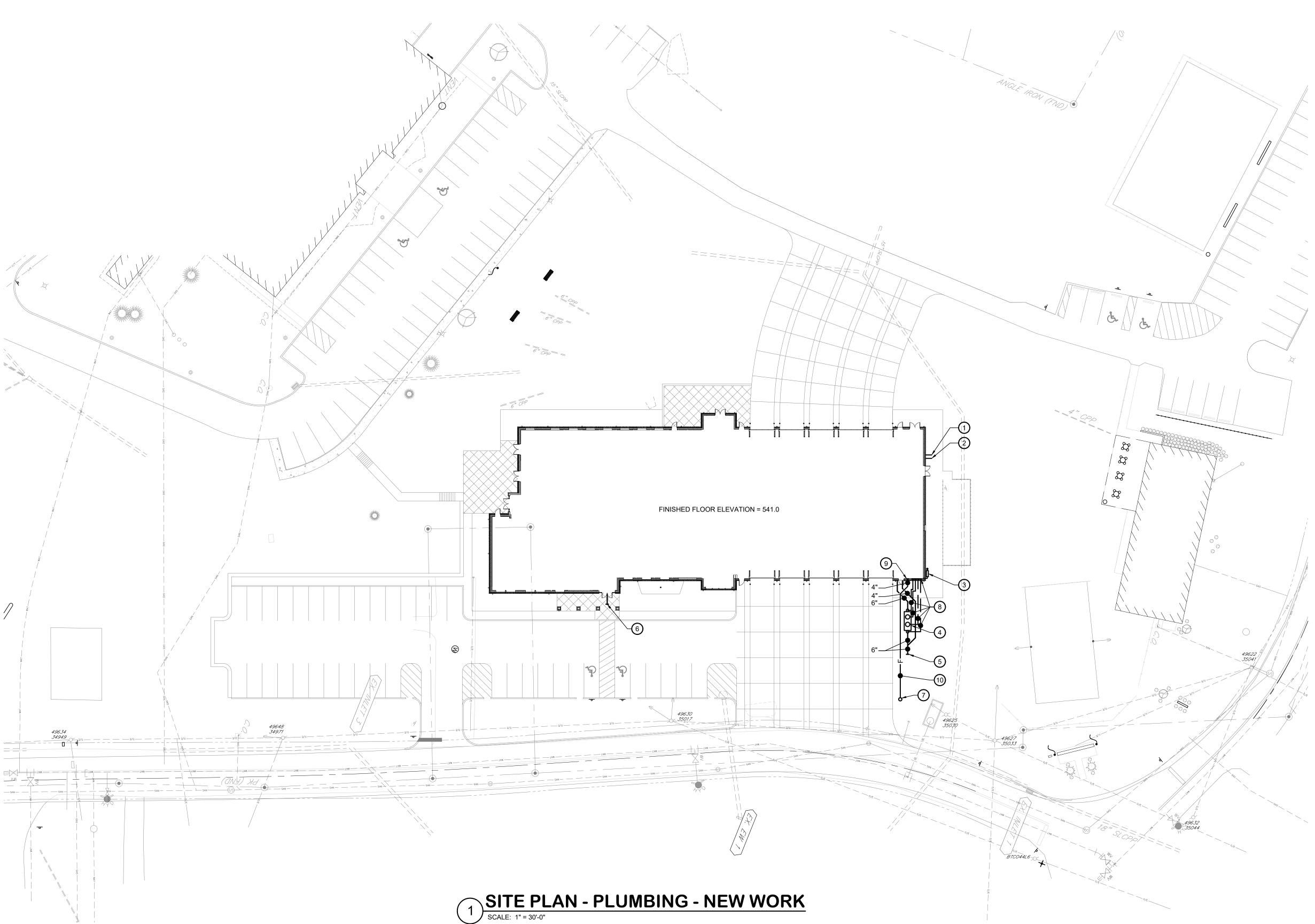
2. COUNTERTOP MOUNTED. 3. WALL MOUNTED.

4. FLOOR MOUNTED

PLUMBING EQUIPMENT SCHEDULE						
DESIG	SERVICE	DESCRIPTION	BASIS OF DESIGN			
<u>DWH-1</u>	DOMESTIC WATER HEATER	PACKAGED CONDENSING TYPE GAS FIRED WATER HEATER, 500 MBH INPUT, 97% THERMAL EFFICIENCY, TEMPERATURE LIMIT, TEMPERATURE CONTROL SYSTEM ACCURATE TO +/- 4 DEGREES F WATER CONTROL VALVE. UNIT SHALL HAVE THE CAPACITY OF 130 GALLON STORAGE, 588 GPH RECOVERY @ 100°F RISE (40°F - 140°F), 500 CFH GAS INPUT, 120 V / 1 PH / 60 HZ, PROVIDE CONDENSATE NEUTRALIZATION KIT.	PVI CONQUEST MODEL No. 50 L 130A-GCML			
<u>DWH-2</u>	DOMESTIC WATER HEATER (APPARATUS BAY TOILET RM)	ELECTRIC POINT-OF-USE TANKLESS WATER HEATER, UNIT SHALL HAVE THE CAPACITY OF 0.5 GPM, 65°F RISE (40°F - 105°F), 5.5 KW, 277 V / 1 PH / 60Hz.	CHRONOMITE MODEL No. SR-20L/277			
<u>DWH-3</u>	DOMESTIC WATER HEATER (APPARATUS BAY UTILITY SINK)	ELECTRIC POINT-OF-USE TANKLESS WATER HEATER, UNIT SHALL HAVE DIGITAL MICROPROCESSOR TEMP CONTROL AND THE CAPACITY OF 1.5 GPM, 65°F RISE (40°F - 103°F), 17.4 KW, 277 V / 1 PH / 60Hz.	CHRONOMITE MODEL No. R-63L/277			
<u>ET-1</u>	DOMESTIC HOT WATER EXPANSION TANK (DWH-1)	ASME RATED BLADDER TYPE THERMAL EXPANSION TANK WITH FACTORY PAINTED STEEL SHELL AND BUTYL DIAPHRAGM. 15 GALLON, 10 GALLON ACCEPTANCE VOLUME.	WESSEL MODEL No. TTA-30			
DWMV-1	DOMESTIC HOT WATER MIXING VALVE (DWH-1)	MASTER DOMESTIC HOT WATER THERMOSTATIC MIXING VALVE, ASSE 1017 APPROVED WITH NICKEL PLATED ELEMENTS, RATED FOR 25 GPM MAXIMUM AND 1 GPM MINIMUM WITH A MAXIMUM PRESSURE LOSS OF 10 PSI AT 25 GPM FLOW.	LAWLER MODEL No. 801			
DHWR-1	DOMESTIC HOT WATER RECIRCULATOR PUMP (DWH-1)	CLOSE COUPLED DIRECT DRIVE INLINE PUMP WITH SEALED BALL BEARING DESIGN MOTOR, RATED AT 12.5 GPM AT 15 FT. TDH. MOTOR SHALL BE 3450 RPM, 1/10 HP, 115 V / 1 PH/ 60 HZ. PUMP SHALL BE STAINLESS STEEL AND NSF 61 APPROVED. DOMESTIC HOT WATER RECIRCULATOR PUMP SHALL BE CONTROLLED BY A FLOW SWITCH INSTALLED IN THE DOMESTIC HOT WATER MAIN AT THE DOMESTIC WATER HEATER.	TACO MODEL No. 2410			
DWBP-1	DOMESTIC WATER BOOSTER PUMP	FACTORY ASSEMBLED AND TESTED DUPLEX PACKAGE DOMESTIC WATER BOOSTER PUMP, NSF 61 APPROVED, WITH CONTROL PANEL WITH TUNABLE VARIABLE FREQUENCY PRESSURE SEQUENCING. TOTAL CAPACITY SHALL BE 140 GPM AT 80 FT HD. EACH PUMP SHALL BE 140 GPM AT 80 FT TDH, 5 HP, 460 V /3 PH / 60 HZ.	AQUA-FLO PAK MODEL No. DAP-2-5-B-4			
<u>FP-1</u>	FIRE PUMP	HORIZONTAL SPLIT CASE TYPE PUMP. PUMP SHALL BE 300 GPM AT 40 PSI, 15 HP AT 460 V / 3 PH / 60 HZ, 3520 RPM. PUMP SHALL BE FM APPROVED & UL LISTED.	PEERLESS PUMP MODEL No. 4PVF8G-PACKED			
<u>JP-1</u>	JOCKEY PUMP	CLOSE COUPLED TURBINE PUMP TYPE. PUMP SHALL BE 7.8 GPM AT 118 FT. HD, 3/4 HP AT 480 V / 3 PH / 60 HZ, 3450 RPM. PUMP SHALL BE FM APPROVED & UL LISTED.	MTH PUMPS MODEL NO. E41E			







GENERAL NOTES:

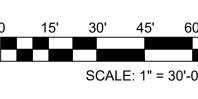
- 1. REFER TO P001 FOR PLUMBING LEGEND, ABBREVIATIONS, SCHEDULES AND GENERAL NOTES.
- 2. REFER TO P100 FOUNDATION PLUMBING PLAN FOR ADDITIONAL PIPING RELATED TO THE STORM WATER SYSTEM.
- 3. INVERT ELEVATIONS ARE BASED ON A FINISHED FLOOR ELEVATION OF
- ALL EXTERIOR PIPING MATERIAL SHALL BE SDR 35 (PVC D 3034) PIPING OR AS APPROVED BY CUMRU TOWNSHIP BERKS COUNTY, PA.

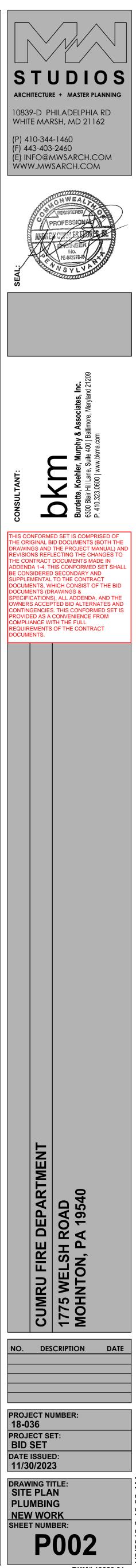
O DRAWING NOTES:

541.0.

- 1. INCOMING 3" DOMESTIC WATER SERVICE, PROVIDE MINIMUM 3'-0" GROUND COVER, FOR CONTINUATION, REFER TO CIVIL DRAWINGS.
- 2. INCOMING 6" FIRE PROTECTION SERVICE, PROVIDE MINIMUM 3'-0" GROUND COVER, FOR
- CONTINUATION, REFER TO CIVIL DRAWINGS. 3. INCOMING GAS SERVICE AND GAS METER ASSEMBLY BY LOCAL GAS COMPANY.
- 4. 1000 GALLON OIL/SAND SEPARATOR WITH (2) MANHOLES, REFER TO DETAIL.
- 5. 6" SANITARY, INVERT ELEVATION @ 535.00+/-, FOR CONTINUATION, REFER TO CIVIL DRAWINGS.
- 6. 4" SANITARY, INVERT ELEVATION @ 536.00+/-, FOR CONTINUATION, REFER TO CIVIL DRAWINGS.
- 7. POST TYPE FIRE DEPARTMENT CONNECTION WITH 5" STORZ CONNECTION. PROVIDE
- BALL DRIP AT BASE OF RISER BELOW GRADE AND REQUIRED DRAINAGE PIT, COORDINATE FINAL LOCATION OF FIRE DEPARTMENT CONNECTION IN FIELD. 8. (4) 2" VENT (FROM OIL/SAND SEPARATOR'S INFLUENT TEE, TWO MANHOLES AND
- EFFLUENT TEE) LOCATED BELOW GRADE, FOR CONTINUATION, REFER TO FIRST FLOOR PLUMBING PLAN AND REFER TO DETAIL. 9. 4" FIRE, FOR CONTINUATION, REFER TO FOUNDATION PLAN - PLUMBING.
- 10. 4" FIRE, PROVIDE MINIMUM 3'-0" GROUND COVER, COORDINATE FINAL ROUTING OF
- PIPING WITH ALL UTILITIES BELOW GRADE.

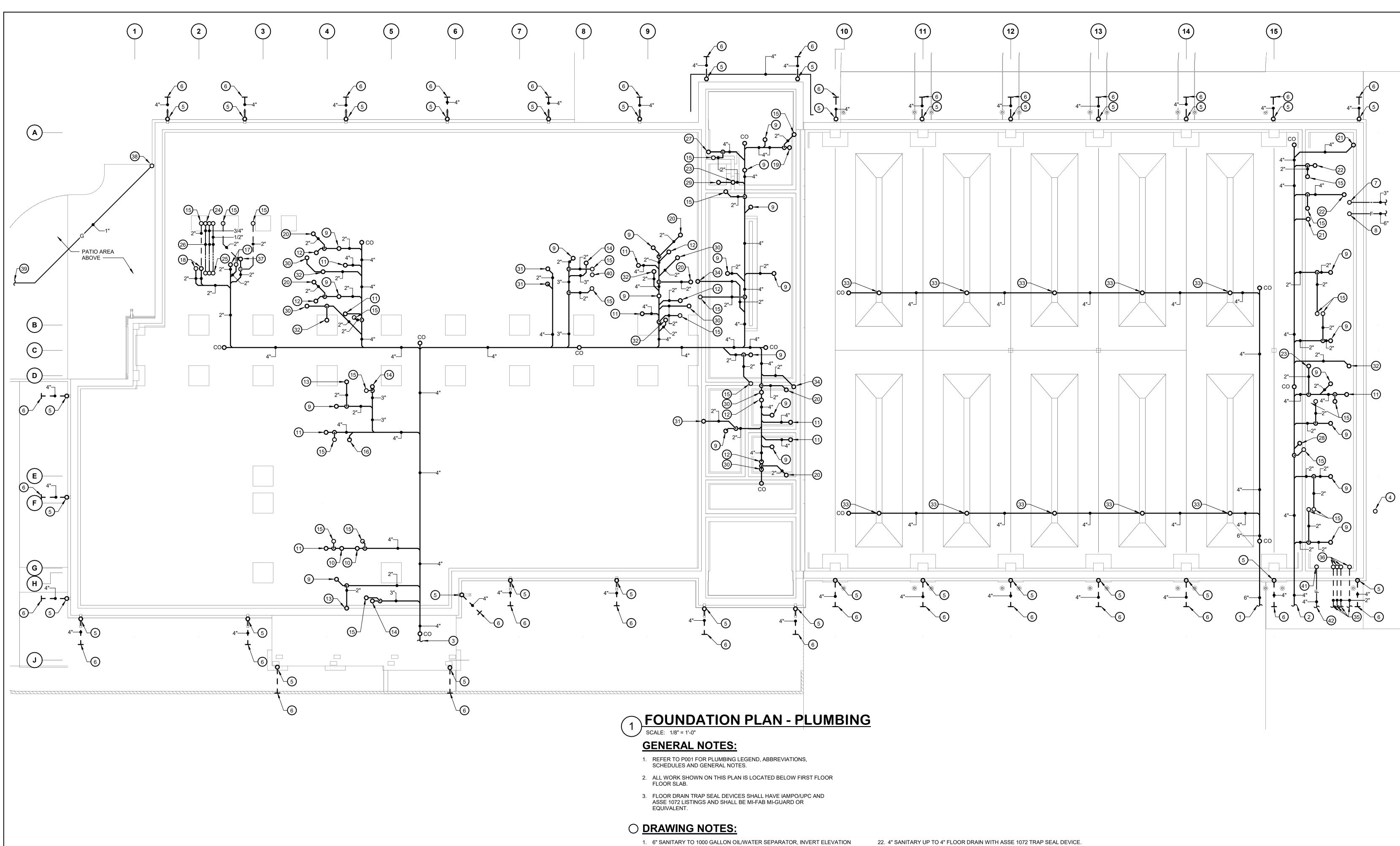






0'	90'
)"	

BKM# 19020.01



- @ 537.00' +/-,FOR CONTINUATION, REFER TO PLUMBING SITE PLAN.
- 2. 4" SANITARY, INVERT ELEVATION @ 537.50' +/-, FOR CONTINUATION, REFER
- TO PLUMBING SITE PLAN. 3. 4" SANITARY, INVERT ELEVATION @ 536.00' +/-, FOR CONTINUATION, REFER
- TO CIVIL DRAWINGS.
- 4. INCOMING GAS SERVICE UP TO GAS METER ASSEMBLY PROVIDED BY LOCAL GAS COMPANY.
- 5. 4" STORM WATER UP TO 4" DOWNSPOUT BOOT, REFER TO DETAIL, BY 1A GENERAL CONTRACTOR.
- 6. 4" STORM WATER, PROVIDE 3'-0" MIN. GROUND COVER, FOR CONTINUATION, REFER TO CIVIL DRAWINGS, BY 1A GENERAL
- 7. 3" INCOMING DOMESTIC WATER SERVICE, PROVIDE 3'-0" MIN. GROUND
- COVER, FOR CONTINUATION, REFER TO CIVIL DRAWINGS. 8. 6" INCOMING FIRE PROTECTION SERVICE, PROVIDE 3'-0" MIN. GROUND
- COVER, FOR CONTINUATION, REFER TO CIVIL DRAWINGS.
- 9. 2" SANITARY UP TO 2" FLOOR DRAIN WITH ASSE 1072 TRAP SEAL DEVICE. 10. 4" SANITARY UP TO <u>WC-1</u>.
- 11. 4" SANITARY UP TO <u>WC-2</u>.

CONTRACTOR.

- 12. 2" SANITARY UP TO 2" SHOWER TRENCH DRAIN (<u>SH-2)</u> WITH ASSE 1072 TRAP SEAL DEVICE.
- 13. 2" SANITARY UP TO (3) <u>L-2</u>.
- 14. 3" SANITARY UP TO <u>MB-1</u>.
- 15. 2" VENT UP.

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- 16. 3" SANITARY UP TO (1) <u>UR-1</u> & (1) <u>UR-2</u>.
- 17. 2" SANITARY & 2" ISLAND VENT UP TO <u>S-1</u>. REFER TO SANITARY RISER DIAGRAM.
- 18. 2" SANITARY & 2" ISLAND VENT UP TO <u>S-2</u>. REFER TO SANITARY RISER DIAGRAM.
- 19. 4" SANITARY UP TO 4" FLOOR SINK WITH ASSE 1072 TRAP SEAL DEVICE.
- 20. 2" SANITARY UP TO <u>L-2</u>.

- 23. 2" SANITARY UP TO <u>L-1</u>.
- 24. 1/2" HWR, 3/4" HW & 3/4" CW UP.
- 25. 1/2" HWR, 3/4" HW & 3/4" CW UP TO (1) <u>S-1</u> & (1) <u>S-2</u>.
- FITTINGS.
- 1072 TRAP SEAL DEVICE.
- 29. 2" SANITARY UP TO 2" SHOWER BASE DRAIN (SH-1) WITH ASSE 1072 TRAP SEAL DEVICE.
- 30. 2" SANITARY UP TO 2" SHOWER BASE DRAIN (SH-2) WITH ASSE 1072 TRAP
- SEAL DEVICE.
- 31. 2" SANITARY UP TO WMC-1.
- 32. 2" SANITARY UP TO <u>UR-2</u>.
- 34. 2" SANITARY UP.
- PLAN AND DETAIL.
- 36. (4) 2" VENT UP.
- DEVICE.
- 38. 1" GAS UP.
- 40. 4" RADON UP, REFER TO DETAIL. 41. 4" FIRE UP.
- TO PLUMBING SITE PLAN.

26. 1/2" HWR, 3/4" HW & 3/4" CW LOCATED BELOW SLAB IN 6" PVC CONDUIT, PIPING SHALL BE INSULATED SEAMLESS SOFT COPPER TUBING WITH NO

27. 4" SANITARY UP TO 4" LINT TROUGH DRAIN FOR EXTRACTORS WITH ASSE

28. 3" SANITARY UP TO 3" FLOOR SINK WITH ASSE 1072 TRAP SEAL DEVICE.

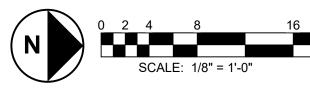
33. 4" SANITARY UP TO TRENCH DRAIN, REFER TO DETAIL.

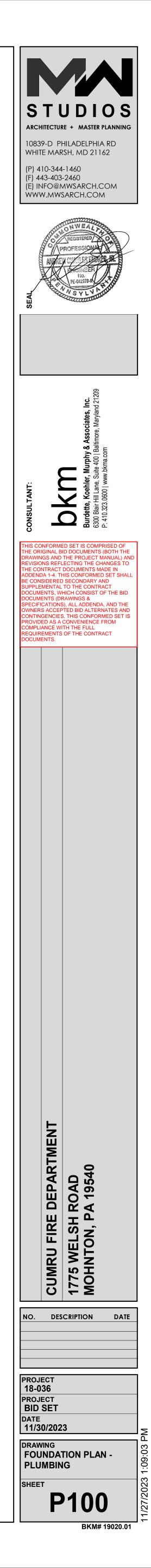
35. (4) 2" VENT PIPING TO OIL/WATER SEPARATOR, REFER TO PLUMBING SITE

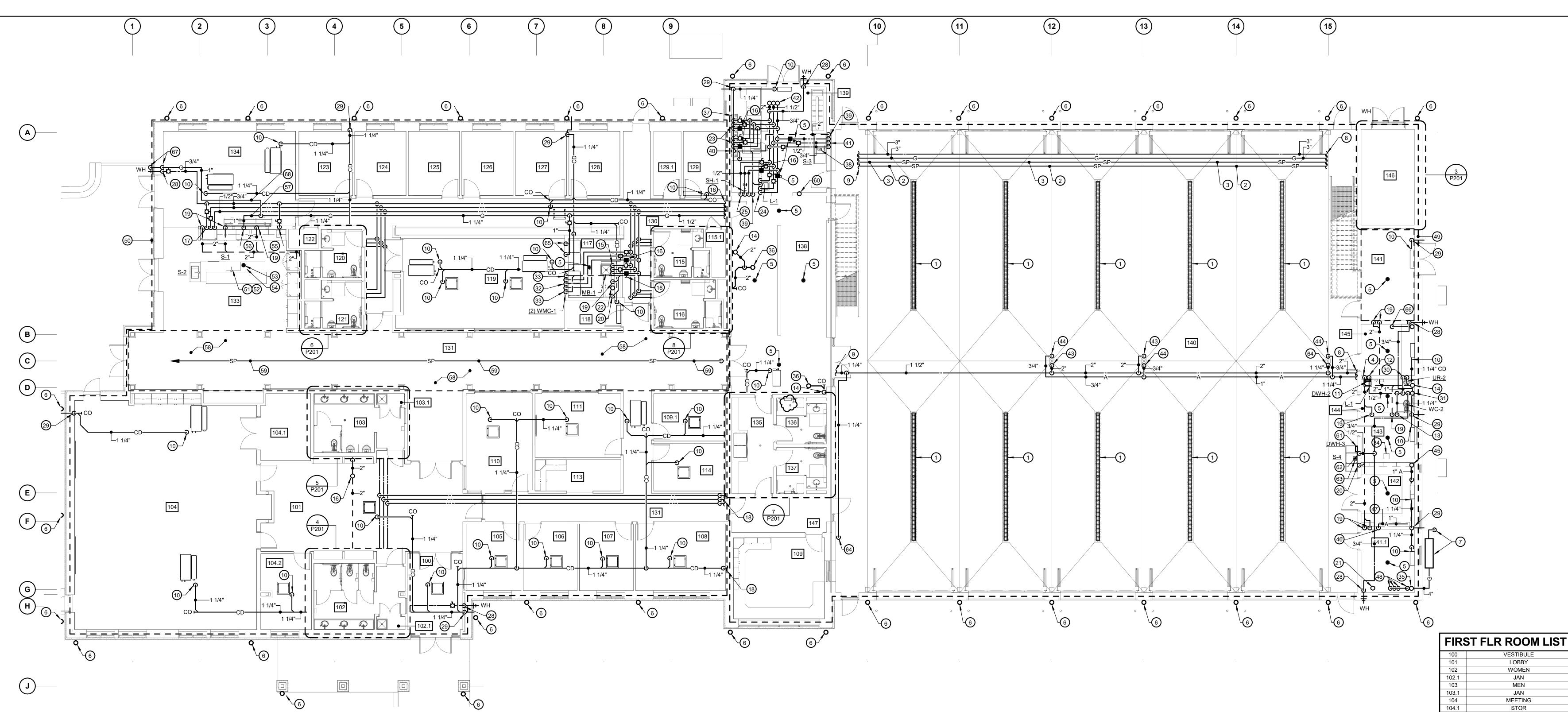
37. 2" SANITARY UP TO 2" FUNNEL FLOOR DRAIN WITH ASSE 1072 TRAP SEAL

39. EXTEND 1" GAS BELOW PATIO FLOOR, RISE UP TO GAS GRILLE, REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF GAS GRILLE.

42. 4" FIRE TO FIRE DEPARTMENT CONNECTION, FOR CONTINUATION REFER







- 1. REFER TO P001 FOR PLUMBING LEGEND, ABBREVIATIONS, SCHEDULES AND GENERAL NOTES.
- 2. ALL VALVES SHALL BE ACCESSIBLE.
- 3. FLOOR DRAIN TRAP SEAL DEVICES SHALL HAVE IAMPO/UPC AND ASSE 1072 LISTINGS AND SHALL BE MI-FAB MI-GUARD OR EQUIVALENT.

○ DRAWING NOTES:

- 4. 2" VENT DOWN TO <u>L-1</u> & 2" SANITARY.
- 5. 2" FLOOR DRAIN WITH ASSE 1072 TRAP SEAL DEVICE. 6. 4" DOWNSPOUT BOOT, REFER TO DETAIL.
- 7. INCOMING GAS SERVICE & GAS METER ASSEMBLY PROVIDED BY LOCAL GAS COMPANY. PROVIDE SUPPORTS, CONCRETE PAD, ETC. PER REQUIREMNETS OF LOCAL GAS COMPANY.
- 9. FOR CONTINUATION, REFER TO MEZZANINE WEST PLAN..
- 10. 1 1/4" CONDENSATE DRAIN TO MECHANICAL UNIT. MECHANICAL UNIT NOT PART OF PLUMBING PRIME WORK. PLUMBING PRIME TO SUPPLY MATERIAL AND LABOR FOR ROUGH-IN & FINAL CONNECTION OF DRAIN FROM UNIT TO TERMINUS. (TYPICAL)
- 11. INSTANTANEOUS ELECTRIC WATER HEATER, <u>DWH-2</u>, LOCATED BELOW LAVATORY (<u>L-1</u>), REFER TO SCHEDULE AND DOMESTIC WATER PIPING DIAGRAM FOR PIPING TO <u>L-1</u>.
- 12. 1/2" CW DOWN TO <u>L-1</u>.
- 13. 1 1/4" CW DOWN TO WC-2.
- 14. 2" VENT UP.

- UNDERCOUNTER ICE MACHINE. 18. RISE PIPE TO ABOVE CEILING SPACE OF RM 109.
- 19. 2" VENT DOWN TO 2" SANITARY. 20. 2" VENT DOWN TO 3" SANITARY.
- LOCATION OF FDC.

GENERAL NOTES:

- 1. 4" TRENCH DRAIN, <u>TD-1</u>, REFER TO DETAIL.
- 2. TO AUTOMATIC SPRINKLERS (EAST ZONE).
- 3. TO AUTOMATIC SPRINKLERS (WEST ZONE).
- 8. FOR CONTINUATION, REFER TO MEZZANINE EAST PLAN.
- 15. 1/2" HWR, 3/4" HW & 3/4" CW DOWN TO MB-1.
- 16. COMBINATION BALANCING & SHUT-OFF FITTING (SET @ 0.5 GPM). 17. 1/2" HWR, 3/4" HW & 3/4" CW DOWN, TRANSITION TO 1/2" HWR, 3/4"
- HW & 3/4" CW INSULATED SEAMLESS SOFT COPPER TUBING IN 6" PVC CONDUIT LOCATED BELOW SLAB AND UP INTO 1/2 HEIGHT WALL TO SERVE ISLAND SINKS <u>S-1</u> & <u>S-2</u>. REFER TO FOUNDATION PLAN, FOR ROUTING BELOW SLAB. REFER TO DOMESTIC WATER RISER DIAGRAM FOR ADDITIONAL PIPING TO DISHWASHER AND

21. 4" FIRE UP & 4" FIRE DOWN TO SIAMESE FIRE DEPARTMENT CONNECTION (FCD) WITH BALL DRIP, REFER TO FOUNDATION PLAN AND PLUMBING SITE PLAN FOR CONTINUATION OF PIPING

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

- 4. ALL EXPOSED PIPING LOCATED IN APPARATUS BAY SHALL BE PAINTED TO MATCH CEILING PAINT COLOR. PAINTING SHALL BE PROVIDED UNDER ANOTHER DIVISION - REFER TO DIVISION 1A PRIME SCOPE OF WORK. PLUMBING PRIME CONTRACTOR SHALL PROVIDE PIPE IDENTIFICATION AND PIPE FLOW ARROWS PER SPECIFICATIONS.
- 5. ALL EXPOSED INSULATED PIPING IN APPARATUS BAY SHALL BE PROVIDED WITH PVC JACKETS.
- 22. 4" RADON UP THROUGH ROOF AND 4" RADON DOWN, REFER TO DETAIL 23. 1/2" HWR, 3/4" HW & 3/4" CW DOWN TO EXTRACTOR, EXTRACTOR UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE HOSE CONNECTIONS,
- WATER HAMMER ARRESTORS, DUAL CHECK VALVES, ROUGH-IN & FINAL CONNECTIONS. 24. 2' VENT, 1/2" HWR, 1/2" HW & 1/2" CW DOWN TO L-1 AND 2" SANITARY.
- 25. 1/2" HWR, 1/2" HW & 1/2" CW DOWN TO SH-1. 26. 4" SANITARY UP TO 4" FLOOR DRAIN WITH ASSE 1072 TRAP SEAL DEVICE.
- 27. 4" SANITARY DOWN.
- 28. 3/4" CW DOWN TO 3/4" NON-FREEEZE WALL HYDRANT WITH VACUUM BREAKER IN RECESSED NICKEL BRONZE BOX WITH HINGED COVER AND LOCKABLE KEY LOCK.
- 29. 1 1/4" CONDENSATE DOWN, EXTEND THROUGH EXTERIOR WALL AT 18" ABOVE FINISHED GRADE, DISCHARGE OVER SPLASHBLOCK.
- 30. 1" CW & 2" VENT DOWN TO UR-2 & 2" SANITARY.
- 31. 1 1/4" CW UP.
- 32. 1/2" HWR, 3/4" HW & 3/4" CW DOWN TO (2) WMC-1.
- 33. 2" VENT DOWN TO WMC-1 & 2" SANITARY.
- 34. OIL WATER SEPERATOR ALARM CONTROL PANEL.
- 35. 4" GAS UP.

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- 36. 2" SANITARY UP TO 2" FLOOR DRAIN WITH ASSE 1072 TRAP SEAL DEVICE.
- 37. TD-2, 12" WIDE x 12-1/2" DEEP X 102" LONG LINT TYPE 304 STAINLESS STEEL TROUGH WITH STAINLESS STEEL BAR GRATE AND SOLID COVER, DUAL REMOVABLE STAINLESS STEEL FILTER SCREENS AND A DOME BOTTOM STRAINER AND 4" DRAIN CONNECTION, JAY R SMITH MODEL SQ-TD-850 OR EQUIVALENT. COORDINATE INSTALLATION WITH RAISED CONCRETE
- PLATFORM STRUCTURAL ELEMENTS. 38. 4" FLOOR SINK ASSE 1072 TRAP SEAL DEVICE.
- 39. 2" VENT DOWN TO 4" SANITARY.
- 40. 2" VENT UP TO 4" VENT THROUGH ROOF.
- 41. 1/2" HWR, 3/4" HW & 3/4" CW DOWN TO S-3.
- 42. 3/4" HWR, 1 1/2" HW & 2" CW UP.
- 43. 2" CW DOWN WITH PIPE SUPPORTED ALONG COLUMN TO 36" ABOVE FINISHED FLOOR, PROVIDE 2" THREADED HOSE END CONNECTION WITH BALL VALVE, PLUMBING CONTRACTOR SHALL COORDINATE WITH OWNER ON THE SIZE AND TYPE OF HOSE END THREAD.

AT 84" ABOVE FINISHED FLOOR.

- 45. 1" COMPRESSED AIR UP.
- 46. PROVIDE 1" COMPRESSED AIR WITH SHUT-OFF VALVE, REGULATOR AND QUICK DISCONNECT PROVIDE ROUGH-IN AND FINAL CONNECTION. MOUNT OUTLET AT 48" ABOVE FINISHED FLOOR WITHIN WORKSHOP RM 142.
- 47. ROUTE 1 1/4" COMPRESSED AIR ALONG WALL ABOVE SHELVING. 48. (1) 4" VENT UP AND (4) 2" VENT DOWN (PIPING ASSOCIATED WITH OIL/WATER SEPARATOR), REFER TO DETAIL.
- MEZZANINE WEST).
- 51. EXTEND 1/2" HW FROM SINK <u>S-1</u> SUPPLY TO OWNER PROVIDED
- 52. EXTEND 1/2" CW FROM SINK S-1 SUPPLY TO OWNER PROVIDED UNDERCOUNTER ICEMAKER. UNDER THIS DIVISION, PROVIDE SHUT-OFF BALL VALVE, BACKFLOW PREVENTER, ROUGH-IN AND FINAL CONNECTION. 53. 2" FUNNEL FLOOR DRAIN WITH 1/2" TRAP PRIMING LINE FOR INDIRECT DRAIN
- FROM ICEMAKER. LOCATE FUNNEL FLOOR DRAIN WITHIN ICEMAKER SPACE. 54. EXTEND 3/4" INDIRECT DRAIN FROM UNDERCOUNTER ICEMAKER TO FUNNEL FLOOR DRAIN WITH AIR GAP.
- 55. 1/2" CW DOWN TO COFFEEMAKER, COFFEEMAKER PROVIDED UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE SHUT-OFF BALL VALVE, ASSE1024 BACKFLOW PREVENTER, ROUGH-IN AND FINAL CONNECTION.
- 56. 1" GAS DOWN TO GAS RANGE, RANGE PROVIDED UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE SHUT-OFF VALVE, GAS REGULATOR, FLEXIBLE HOSE CONNECTION, ROUGH-IN AND FINAL CONNECTION. 57. PROVIDE GAS SOLENOID SHUT-OFF VALVE WITH MANUAL RESET FOR GAS
- ACCESSIBLE CEILING.

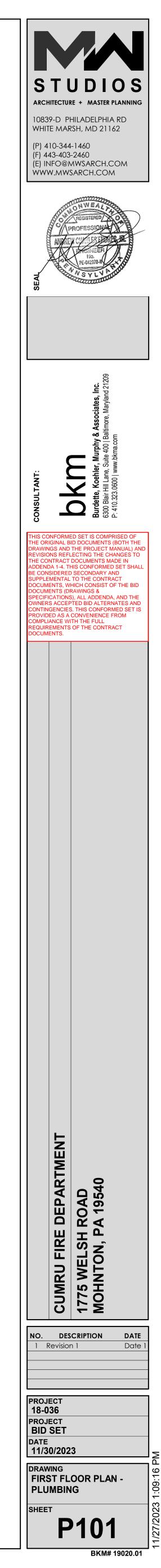
VESTIBULE LOBBY WOMEN JAN MEN JAN MEETING STOR OFFICE OFFICE OFFICE OFFICE OFFICE 108 WATCH OFFIC OFFICE CHIEF'S OFFIC CONFERENCI COPY OFFICE SHOWER MECH SHOWER LAUNDRY ELEC FITNESS SHOWER 121 SHOWER MECH BUNK BUNK BUNK BUNK 126 BUNK BUNK IT CORRIDOR CORRIDOR KITCHEN DAY ROOM **CLEAN ROOM** 136 SHOWER SHOWER FURNOUT GE DECON APPARATUS BA ELEC STORAGE WORKSHOP ENGINEER TOILET 144 SCBA UTILITY 146 VESTIBULE

- 44. 3/4" COMPRESSED AIR DOWN TO AIR HOSE REEL, PROVIDE REELCRAFT MODEL # D9388 OLPBW SERIES 8000 HOSE REEL OR EQUIVALENT, LOW PRESSURE, SPRING RETRACTABLE HOSE REEL ASSEMBLY WITH INLET
- CONNECTION HOSES FOR AIR, DUAL PEDESTAL BASE AND GUIDE ARM DESIGN, 100' X 3/4" LOW PRESSURE HOSE, STANDARD FINISH, SHUT-OFF BALL VALVE, ROUGH-IN AND FINAL CONNECTION. MOUNT HOSE REEL TO COLUMN
- 49. EAST SPRINKLER ZONE (INCLUDES APPARATUS BAY, MEZZANINE EAST & MEZZANINE WEST AND FIRST FLR SPACES BELOW MEZZANINE EAST &
- 50. WEST SPRINKLER ZONE (INCLUDES FIRST FLOOR WEST AREA).
- UNDERCOUNTER DISHWASHER. UNDER THIS DIVISION, PROVIDE SHUT-OFF BALL VALVE, BACKFLOW PREVENTER, ROUGH-IN AND FINAL CONNECTION.
- RANGE, REFER TO NATURAL GAS RISER FOR ADDITIONAL VALVE AND SOLENOID VALVE CONTROL. VALVES SHALL BE LOCATED ABOVE AN EASILY

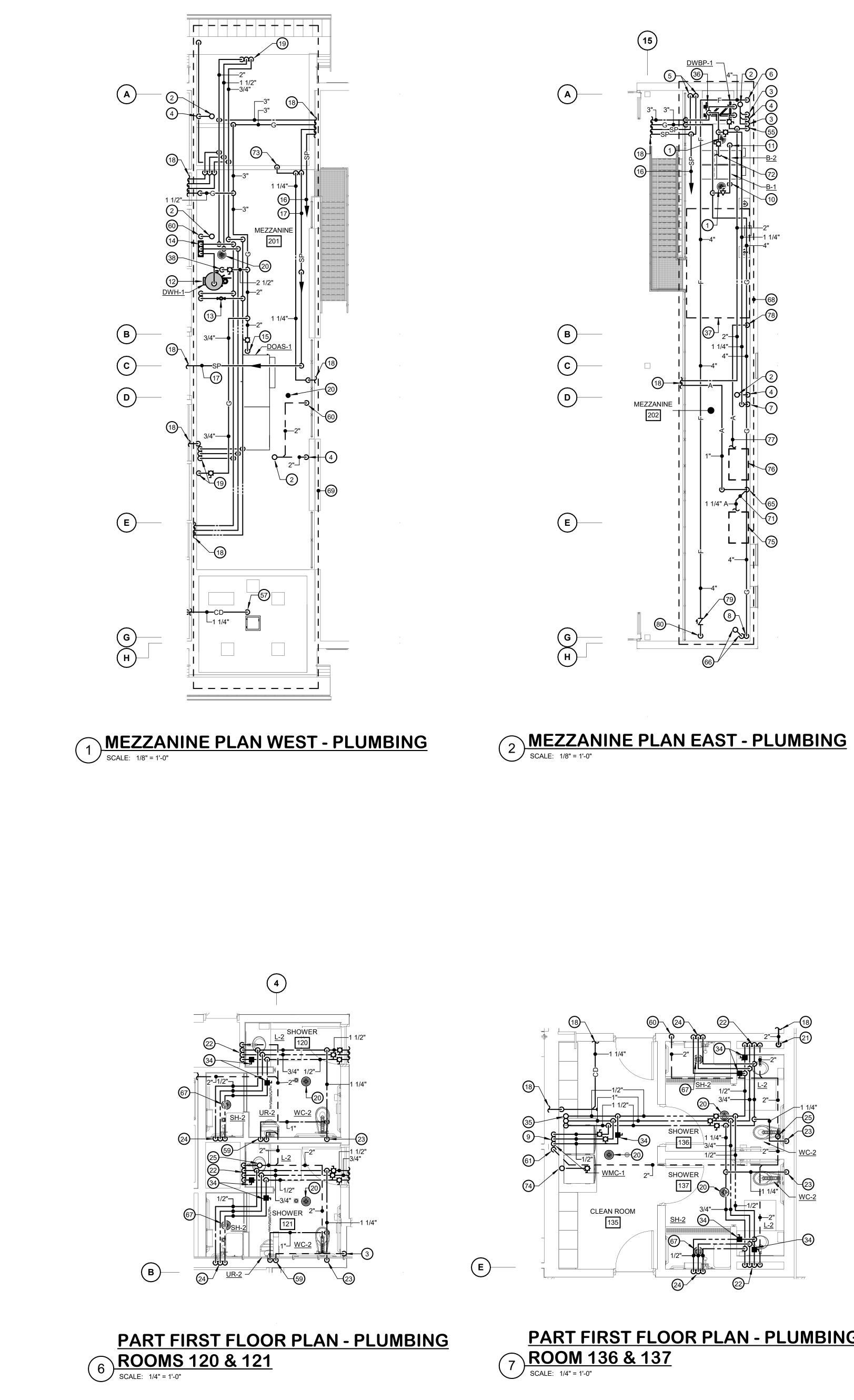
- 58. CORRIDOR SHALL REMAIN CLEAR OF ANY PLUMBING PIPING. REFER TO ARCHITECTURAL NOTES CONCERNING SPRINKLER PIPING. 59. SPRINKLER MAIN LOCATED AT PEAK OF CORRIDOR.
- 60. 1 1/4" CW UP AND 1 1/4" CW DOWN TO WATER HOSE REEL IN RM 139, PROVIDE REELCRAFT MODEL # D9399 OLPBW SERIES D8000 HOSE REEL OR EQUIVALENT, LOW PRESSURE, SPRING RETRACTABLE HOSE REEL ASSEMBLY WITH INLET CONNECTION HOSES FOR WATER, DUAL PEDESTAL BASE AND GUIDE ARM DESIGN, 100' X 3/4" LOW PRESSURE HOSE, STANDARD FINISH, SHUT-OFF BALL VALVE, ROUGH-IN AND FINAL
- CONNECTION. MOUNT HOSE REEL TO WALL AT 36" ABOVE FINISHED FLOOR. 1. INSTANTANEOUS ELECTRIC WATER HEATER, <u>DWH-3</u>, LOCATED BELOW UTILTY SINK (S-4), REFER TO SCHEDULE AND DOMESTIC WATER PIPING DIAGRAM FOR PIPING TO <u>S-4</u>.
- 62. 1/2" CW DOWN TO <u>S-4</u>.

ABOVE FINISHED FLOOR.

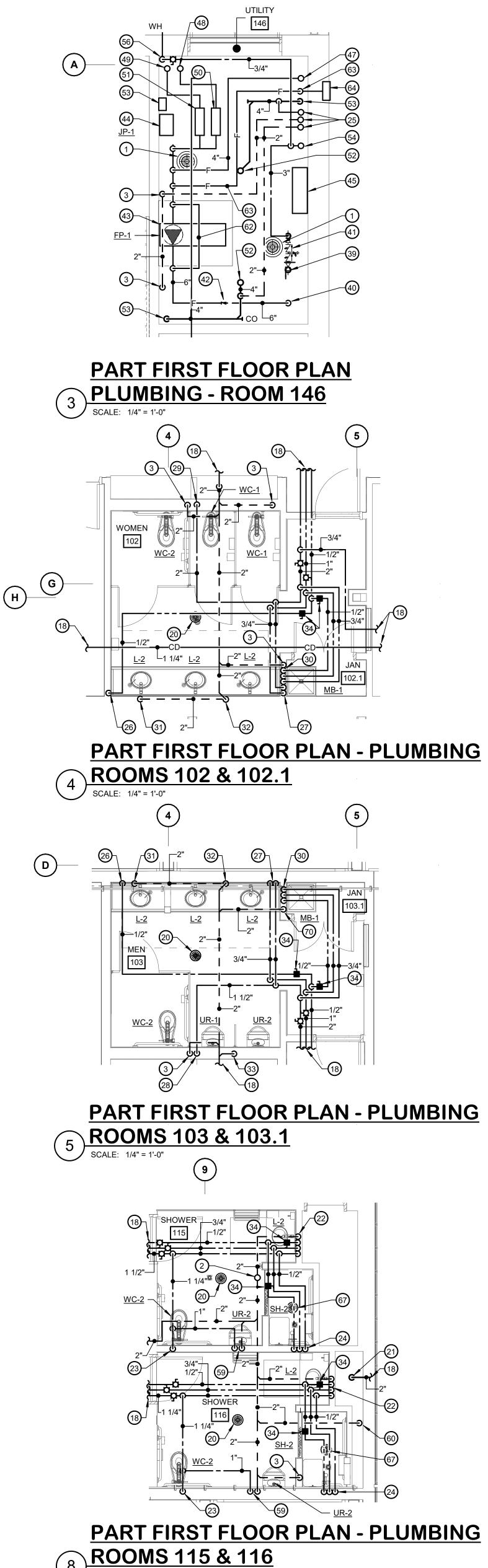
- 63. 3" FLOOR SINK ASSE 1072 TRAP SEAL DEVICE. 64. 1 1/4" CW DOWN TO WATER HOSE REEL, PROVIDE REELCRAFT MODEL # D9399 OLPBW SERIES D8000 HOSE REEL OR EQUIVALENT, LOW PRESSURE, SPRING RETRACTABLE HOSE REEL ASSEMBLY WITH INLET CONNECTION HOSES FOR WATER, DUAL PEDESTAL BASE AND GUIDE ARM DESIGN, 100' X 3/4" LOW PRESSURE HOSE, STANDARD FINISH, SHUT-OFF BALL VALVE, ROUGH-IN AND FINAL CONNECTION. MOUNT HOSE REEL TO COLUMN AT 36"
- 65. 3/4" GAS DOWN TO GAS DRYER, GAS DRYER UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE SHUT-OFF VALVE, GAS REGULATOR, FLEXIBLE HOSE CONNECTION, ROUGH-IN AND FINAL CONNECTION.
- 66. SCBA FILL STATION HOSE, COORDINATE FINAL LOCATION WITH OWNER PRIOR TO INSTALLATION. PROVIDE ROUGH-IN AND FINAL CONNECTION. COORDINATE WITH FILL STATION MANUFACTURER'S RECOMMENDATIONS.
- 67. 1" GAS DOWN IN FURRED WALL, PENETRATE THROUGH EXTERIOR WALL AT 18" ABOVE PATIO FLOOR, THEN DROP DOWN BELOW PATIO FLOOR AND EXTEND TO GAS GRILLE (APPROXIMATELY 50 FT), REFER TO GAS GRILLE LOCATION ON ARCHITECTURAL PLANS. GAS GRILLE UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE SHUT-OFF VALVE, GAS PRESSURE REGULATOR, ROUGH-IN AND FINAL CONNECTION. NOTE: GAS RISE TO GAS GRILLE SHALL BE LOCATED ON PATIO SIDE OF RETAINING WALL AND NOT IN RETAINING WALL.
- 68. PROVIDE GAS SOLENOID SHUT-OFF VALVE WITH MANUAL RESET FOR OUTDOOR GAS GRILLE, REFER TO NATURAL GAS RISER FOR ADDITIONAL VALVE AND SOLENOID VALVE CONTROL. VALVES SHALL BE LOCATED ABOVE AN EASILY ACCESSIBLE CEILING.



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PART FIRST FLOOR PLAN - PLUMBING



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

GENERAL NOTES:

- 1. REFER TO P001 FOR PLUMBING LEGEND, ABBREVIATIONS, SCHEDULES AND GENERAL NOTES.
- 2. ALL VALVES SHALL BE ACCESSIBLE.
- 3. FLOOR DRAIN TRAP SEAL DEVICES SHALL HAVE IAMPO/UPC AND ASSE 1072 LISTINGS AND SHALL BE MI-FAB MI-GUARD OR
- 4. CONTRACTOR SHALL COORDINATE LOCATION OF ACCESS PANELS UNDER VALVES FOR ACCESS TO VALVES WHERE HARD CEILINGS

○ DRAWING NOTES:

- 1. 4" FLOOR DRAIN WITH ASSE 1072 TRAP SEAL DEVICE.
- 2. 4" VENT THROUGH ROOF.
- 3. 2" VENT DOWN TO 4" SANITARY.
- 4. 2" VENT DOWN.

EQUIVALENT.

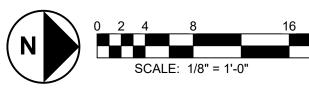
ARE LOCATED.

- 5. SPRINKLER MAIN (WEST SPRINKLER ZONE) AND SPRINKLER MAIN (EAST SPRINKLER ZONE) DOWN.
- 6. 4" FIRE DOWN.
- 7. 1 1/4" CW DOWN.
- 8. 4" GAS DOWN.
- 9. 1/2" HWR, 1/2" HW & 1/2" CW DOWN TO WMC-1.
- 10. 2" GAS DOWN TO BOILER <u>B-1</u>. PROVIDE SHUT-OFF VALVE AND GAS PRESSURE REGULATOR, ROUGH-IN AND FINAL CONNECTION, REFER TO GAS RISER DIAGRAM.
- 11. 2" GAS DOWN TO BOILER <u>B-2</u>. PROVIDE SHUT-OFF VALVE AND GAS PRESSURE REGULATOR, ROUGH-IN AND FINAL CONNECTION, REFER TO GAS RISER DIAGRAM.
- 12. DOMESTIC WATER HEATER, <u>DWH-1</u> ON 4" HOUSEKEEPING PAD, REFER TO SCHEDULE AND DETAIL.
- 13. DOMESTIC HOT WATER RECIRCULATING PUMP, DHWR-1, REFER TO
- 14. DOMESTIC HOT WATER MASTER MIXING VALVE, DWMV-1, REFER TO SCHEDULE AND DETAIL.
- 15. 2" GAS DOWN TO DOAS-1. PROVIDE SHUT-OFF VALVE AND GAS PRESSURE REGULATOR, ROUGH-IN AND FINAL CONNECTION.
- 16. TO AUTOMATIC SPRINKLERS (EAST SPRINKLER ZONE).
- 17. TO AUTOMATIC SPRINKLERS (WEST SPRINKLER ZONE).
- 18. FOR CONTINUATION, REFER TO FIRST FLOOR PLAN PLUMBING.
- 19. 3/4" GAS, 2" CW, 1 1/2" HW & 3/4" HWR DOWN.
- 20. 2" FLOOR DRAIN WITH ASSE 1072 TRAP SEAL DEVICE.
- 21. 2" SANITARY DOWN.

SCHEDULE AND DETAIL.

- 22. 1/2" HWR, 1/2" HW, 2" VENT & 1/2" CW DOWN TO L-2 & 2" SANITARY.
- 23. 1 1/4" CW DOWN TO <u>WC-2</u>.
- 24. 1/2" HWR, 1/2" HW & 1/2" CW DOWN TO SH-2.
- 25. 2" VENT UP.
- 26. 1/2" HWR DOWN TO 1/2" HW.
- 27. 3/4" HW & 3/4" CW DOWN TO (3) L-2.
- 28. 2" CW DOWN TO (1) WC-2, (1) UR-1 & (1) UR-2.
- 29. 2" CW DOWN TO (1) WC-2 & (2) WC-1.
- 30. 1/2" HWR, 3/4" HW & 3/4" CW DOWN TO MB-1.
- 31. 2" VENT DOWN TO L-2 & 2" SANITARY.
- 32. 2" VENT DOWN TO (2) L-2 & 2" SANITARY.
- 33. 2" VENT DOWN TO (1) <u>UR-1</u> & (1) <u>UR-2</u> & 3" SANITARY.
- 34. COMBINATION BALANCING & SHUT-OFF FITTING (SET @ 0.5 GPM).
- DOMESTIC WATER BOOSTER PUMP, <u>DWBP-1</u> ON 6" HOUSEKEEPING PAD, REFER TO SCHEDULE AND DETAIL.
- 37. ELECTRICAL ROOM LOCATED BELOW THIS DASHED AREA; PROVIDE NO PLUMBING PENETRATIONS DOWN THROUGH FLOOR WITHIN THIS DASHED AREA.
- 2 1/2" GAS DOWN TO <u>DWH-1</u>. PROVIDE SHUT-OFF VALVE AND GAS PRESSURE REGULATOR, ROUGH-IN AND FINAL CONNECTION.
- 39. 3" INCOMING DOMESTIC WATER DOWN WITH STRAINER AND MAIN
- 40. 6" FIRE DOWN WITH OS&Y SHUT-OFF VALVE WITH TAMPER SWITCH.
- 41. 3" REDUCED PRESSURE PRINCIPLE BACK FLOW PREVENTER ASSEMBLY MOUNTED IN VERTICAL POSITION, ZURN 475V FOR DOMESTIC WATER SYSTEM, REFER TO DETAIL.
- 42. 6" DOUBLE CHECK BACKFLOW PREVENTER ASSEMBLY FOR FIRE PROTECTION SYSTEM, REFER TO DETAIL.

- 43. FIRE PUMP, <u>FP-1</u>, REFER TO SCHEDULE AND DETAIL.
- 44. JOCKEY PUMP, JP-1, REFER TO SCHEDULE AND DETAIL.
- 45. FIRE PUMP CONTROLLER.
- 46. JOCKEY PUMP CONTROLLER.
- 47. 4" FIRE UP (SERVING SIAMESE FIRE DEPARTMENT CONNECTION).
- 48. SPRINKLER MAIN UP (SERVING EAST SPRINKLER ZONE). 49. SPRINKLER MAIN UP (SERVING WEST SPRINKLER ZONE).
- 50. SPRINKLER ZONE VALVE ASSEMBLY (SERVING EAST SPRINKLER ZONE), REFER TO DETAIL.
- 51. SPRINKLER ZONE VALVE ASSEMBLY (SERVING WEST SPRINKLER
- ZONE), REFER TO DETAIL.
- 52. 4" SANITARY UP TO 4" FLOOR DRAIN WITH ASSE 1072 TRAP SEAL DEVICE.
- 53. 4" SANITARY DOWN.
- 54. 3" CW UP.
- 55. 3" CW DOWN.
- 56. 3/4" CW DOWN TO 3/4" NON-FREEZE WALL HYDRANT WITH VACUUM BREAKER IN RECESSED NICKEL BRONZE BOX WITH HINGED COVER AND LOCKABLE KEY LOCK. 57. 1 1/4" CONDENSATE DRAIN TO MECHANICAL UNIT, MECHANICAL UNIT
- NOT PART OF PLUMBING PRIME WORK. PLUMBING PRIME TO SUPPLY MATERIAL AND LABOR FOR ROUGH-IN & FINAL CONNECTION OF DRAIN FROM UNIT TO TERMINUS. (TYPICAL)
- 58. 1 1/4" CONDENSATE DOWN, EXTEND THROUGH EXTERIOR WALL AT 18" ABOVE FINISHED GRADE, DISCHARGE OVER SPLASHBLOCK.
- 59. 1" CW & 2" VENT DOWN TO <u>UR-1</u> & 2" SANITARY.
- 60. 2" VENT DOWN TO 2" SANITARY.
- 61. 2" VENT DOWN TO WMC-1 & 2" SANITARY.
- 62. 6" FIRE PUMP BYPASS.
- 63. 6" FIRE TO FIRE PUMP TEST HEADER CONNECTION.
- 64. TWO-WAY FLUSH FIRE PUMP TEST HEADER CONNECTION.
- 65. 1" COMPRESSED AIR DOWN.
- 66. 4" VENT UP THROUGH ROOF AND 4" VENT DOWN.
- 67. 2" SHOWER BASE FLOOR DRAIN (SH-2) WITH 1/2" TRAP PRIMING LINE. 68. EAST SPRINKLER ZONE (INCLUDES MEZZANINE EAST, MEZZANINE WEST, APPARATUS BAY, AND FIRST FLR SPACES BELOW MEZZANINE EAST)
- 69. WEST SPRINKLER ZONE (INCLUDES FIRST FLOOR WEST AREA AND FIRST FLR SPACES BELOW MEZZANINE WEST).
- 70. 2" VENT DOWN TO 3" SANITARY.
- 71. 1 1/4" COMPRESSED AIR TO AIR COMPRESSOR, AIR COMPRESSOR PROVIDED UNDER ANOTHER DIVISION. UNDER THIS DIVISION, PROVIDE SHUT-OFF BALL VALVE, AIR REGULATOR, AIR FILTER, ROUGH-IN & FINAL CONNECTION. COORDINATE WITH FINAL LOCATION OF AIR COMPRESSOR BY OWNER.
- 72. 2" COLD WATER MAKE-UP TO MECHANICAL EQUIPMENT, PROVIDE SHUT-OFF VALVE AND REDUCED PRESSURE ZONE BACKFLOW PREVENTER. EXTEND DRAIN FROM BACKFLOW PREVENTER AIR GAP FITTING OVER TO NEAREST FLOOR DRAIN, REFER TO DETAIL.
- 73. 1 1/4" CW DOWN.
- 74. 3/4" GAS UP AND DOWN TO GAS DRYER. GAS DRYER PROVIDED UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE SHUT-OFF VALVE, GAS REGULATOR, FLEXIBLE HOSE CONNECTION, ROUGH-IN AND FINAL CONNECTION.
- 75. AIR COMPRESSOR UNDER ANOTHER DIVISION, REFER TO NOTE 71 FOR ADDITIONAL INFORMATION.
- 76. SCBA FILL STATION UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE SHUT-OFF VALVE, AIR PRESSURE REGULATOR, ROUGH-IN AND FINAL CONNECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WHERE THE AIR INTAKE PIPE FOR THE FILL STATION PENETRATES EXTERIOR WALL FOR OUTSIDE AIR INTAKE.
- 77. PROVIDE COMPRESSED AIR LINE FROM SCBA FILL STATION, REQUIRED FITTINGS, VALVES, ETC AND MAKE FINAL CONNECTION TO FILL STATION. SIZE AND MATERIAL OF PIPING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
- 78. COMPRESSED AIR LINE (FROM FILL STATION DOWN) DOWN THROUGH MEZZANINE FLOOR INTO SCBA ROOM LOCATED ON FIRST FLOOR.
- 79. CHECK VALVE APPROVED FOR FIRE PROTECTION SYSTEMS. 80. 4" FIRE DOWN.



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- 35. 1/2" HWR, 1" HW & 1 1/2" CW UP.

SHUT-OFF VALVE.



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DRAWINC

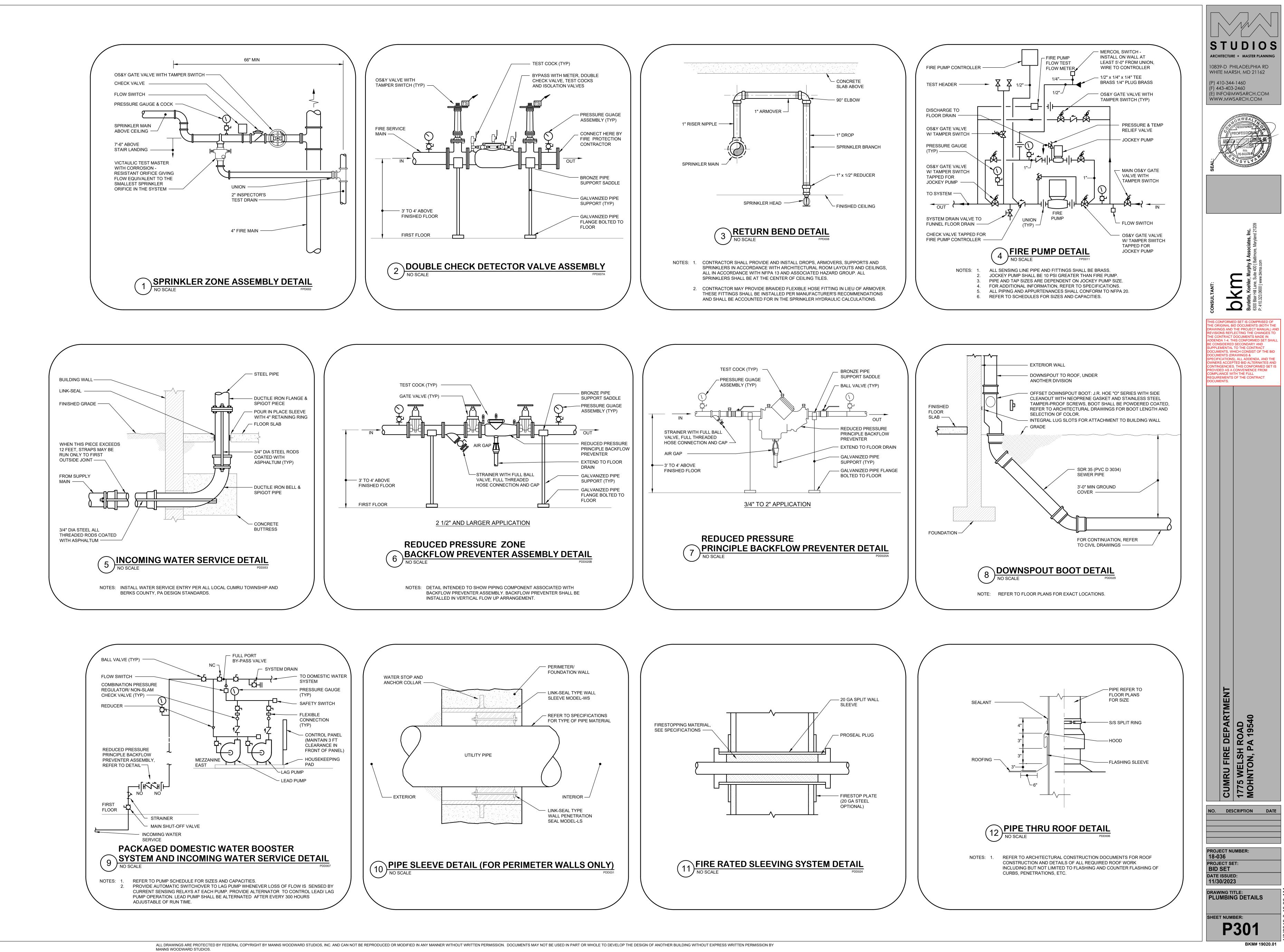
PLUMBING

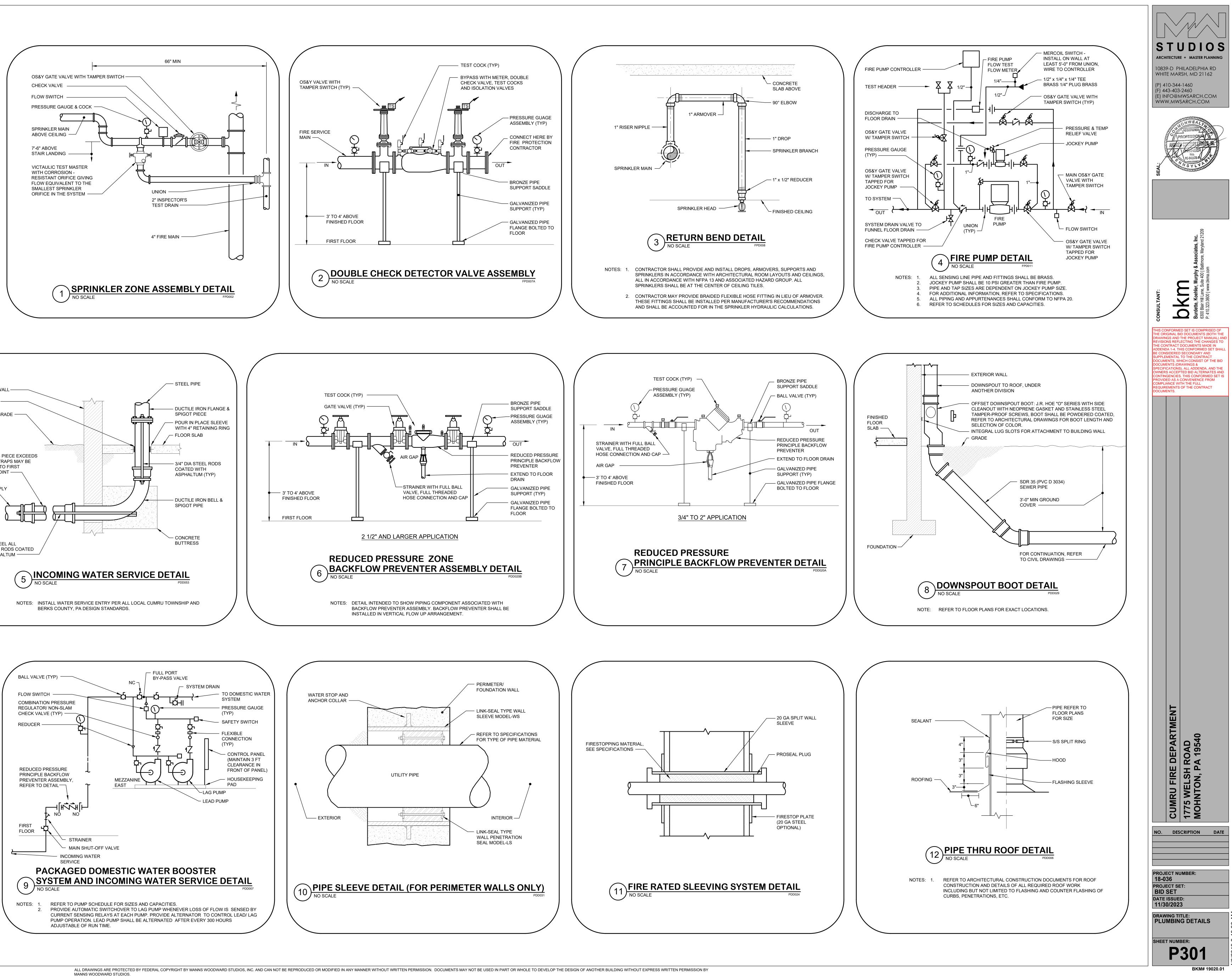
PART FLOOR PLANS

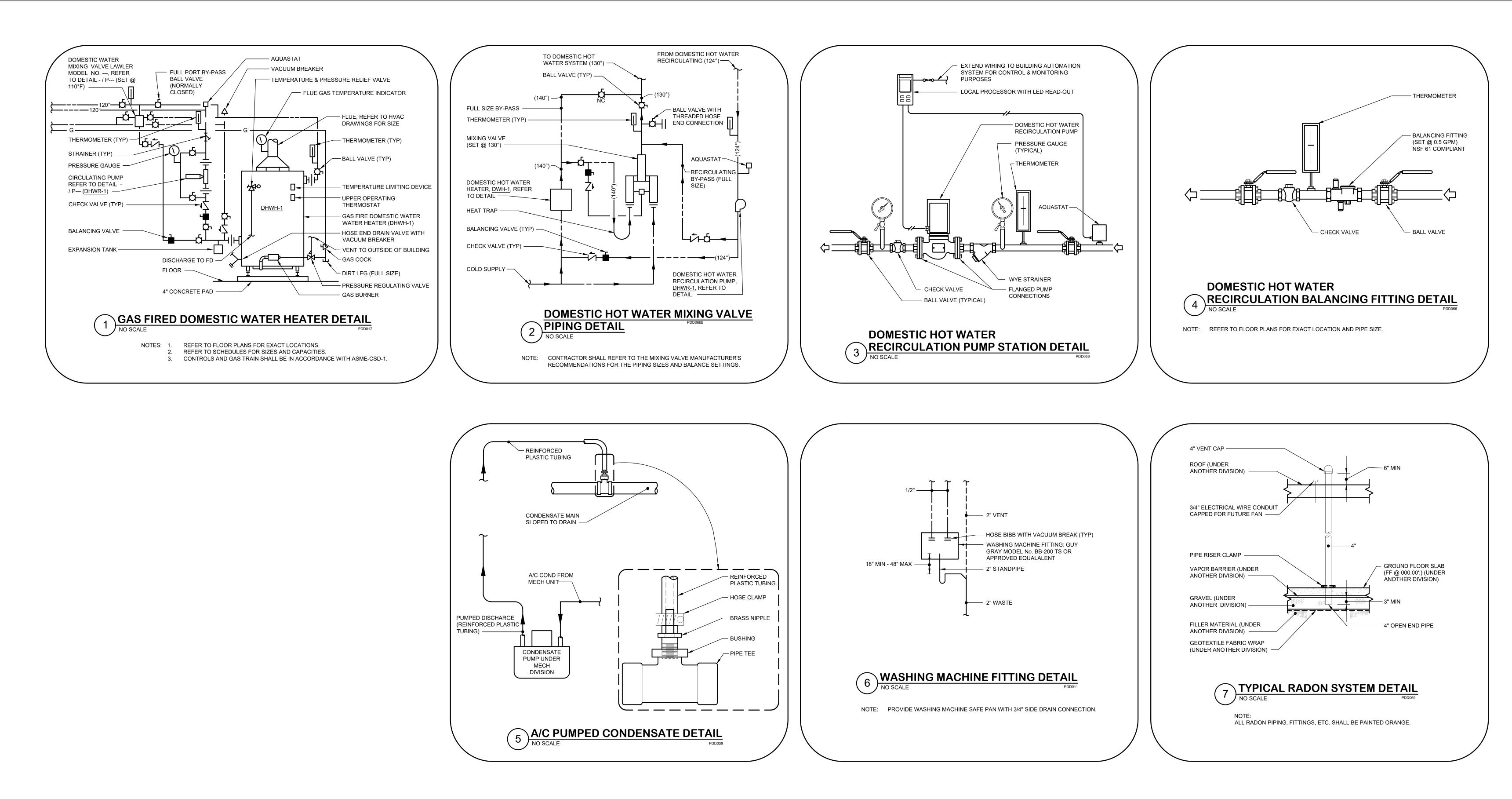
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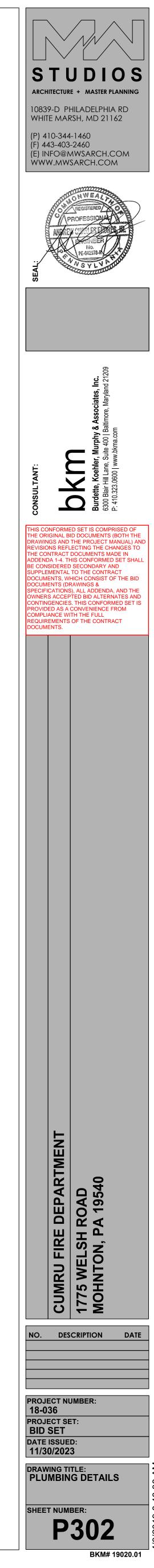


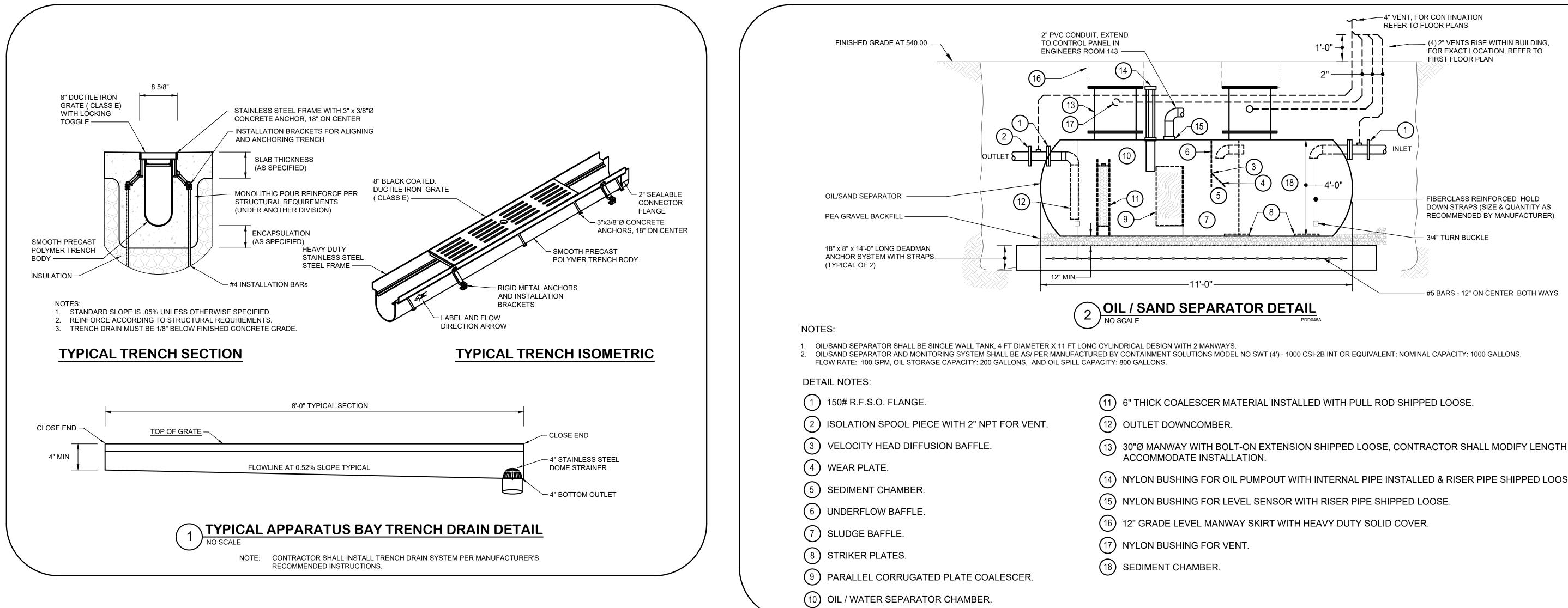




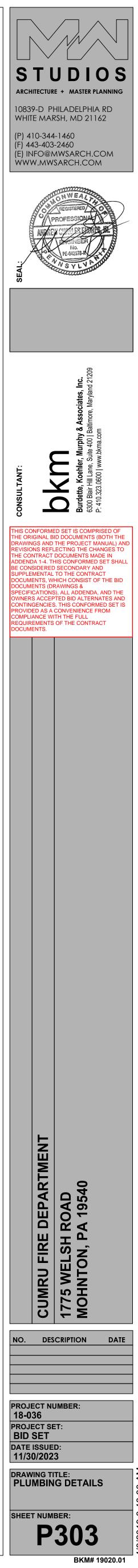




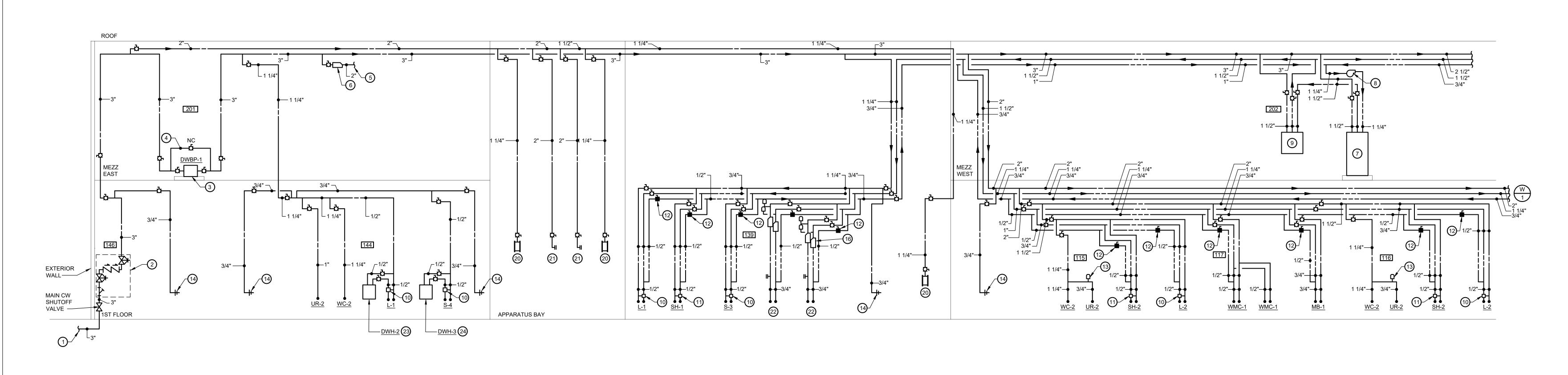


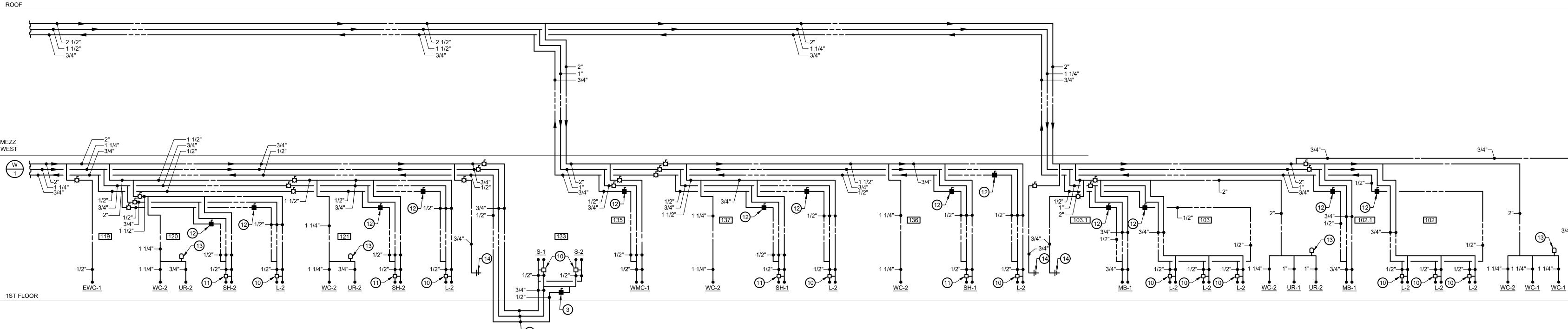


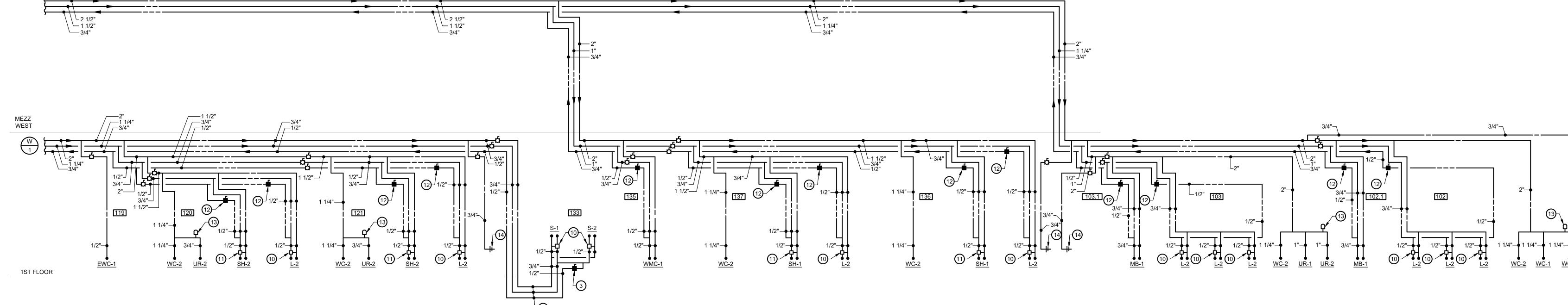
- (13) 30"Ø MANWAY WITH BOLT-ON EXTENSION SHIPPED LOOSE, CONTRACTOR SHALL MODIFY LENGTH TO
- (14) NYLON BUSHING FOR OIL PUMPOUT WITH INTERNAL PIPE INSTALLED & RISER PIPE SHIPPED LOOSE.



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DOMESTIC WATER RISER DIAGRAM NO SCALE

GENERAL NOTES:

- 1. REFER TO P001 FOR PLUMBING LEGEND, ABBREVIATIONS, SCHEDULES AND GENERAL NOTES.
- 2. ALL VALVES SHALL BE INSTALL IN AN ACCESSIBLE AREA.

DRAWING NOTES:

- 1. 3" INCOMING DOMESTIC WATER SERVICE, FOR CONTINUATION, REFER TO CIVIL DRAWINGS. 2. 3" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
- ASSEMBLY WITH STRAINER (VERTICAL UP-VERTICAL UP POSITION), REFER TO DETAIL.
- 3. DOMESTIC WATER BOOSTER PUMP, <u>DWBP-1</u>, REFER TO DETAILS.
- 4. FULL LINE SIZE BYPASS WITH NORMALLY CLOSED VALVE. 5. 2" COLD WATER MAKEUP TO MECHANICAL EQUIPMENT, PROVIDE
- SHUT-OFF BALL VALVE AND REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER.
- 6. 2" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER.
- 7. DOMESTIC WATER HEATER, <u>DWH-1</u>, REFER TO DETAIL. 8. DOMESTIC HOT WATER RECIRCULATING PUMP, DHWR-1, REFER TO DETAIL.
- 9. DOMESTIC HOT WATER MASTER MIXING VALVE, <u>DWMV-1</u>, REFER TO DETAIL.
- 10. POINT-OF-USE THERMOSTATIC MIXING VALVE, LAWLER MODEL NO. 570 (ASSE 1070).
- 11. COMBINED PRESSURE BALANCING/THERMOSTATIC SHOWER MIXING VALVE, ASSE 1016.
- 12. COMBINATION SHUT-OFF VALVE AND BALANCE FITTING (SET AT 0.5 GPM), REFER TO DETAIL.
- 13. WATER HAMMER ARRESTER, SIZE TO PDI WH-201.

- 16. BACKFLOW PREVENTER. (TYPICAL)

- CONDUIT, PROVIDE SEAMLESS SOFT COPPER TUBING WITH NO FITTINGS.
- COLUMN AT 36" ABOVE FINISHED FLOOR.
- FINAL CONNECTION.
- REFER TO SCHEDULE.
- REFER TO SCHEDULE.

14. 3/4" NON-FREEZE WALL HYDRANT WITH VACUUM BREAKER.

15. 3/4" NON-FREEZE COLD WATER HOSE BIBB WITH VACUUM BREAKER.

17. ICE MAKER & FILTER ASSEMBLY PROVIDED UNDER ANOTHER DIVISION, UNDER THIS DIVISION PROVIDE SHUT-OFF BALL VALVES AND BACKFLOW PREVENTER, ROUGH-IN & FINAL CONNECTION.

18. AUTOMATIC TRAP PRIMING STATION <u>TPS-1</u>, REFER TO DETAIL. 19. 1/2" HWR, 3/4" HW & 3/4" CW INSULATED PIPING LOCATED IN 6" PVC

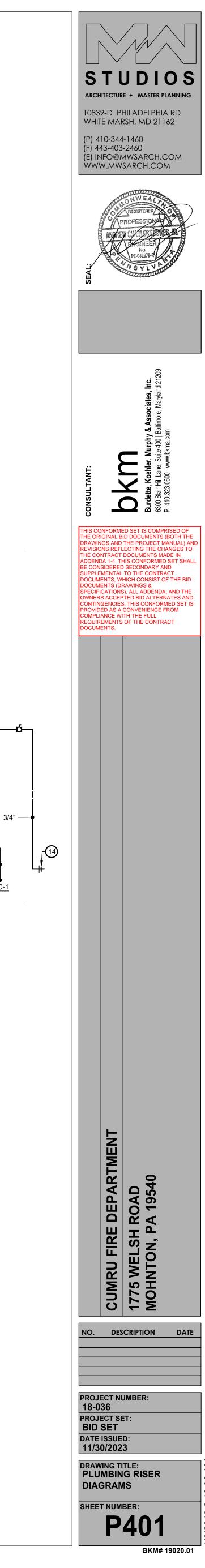
20. WATER HOSE REEL, PROVIDE REELCRAFT MODEL # D9399 OLPBW SERIES 8000 HOSE REEL OR EQUIVALENT, LOW PRESSURE, SPRING RETRACTABLE HOSE REEL ASSEMBLY WITH INLET CONNECTION HOSES FOR WATER, DUAL PEDESTAL BASE AND GUIDE ARM DESIGN, 100' X 3/4" LOW PRESSURE HOSE, STANDARD FINISH, SHUT-OFF BALI VALVE, ROUGH-IN AND FINAL CONNECTION. MOUNT HOSE REEL TO

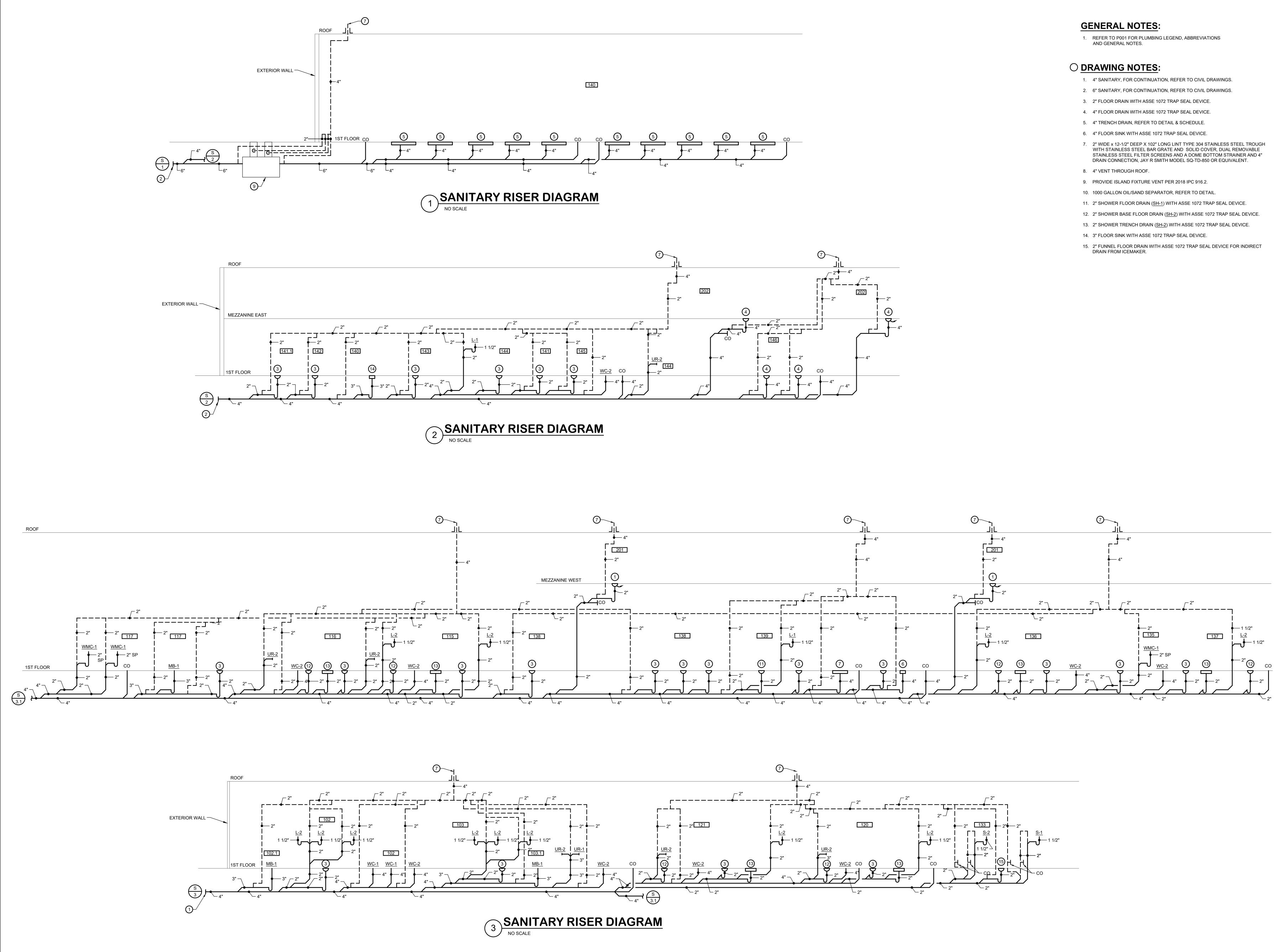
21. 2" CW DOWN WITH PIPE SUPPORTED ALONG COLUMN TO 36" ABOVE FINISHED FLOOR, PROVIDE 2" THREADED HOSE END CONNECTION WITH BALL VALVE, PLUMBING CONTRACTOR SHALL COORDINATE WITH OWNER ON THE SIZE AND TYPE OF HOSE END THREAD.

22. 1/2" HWR, 1" HW & 1" CW DOWN TO EXTRACTOR, EXTRACTOR UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE ROUGH-IN &

23. INSTANTANEOUS ELECTRIC DOMESTIC WATER HEATER, DWH-2,

24. INSTANTANEOUS ELECTRIC DOMESTIC WATER HEATER, DWH-3,

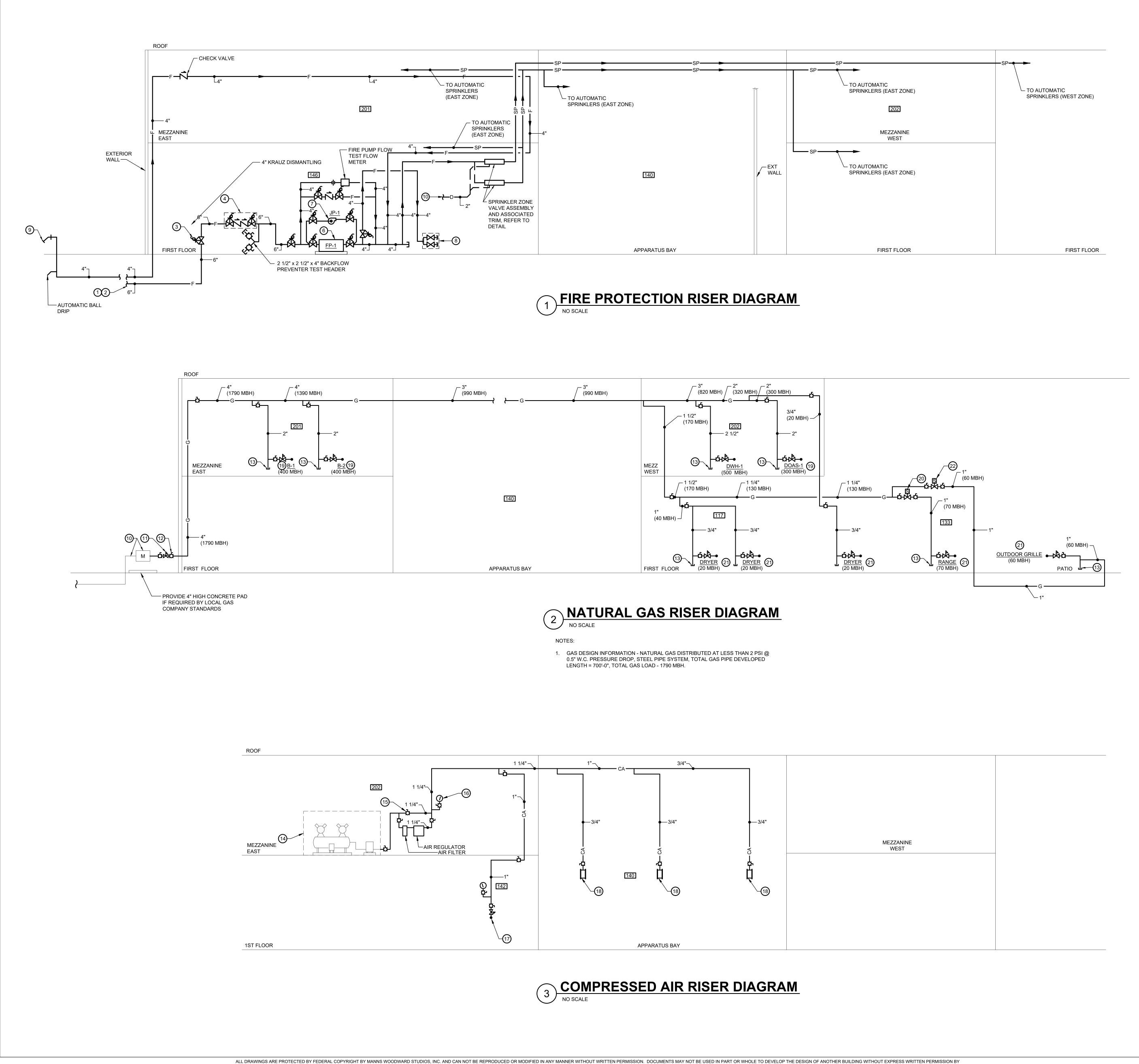




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CONSULTANT:		DKI	Burdette, Koehler, Murphy & Associates, Inc. 6300 Blair Hill and Suite 4001 Baltimore, Marvland 21209		
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MANNS WOODWARD STUDIOS.

GENERAL NOTES:

- 1. REFER TO P001 FOR FIRE PROTECTION LEGEND, ABBREVIATIONS, SCHEDULES & GENERAL NOTES.
- 2. ALL VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.
- 3. PROVIDE AIR RELEASE FITTINGS AS REQUIRED PER NPFA 13. DISCHARGE DRAIN THROUGH EXTERIOR WALL, COORDINATE LOCATIONS OF DRAINS WITH OWNER/ARCHITECT.
- 4. ALL FIRE AND SPRINKLER PIPING AND APPURTENANCES SHALL CONFORM
- TO NFPA 13 & 20. 5. ALL FIRE PIPING AND FITTINGS SHALL BE CLASS 250 PSI WORKING
- PRESSURE.
- 6. ALL LOW POINTS IN THE COMPRESSED AIR SYSTEM SHALL BE PROVIDED WITH A DRAIN VALVE AND CAP, DRAIN VALVES SHALL BE ACCESSIBLE FROM FLOOR LEVEL.

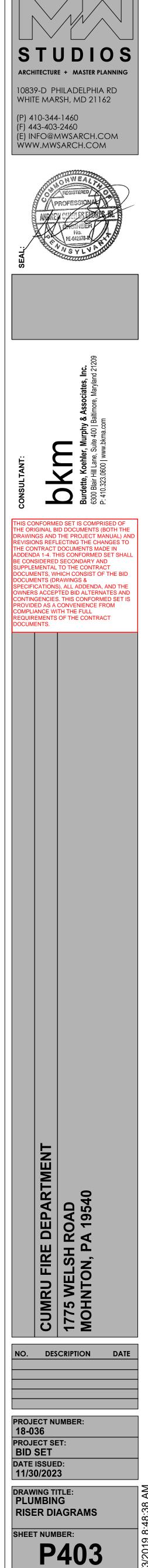
O DRAWING NOTES:

- 1. 6" INCOMING FIRE PROTECTION WATER SERVICE.
- 2. FOR CONTINUATION, REFER TO FLOOR PLANS.
- OS&Y GATE VALVE WITH TAMPER SWITCH (TYPICAL).
- 4. REDUCED PRESSURE PRINCIPLE DETECTOR BACKFLOW PREVENTER, REFER TO DETAIL.
- 5. SPRINKLER ZONE VALVE ASSEMBLY, REFER TO DETAIL.
- 6. FIRE PUMP, REFER TO DETAIL.
- 7. JOCKEY PUMP, REFER TO DETAIL.
- 8. REMOVABLE FIRE PUMP TEST HEADER, PROVIDE (2) 2 1/2" VALVES x 4" SUPPLY PIPE.
- 9. PROVIDE POST TYPE FIRE DEPARTMENT SIAMESE CONNECTION WITH 5" STORZ CONNECTION. MOUNT 36" ABOVE FINISHED GRADE, REFER TO PLUMBING SITE PLAN. 10. INCOMING GAS SERVICE AND GAS METER ASSEMBLY, VALVES,
- REGULATORS AND ALL ASSOCIATED APPURTENANCES BY LOCAL GAS COMPANY.
- 11. GAS PRESSURE REDUCING VALVE (INCHES TO INCHES). (TYPICAL)
- 12. BUILDING MAIN GAS SHUT-OFF VALVE.
- 13. FULL SIZE DIRT LEG.
- 14. AIR COMPRESSOR, AIR COMPRESSOR PROVIDED UNDER ANOTHER DIVISION. UNDER THIS DIVISION, PROVIDE SHUT-OFF BALL VALVE, AIR REGULATOR, AIR FILTER, ROUGH-IN & FINAL CONNECTION.
- 15. FULL SIZE BY-PASS VALVE (NORMALLY CLOSED).
- 16. PRESSURE GAUGE.
- 17. 1" COMPRESSED AIR WITH SHUT-OFF BALL VALVE, REGULATOR AND QUICK-DISCONNECT, PROVIDE ROUGH-IN AND FINAL CONNECTION. MOUNT OUTLET AT 48" ABOVE FINISHED FLOOR.
- 18. 3/4" COMPRESSED AIR TO HOSE REEL, PROVIDE REELCRAFT MODEL # D9399 OLPBW HOSE REEL OR EQUIVALENT, LOW PRESSURE, SPRING RETRACTABLE HOSE REEL ASSEMBLY WITH INLET CONNECTION HOSES FOR AIR, DUAL PEDESTAL BASE AND GUIDE ARM DESIGN, 100' X 3/4" LOW PRESSURE HOSE, STANDARD FINISH, SHUT-OFF BALL VALVE, REGULATOR, ROUGH-IN AND FINAL CONNECTION. MOUNT HOSE REEL TO COLUMN AT 84" ABOVE FINISHED FLOOR.
- 19. EQUIPMENT PROVIDED UNDER ANOTHER DIVISION, UNDER THIS DIVISION, PROVIDE SHUT-OFF VALVE, REGULATOR, ROUGH-IN AND FINAL CONNECTION.
- 20. GAS SOLENOID SHUT-OFF VALVE WITH MANUAL RESET SHALL BE INSTALLED WITH KITCHEN EXHAUST HOOD FIRE SUPPRESSION SYSTEM, KITCHEN HOOD EXHAUST FAN AND FIRE DEPARTMENT CALL CENTER. VALVE SHALL BE LOCATED ABOVE ACCESSIBLE CEILING IN KITCHEN. SHUT-OFF VALVE SHALL BE INTERLOCKED AS FOLLOWS:
- A. WHEN EXHAUST FAN IS ENERGIZED, SHUT-OFF VALVE SHALL OPEN.
- B. WHEN EXHAUST FAN IS DE-ENERGIZED, SHUT-OFF VALVE SHALL CLOSE
- C. WHEN FIRE SUPPRESSION SYSTEM IS ACTIVATED, SHUT-OFF VALVE SHALL CLOSE.
- D. WHEN FIRE DEPARTMENT CALL CENTER IS ACTIVATED, SHUT-OFF VALVE SHALL CLOSE.
- E. COORDINATE WITH ATC, FIRE ALARM SYSTEM AND KITCHEN HOOD
- 21. EQUIPMENT PROVIDED UNDER ANOTHER DIVISION. UNDER THIS DIVISION, PROVIDE SHUT-OFF VALVE, GAS REGULATOR, FLEXIBLE HOSE CONNECTION, ROUGH-IN AND FINAL CONNECTION.

PROVIDER/INSTALLER.

- 22. GAS SOLENOID SHUT-OFF VALVE WITH MANUAL RESET SHALL BE INSTALLED WITH OUTDOOR GRILLE AND FIRE DEPARTMENT CALL CENTER. VALVE SHALL BE LOCATED ABOVE ACCESSIBLE CEILING. SHUT-OFF VALVE SHALL BE INTERLOCKED AS FOLLOWS:
- A. GAS SOLENOID SHUT-OFF VALVE WITH MANUAL RESET SHALL BE NORMALLY OPEN.
- B. WHEN FIRE SUPPRESSION SYSTEM IS ACTIVATED, SHUT-OFF VALVE SHALL CLOSE.
- C. WHEN FIRE DEPARTMENT CALL CENTER IS ACTIVATED, SHUT-OFF VALVE SHALL CLOSE.
- D. COORDINATE WITH ATC, FIRE ALARM SYSTEM AND OUTDOOR GRILLE PROVIDER/INSTALLER.





BKM# 19020.01

ELECTRI		ELECTRICAL ABBREVIATIONS	1. REFER TO ARC
DRAWING SYMBOLS	LIGHTING PLAN SYMBOLS	A AMPERE AC ALTERNATING CURRENT AFC ABOVE FINISHED COUNTER	2. DRAWINGS SH
(#) DRAWING NOTE (APPLIES TO THIS DRAWING ONLY)	UPPER CASE - FIXTURE TYPE (TYPICAL FOR ALL	AFC ABOVE FINISHED COUNTER AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE	LOCATIONS AN 3. REFER TO ARC
DETAIL, SECTION OR ELEVATION NUMBER	LIGHTING FIXTURES) - SEE LIGHTING FIXTURE SCHEDULE	AHU AIR HANDLING UNIT AIC AMPERE INTERRUPTING CAPACITY	LIGHTING FIXT
DRAWING NUMBER	O O LIGHTING FIXTURE: DOWNLIGHT, 2' x 4' & 2' x 2'	ANSI AMERICAN NAT'L STANDARDS INSTIT. ASYM ASYMMETRICAL	4. REFER TO ARC DEVICES AND
REVISION NUMBER - CLOUDED AREA ON DRAWING CONTAINS REVISION	a LOWER CASE - INDICATES CONTROLLING SWITCH(ES) (TYPICAL FOR ALL LIGHTING FIXTURES)	ATC AUTOMATIC TEMPERATURE CONTROL AWG AMERICAN WIRE GAUGE	5. THE ELECTRIC OTHER TRADE
	LED LIGHTING FIXTURE	BATT BATTERY BLDG BUILDING C CONDUIT	DRAWINGS AN PRIOR TO ROL
ELECTRICAL POWER PLAN SYMBOLS	LED LIGHTING FIXTURE, INDUSTRIAL TYPE	CB CIRCUIT BREAKER CKT CIRCUIT	6. REFER TO ME ELECTRICAL C
ELECTRICAL CIRCUIT - 2 #12, 1 #12 GW IN 3/4" CONDUIT, U.O.N.	LIGHTING FIXTURE ON EMERGENCY CIRCUIT	CLG CEILING CT CURRENT TRANSFORMER	7. WHEREVER PO DRAWINGS FC
	LIGHTING FIXTURE, WALL WASHER - SEE LIGHTING FIXTURE SCHEDULE	CTR CENTER CU COPPER CX CONNECT TO EXISTING	ROUGH-IN. TH BY THE CONT
HOMERUN TO PANELBOARD	CH LIGHTING FIXTURE, WALL MOUNTED - SEE LIGHTING	DB DIRECT BURIAL DIA DIAMETER	8. IT IS THE INTE INSTALLED IN
ELECTRICAL CIRCUIT CONCEALED BELOW GRADE OR	FIXTURE SCHEDULE	DN DOWN DWG DRAWING	WALLS, FLOOF SHALL BE PRO PERMITTED IN
CONDUIT TURNING UP	FIXTURE SCHEDULE	ECB ENCLOSED CIRCUIT BREAKER EF EXHAUST FAN	BY THE ARCHI
CONDUIT TURNING DOWN	EXIT LIGHT - DARKENED SECTION INDICATES FACE WITH DIRECTIONAL ARROWS AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE	ELEC ELECTRIC / ELECTRICAL EMER EMERGENCY EMT ELECTRICAL METALLIC TUBING	9. PRIOR TO PUR (STARTERS, E CHARACTERIS
JUNCTION BOX: CEILING, WALL OR FLUSH-FLOOR MOUNTED	SELF-CONTAINED, BATTERY POWERED EMERGENCY LIGHT	EQUIP EQUIPMENT ETR EXISTING TO REMAIN	ACTUAL MOTO 10. PROVIDE EQU
GFI DUPLEX RECEPTACLE - 2P, 3W, 2OA, 125V, NEMA 5-20R IN	WITH TWIN LAWPHEAD. SEE LIGHTING FIXTORE SCHEDULE	EWC ELECTRIC WATER COOLER EX EXISTING	11. WHERE CIRCU
x" RECESSED OUTLET BOX, 18" A.F.F., U.O.N.: xx" - DENOTES MOUNTING HEIGHT. WP - WEATHERPROOF. MW - MICROWAVE.	SITE LIGHTING FIXTURE, POLE MOUNTED. SEE LIGHTING FIXTURE SCHEDULE	FA FIRE ALARM FAP FIRE ALARM ANNUNCIATOR PANEL FACP FIRE ALARM CONTROL PANEL	GROUND IN 3/4 ADDITIONAL C DIMMING DRIV
GFI - GROUND FAULT CIRCUIT INTERRUPTER, RE - REFRIGERATOR	LOW VOLTAGE SWITCH - SUBSCRIPT INDICATES S _a FIXTURES CONTROLLED BY THE SWITCH (TYPICAL FOR	FCU FAN COLL UNIT FDR FEEDER	OF CONDUCTO
	ALL LIGHTING SWITCHES), 48" A.F.F., U.O.N.: 3 - THREE WAY TOGGLE SWITCH,	FFUSED OR FUSIBLEFLAFULL LOAD AMPERES	12. COORDINATE REQUIRED. PR GROUNDS, ET
DUPLEX RECEPTACLE, MOUNTED 6" ABOVE COUNTERTOP BACK SPLASH UNLESS OTHERWISE NOTED	4 - FOUR WAY TOGGLE SWITCH, D - DIMMER SWITCH, O - WALL MTD. OCCUPANCY SENSOR,	FSS FUSED SAFETY SWITCH FVNR FULL VOLTAGE NON-REVERSING GFI GROUND FAULT CIRCUIT INTERRUPTER	DONE BY ELEC SUPPLIER FOR
DUPLEX RECEPTACLE - 2P, 3W, 2OA, 125V, NEMA 5-2OR IN SURFACE OUTLET BOX, SURFACE MOUNTED, 18" A.F.F., U.O.N.	WP - WEATHERPROOF, EPO - EMERGENCY POWER OFF	GFI GROUND FAULT CIRCUIT INTERRUPTER GW GROUND WIRE GND GROUND	PARTITIONS S CIRCUITS DISC
TWO DUPLEX RECEPTACLES WITH COMMON FACEPLATE 2P, 3W, 2OA, 125V, NEMA 5-20R IN RECESSED TWO-GANG		HOA HAND-OFF-AUTOMATIC HP HORSEPOWER	13. COORDINATE CIRCUITS WIT
OUTLET BOX, 18" A.F.F., U.O.N.	PC PHOTOELECTRIC CONTROL	HZ HERTZ JB JUNCTION BOX	14. FEEDERS AND
TWO DUPLEX RECEPTACLES WITH COMMON FACEPLATE IN SURFACE OUTLET BOX, SURFACE MOUNTED, 18" A.F.F., U.O.N.	TC TIME CLOCK	KCMIL THOUSAND CIRCULAR MILS KVA KILOVOLT-AMPERE KW KILOWATT	15. UNLESS NOTE BEEN SIZED B TYPE. FOR OT
	FIRE ALARM SYMBOLS	LTG LIGHTING MCB MAIN CIRCUIT BREAKER	310.15(B)(16) F
DUPLEX RECEPTACLE - 2P, 3W, 2OA, 125V, NEMA 5-2OR IN		MCC MOTOR CONTROL CENTER MCP MOTOR CIRCUIT PROTECTOR	16. THE CONTRAC FIRE RATED W SIDES OF THE
TEOSITIMOONTED TEOOR OUTEET BOX	X 15FIRE ALARM VISUAL DEVICE, SUBSCRIPT DENOTES CANDELA RATING, 80" A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER.	MDP MAIN DISTRIBUTION PANEL MECH MECHANICAL MH MANHOLE	SPACING CAN REQUIREMEN
TWO DUPLEX RECEPTACLES WITH COMMON FACEPLATE 2P, 3W, 2OA, 125V, NEMA 5-2OR IN FLUSH MOUNTED TWO-GANG FLOOR OUTLET BOX	FIRE ALARM HORN WITH VISUAL DEVICE, 15 SUBSCRIPT DENOTES CANDELA RATING, 80" A.F.F.	MH MANHOLE MLO MAIN LUGS ONLY MTD MOUNTED	SOME OTHER 17. WHERE LIGHT
POWER POLE WITH DUPLEX RECEPTACLE	OR 6" BELOW CEILING, WHICHEVER IS LOWER.	MT HT MOUNTING HEIGHT NEC NATIONAL ELECTRICAL CODE	MULTIGANG P SHALL BE BAS
POWER POLE WITH DUPLEX RECEPTACLE AND TELEPHONE OUTLET	FIRE ALARM MANUAL STATION, 48" A.F.F., U.O.N.	NEMA NATIONAL ELECTRICAL MANUF. ASSOC. NF NON-FUSED	OF SWITCHES 18. ON THE ROOF
SPECIAL RECEPTACLE, 18" A.F.F. U.O.N. (TYPE AS NOTED)	FIRE ALARM HEAT DETECTOR	NFSS NON-FUSED SAFETY SWITCH NIC NOT IN CONTRACT NTS NOT TO SCALE	19. CIRCUIT NUME CIRCUIT NUME
1 - <u>RANGE</u> : NEMA '14-50' RECEPTACLE, 30" A.F.F. 2 - DRYER: NEMA '14-30' RECEPTACLE, 30" A.F.F.	FIRE ALARM SMOKE DETECTOR	PH or Ø PHASE P POLE	20. PROVIDE LABE
3 - <u>SERVER RACK</u> : NEMA 'L6-30P', 30A, 208V.		PB PUSH BUTTON PNL PANEL	SOURCE PANE DIRECTION ON IF ON BACK SI
PANELBOARD, RECESSED OR SURFACE MOUNTED	SPRINKLER FLOW SWITCH	PVC POLYVINYL CHLORIDE RM ROOM RX REMOVE EXISTING	ON FRONT OF WITH BLACK L
C ELECTRICAL MOTOR	SPRINKLER PRESSURE SWITCH	SW SWITCH SCHED SCHEDULE	LABEL IS AS F ALREADY IN P FOR IN THIS N
S _M MOTOR SWITCH WITH THERMAL OVERLOAD	SMOKE DETECTOR, DUCT TYPE	SD SMOKE DAMPER SEC SECONDARY	21. ALL EQUIPMEN HAVE ITS AVAI
COMBINATION MAGNETIC MOTOR STARTER WITH MCP OR FUSIBLE DISCONNECT SWITCH	HG FIRE ALARM BELL / GONG	SFA SPRINKLER FLOW ALARM SS SAFETY SWITCH SYM SYMMETRICAL	22. CABLES AND C
MAGNETIC MOTOR CONTROLLER/STARTER	FIRE ALARM SYSTEM MAGNETIC DOOR HOLDER	TEL TELEPHONE TTB TELEPHONE TERMINAL BOARD	2017 300.4 (E). 23. ALL PANELBO
DISCONNECT SWITCH	FACP FIRE ALARM CONTROL PANEL	TYP TYPICAL UG UNDERGROUND	SWITCHES SH
	FAP FIRE ALARM ANNUNCIATOR PANEL	UH UNIT HEATER UON UNLESS OTHERWISE NOTED	24. MECHANICAL I MECHANICAL I SUBMITTED TH
ELECTRICAL POWER RISER SYMBOLS	CO CARBON MONOXIDE DETECTOR	UPS UNINTERUPTIBLE POWER SYSTEM V VOLT VPS VALVE POSITION (TAMPER) SWITCH	CONTINGENT INCLUDING AN THE CONTRAC
90A FUSE - NUMERAL INDICATES FUSE AMPERE RATING	SDECIAL SYSTEMS SYMPOLS	W WIRE WP WEATHERPROOF	25. ALL EQUIPMEN
90A LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER, RATING AS INDICATED, SEE SCHEDULE FOR TYPE	SPECIAL SYSTEMS SYMBOLS	XFMR TRANSFORMER	TERMINATION 60 DEGREES F NO COST TO T
AND ACCESSORIES	W TELEPHONE OUTLET, 48" AFF, UON		26. ALL TRANSFO
LOW VOLTAGE DRAW-OUT CIRCUIT BREAKER, RATING AS INDICATED, SEE SCHEDULE FOR TYPE AND ACCESSORIES	COMBINATION TELEPHONE/DATA OUTLET, 18" AFF UON. TV - TELEVISION. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. AT EACH "TV/" OUTLET LOCATION SHOWN		27. CONTRACTOR TO WITHIN 109
TRANSFORMER, TYPE AS NOTED ON DRAWING	WITH ARCHITECT. AT EACH "TV" OUTLET LOCATION SHOWN, PROVIDE (1) COAX AND (1) DATA OUTLET WITH 1" CONDUIT UP TO ACCESSIBLE CEILING.		NEEDED. REFE MEASURE LOA
	FLOOR MOUNTED TELEPHONE/DATA OUTLET		OUTAGES AND
AUTOMATIC TRANSFER SWITCH	CR ACCESS CONTROL CARD READER. PROVIDE JUNCTION BOX WITH PULL WIRE.		_
			SEISMIC DE
CURRENT TRANSFORMER			1. THIS FIRE STA OCCUPANCY (DRAWINGS FC
→ SE POTENTIAL TRANSFORMER Δ 3 PHASE DELTA CONNECTION			2. ALL ELECTRIC
3 PHASE DELTA CONNECTION WITH GROUNDED NEUTRAL			OPERATION O A COMPONEN ASCE 7.
÷ GROUNDING			3. THE ELECTRIC PREPARED IN
-			PROFESSION/ QUALIFIED TO
			INCLUDE SEP/ DEVICE, OR EI BE REQUIRED
			COMPONENTS REQUIREMEN

SMIC DESIGN REQUIREMENTS:

- DRAWINGS FOR SEISMIC DESIGN DATA.
- ASCE 7.
- COMPONENTS. REFER TO SEISMIC SPECIFICATION SECTION 260549 FOR ADDITIONAL

NERAL NEW WORK NOTES:

REFER TO ARCHITECTURAL DRAWINGS FOR ROOM NAME LIST.

DRAWINGS SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES AND DEVICES. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF

REFER TO ARCHITECTURAL DRAWINGS FOR COLORS AND FINISHES FOR WIRING

THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES. THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ALL OTHER DRAWINGS AND SPECIFICATIONS SHALL BE CONSULTED AND COORDINATED WITH

REFER TO MECHANICAL PLANS FOR EXACT MECHANICAL EQUIPMENT LOCATION & ELECTRICAL CONNECTION REQUIREMENTS.

WHEREVER POSSIBLE, THE CONTRACTOR SHALL OBTAIN ACTUAL ROUGH-IN DRAWINGS FOR THE ACTUAL ITEM OF EQUIPMENT TO BE INSTALLED PRIOR TO ROUGH-IN. THIS SHALL APPLY TO ALL EQUIPMENT, WHETHER IT IS TO BE INSTALLED BY THE CONTRACTOR OR BY THE OWNER.

IT IS THE INTENT OF THESE DRAWINGS THAT ALL NEW ELECTRICAL WORK TO BE INSTALLED IN FINISHED AREAS, BE INSTALLED CONCEALED WITHIN NEW OR EXISTING WALLS, FLOORS OR CEILINGS. ANY AND ALL CUTTING AND PATCHING OF SURFACES SHALL BE PROVIDED BY THE CONTRACTOR. SURFACE METAL RACEWAYS SHALL BE PERMITTED IN FINISHED AREAS ONLY WHERE SPECIFICALLY APPROVED IN THE FIELD

PRIOR TO PURCHASE AND INSTALLATION OF ANY MOTOR CONTROL EQUIPMENT (STARTERS, ETC.), THE CONTRACTOR SHALL VERIFY THE ACTUAL MOTOR ELECTRICAL CHARACTERISTICS. STARTER OVERLOADS SHALL BE SIZED IN ACCORDANCE WITH THE ACTUAL MOTOR RUNNING LOAD AMPERES.

PROVIDE EQUIPMENT GROUNDING CONDUCTORS FOR ALL FEEDERS AND CIRCUITS. WHERE CIRCUIT AND HOMERUN LINES ARE NOT SHOWN, PROVIDE MINIMUM 2#12+1#12 GROUND IN 3/4" CONDUIT. CIRCUITS SHALL NOT SHARE NEUTRAL. PROVIDE ADDITIONAL CONDUCTORS FOR LIGHTING CIRCUITS FOR SWITCHLEGS, TRAVELLERS, DIMMING DRIVERS, ETC. REFER TO BRANCH CIRCUIT WIRE SIZING CHART FOR SIZING OF CONDUCTORS FOR LONG CIRCUITS.

COORDINATE WITH SYSTEMS FURNITURE SUPPLIER FOR CIRCUIT CONFIGURATION REQUIRED. PROVIDE OVERSIZED NEUTRALS, SEPARATE NEUTRALS, ISOLATED GROUNDS, ETC. AS REQUIRED. FINAL CONNECTION OF SYSTEM FURNITURE SHALL BE DONE BY ELECTRICAL CONTRACTOR. COORDINATE WITH SYSTEM FURNITURE SUPPLIER FOR SPECIFICATIONS. SYSTEMS FURNITURE AND DEMOUNTABLE PARTITIONS SERVED BY MULTIWIRE BRANCH CIRCUITS SHALL BE ABLE TO HAVE ALL CIRCUITS DISCONNECTED SIMULTANEOUSLY BY MULTI-POLE CIRCUIT BREAKERS.

COORDINATE NUMBER AND TYPE OF CONDUCTORS REQUIRED FOR DIMMING CIRCUITS WITH TYPE OF DIMMING DRIVER/DIMMER SWITCHES TO BE PROVIDED.

FEEDERS AND BRANCH CIRCUITS SHALL BE TYPE THHN/THWN IN CONDUIT.

UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHOWN ON THESE DRAWINGS HAVE BEEN SIZED BASED ON COPPER IN ACCORDANCE WITH 75° C (167° F) INSULATION TYPE. FOR OTHER TYPES OF CABLE, SIZE ACCORDING TO NEC 2017 TABLE 310.15(B)(16) FOR PROPER AMPACITY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING OF ANY FIRE RATED WALLS. WALL RECESSED ELECTRICAL BOXES THAT ARE ON OPPOSITE SIDES OF THESE RATED WALLS SHALL BE SEPARATED BY A MINIMUM OF 24". IF THIS SPACING CANNOT BE MET WHILE ADHERING TO NEC AND FHA SPACING REQUIREMENTS, THE CONTRACTOR SHALL PROVIDE LISTED PUTTY PADS OR PROVIDE SOME OTHER MEANS OF ADHERING TO IBC 2015 SECTION 714.3.2.

WHERE LIGHT SWITCHES ARE SHOWN GROUPED TOGETHER, THEY SHALL BE UNDER MULTIGANG PLATE. WHERE DIMMER SWITCHES ARE USED, SELECTION OF CAPACITY SHALL BE BASED ON LOAD SERVED AND ANY DE-RATING REQUIRED DUE TO GANGING

ON THE ROOF, XHHW-2 CONDUCTORS SHALL BE USED PER NEC 2017.

CIRCUIT NUMBERS INDICATED ARE FOR CLARIFICATION OF GROUPING ONLY. ADJUST CIRCUIT NUMBERS TO COORDINATE WITH ACTUAL CIRCUIT BREAKERS USED. PROVIDE LABEL ON ALL RECEPTACLE COVER PLATES. LABEL SHALL INDICATE

SOURCE PANEL & CIRCUIT NUMBER, COORDINATE WITH ARCHITECT & OWNER FOR DIRECTION ON WHETHER TO PUT LABEL ON FRONT OR BACK SIDE OF COVER PLATE. IF ON BACK SIDE OF COVER PLATE, USE PERMANENT, INDELIBLE, BLACK MARKER. IF ON FRONT OF COVER PLATE, PROVIDE LAMINATED POLYESTER, STICK-ON TYPE LABEL WITH BLACK LETTERING ON CLEAR BACKGROUND (SEE SPECIFICATION). FORMAT LABEL IS AS FOLLOWS: PANEL NAME - CIRCUIT NUMBER. IF BUILDING STANDARD IS ALREADY IN PLACE, USE THE BUILDING STANDARD IN LIEU OF THE LABELING CALLED

ALL EQUIPMENT IN THE FAULT CURRENT / COORDINATION / ARC FLASH STUDY SHALL HAVE ITS AVAILABLE FAULT CURRENT LABELED IN THE FIELD PER NEC 2017 110.24. CABLES AND CONDUITS RUN UNDER ROOF DECKING SHALL BE INSTALLED PER NEC

ALL PANELBOARDS, SWITCHBOARDS, ECB's, TRANSFORMERS, AND DISCONNECT SWITCHES SHALL BE LABELED AS TO THEIR SOURCE PER NEC 2017 408.4 (B).

MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS ARE SIZED BASED ON THE MECHANICAL BASIS OF DESIGN (BOD). IF OTHER MECHANICAL EQUIPMENT IS SUBMITTED THAT IS OTHERWISE EQUAL TO THE BOD, IT MAY BE APPROVED CONTINGENT ON THE REQUIREMENT THAT ANY ADDITIONAL ELECTRICAL COST, INCLUDING ANY POSSIBLE DESIGN AND/OR ENGINEERING COST, BE ABSORBED BY THE CONTRACTOR AT NO COST TO THE OWNER.

ALL EQUIPMENT TERMINATIONS SHALL BE RATED AT 75 DEGREES. IF ANY EQUIPMENT TERMINATIONS ARE RATED AT 60 DEGREES, CONTRACTOR SHALL DERATE CABLES TO 60 DEGREES PER NEC 2017 ARTICLE 110.14(C)(1)(a) AND NEC 2017 ARTICLE 310.15 AT

ALL TRANSFORMER COILS SHALL BE COPPER. NO ALUMINUM SHALL BE PERMITTED. CONTRACTOR SHALL BALANCE LOADS ON EACH PHASE OF MAIN DISTRIBUTION PANEL TO WITHIN 10% OF EACH OTHER. ADJUST LOADS IN DOWNSTREAM PANELS AS NEEDED. REFER TO PANEL SPECIFICATIONS FOR ADDITIONAL INFORMATION. MEASURE LOADS AFTER SUBSTANTIAL COMPLETION. ADJUST DURING PLANNED OUTAGES AND RE-TEST VOLTAGES UNTIL WITHIN 10%.

THIS FIRE STATION IS ASSIGNED TO SEISMIC DESIGN CATEGORY D AND IS OCCUPANCY CATEGORY IV AS DEFINED BY CHAPTER 1 OF ASCE 7. SEE STRUCTURAL

ALL ELECTRICAL SYSTEMS AND EQUIPMENT ARE REQUIRED FOR THE CONTINUED OPERATION OF THE FIRE STATION AFTER AN EARTHQUAKE AND SHALL BE ASSIGNED A COMPONENT IMPORTANCE FACTOR OF 1.5 IN ACCORDANCE WITH CHAPTER 13 OF

THE ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS PREPARED IN ACCORDANCE WITH THE IBC AND ASCE 7 BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PENNSYLVANIA WHO IS QUALIFIED TO DESIGN SEISMIC RESTRAINT SYSTEMS. SHOP DRAWINGS SHALL INCLUDE SEPARATE DETAILS AND CALCULATIONS FOR EACH SEPARATE SYSTEM, DEVICE, OR ELEMENT. THE APPROVAL OF SEISMIC BRACING SHOP DRAWINGS SHALL BE REQUIRED PRIOR TO THE INSTALLATION OF ANY BUILDING SYSTEMS OR

GENERAL NOTES - SPECIAL SYSTEMS:

- A. ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR COORDINATING WITH SPECIAL SYSTEMS SUPPLIERS AND INSTALLERS FOR TELECOMMUNICATIONS, SECURITY, AND A/V WORK.
- B. EC SHALL PERFORM ALL ROUGH-IN WORK FOR SPECIAL SYSTEMS INCLUDING CONDUITS, BOXES, CABLES, TERMINAL PLATES AND CABLE TRAY (IF APPLICABLE). ALL DATA CABLING SHALL BE CAT 6. THE CONTRACTOR SHALL BE REQUIRED TO TEST ALL CABLES PRIOR TO FINAL TERMINATION. FINAL TERMINATIONS ON EQUIPMENT SHALL BE BY THE OWNER.
- C. EC SHALL PERFORM ALL WORK FOR GROUNDING SYSTEM AS REQUIRED FOR SPECIAL SYSTEMS INCLUDING GROUNDING CONDUCTORS, NEW GROUND BUSES, AND BONDING CONNECTIONS. ALL GROUNDING SHALL BE PER THE NEC.
- D. AV & IT SYSTEM ACTIVE EQUIPMENT SUCH AS SERVERS, NETWORK SWITCHES, AV EQUIPMENT AND DEVICES, IT RACKS, ETC. ARE NOT IN CONTRACT.

BUSHED.

- E. ALL SPECIAL SYSTEM CONDUITS INCLUDING SERVICE CONDUITS, AND CONDUITS FROM OUTLETS, ETC. SHALL HAVE ENDS
- F. FOR SECURITY WORK THE SECURITY VENDOR SHALL PROVIDE ALL WIRING AND EQUIPMENT. THE EC SHALL BE RESPONSIBLE FOR BOXES, EMPTY CONDUIT, AND PULLSTRINGS. THE SECURITY VENDOR SHALL BE CONTRACTED THROUGH THE GC OR THE EC.
- G. REFER TO DIVISION 27 FOR ADDITIONAL TELECOMMUNICATIONS WIRING REQUIREMENTS.

BRANCH CIRCUIT WIRE SIZING

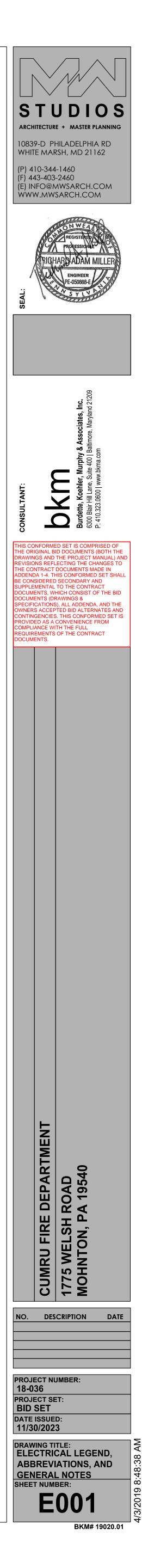
LENGTH OF RUN	HOMERUN SIZE 2	CIRCUIT WIRE SIZE
120 VOLT SYS	STEM	
0' - 50'	#12	#12
50' - 100'	#10	#12
100' - 175'	#8	#10
175' - 300'	#6	#8
208 OR 240 V	OLT SYSTEM	
0' - 125'	#12	#12
125' - 200'	#10	#12
200' - 300'	#8	#10
277 VOLT SYS	STEM	
0' - 150'	#12	#12
150' - 275'	#10	#12
275' - 400'	#8	#10

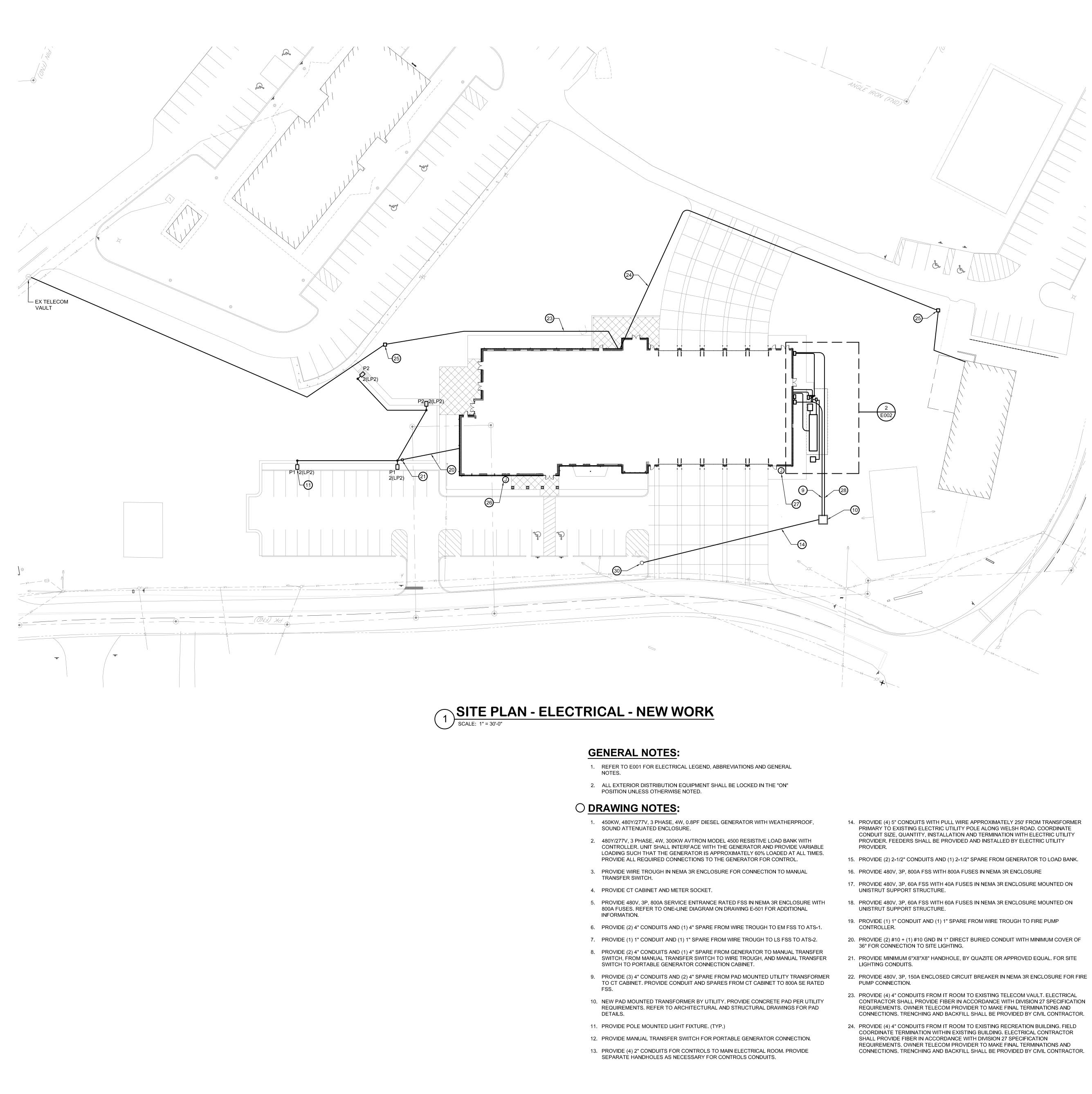
(1) WIRING FOR BRANCH CIRCUITS PROTECTED BY 20 AMPERE OVERCURRENT PROTECTIVE DEVICES SHALL BE SIZED IN ACCORDANCE WITH THE ABOVE TABLE (UON). WIRING FOR OTHER BRANCH CIRCUITS SHALL BE SIZED AS SHOWN ON DRAWINGS. EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED THE SAME AS THE HOMERUN/CIRCUIT CONDUCTOR.

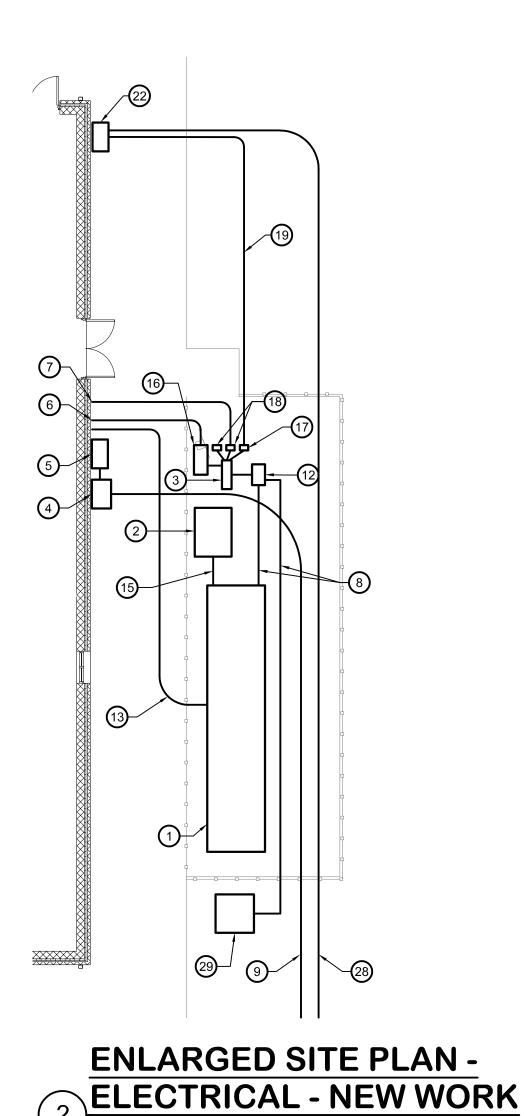
(2) HOMERUN LENGTH SHALL BE FROM THE PANELBOARD TO THE CLOSEST OUTLET, DEVICE OR FIXTURE ON THE CIRCUIT.

- (3) CIRCUIT LENGTH SHALL BE FROM THE CLOSEST TO THE FARTHEST OUTLET, DEVICE OR FIXTURE.
- (4) PROVIDE CODE COMPLIANT MEANS OF REDUCING CONDUCTOR SIZE AS NEEDED FOR TERMINATIONS. PROVIDE ADDITIONAL JUNCTION BOXES, SPLICES, LUGS, ETC. AS NEEDED.
- (5) LENGTH OF RUN REFERS TO THE LENGTH OF THE HOME RUN OR THE LENGTH OF THE CIRCUIT (WITH EACH DEFINED IN NOTES 2 & 3).

LIGHTING CONTROL SEQUENCE OF OPERATIONS				
SPACE TYPE	SEQUENCE OF OPERATION			
(1) CONFERENCE ROOMS, CLASSROOMS	WALL MOUNTED DIMMER SWITCH WITH WALL AND/OR CEILING MOUNTED OCCUPANCY SENSOR. SENSOR TURNS ALL LIGHTS ON TO 50% UPON ACTIVATION. SENSOR TURNS LIGHT OFF AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE. EMERGENCY LIGHTS TURNS ON AUTOMATICALLY UPON LOSS OF BUILDING POWER.			
2 OFFICES	LIGHT CONTROLLED BY WALL/CEILING MOUNTED OCCUPANCY SENSOR. SENSOR TURNS ALL LIGHTS ON TO 100% UPON ACTIVATION. SENSOR TURNS LIGHT OFF AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE. EMERGENCY LIGHTS TURN ON AUTOMATICALLY UPON LOSS OF BUILDING POWER.			
3 STORAGE, UTILITY SPACES	LIGHTS CONTROLLED BY MANUAL SWITCHES. WHERE OCCUPANCY SENSORS ARE INDICATED ON DRAWINGS, LIGHTS TURN ON TO 100% UPON MANUAL ACTIVATION. SENSOR TURNS LIGHT OFF AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE.			
4 RESTROOMS	LIGHT CONTROLLED BY CEILING MOUNTED OCCUPANCY SENSOR. SENSOR TURNS ALL LIGHTS ON TO 100% UPON ACTIVATION. SENSOR TURNS LIGHT OFF AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE. EMERGENCY LIGHTS TURN ON AUTOMATICALLY UPON LOSS OF BUILDING POWER.			
5 CORRIDORS	LIGHTS CONTROLLED BY CEILING MOUNTED OCCUPANCY SENSORS. SENSOR TURNS ALL LIGHTS ON TO 100% UPON ACTIVATION. SENSOR TURNS LIGHT OFF AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE. EMERGENCY LIGHTS TURNS ON AUTOMATICALLY UPON LOSS OF BUILDING POWER. ALL EGRESS LIGHTS (NORMAL AND EMERGENCY) TURNS ON AUTOMATICALLY UPON FIRE ALARM ACTIVATION.			
6 LOBBY	LIGHTS CONTROLLED BY CEILING MOUNTED OCCUPANCY SENSORS. SENSOR TURNS ALL LIGHTS ON TO 100% UPON ACTIVATION. SENSOR TURNS LIGHTS TO 50% AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE. EMERGENCY LIGHTS TURN ON AUTOMATICALLY UPON LOSS OF BUILDING POWER. ALL EGRESS LIGHTS (NORMAL AND EMERGENCY) TURNS ON AUTOMATICALLY UPON FIRE ALARM ACTIVATION.			
7 DORMS	LIGHTS CONTROLLED BY WALL MOUNTED OCCUPANCY SENSOR. LIGHTS TURN ON TO 100% UPON MANUAL ACTIVATION. SENSOR TURNS LIGHT OFF AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE. EMERGENCY LIGHTS TURNS ON AUTOMATICALLY UPON LOSS OF BUILDING POWER.			
8 DORM CORRIDOR	LIGHTS CONTROLLED BY PROGRAMMABLE TIMECLOCK. DURING NORMAL BUILDING OPERATION HOURS, CEILING MOUNTED LIGHT FIXTURES SHALL BE ON AT 100%. AFTER HOURS, CEILING MOUNTED LIGHT FIXTURES SHALL BE OFF AND WALL MOUNTED STEP LIGHTS / UNDER LOCKER TAPE LIGHTS SHALL BE ON AT 100%. CEILING MOUNTED LIGHTS SHALL BE CONTROLLABLE BY WALL MOUNTED OVERRIDE SWITCH. SENSOR TURNS CEILING LIGHTS OFF AUTOMATICALLY AFTER HOURS WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE.EMERGENCY LIGHTS TURNS ON AUTOMATICALLY UPON LOSS OF BUILDING POWER. COORDINATE EXACT HOURS OF OPERATION WITH OWNER. ALL EGRESS LIGHTS (NORMAL AND EMERGENCY) TURNS ON AUTOMATICALLY UPON FIRE ALARM ACTIVATION.			
9 EXTERIOR FIXTURES	LIGHTS CONTROLLED BY PROGRAMMABLE TIMECLOCK.			
DAY ROOM	WALL MOUNTED DIMMER SWITCH WITH WALL AND/OR CEILING MOUNTED OCCUPANCY SENSOR. LIGHTS TURN ON TO 100% UPON MANUAL ACTIVATION. SENSOR TURNS LIGHT OFF AUTOMATICALLY WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE SPACE. EMERGENCY LIGHTS TURNS ON AUTOMATICALLY UPON LOSS OF BUILDING POWER.			



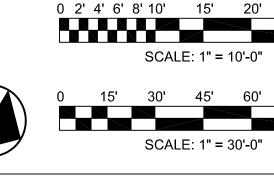


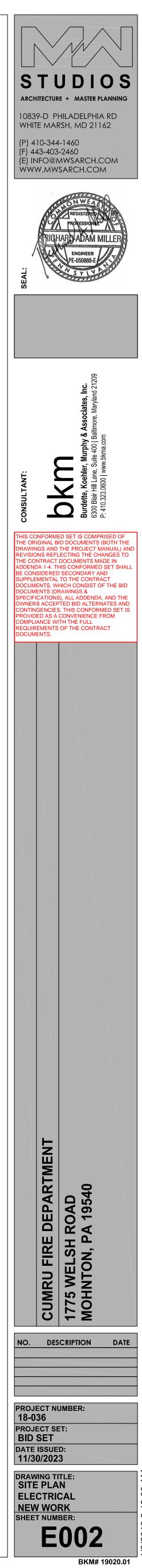


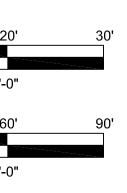
25. PROVIDE MINIMUM 30"X48"X30" HANDHOLE BY QUAZITE OR APPROVED EQUAL.

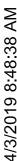
SCALE: 1" = 10'-0"

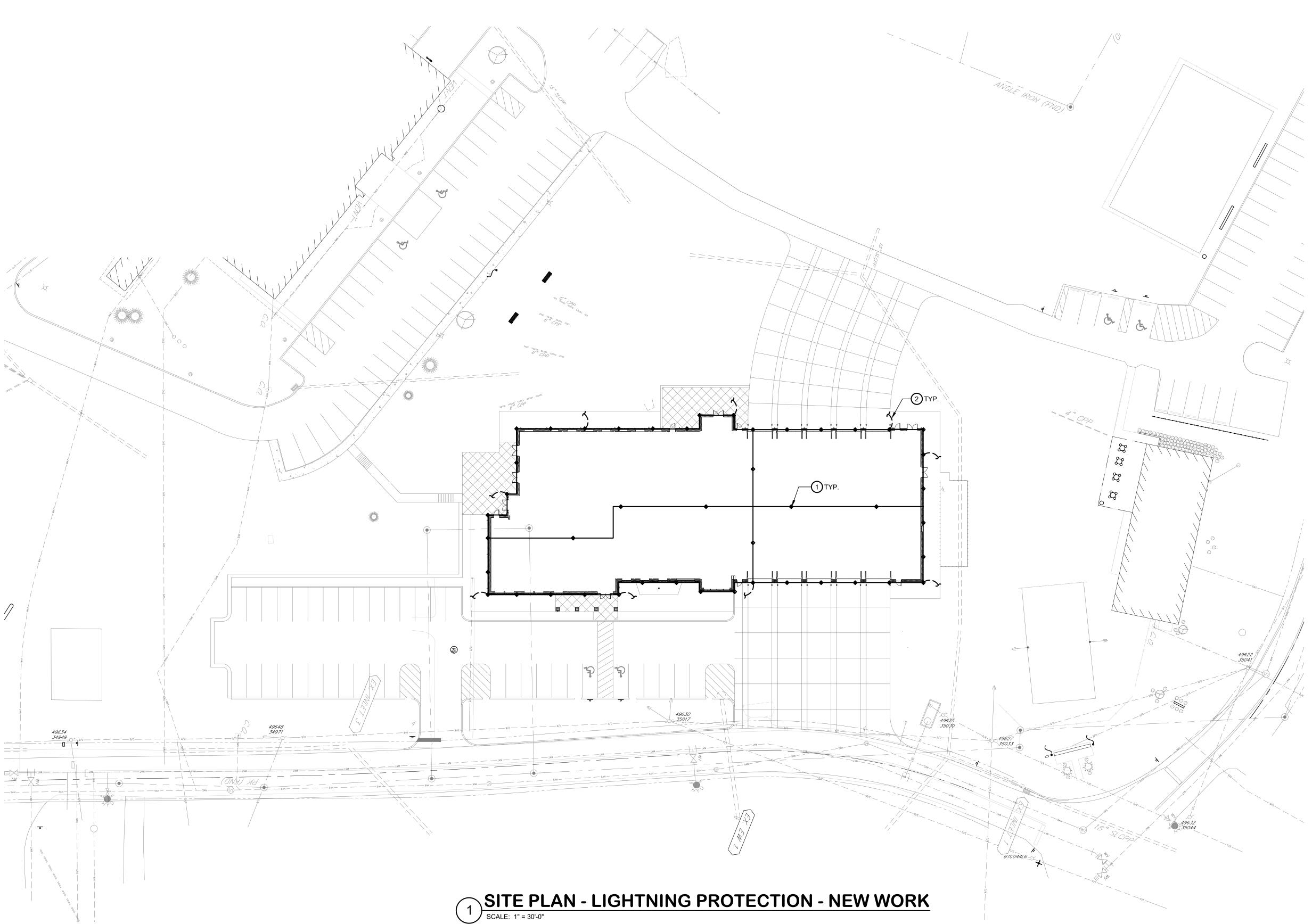
- 26. PROVIDE POWER TO BUILDING MOUNTED LED SIGNAGE. CIRCUIT TO PANEL RP3-79. REFER TO DRAWING A-200 FOR ADDITIONAL INFORMATION.
- 27. PROVIDE POWER TO BUILDING MOUNTED LED SIGNAGE. CIRCUIT TO PANEL RP1-29. REFER TO DRAWING A-200 FOR ADDITIONAL INFORMATION. PROVIDE POWER VIA INTERIOR MOUNTED JUNCTION BOX. PROVIDE 3/4" CONDUIT POKED THRU EXTERIOR WALL FOR FINAL CONNECTION TO SIGNAGE. FIELD COORDINATE EXACT LOCATION OF POKE THRU TO ENSURE POWER CONNECTION IS FULLY CONCEALED BEHIND LED SIGNAGE.
- 28. PROVIDE (1) 1" CONDUIT AND (1) 1" SPARE FROM PAD MOUNTED UTILITY TRANSFORMER TO FIRE PUMP CONTROLLER.
- 29. PORTABLE GENERATOR CONNECTION CABINET UNIT. PROVIDE (3) SETS OF 400A CONNECTORS PER PHASE INCLUDING GROUND AND NEUTRAL. PROVIDE INTERNAL 800A MAIN CIRCUIT BREAKER IN CONNECTION CABINET AHEAD OF MAIN BUS AND DOWNSTREAM FROM CONNECTORS. PROVIDE CONNECTION FOR GENERATOR START UP SIGNAL AS WELL AS PHASE ROTATION MONITOR. PROVIDE CONTACT FOR CLOSED SIGNAL TO INHIBIT CLOSED TRANSITION ON CABINET.
- 30. NEW UTILITY POLE. VERIFY EXACT LOCATION IN FIELD.











GENERAL NOTES:

- 1. REFER TO DRAWING E001 FOR ELECTRICAL GENERAL NOTES, LEGEND AND ABBREVIATIONS.
- 2. BOND ALL METALLIC NON CURRENT CARRYING MATERIALS WITHIN THE BOUNDS OF THIS PLAN TO GROUNDING ELECTRODES. MAKE CONNECTIONS UNDERGROUND AND USE EXOTHERMIC WELDS.

LIGHTNING PROTECTION NOTES:

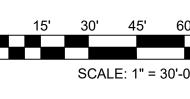
THE CONTRACTOR SHALL PROVIDE A DEDICATED ROOF LIGHTNING PROTECTION SYSTEM AS OUTLINED BELOW AND SPECIFIED.

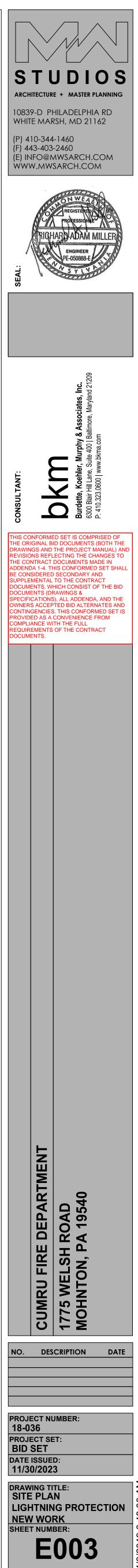
- 1. LIGHTNING PROTECTION SYSTEM SHALL BE INSTALLED TO ENSURE PROPER CODE COMPLIANCE AND SYSTEM CERTIFICATION BY AN APPROVED MASTER ELECTRICIAN AND UL LIGHTNING PROTECTION CERTIFIED INSTALLER.
- 2. ROOF LIGHTNING AIR TERMINALS AND GROUNDING SHALL BE LAID OUT AND INSTALLED BY CERTIFIED LIGHTNING PROTECTION INSTALLER AS REQUIRED BY LATEST EDITION OF NFPA 780.
- 3. PROVIDE OWNER WITH UL MASTER LIGHTNING PROTECTION CERTIFICATION LABEL.
- 4. LIGHTNING PROTECTION SYSTEM TO BE TESTED IN ACCORDANCE WITH UL 96 REQUIREMENTS. 5. ENSURE THAT ALL AIR TERMINALS ARE WITHIN 2 FEET OF OUTSIDE STRUCTURE EDGE,
- OUTSIDE CORNERS, AND RIDGE ENDS. MINIMUM PROJECTION ABOVE PROTECTED OBJECT IS 12 INCHES.
- 6. MAINTAIN HORIZONTAL OR DOWNWARD COURSING OF MAIN CONDUCTOR AND ENSURE THAT ALL BENDS HAVE AT LEAST AN 8 INCH RADIUS AND DO NOT EXCEED 90 DEGREES.
- 7. ATTACH ALL EXPOSED ROOF AND BONDING CABLES AT A MAXIMUM OF 3 FEET ON CENTER. VERIFY COMPATIBILITY OF ADHESIVE WITH MANUFACTURER ON ALL ROOF APPLICATIONS PRIOR TO INSTALLATION.
- 8. REFER TO LIGHTNING PROTECTION SPECIFICATIONS FOR ADDITIONAL INFORMATION. 9. PROVIDE LIGHTNING PROTECTION CONNECTIONS TO ALL RTUS AND OTHER ROOF
- MOUNTED EQUIPMENT. REFER TO ELECTRICAL ROOF PLANS FOR EQUIPMENT LOCATIONS.

DRAWING NOTES:

1 PROVIDE AIR TERMINAL. 2 PROVIDE DOWN CONDUCTOR TO GROUND ROD.

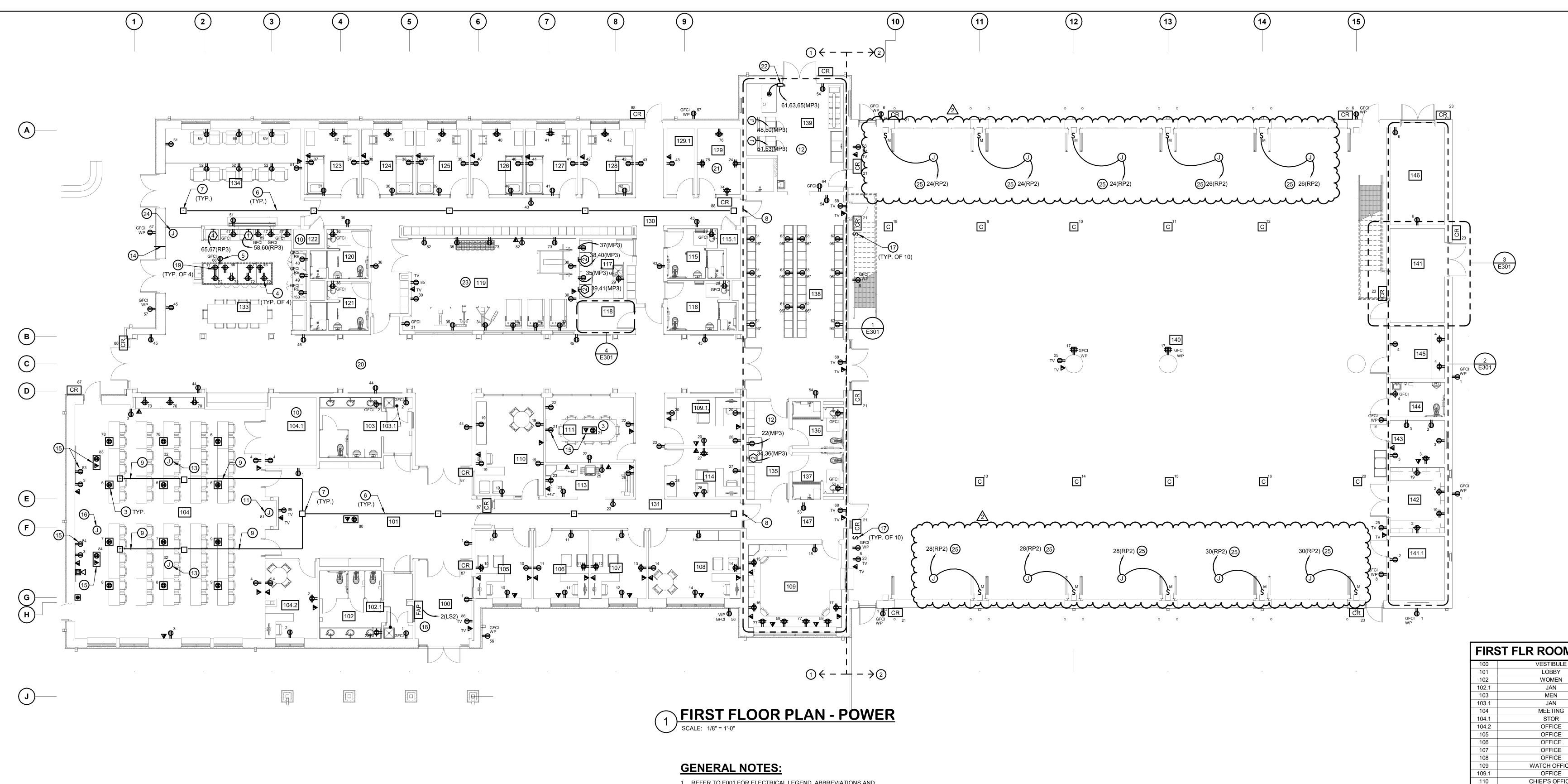






90'

BKM# 19020.01



1. REFER TO E001 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.

DRAWING NOTES:

RP2.

- 1. UNLESS OTHERWISE NOTED, ALL RECEPTACLES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL RP3.
- 2. UNLESS OTHER WISE NOTED ALL RECEPTACLES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL
- 3. PROVIDE LEGRAND EVOLUTION 4 GANG FLOOR BOX FOR POWER AND TELECOM/AV CONNECTIONS. TWO (2) DUPLEX RECEPTACLES, ONE (1) DATA JACK, AND ONE (1) AV.
- 4. PROVIDE COUNTERTOP GFCI RECEPTACLE WITH USB PORT MOUNTED AT 24" AFF. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- 5. PROVIDE GFCI RECEPTACLE FOR DISH WASHER.

6. PROVIDE (4) 4" SPARE CONDUITS ABOVE CEILING FOR

- FUTURE USE.
- 7. PROVIDE MINIMUM 28"x28"x28" PULLBOX ABOVE CEILING FOR FUTURE USE.
- 8. PROVIDE (4) 4" CONDUIT SLEEVES THROUGH WALL FOR FUTURE USE. INSTALL AT 18'-0" AFF.
- 9. PROVIDE (2) 4" SPARE CONDUITS ABOVE CEILING FOR FUTURE USE.
- 10. PROVIDE (3) 4" SPARE CONDUITS UNDER SLAB FROM ROOM 104.1 TO ROOM 122 FOR FUTURE ELECTRICAL WORK. FIELD COORDINATE STUB UP LOCATIONS. 11. PROVIDE POWER FOR FUTURE OPERABLE PARTITION.
- PROVIDE CONNECTION TO BLANK RECESSED WALL BOX FOR FUTURE CONTROLS. 12. ALL RECEPTACLES IN THIS ROOM SHALL BE PROVIDED IN
- WATERPROOF ENCLOSURE. 13. PROVIDE CEILING MOUNTED RECEPTACLE AND DATA
- OUTLET FOR FUTURE PROJECTOR.
- 14. PROVIDE SPARE 3" CONDUIT FOR FUTURE OUTDOOR POWER SUPPLY. CONDUIT SHALL RUN FROM HANDHOLE AT BASE OF PATIO RETAINING WALL, UNDER PATIO, UP INTERIOR WALL, AND TERMINATE IN JUNCTION BOX ABOVE FINISHED CEILING.
- 15. PROVIDE MINIMUM 6-GANG FLOORBOX WITH (1) QUAD RECEPTACLE. (4) DATA JACKS, AND (4) HDMI PORTS, BASIS OF DESIGN EVOLUTION SERIES BY LEGRAND OR APPROVED EQUAL. CONNECT FLOORBOX TO MEDIA BOX LOCATED 72" AFF ON ADJACENT WALL USING (3) 2" CONDUIT. WALL MEDIA BOX TO INCLUDE (1) DUPLEX OUTLET, (4) DATA JACKS, AND (4) HDMI PORTS.

○ DRAWING NOTES (CONTINUED):

- 16. PROVIDE SPARE 6-GANG AV FLOORBOX WITH (3) 2" CONDUIT FROM FLOOR BOX, UP WALL, AND TERMINATING IN JUNCTION BOX ABOVE FINISHED CEILING. BASIS OF DESIGN
- 17. PROVIDE TWO-WAY SWITCH FOR CONTROL OF APPARTUS BAY GARAGE DOORS. SWITCHES SHALL BE GANGED TOGETHER. PROVIDE CONDUIT AND WIRE FROM SWITCHES TO DOOR OPERATOR PER MANUFACTURER REQUIREMENTS.
- 18. PANEL SHALL BE RECESSED MOUNTED. 19. PROVIDE COUNTERTOP GFCI RECEPTACLE WITH USB PORT MOUNTED WITHIN BACK SPLASH. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL
- 20. MAIN CORRIDOR WALLS AND CEILING SHALL BE FREE OF ALL EXPOSED CONDUIT AND WIRE.

INFORMATION.

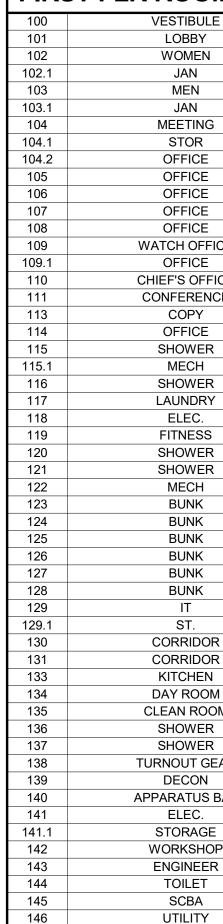
- 21. STUB UP (4) 4" CONDUITS IN THIS ROOM FOR TELECOM SERVICE, REFER TO SITE PLAN FOR ADDITIONAL INFORMATION. FIELD COORDINATE EXACT LOCATION.
- 22. PROVIDE 208V, 3P, 30A FSS IN NEMA 3R ENCLOSURE FOR CONNECTION TO OWNER PROVIDED GEAR DRYER. FUSE PER MANUFACTURER'S RECOMMENDATIONS. THE CIRCUIT FROM THE DISCONNECT TO THE UNIT AND THE HOMERUN SHALL SHALL BE A MINIMUM OF (3)#10 + (1)#10 GND IN 3/4" CONDUIT. PROVIDE ALL REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- ARCHITECTURAL DRAWINGS.
- COORDINATE INSTALLATION WITH PLUMBING INSTALLER.
- CONDUITS FOR LOW VOLTAGE CONNECTIONS PER MANUFACTURER REQUIREMENTS.

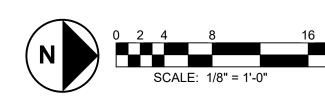
EVOLUTION SERIES BY LEGRAND OR APPROVED EQUAL.

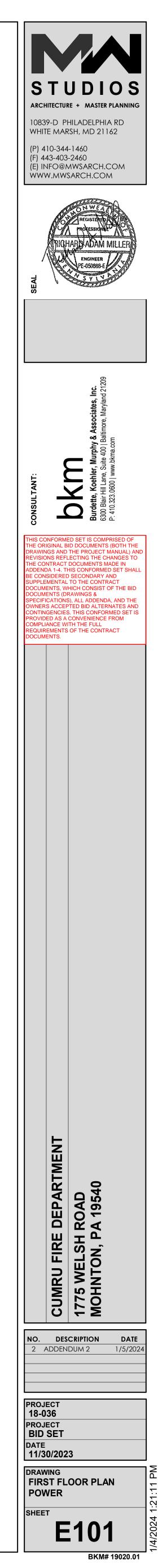
23. COORDINATE OUTLET LOCATIONS IN THIS ROOM WITH

24. PROVIDE 120V CONNECTION TO SOLENOID VALVE.

25. PROVIDE CONNECTION TO DOOR CONTROL PANEL. PROVIDE &

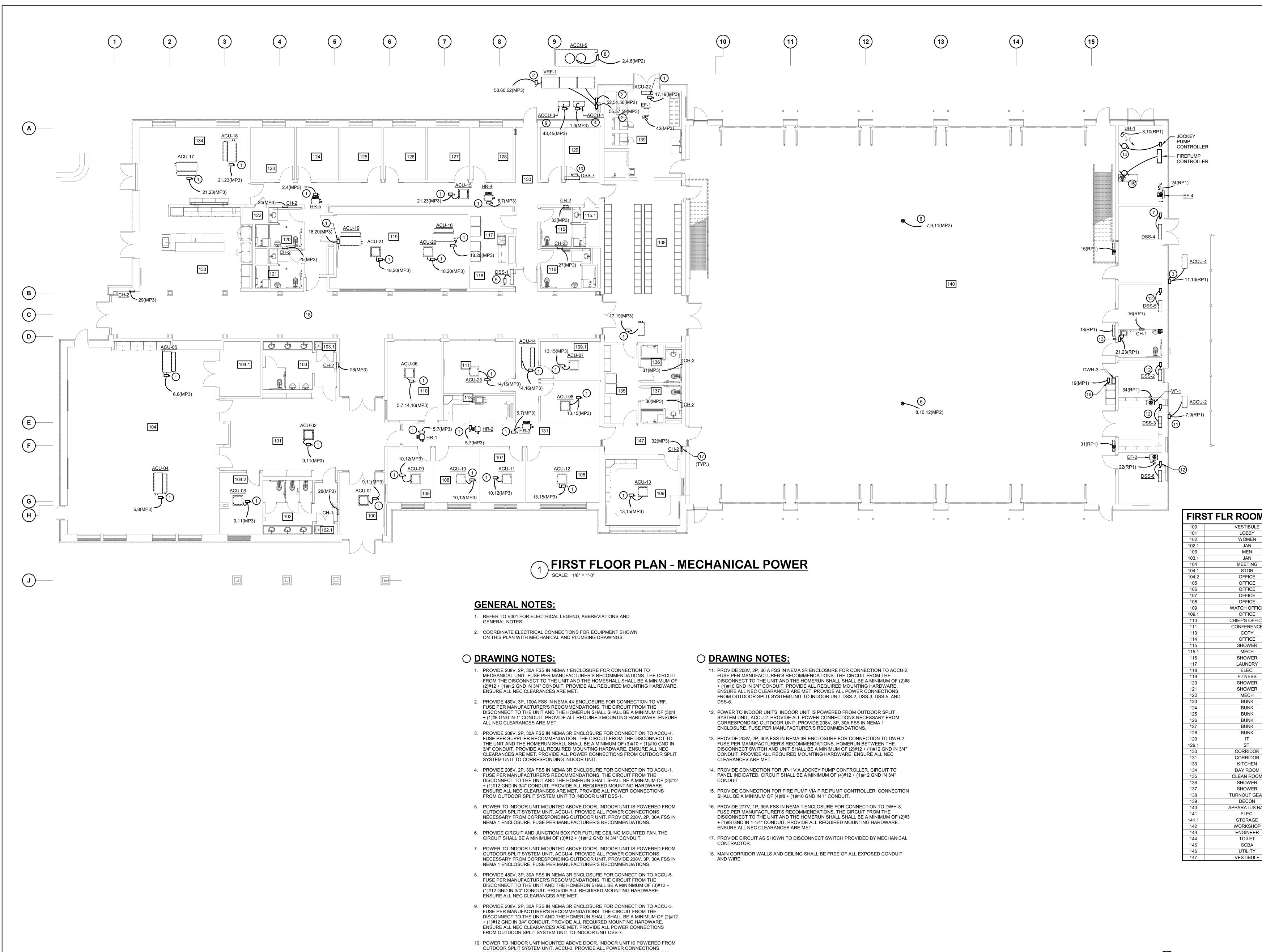






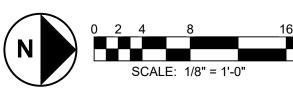
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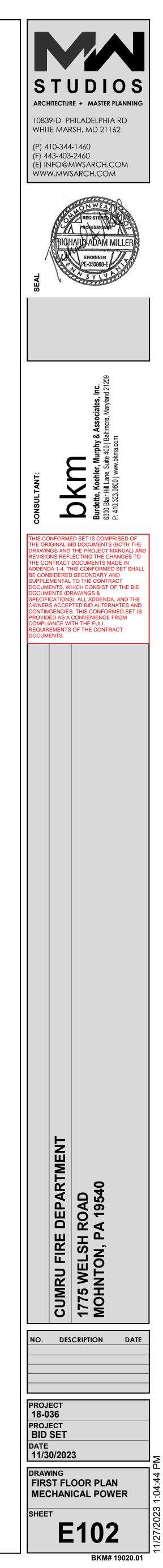
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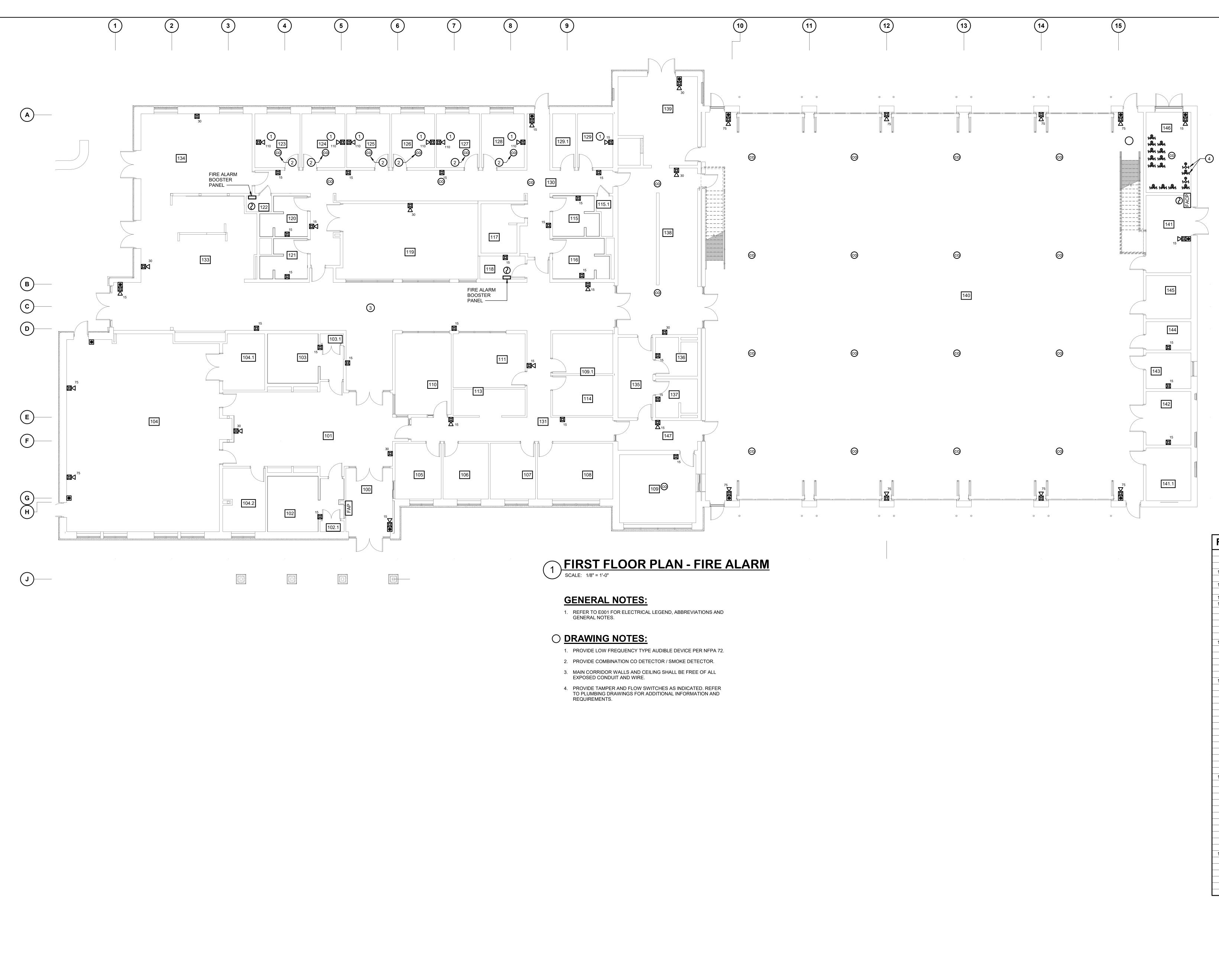
- NECESSARY FROM CORRESPONDING OUTDOOR UNIT. PROVIDE 208V, 2P, 30A FSS IN NEMA 1 ENCLOSURE. FUSE PER MANUFACTURER'S RECOMMENDATIONS.

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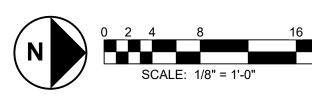


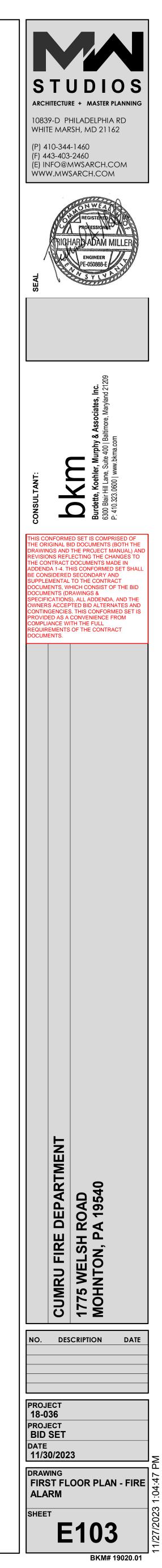
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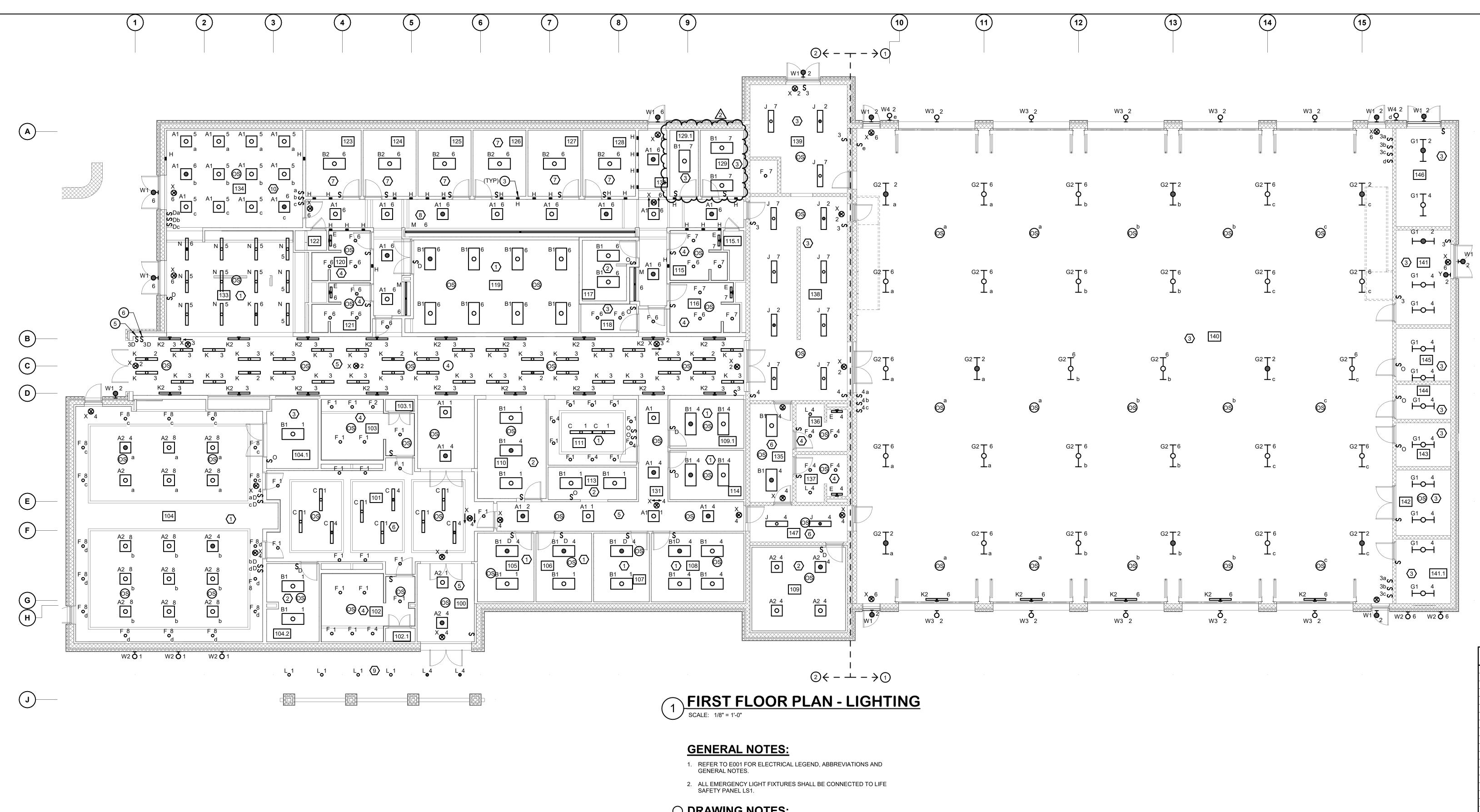
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FIRS	ST FLR ROOM LIST
100	VESTIBULE
101	LOBBY
102	WOMEN
102.1	JAN
103	MEN
103.1	JAN
104	MEETING
104.1	STOR
104.2	OFFICE
105	OFFICE
105	OFFICE
100	OFFICE
107	OFFICE
109	WATCH OFFICE
109.1	OFFICE
110	CHIEF'S OFFICE
111	CONFERENCE
113	COPY
114	OFFICE
115	SHOWER
115.1	MECH
116	SHOWER
117	LAUNDRY
118	ELEC.
119	FITNESS
120	SHOWER
121	SHOWER
122	MECH
123	BUNK
124	BUNK
121	BUNK
126	BUNK
120	BUNK
127	BUNK
129	IT
129.1	ST.
130	CORRIDOR
131	CORRIDOR
133	KITCHEN
134	DAY ROOM
135	CLEAN ROOM
136	SHOWER
137	SHOWER
138	TURNOUT GEAR
139	DECON
140	APPARATUS BAY
141	ELEC.
141.1	STORAGE
142	WORKSHOP
143	ENGINEER
144	TOILET
144	SCBA
145	UTILITY
147	VESTIBULE





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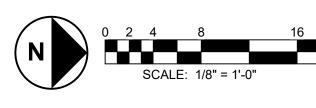


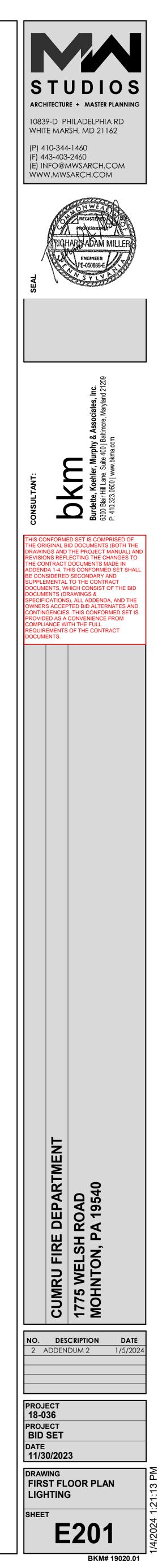
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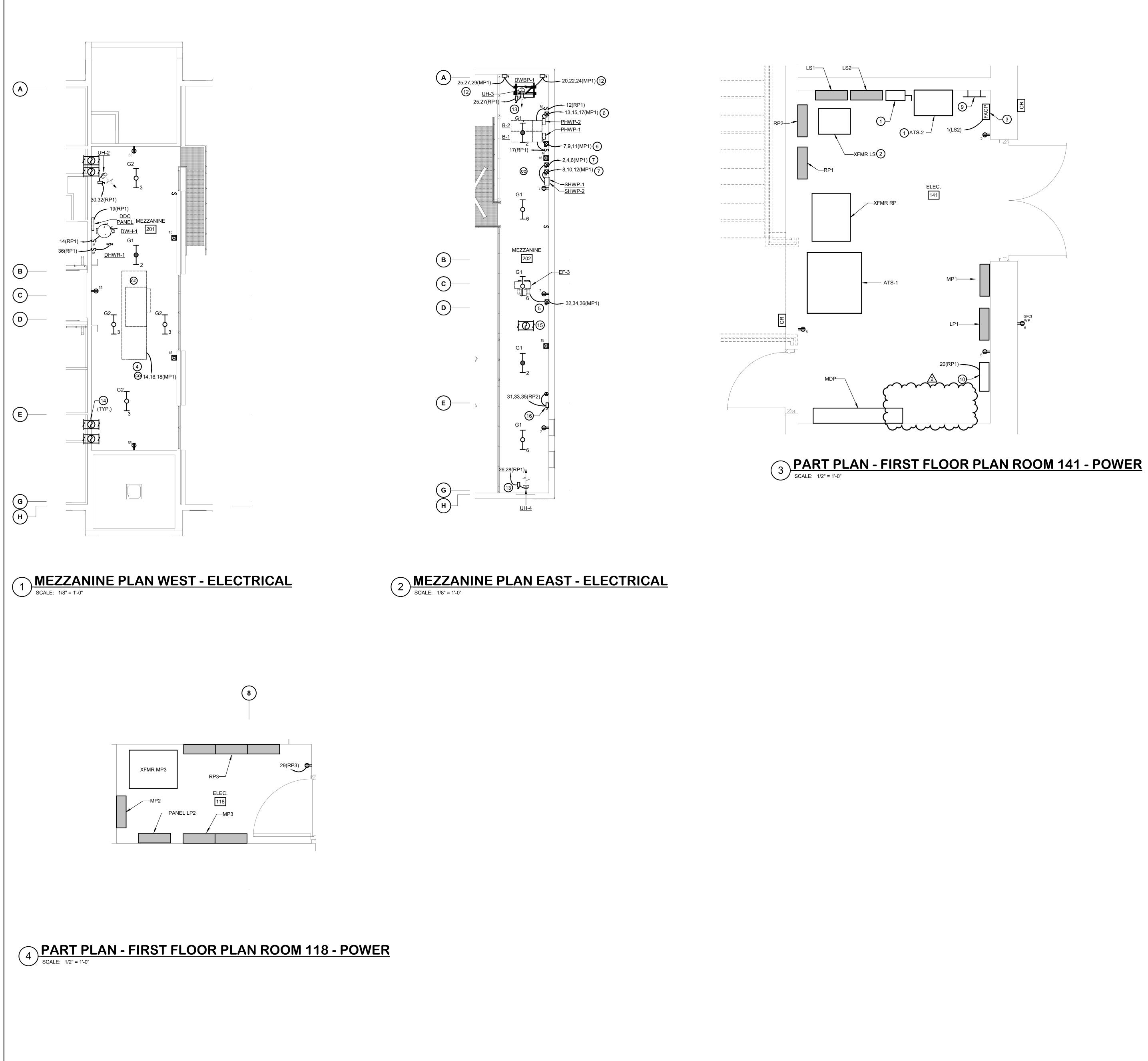
- 1. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL LP1.
- 2. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL LP2.
- 3. WALL RECESSED STEP LIGHT MOUNTED AT 18" AFF.
- 4. MAIN CORRIDOR WALLS AND CEILING SHALL BE FREE OF ALL EXPOSED CONDUIT AND WIRE.
- 5. SWITCH SHALL CONTROL TYPE "K" FIXTURES IN MAIN CORRIDOR.
- 6. SWITCH SHALL CONTROL TYPE "K3" FIXTURES IN MAIN CORRIDOR.
- 7. PROVIDE LED TAPE LIGHT UNDER LOCKERS. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAIL. PROVIDE LOW VOLTAGE TRANSFORMER PER TAPE LIGHT MANUFACTURER RECOMMENDATION.

VESTIBUL LOBBY WOMEN JAN 102 1 MEN 103.1 JAN MEETING 104 STOR 104 1 104.2 OFFICE OFFICE 105 OFFICE 106 OFFICE 107 OFFICE 108 WATCH OFFIC 109 109.1 OFFICE CHIEF'S OFFIC CONFERENC COPY OFFICE 114 SHOWER 115 MECH 115.1 SHOWER LAUNDRY ELEC. FITNESS SHOWER 120 SHOWER 121 MECH 122 BUNK 123 BUNK BUNK BUNK 126 BUNK BUNK 128 IT 129 129 1 CORRIDOR CORRIDOR KITCHEN 133 134 DAY ROOM 135 CLEAN ROOM SHOWER 136 SHOWER 137 TURNOUT GE 138 DECON 139 APPARATUS BA ELEC. STORAGE WORKSHOF 143 ENGINEER 144 TOILET SCBA UTILITY 146 VESTIBULE





FIRST FLR ROOM LIST	
100	VESTIBULE
101	LOBBY
102	WOMEN
102.1	JAN
103	MEN
103.1	JAN
104	MEETING
104.1	STOR
104.2	OFFICE
105	OFFICE
106	OFFICE
107	OFFICE
108	OFFICE
109	WATCH OFFICE
109.1	OFFICE
110	CHIEF'S OFFICE
111	CONFERENCE
113 114	COPY OFFICE
114 115	SHOWER
115 115.1	-
	MECH
116 117	SHOWER LAUNDRY
117	ELEC.
118 119	FITNESS
119	SHOWER
120	SHOWER
121	MECH
122	BUNK
123	BUNK
124	BUNK
125	BUNK
120	BUNK
127	BUNK
120	IT
129.1	ST.
130	CORRIDOR
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141.1	STORAGE
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143	ENGINEER
144	TOILET
145	SCBA
146	UTILITY
147	VESTIBULE



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GENERAL NOTES:

- 1. REFER TO E001 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND
- GENERAL NOTES. 2. ALL EMERGENCY LIGHT FIXTURES SHALL BE CONNECTED TO PANEL
- LS1. 3. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES IN MEZZANINE WEST SHALL BE CONNECTED TO PANEL LP2 AND ALL RECEPTACLES
- SHALL BE CONNECTED TO RP3 4. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES IN MEZZANINE EAST SHALL BE CONNECTED TO PANEL LP1 AND ALL RECEPTACLES

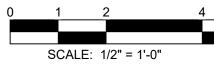
DRAWING NOTES:

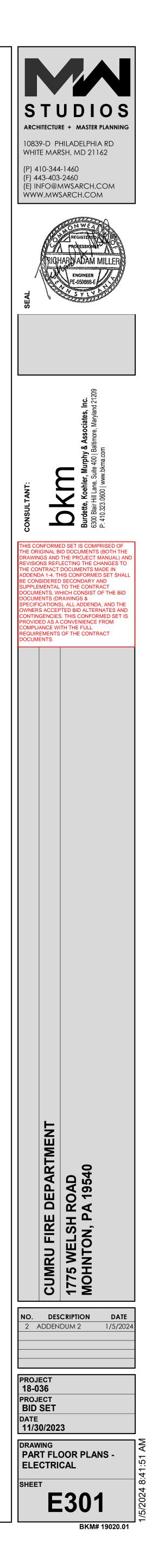
SHALL BE CONNECTED TO RP2.

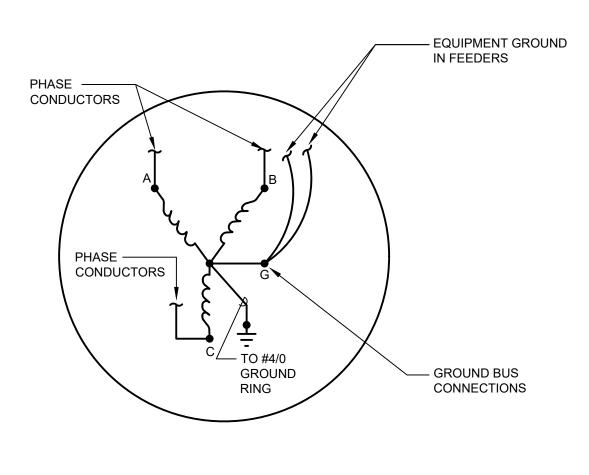
- 1. PROVIDE 480V, 3P, 60A FSS WITH 60A CURRENT LIMITING FUSES IN NEMA 1 ENCLOSURE FOR CONNECTION TO LIFE SAFETY ATS.
- 2. TRANSFORMER SHALL BE SUSPENDED. PROVIDE ALL MOUNTING HARDWARE AS NECESSARY.
- 3. PROVIDE COMBINATION FIRE ALARM AND CARBON MONOXIDE DETECTION CONTROL PANEL. CARBON MONOXIDE DETECTION TO BE PROVIDED THROUGHOUT THE
- PROVIDE POWER TO DOAS-1 AS SHOWN, DISCONNECT SWITCH PROVIDED BY MECHANICAL. PROVIDE POWER CONNECTIONS BETWEEN THE DISCONNECT SWITCH AND UNIT PER MANUFACTURER RECOMMENDATIONS. THE CIRCUIT SHALL BE A MINIMUM OF (3)#4 + (1)#10 GND IN 1-1/4"
- CONDUIT. PROVIDE ALL REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET. 5. PROVIDE 480V, 3-PHASE, FULL VOLTAGE, NON-REVER NEMA SIZE 0 MOTOR STARTER IN NEMA 1 ENCLOSURE FOR CONNECTION TO EF. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
- 6. PROVIDE 480V, 0.5 HP, 6-PULSE VFD WITH A 5% LINE REACTOR AND MAINTENANCE BYPASS FOR CONNECTION TO PUMP AS INDICATED. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
- 7. PROVIDE 480V, 1.5 HP, 6-PULSE VFD WITH A 5% LINE REACTOR AND MAINTENANCE BYPASS FOR CONNECTION TO PUMP AS INDICATED. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
- 8. PROVIDE 480V, 3-PHASE, FULL VOLTAGE, NON-REVERSING NEMA SIZE 0 MOTOR STARTER IN NEMA 1 ENCLOSURE FOR CONNECTION TO VEF. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
- 9. PROVIDE MINIMUM 1/4" THICK, 2" TALL GROUND BUS BAR. SIZE LENGTH AS NEEDED PER QUANTITY OF CONNECTIONS. PROVIDE CONNECTION WATER MAIN, STRUCTURAL STEEL, FOUNDATION REBAR, GROUND RING, AND LIGHTNING PROTECTION SYSTEM. PROVIDE CONNECTION TO TELECOMMUNICATIONS GROUND BUS BAR.

10. PROVIDE TIMECLOCK FOR EXTERIOR LIGHTING CONTROL. REFER TO LIGHTING CONTROL SEQUENCE OF OPERATIONS ON DRAWING E001 FOR ADDITIONAL INFORMATION. $\sim\sim\sim\sim$ 11. NOTE REMOVED.

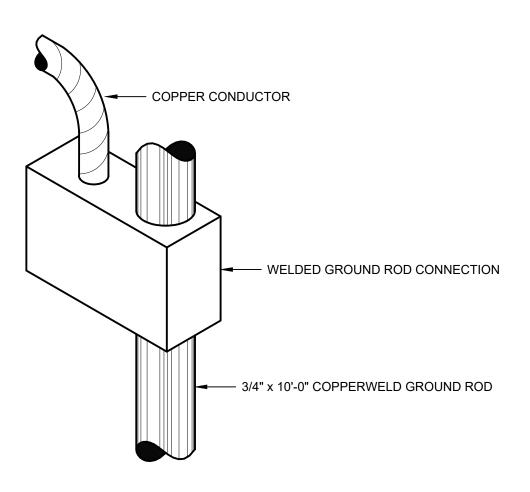
- 12. PROVIDE 480V, SP, 30A FSS IN NEMA 1 ENCLOSURE FOR CONNECTION TO DWBP-1. FUSE PER MANUFACTURER RECOMMENDATIONS. THE CIRCUIT SHALL BE A MINIMUM (3)# 12 + (1)#12 GND IN 3/4" CONDUIT. PROVIDE REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET.
- 13. DISCONNECT SWITCH PROVIDED BY MECHANICAL.
- 14. PROVIDE DUCT SMOKE DETECTOR FOR DOAS-1. COORDINATE DUCT SMOKE DETECTOR INSTALLATION WITH MECHANICAL CONTRACTOR.
- 15. PROVIDE DUCT SMOKE DETECTOR FOR EF-3. COORDINATE DUCT SMOKE DETECTOR INSTALLATION WITH MECHANICAL CONTRACTOR.
- 16. PROVIDE 208V, 3P, 60A FSS IN NEMA 3R ENCLOSURE FOR CONNECTION TO OWNER PROVIDED AIR COMPRESSOR. FUSE PER MANUFACTURER'S RECOMMENDATIONS. THE CIRCUIT FROM THE DISCONNECT TO THE UNIT AND THE HOMERUN SHALL SHALL BE A MINIMUM OF (3)#4 + (1)#10 GND IN 1-1/4" CONDUIT. PROVIDE ALL REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.





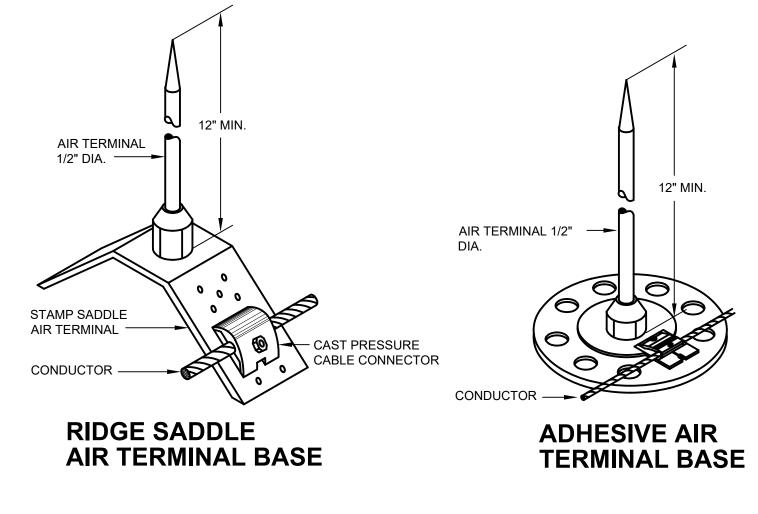


GENERATOR GROUNDING DETAIL NO SCALE

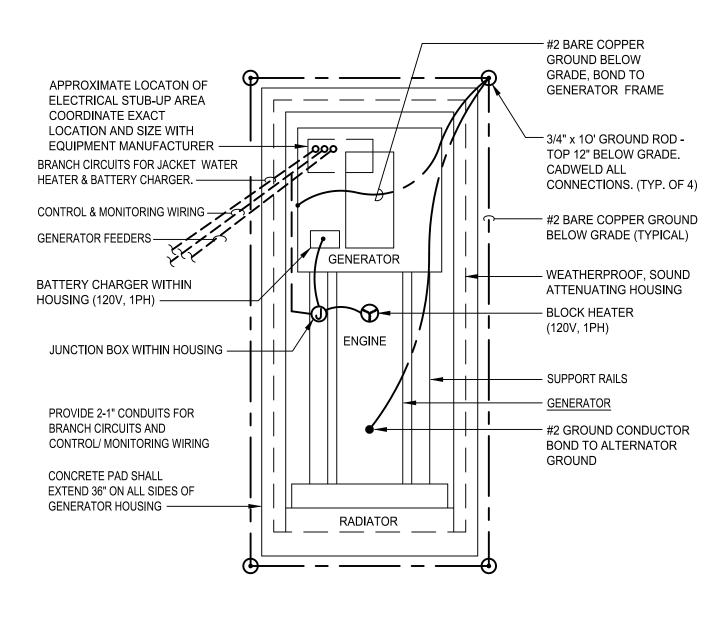


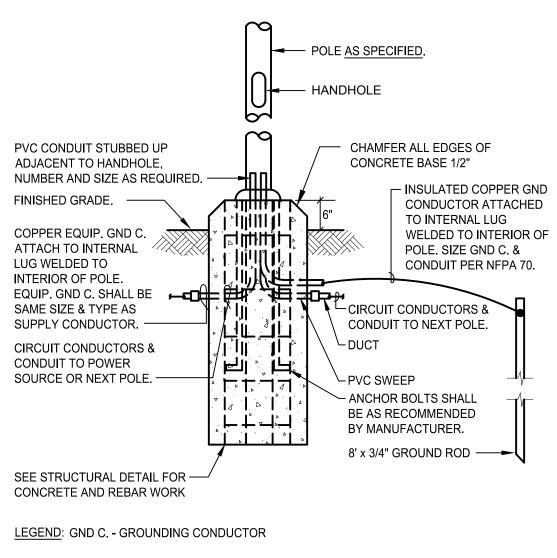
4 LIGHTNING PROTECTION GROUNDING DETAIL

5 LIGHTNING PROTECTION AIR TERMINAL DETAIL

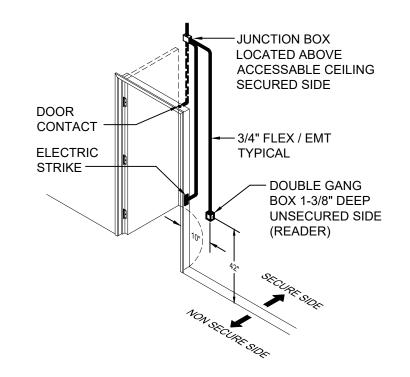




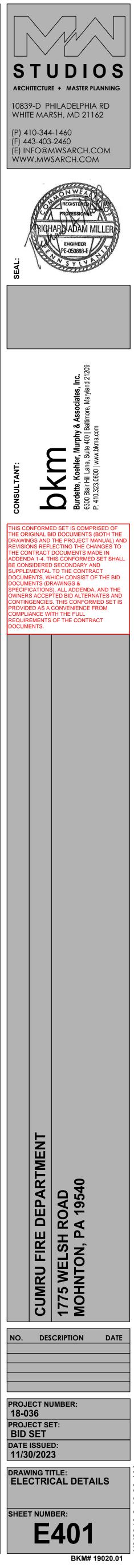


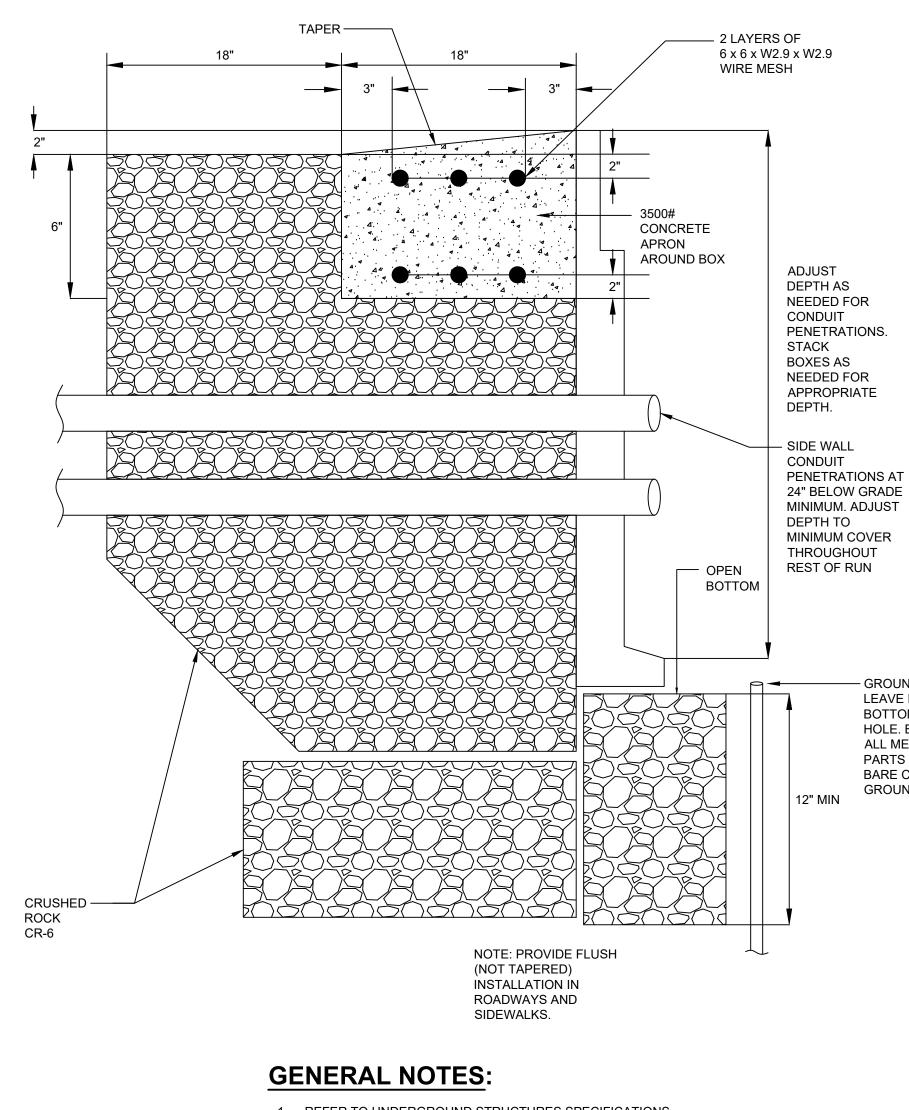


3 CONCRETE POLE BASE DETAIL



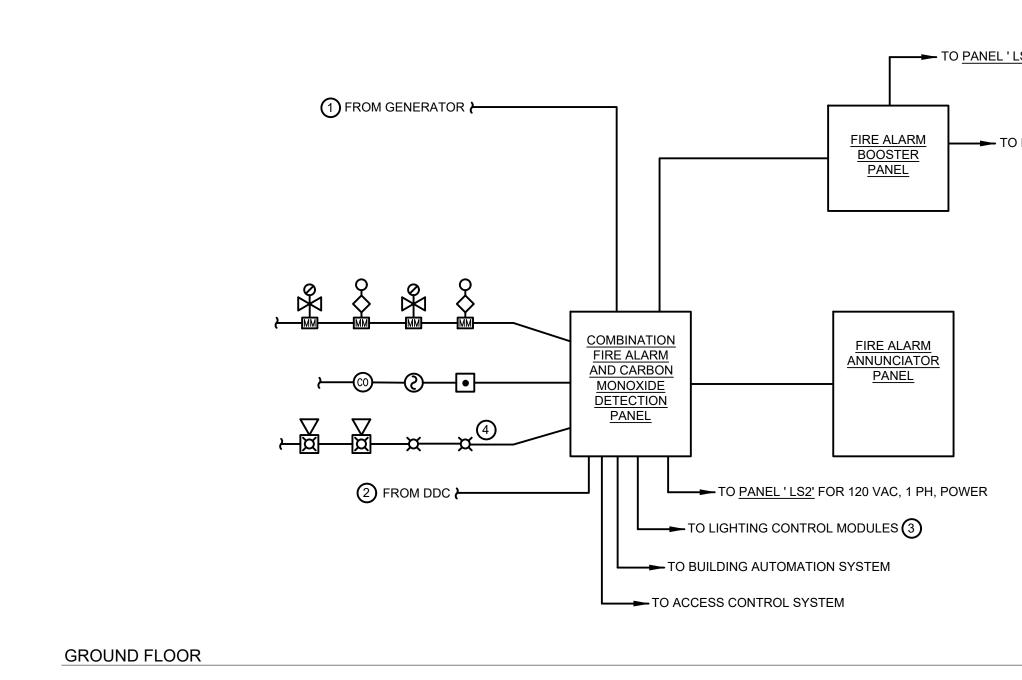
6 CARD READER MOUNTING DETAIL NO SCALE





- 1. REFER TO UNDERGROUND STRUCTURES SPECIFICATIONS FOR ADDITIONAL HANDHOLE REQUIREMENTS.
- 2. STONE AND CONCRETE APRON SHALL BE FIELD INSTALLED.





FIRE ALARM RISER DIAGRAM

DRAWING NOTES:

- (1) PROVIDE GENERATOR MONITORING SIGNAL
- (2) PROVIDE DDC PANEL MONITORING SIGNAL.
- (3) PROVIDE CONNECTIONS FROM FIRE ALARM SYSTEM TO LIGHTING CONTROL DEVICES AS INDICATED ON DRAWING E001. THE LIGHTING CONTROL SYSTEM SHALL RAMP ALL LIGHTING TO FULL BRIGHTNESS DURING A FIRE ALARM EVENT.
- (4) NOTIFICATION COVERPLATES MUST INDICATE "ALERT".

5 FIRE ALARM MATRIX

(1) HORNS SHALL BE ADDRESSABLE TO ALLOW FOR TEMPORAL 3 AND 4 OUTPUTS FROM A SINGLE HORN, OR CONTRACTOR SHALL PROVIDE (1) ADDITIONAL HORN PER EACH (1) HORN SHOWN ON FLOOR PLAN TO ALLOW FOR TEMPORAL 3 AND 4 OUTPUTS TO EACH HORN RESPECTIVELY.

DRAWING NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

	ACTIVATE BUILDING GENERAL ALARM HORN DEVICES) THROUGHOUT ENTIRI TEMPORAL 3 TONES AND FIRE ALARM	SHUT DOWN INDICATED MECHANICAL	SHUTDOWN DESTRATIFICATION FANS	RELEASE MAGNETIC DOOR HOLD-OPE	RELEASE EGRESS DOOR MAG LOCKS	ACTIVATE SYSTEM SUPERVISORY IND	ACTIVATE SYSTEM TROUBLE INDICAT	ACTIVATE CENTRAL MONITORING STA	ACTIVATE FACP AND ANNUNCIATOR	ACTIVATE BUILDING GENERAL ALARM DEVICES) THROUGHOUT ENTIRE BUILI TONES
MANUAL PULL STATION	•			•	•			•	•	
SPOT-TYPE SMOKE DETECTOR	•		•	•	•			•	٠	
DUCT-TYPE SMOKE DETECTOR		•		•	•			•	٠	
SPRINKLER VALVE TAMPER						•		•	•	
SPRINKLER WATER FLOW SWITCH	•			•	•			•	•	
GENERATOR STATUS						•		•	٠	
FIRE ALARM SYSTEM GROUND FAULT CONDITION							•	•	•	
FIRE ALARM SYSTEM TROUBLE CONDITION							•	•	•	
CARBON MONOXIDE DETECTOR				٠	٠			•	٠	•
COMBINATION SMOKE/CO DETECTOR - SMOKE ACTIVATION	•		•	•	•			•	•	
COMBINATION SMOKE/CO DETECTOR - CO ACTIVATION				•	•			•	•	•

LARM (STRO ENTIRE BUILI LARM VOICE VICAL (HVAC

TO PANEL ' LS2' FOR 120 VAC, 1 PH, POWER

- GROUND ROD.

LEAVE EXPOSED IN

BOTTOM OF HAND

HOLE. BOND TO

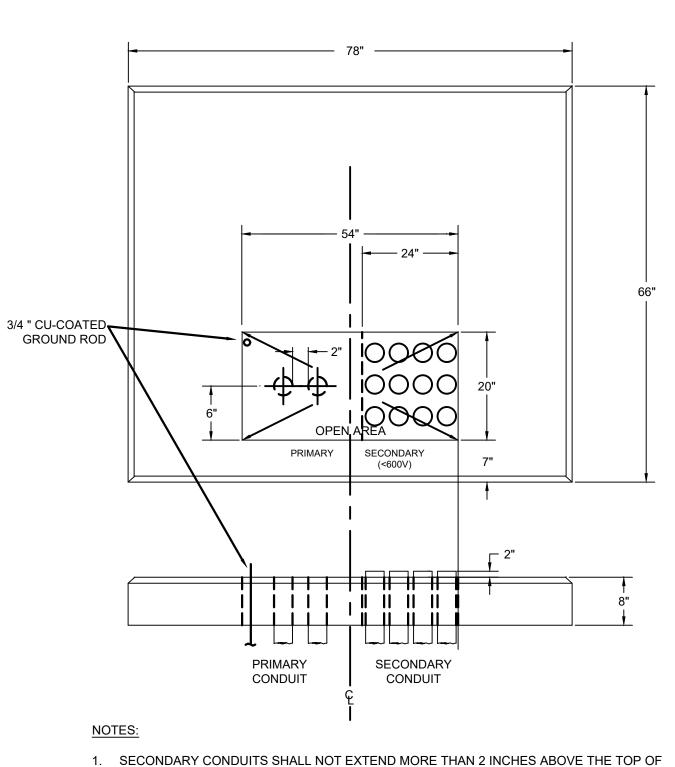
ALL METALLIC

BARE COPPER

GROUND WIRE.

PARTS USING #6

TO NOTIFICATION DEVICES (4)



FOUNDATION. PRIMARY CONDUITS SHOULD BE CUT OFF 2 INCHES BELOW THE TOP OF

GROUNDING CONNECTIONS, AND #6 AWG COPPER COMMUNICATIONS GROUND WIRE.

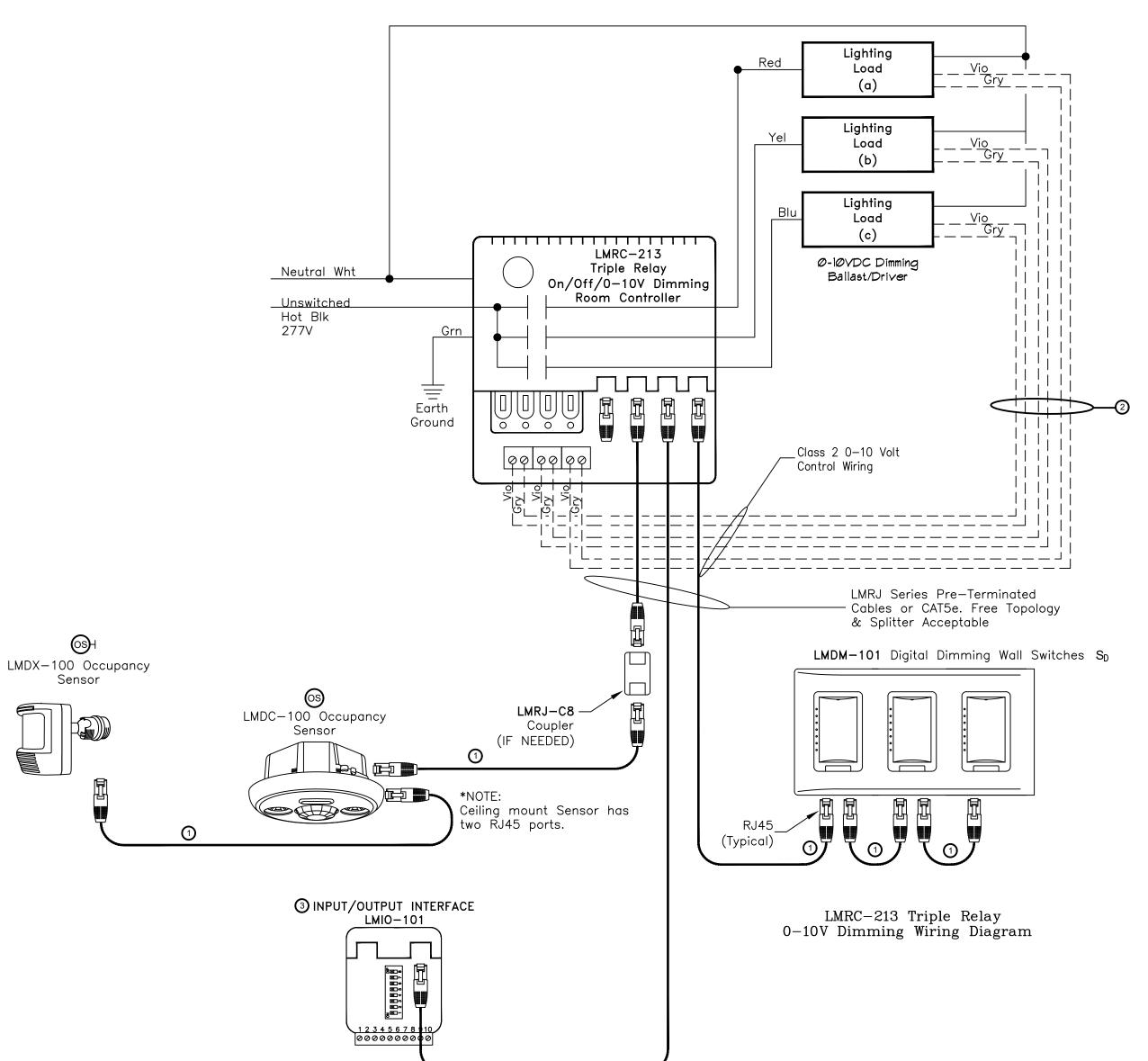
3. REFER TO ELECTRIC UTILITY CUSTOMER GUIDE FOR ELECTRIC SERVICE FOR ADDITIONAL

2 DUCTBANK TURN UP PAD DETAIL

2. CUSTOMER SHALL FURNISH AND INSTALL ONE 3/4" DIAMETER X 8' GROUND ROD,

FOUNDATION TO ALLOW FOR TERMINATING THE CABLES.

REQUIREMENTS.



BASIS OF DESIGN: WATTSTOPPER

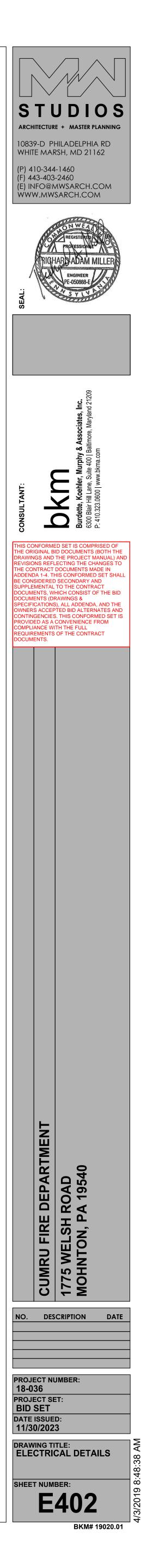
GENERAL NOTES:

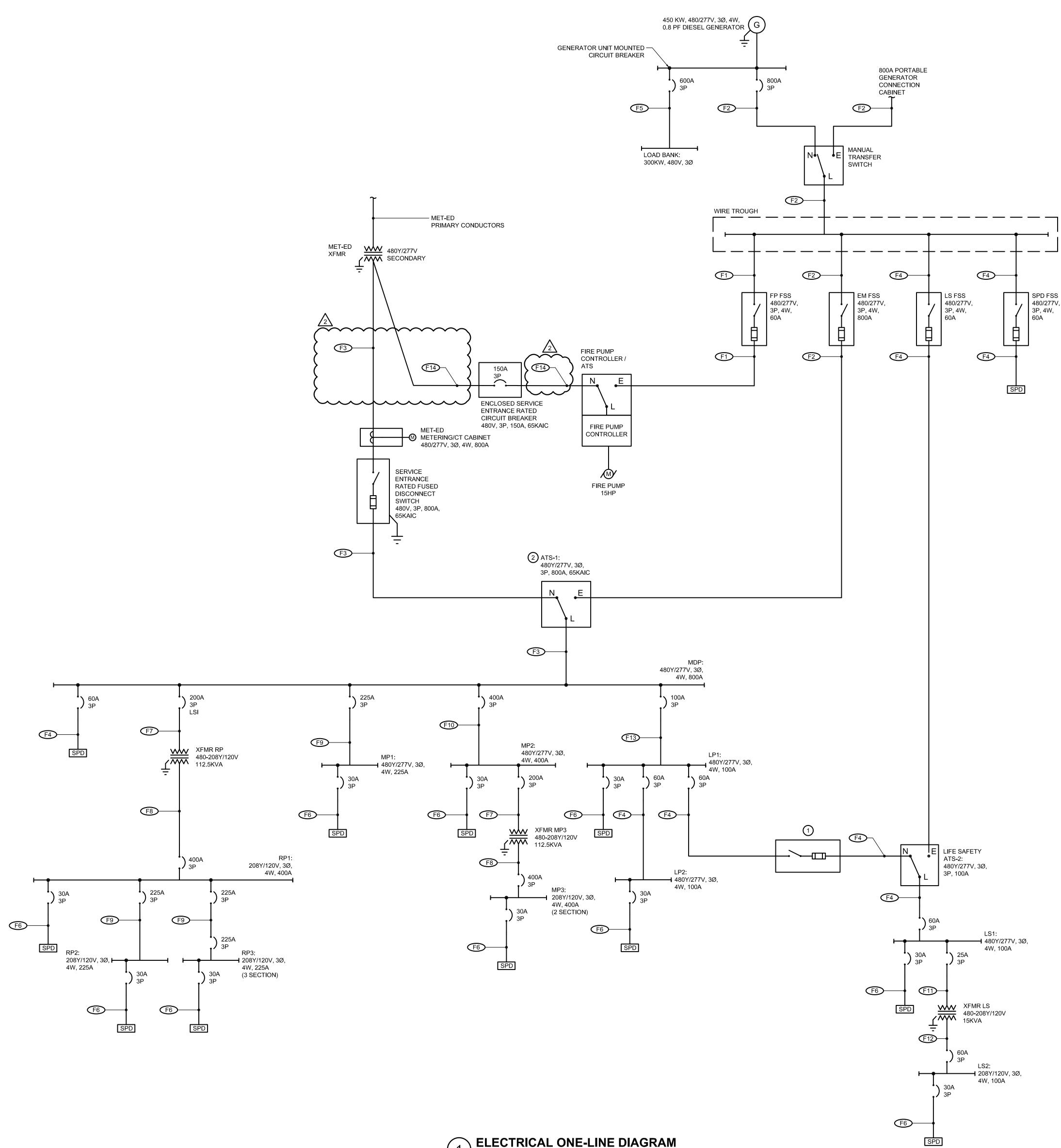
- 1. 1 OR 2 RELAY CONTROLLER ARE ACCEPTABLE AS APPLICABLE. PROVIDE ENOUGH RELAYS TO SWITCH ALL LOADS. LIGHTING LOAD PER CONTROLLER SHALL NOT EXCEED 20A TOTAL REGARDLESS OF NUMBER OF RELAYS.
- 2. REFER TO FLOOR PLANS FOR DEVICE TYPES AND QUANTITIES IN EACH AREA. THIS DIAGRAM SHOWS A TYPICAL GENERAL ARRANGEMENT WITH TYPICAL DEVICES.
- 3. PROVIDE COORDINATION DRAWINGS WITH ALL REQUIRED DIAGRAMS FOR THE ENTIRE SYSTEM IN A SUBMITTAL FOR REVIEW.

WIRING DIAGRAM NOTES:

- 1 PROVIDE CONTROL WIRE IN EMT CONDUIT.
- 2 PROVIDE LOW VOLTAGE CONTROL WIRING PER SUPPLIER'S RECOMMENDATIONS. PROVIDE CONTROL WIRING IN EMT CONDUIT.
- 3 CONNECT INPUT/OUTPUT DEVICE TO FIRE ALARM CONTROL MODULE. ALL LIGHTING SHALL TURN ON FULL BRIGHTNESS WHEN THE FIRE ALARM IS ACTIVATED. CONTRACTOR SHALL COORDINATE WITH FIRE ALARM INSTALLER FOR FINAL CONNECTION TO FIRE ALARM SYSTEM FIRE ALARM WIRING SHALL BE PER FIRE ALARM SYSTEM SUPPLIER RECOMMENDATIONS.

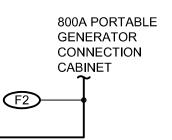








1 ELECTRICAL ONE-LINE DIAGRAM



GENERAL NOTES:

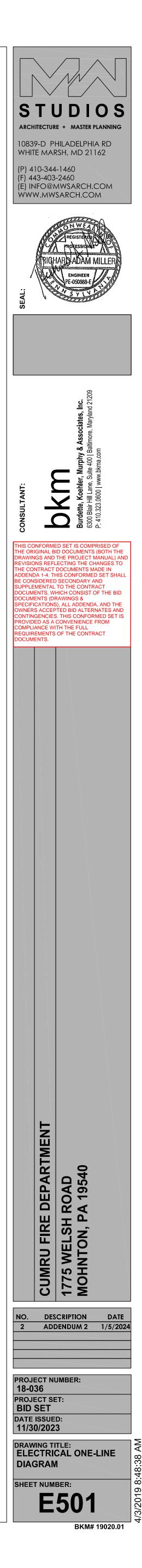
- 1. REFER TO DRAWING E001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
- 2. ALL TRANSFORMERS ARE 3-PHASE, DELTA-WYE, 480V PRIMARY 208/120V SECONDARY, DRY-TYPE UNLESS OTHERWISE NOTED.
- 3. REFER TO SITE PLAN FOR SPARE UNDERGROUND CONDUIT REQUIREMENTS.

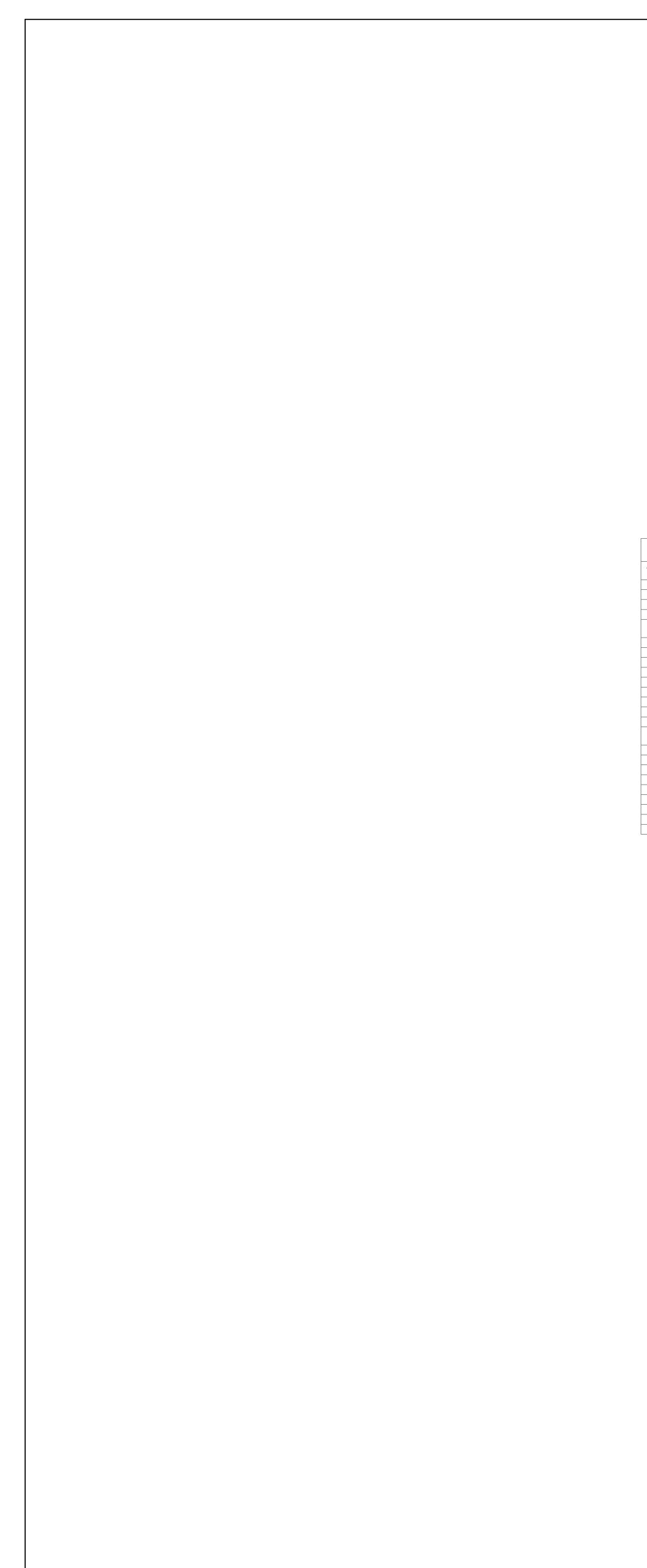
DRAWING NOTES:

- PROVIDE 480V, 3P, 60A, 65KAIC FSS IN NEMA 1 ENCLOSURE WITH 60A CURRENT LIMITING FUSES.
- 2 PROVIDE WITH BYPASS ISOLATION SWITCH.

FEEDER SCHEDULE:

- F1 PROVIDE 4#8 + 1#10 GND IN 1" CONDUIT.
- F2 PROVIDE (2) SETS OF 4#600KCMIL + 1#3/0 GND IN (2) 4" CONDUITS.
- F3 PROVIDE (2) SETS OF 4#600KCMIL +1#3/0 GND IN (2) 4" CONDUITS.
- F4 PROVIDE 4#6 + 1#10 GND IN 1" CONDUIT.
- F5 PROVIDE (2) SETS OF 3#350KCMIL + 1#1 GND IN (2) 3" CONDUIT.
- (F6) PROVIDE 4#8 + 1#10 GND IN 3/4" CONDUIT.
- F7 PROVIDE 3#3/0 + 1#6 GND IN 2" CONDUIT.
- F8 PROVIDE 4#600KCMIL + 1#1/0 GND IN 4" CONDUIT.
- (F9) PROVIDE 4#4/0 + 1#4 GND IN 2-1/2" CONDUITS.
- F10 PROVIDE 4#600KCMIL +1#3 GND IN 4" CONDUITS.
- **(F11)** PROVIDE 3#10 + 1#10 GND IN 3/4" CONDUIT.
- (F12) PROVIDE 4#6 +1#8 GND IN 1" CONDUIT.
- F13 PROVIDE 4#3 + 1#8 GND IN 1-1/4" CONDUIT.
- **(F14)** PROVIDE 4#1/0 + 1#6 GND IN 2" CONDUIT.





LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LENS/LOUVER	MOUNTING	Voltage	Color Temperature	MAX. FIXTURE	INITIAL FIXTURE LUMEN OUTPUT	LAMP TYPE	MANUFACTURER	CATALOG NUMBER
A1	2X2 DIRECT/INDIRECT LED FIXTURE	ACRYLIC	RECESSED	277 V	4000 K	18	2000 lm	LED	MARK ARCHITECTURAL	WHSPR-2X2-2000LM-40K-90CRI-MIN10-MVOLT-SWC
A2	2X2 DIRECT/INDIRECT LED FIXTURE	ACRYLIC	RECESSED	277 V	4000 K	30	3300 lm	LED	MARK ARCHITECTURAL	WHSPR-2X2-3300LM-40K-90CRI-MIN10-MVOLT-SWC
B1	2X4 DIRECT/INDIRECT LED FIXTURE	ACRYLIC	RECESSED	277 V	4000 K	42	4800 lm	LED	MARK ARCHITECTURAL	WHSPR-2X4-4800LM-40K-90CRI-MIN10-MVOLT-SWC
B2	2X4 DIRECT/INDIRECT LED FIXTURE	ACRYLIC	RECESSED	277 V	4000 K	53	6000 lm	LED	MARK ARCHITECTURAL	WHSPR-2X4-6000LM-40K-90CRI-MIN10-MVOLT-SWC
С	4' DIRECT/INDIRECT PENDANT FIXTURE	ACRYLIC	SUSPENDED	277 V	4000 K	72	2800 lm	LED	PEERLESS	10CRM4L-LLP-4FT-MSL4-90CRI-SBL-40K-I700LMF-700LMF-MIN1-Z T-277-SCT
E	VANITY FIXTURE	N/A	WALL	277 V	4000 K	18	900 lm	LED	MOEN	DN0763CH
F	DOWNLIGHT	POLYCARBONATE	RECESSED	277 V	4000 K	12	1000 lm	LED	GOTHAM	EVO-40/10-6AR-MWD-LSS-MVOLT-EZ10
G1	LOW BAY INDUSTRIAL FIXTURE	ACRYLIC	SUSPENDED	277 V	4000 K	29	4000 lm	LED	LITHONIA	MSL-4000LM-SBL-MVOLT-GZ10-40K-90CRI-WH
G2	LOW BAY INDUSTRIAL FIXTURE	ACRYLIC	SUSPENDED	277 V	4000 K	86	10000 lm	LED	LITHONIA	MSL-10000LM-SBL-MVOLT-GZ10-40K-90CRI-WH
Н	WALL RECESSED STEPLIGHT	ACRYLIC	WALL	277 V	4000 K	4	3172 lm	LED	WAC	WL-LED200
J	4' SURFACE MOUNTED WRAPAROUND FIXTURE	ACRYLIC	SURFACE	277 V	4000 K	26	3000 lm	LED	LITHONIA	LBL4-3000LM-80CRI-40K-MIN10-GZT-MVOLT
K	DIRECT LINEAR PENDANT	ACRYLIC	SUSPENDED	277 V	4000 K	32	3200 lm	LED	MARK ARCHITECTURAL	S4LD-LLP-MSL4-90CRI-40K-800LMF-MIN1-MVOLT-ZT
K2	DIRECT LINEAR WALL	ACRYLIC	WALL	277 V	3500 K	28	3000 lm	LED	SPI LIGHTING	SEW12114-L28W-3500K-DFSSB-B
L	DOWNLIGHT WET LOCATION	POLYCARBONATE	RECESSED	277 V	4000 K	12	1000 lm	LED	GOTHAM	EVOSH-40/10-6AR-MWD-LSS-MVOLT-EZ10
М	LINEAR WALL RECESSED TAPE LIGHT - UNDER LOCKER	N/A	WS	277 V	3000 K	2	63 lm	LED	CALI	LLED8000-UCS-SF-3.6W-10V-2.7K-DRY-WH-XX'
Ν	RECESSED LINEAR SLOT	ACRYLIC	RECESSED	277 V	4000 K	31	3600 lm	LED	AXIS LIGHTING	CLKLED-900-90-40-SO-4-W-UNV-DP-1
P1	POLE MOUNTED SITE LIGHTING	N/A	POLE	277 V	4000 K	54	6967 lm	LED	LITHONIA	DSX1 LED P1 40K T3M MVOLT RPA
P2	POLE MOUNTED SITE LIGHTING	N/A	POLE	277 V	4000 K	54	3000 lm	LED	LITHONIA	RADPT LED P1 40K SYM MVOLT PT4 PIR
W1	OUTDOOR WALLPACK	ACRYLIC	WALL	277 V	4000 K	36	3327 lm	LED	HE WILLIAMS	VWP-H-L30-7-40-T3-BLK-SDGL-EM
W2	WALL MOUNTED OUTDOOR FIXTURE	N/A	WALL	277 V	4000 K	27	2000 lm	LED	BARN LIGHT ELECTRIC	BLE-G-ASFC12-100-G36-LDBPC-LED27-4000K-DL
W3	WALL MOUNTED OUTDOOR GOOSENECK	N/A	WALL	277 V	4000 K	43	4000 lm	LED	BARN LIGHT ELECTRIC	BLE-G-WHS28-100-G36-NA-LDCHX-LED43-4000K-DL
W4	FLOOD LIGHTING	N/A	WALL	277 V	4000 K	69	7000 lm	LED	HE WILLIAMS	VF2-L70/740-MF-CU-DBZ-DIM-UNV
Х	EXIT SIGN	N/A	CEILING/WALI	277 V		10	0 lm	LED	LITHONIA	LRP-120/277
Y	EMERGENCY FIXTURE WITH BATTERY BACKUP	N/A	WALL	277 V	4000 K	36	3327 lm	LED	LITHONIA	ELM2L

1. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.

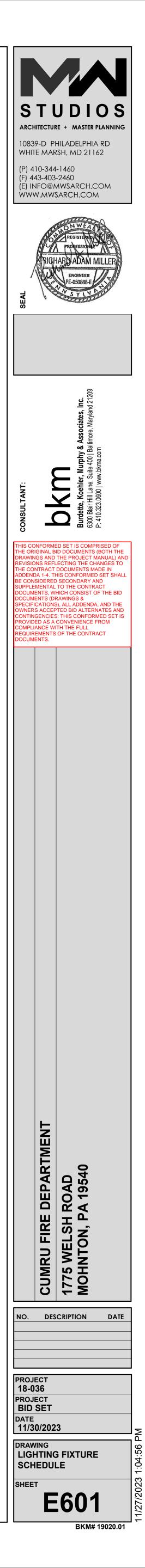
2. PROVIDE EXIT SIGN MOUNTING TYPES, DIRECTIONAL ARROWS AND FACE QUANTITIES (SINGLE/DOUBLE) AS INDICATED ON DRAWING. COORDINATE LETTERING COLOR OF THE EXIT SIGNS WITH AUTHORITY HAVING JURISDICTION.

3. FINISHES FOR ALL FIXTURES SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL.

4. EQUAL MANUFACTURERS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR APPROVAL.

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5. PROVIDE ALL LIGHT FIXTURES WITH POWER TRANSFORMERS, LAMPS, AND ALL OTHER APPURTENANCES AS RECOMMENDED BY MANUFACTURER.



	Panelboard: MDP					
	Location: ELEC. 141 Supply From: Mounting: Enclosure: Not Used	Volts: 480/277 Phases: 3 Wires: 4	7 3Ø 4W		A.I.C. Rating: Mains Type: Mains Rating:	MLO
otes:						
СКТ	Circuit Description	# of Poles	Frame Size	Trip Rating	Load (kVA)	Remarks
1	XFMR RP	3	400 A	300 A	121.0	
2	MP1	3	225 A	225 A	75.6	
3	MP2	3	400 A	400 A	108.0	
4	LP1	3	100 A	100 A	14.3	
5	SPD	3	100 A	60 A	0.0	
6	SPARE	3		400 A	0.0	
7	SPACE				0.0	
8	SPACE				0.0	
9	SPACE				0.0	
10	SPACE				0.0	
11	SPACE				0.0	
12	SPACE				0.0	
13						
14						
15						
16						
17						
18						
19						
			1			
20				otal Conn. Load:	318.9	kVA

Legend:

Notes:

PROVIDE I-LINE TYPE PANELBOARD.

	LOCATION: ELE MOUNTING: Sur					MAINS MAI		NG: 60 PE: MO				. TAGE : 480/277 3Ø 4W ATING: 25kA	
скт	Circuit Description	Trip	Poles	A	В	с	Α	В	С	Poles	Trip	Circuit Description	скт
1	XFMR LS	25 A	3	1.20			1.51			1	20 A	LIGHTING	2
3					0.00			0.96		1	20 A	LIGHTING	4
5						0.00			0.46	1	20 A	LIGHTING	6
7	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE			0.00			0.00					SPACE	32
33	SPACE				0.00			0.00				SPACE	34
35	SPACE					0.00			0.00			SPACE	36
37	SPACE			0.00			0.00			3	30 A	SPD	38
39	SPACE				0.00			0.00					40
41	SPACE					0.00			0.00				42
AØ:	ected Load KVA =	23 A A	A										
BØ:	0.96 KVA =	8 A 🛛 🖌	A										
CØ:	0.46 KVA =	4 A _ A	A										
Notes	8:												

	LOCATION: ELE MOUNTING: Surf					MAINS MAI	RATINNS TYL					TAGE: 480/277 3Ø 4W ATING: 25kA	
скт	Circuit Description	Trip	Poles	Α	В	с	A	В	С	Poles	Trip	Circuit Description	скт
1	LP2	60 A	3	3.37			0.57			1	20 A	SITE LIGHTING	2
3					2.28			0.32		1	20 A	LIGHTING	4
5						1.43			2.22	1	20 A	LIGHTING	6
7	LS1	60 A	3	2.71			0.00			1	20 A	SPARE	8
9					0.96			0.00		1	20 A	SPARE	10
11						0.46			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE			0.00			0.00					SPACE	32
33	SPACE				0.00			0.00				SPACE	34
35	SPACE					0.00			0.00			SPACE	36
37	SPACE			0.00			0.00			3	30 A	SPD	38
39	SPACE				0.00			0.00					40
41	SPACE					0.00			0.00				42
۹Ø:	3.56 KVA = 4.11 KVA =	24 A A 13 A A 15 A A	A										

		DCATION: E DUNTING: S					MAINS MAI	RATINNS TYI					TAGE: 480/277 3Ø 4W ATING: 14kA	
скт	Circuit I	Description	Trip	Poles	A	в	с	A	В	С	Poles	Trip	Circuit Description	скт
1	LIGHTING		20 A	1	1.55			0.81			1	20 A	SITE LIGHTING	2
3	LIGHTING		20 A	1		1.83			0.45		1	20 A	LIGHTING	4
5	LIGHTING		20 A	1			0.49			0.94	1	20 A	LIGHTING	6
7	LIGHTING		20 A	1	0.43			0.58			1	20 A	LIGHTING	8
9	SPARE		20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPARE		20 A	1			0.00			0.00	1	20 A	SPARE	12
13	SPARE		20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE		20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE		20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE		20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE		20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE		20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE		20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE		20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE		20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE				0.00			0.00					SPACE	32
33	SPACE					0.00			0.00				SPACE	34
35	SPACE						0.00			0.00			SPACE	36
37	SPACE				0.00			0.00			3	30 A	SPD	38
39	SPACE					0.00			0.00					40
41	SPACE						0.00			0.00				42
Conn	ected Load													
AØ:	3.37	KVA =		A										
BØ:	2.28	KVA =	19 A	A										
CØ:	1.43	_ KVA =	12 A	A										
Notes	5:													

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СКТ 1 |XF 3 --5 --7 DSI
 9
 -

 11
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 13
 SP/

 15
 SP/

 17
 SP/

 19
 SP/

 21
 SP/

 23
 SP/

 25
 SP/

 27
 SP/

 31
 SP/

 33
 SP/

 35
 SP/

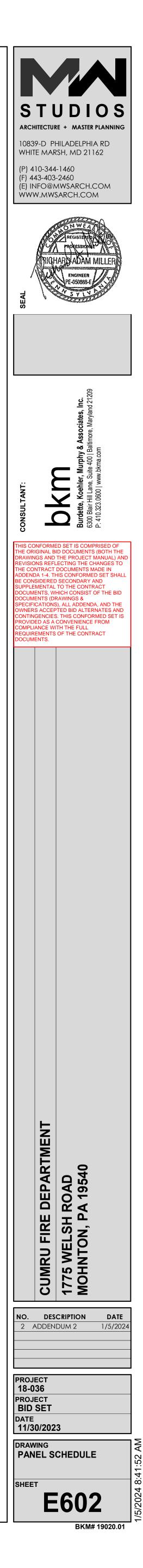
 37
 SP/

 39
 SP/

 41
 SP/
 Connecto AØ: _____ BØ: _____ CØ: _____ Notes:

					-		-	-		-		
Circuit Description	Trip	Poles	A	В	С	Α	в	С	Poles	Trip	Circuit Description	скт
SPARE	20 A	3	0.00			0.94			3	15 A	SWHP-1	2
				0.00			0.94					4
					0.00			0.94				6
PHWP-1	15 A	3	0.58			0.94			3	15 A	SHWP-2	8
				0.58			0.94					10
					0.58	\sim	\sim	-0.94		$\overline{\mathbf{\gamma}}$		712
PHWP-2	15 A	3	0.58			10.98			3	60 A	DOAS-1	14
				0.58	X		10.98					16
					0.58			10.98				18
DWH-3	80 A	1	16.05		,	2.02	س	3	للك	~2QA~	QWBR1 ~ ~ ~	<u>~</u> 20
							2.02					22
								2.02				24
DWBP-1	20 A	3	2.02			0.44			3	20 A	JP-1	26
				2.02			0.44					28
					2.02			0.44				30
SPACE			0.00			1.33			3	40 A	EF-3	32
SPACE				0.00			1.33					34
SPACE					0.00			1.33				36
SPACE			0.00			0.00			3	30 A	SPD	38
SPACE				0.00			0.00					40
SPACE					0.00			0.00				42
	MOUNTING: Surf	SPARE 20 Å PHWP-1 15 Å PHWP-2 15 Å PHWP-2 15 Å PHWP-2 15 Å DWH-3 80 Å DWBP-1 20 Å SPACE SPACE	MOUNTING: Surface Circuit Description Trip Poles SPARE 20 A 3 PHWP-1 15 A 3 PHWP-1 15 A 3 PHWP-2 15 A 3 PHWP-3 80 A 1 DWH-3 80 A 1 DWBP-1 20 A 3 DWBP-1 20 A 3 DWBP-1 20 A 3 SPACE SPACE SPACE SPACE SPACE	MOUNTING: Surface Trip Poles A SPARE 20 A 3 0.00 1 PHWP-1 15 A 3 0.58 PHWP-1 15 A 3 0.58 PHWP-2 15 A 3 0.58 PHWP-2 15 A 3 0.58 DWH-3 80 A 1 16.05 DWBP-1 20 A 3 2.02 DWBP-1 20 A 3 2.02 SPACE 0.00 SPACE 0.00 SPACE	MOUNTING: Surface Trip Poles A B SPARE 20 A 3 0.00 0.00 0.00 0.00 PHWP-1 15 A 3 0.58 0.58 0.58 0.58 0.58 0.58 0.58 0.58 0.58 0.58 0.58 0.00 DWH-3 80 A 1 16.05 DWBP-1 20 A 3 2.02 <td< td=""><td>MOUNTING: Surface MAI Circuit Description Trip Poles A B C SPARE 20 A 3 0.00 I I 0.00 I I I 0.00 I I I 0.00 I I I I 0.00 I PHWP-1 15 A 3 0.58 I I I I I I I PHWP-2 15 A 3 0.58 I</td><td>MOUNTING: SurfaceMAINS TYPECircuit DescriptionTripPolesABCASPARE20 A30.0040.940.00000.0000PHWP-115 A30.580.580.940.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.040.580.940.940.040.940.940.940.040.940</td><td>MOUNTING: SurfaceMAINS TYPE: MUCircuit DescriptionTripPolesABCABSPARE20 A30.0000.940.940.0000.940.940.0000.940.940.000.0000.94PHWP-115 A30.5800.940.580.000.940.940.580.940.94PHWP-115 A30.5800.940.580.940.94PHWP-215 A30.58010.980.58010.980.58010.980.58010.980.58010.980.5800DWH-380 A116.0512.92DWBP-110.0000.4410.0000.440.00001.33SPACE0.0001.33SPACE0.00001.33SPACE0.00000<td>MOUNTING: SurfaceTrip PolesABCABCCircuit Description1-720 A30.0000.940.94SPARE20 A30.0000.940.940.9400.0000.940.9400.0000.940.9400.5800.940.94PHWP-115 A30.5800.940.9400.5800.940.94PHWP-215 A30.5800.580.9400.5800.940.9400.5800.940.9400.5800.940.9400.5800.940.9400.5800.940.940000000DWH-380 A116.0510.940.9400000DWBP-120 A32.021000000000DWB-120 A32.021100010011<!--</td--><td>MOUNTING: SurfaceMain and an and an and an and and and and a</td><td>MOUNTING: Surface Marrian Poles A B C A B C Poles A SPARE 20 A 3 0.00 4 0.94 4 3 15 A SPARE 20 A 3 0.00 4 0.94 4 3 15 A </td><td>MOUNTINE: Surface Marrie Sur</td></td></td></td<>	MOUNTING: Surface MAI Circuit Description Trip Poles A B C SPARE 20 A 3 0.00 I I 0.00 I I I 0.00 I I I 0.00 I I I I 0.00 I PHWP-1 15 A 3 0.58 I I I I I I I PHWP-2 15 A 3 0.58 I	MOUNTING: SurfaceMAINS TYPECircuit DescriptionTripPolesABCASPARE20 A30.0040.940.00000.0000PHWP-115 A30.580.580.940.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.580.580.940.940.040.580.940.940.040.940.940.940.040.940	MOUNTING: SurfaceMAINS TYPE: MUCircuit DescriptionTripPolesABCABSPARE20 A30.0000.940.940.0000.940.940.0000.940.940.000.0000.94PHWP-115 A30.5800.940.580.000.940.940.580.940.94PHWP-115 A30.5800.940.580.940.94PHWP-215 A30.58010.980.58010.980.58010.980.58010.980.58010.980.5800DWH-380 A116.0512.92DWBP-110.0000.4410.0000.440.00001.33SPACE0.0001.33SPACE0.00001.33SPACE0.00000 <td>MOUNTING: SurfaceTrip PolesABCABCCircuit Description1-720 A30.0000.940.94SPARE20 A30.0000.940.940.9400.0000.940.9400.0000.940.9400.5800.940.94PHWP-115 A30.5800.940.9400.5800.940.94PHWP-215 A30.5800.580.9400.5800.940.9400.5800.940.9400.5800.940.9400.5800.940.9400.5800.940.940000000DWH-380 A116.0510.940.9400000DWBP-120 A32.021000000000DWB-120 A32.021100010011<!--</td--><td>MOUNTING: SurfaceMain and an and an and an and and and and a</td><td>MOUNTING: Surface Marrian Poles A B C A B C Poles A SPARE 20 A 3 0.00 4 0.94 4 3 15 A SPARE 20 A 3 0.00 4 0.94 4 3 15 A </td><td>MOUNTINE: Surface Marrie Sur</td></td>	MOUNTING: SurfaceTrip PolesABCABCCircuit Description1-720 A30.0000.940.94SPARE20 A30.0000.940.940.9400.0000.940.9400.0000.940.9400.5800.940.94PHWP-115 A30.5800.940.9400.5800.940.94PHWP-215 A30.5800.580.9400.5800.940.9400.5800.940.9400.5800.940.9400.5800.940.9400.5800.940.940000000DWH-380 A116.0510.940.9400000DWBP-120 A32.021000000000DWB-120 A32.021100010011 </td <td>MOUNTING: SurfaceMain and an and an and an and and and and a</td> <td>MOUNTING: Surface Marrian Poles A B C A B C Poles A SPARE 20 A 3 0.00 4 0.94 4 3 15 A SPARE 20 A 3 0.00 4 0.94 4 3 15 A </td> <td>MOUNTINE: Surface Marrie Sur</td>	MOUNTING: SurfaceMain and an and an and an and and and and a	MOUNTING: Surface Marrian Poles A B C A B C Poles A SPARE 20 A 3 0.00 4 0.94 4 3 15 A SPARE 20 A 3 0.00 4 0.94 4 3 15 A	MOUNTINE: Surface Marrie Sur

	ION: EL ING: Su					MAINS MAI		NG: 40 PE: ML				TAGE: 480/277 3Ø 4W ATING: 42kA	
Circuit Descr	iption	Trip	Poles	A	В	С	Α	В	С	Poles	Trip	Circuit Description	скт
(FMR MP3		175 A	3	33.04			1.03			3	20 A	ACCU-5	2
-					36.20			1.03					4
-						32.99			1.03				6
SF-1		20 A	3	0.44			0.44			3	20 A	DSF-2	8
-					0.44			0.44					10
-						0.44			0.44				12
SPACE				0.00			0.00					SPACE	14
PACE					0.00			0.00				SPACE	16
PACE						0.00			0.00			SPACE	18
PACE				0.00			0.00					SPACE	20
PACE					0.00			0.00				SPACE	22
PACE						0.00			0.00			SPACE	24
PACE				0.00			0.00					SPACE	26
PACE					0.00			0.00				SPACE	28
PACE						0.00			0.00			SPACE	30
PACE				0.00			0.00					SPACE	32
PACE					0.00			0.00				SPACE	34
PACE						0.00			0.00			SPACE	36
PACE				0.00			0.00			3	30 A	SPD	38
PACE					0.00			0.00					40
SPACE						0.00			0.00				42
cted Load													
		126 A A											
	A =	138 A A											
34.90 KV	A =	126 A A	١										



	C. 141 ace				MAINS MAI	RATINNS TYP				-	TAGE: 120/208 3Ø 4W ATING: 18kA	
Circuit Description	Trip	Poles	Α	В	С	Α	В	с	Poles	Trip	Circuit Description	скт
RP2	225 A	3	10.22			17.49			3	225 A	RP3	2
				10.14			19.57					4
					10.04			22.21				6
ACCU-2	40 A	2	2.52			1.50			2	20 A	UH-1 - 146	8
				2.52			1.50					10
ACCU-4	30 A	2			1.88			0.60	1	20 A	B-2	12
			1.88			1.32			1	20 A	DWH-1	14
DDC PANEL	20 A	1		0.60			1.01		1	20 A	CH-1 - 144	16
B-1	20 A	1			0.60			0.60	1	20 A	DDC PANEL	18
DDC PANEL	20 A	1	0.60			0.00			1	20 A	TIMECLOCK	20
DWH-2	30 A	2		2.40			0.60		1	20 A	EF-2	22
					2.40			0.60	1	20 A	EF-4	24
UH-3	20 A	2	1.10			1.10			2	20 A	UH-4	26
-				1.10			1.10					28
EXTERIOR SIGNAGE	20 A	1			0.18			1.10	2	20 A	UH-2	30
DDC PANEL	20 A	1	0.60			1.10						32
SPARE	20 A	1		0.00			0.34		1	20 A	VF-1	34
SPARE	20 A	1			0.00			0.50	1	20 A	DHWR-1	36
SPACE			0.00			0.00			3	30 A	SPD	38
SPACE				0.00			0.00					40
SPACE					0.00			0.00				42
	RP2 	RP2 225 Å ACCU-2 40 Å ACCU-4 30 Å ACCU-4 30 Å DDC PANEL 20 Å DDC PANEL 20 Å DDC PANEL 20 Å DWH-2 30 Å JH-3 20 Å DC PANEL 20 Å DDC PANEL 20 Å DWH-2 30 Å JH-3 20 Å SPARE 20 Å SPARE 20 Å SPARE 20 Å SPARE 20 Å SPACE SPACE	RP2 225 Å 3 ACCU-2 40 Å 2 ACCU-2 40 Å 2 ACCU-4 30 Å 2 ACCU-4 30 Å 2 DDC PANEL 20 Å 1 DDC PANEL 20 Å 1 DDC PANEL 20 Å 1 DWH-2 30 Å 2 JH-3 20 Å 2 EXTERIOR SIGNAGE 20 Å 1 DDC PANEL 20 Å 1 SPARE 20 Å 1 SPARE 20 Å 1 SPARE 20 Å 1 SPACE SPACE	Circuit Description Trip Poles RP2 225 A 3 10.22 ACCU-2 40 A 2 2.52 ACCU-2 40 A 2 2.52 ACCU-4 30 A 2 ACCU-4 30 A 2 1.88 1.88 DDC PANEL 20 A 1 0.60 DWH-2 30 A 2 JH-3 20 A 2 1.10 STERIOR SIGNAGE 20 A 1 0.60 SPARE 20 A 1 0.60 SPARE 20 A 1 SPACE <t< td=""><td>Circuit Description Trip Poles Image: Construct of the system of the</td><td>Circuit Description Irip Poles Image: Comparison of the comparis</td><td>Circuit Description Irip Poles Imp <thimp< th=""> <</thimp<></td><td>Circuit Description Irip Poles Imp Imp Poles Imp Imp Imp Imp Imp Imp Imp Imp Imp Imp</td><td>Circuit Description Irip Poles Imp <thimp< th=""> <</thimp<></td><td>Circuit Description Irip Poles ·<!--</td--><td>Circuit DescriptionIrinPolesororororororpolesIrinRP2225 A310.22v17.49v18.57v3.225 A10.14v19.57v2.2.110.4v1.50v22.21ACCU-240 A22.52v1.50v2.21ACCU-430 A2vv1.88v1.50v1.2020 A1.88v1.88v0.601.120 A1.88v1.32v1.120 ADC PANEL20 A11.0v1.011.120 A31420 A10.60v1.011.120 ADC PANEL20 A10.60v1.011.120 ADC PANEL20 A10.60v1.001.120 ADUC PANEL20 A10.60v1.101.120 A1.10v1.102.02.0DUC PANEL20 A10.6011.001.120 A1.10v1.12.02.01.10v1.12.02.02.0<</td><td>Circuit DescriptionIringPolesII</td></td></t<>	Circuit Description Trip Poles Image: Construct of the system of the	Circuit Description Irip Poles Image: Comparison of the comparis	Circuit Description Irip Poles Imp Imp <thimp< th=""> <</thimp<>	Circuit Description Irip Poles Imp Imp Poles Imp Imp Imp Imp Imp Imp Imp Imp Imp Imp	Circuit Description Irip Poles Imp Imp <thimp< th=""> <</thimp<>	Circuit Description Irip Poles · </td <td>Circuit DescriptionIrinPolesororororororpolesIrinRP2225 A310.22v17.49v18.57v3.225 A10.14v19.57v2.2.110.4v1.50v22.21ACCU-240 A22.52v1.50v2.21ACCU-430 A2vv1.88v1.50v1.2020 A1.88v1.88v0.601.120 A1.88v1.32v1.120 ADC PANEL20 A11.0v1.011.120 A31420 A10.60v1.011.120 ADC PANEL20 A10.60v1.011.120 ADC PANEL20 A10.60v1.001.120 ADUC PANEL20 A10.60v1.101.120 A1.10v1.102.02.0DUC PANEL20 A10.6011.001.120 A1.10v1.12.02.01.10v1.12.02.02.0<</td> <td>Circuit DescriptionIringPolesII</td>	Circuit DescriptionIrinPolesororororororpolesIrinRP2225 A310.22v17.49v18.57v3.225 A10.14v19.57v2.2.110.4v1.50v22.21ACCU-240 A22.52v1.50v2.21ACCU-430 A2vv1.88v1.50v1.2020 A1.88v1.88v0.601.120 A1.88v1.32v1.120 ADC PANEL20 A11.0v1.011.120 A31420 A10.60v1.011.120 ADC PANEL20 A10.60v1.011.120 ADC PANEL20 A10.60v1.001.120 ADUC PANEL20 A10.60v1.101.120 A1.10v1.102.02.0DUC PANEL20 A10.6011.001.120 A1.10v1.12.02.01.10v1.12.02.02.0<	Circuit DescriptionIringPolesII

	LOCATION: ELEC. MOUNTING: Surface						RATINNS TYI					TAGE: 120/208 3Ø 4W ATING: 14kA	
скт	Circuit Description	Trip	Poles	Α	В	с	A	В	с	Poles	Trip	Circuit Description	СКІ
1	REC - 141.1, EXTERIOR	20 A	1	0.72			0.54			1	20 A	REC - 142	2
3	REC - 143	20 A	1		0.90			0.72		1	20 A	REC - 143,144,145	4
5	REC - 141, EXTERIOR	20 A	1			0.72			0.72	1	20 A	REC - 146, EXTERIOR	6
7	REC - MEZZANINE WEST	20 A	1	0.54			0.72			1	20 A	REC - BAY AREA	8
9	CABLE REEL - BAY AREA	20 A	1		0.36			0.36		1	20 A	CABLE REEL - BAY AREA	10
11	CABLE REEL - BAY AREA	20 A	1			0.36			0.36	1	20 A	CABLE REEL - BAY AREA	12
13	CABLE REEL - BAY AREA	20 A	1	0.36			0.36			1	20 A	CABLE REEL - BAY AREA	14
15	CABLE REEL - BAY AREA	20 A	1		0.36			0.36		1	20 A	CABLE REEL - BAY AREA	16
17	REC - BAY AREA	20 A	1			0.72			0.36	1	20 A	CABLE REEL - BAY AREA	18
19	RECEPTACLE	20 A	1	0.36			0.36			1	20 A	CABLE REEL - BAY AREA	20
21	CARD READERS	20 A	1		0.50		\sim	0.58	\sim	\sim	~20~		22
23	REC TV APPARATUS BAY 140	20 A	1			0.36			0.54	1	20 A	POWER APPARATUS BAY 140	24
25	REC TV APPARATUS BAY 140	20 A	1	0.36		<u> </u>	0.36			1	20 A	POWER APPARATUS BAY 140	26
27	SPARE	20 A	1		0.00			0.54		1	20 A	POWER APPARATUS BAY 140	28
29	SPARE	20 A	1			0.00			0.36	1	20 A	POWER APPARATUS BAY 140	30
31	AIR COMPRESSOR MEZZ	60 A	3	5.54			0.00	\sim			~20~	SPARE	- <u>5</u> 2
33					5.54			0.00		1	20 A	SPARE	34
35						5.54			0.00	1	20 A	SPARE	36
37	SPACE			0.00			0.00			3	30 A	SPD	38
39	SPACE				0.00			0.00					40
41	SPACE					0.00			0.00				42
Conr AØ: BØ: CØ: Note	$ \begin{array}{c} 10.22 \\ 10.14 \\ 10.04 \end{array} $ KVA = 85 85 10.04 KVA = 84 85	A A	4										

 95
 SPARE

 97
 SPARE

 99
 SPARE

 101
 SPARE

 103
 SPARE

 105
 SPARE

 107
 SPARE

 109
 SPARE

 101
 SPARE

 103
 SPARE

 104
 SPARE

 105
 SPARE

 107
 SPARE

 111
 SPARE

 113
 SPARE

 115
 SPARE

 117
 SPARE

 119
 SPARE

 121
 SPARE

 123
 SPARE

 125
 SPARE

 Connected Load

 AØ:
 17.49
 KVA =
 146 A
 A

 BØ:
 19.57
 KVA =
 163 A
 A

 CØ:
 22.21
 KVA =
 185 A
 A

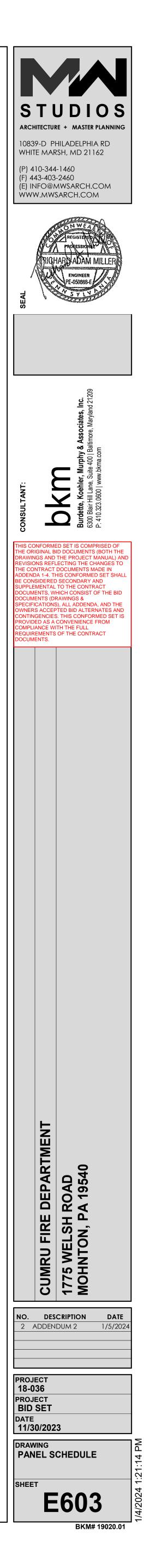
Notes

	Panel: RP LOCATION: ELEC. MOUNTING: Surfac	118				MAINS MAI	RATINNS TYI					. TAGE : 120/208 3Ø 4W ATING : 14kA	
скт	Circuit Description	Trip	Poles	Α	В	с	A	В	С	Poles	Trip	Circuit Description	скт
	REC - 100, 101, 102	20 A	1	0.90			0.72			1	20 A	REC - 103, 104	2
3	REC - 104	20 A	1		0.72			0.72		1	20 A	REC - 104	4
5	FLR BOXES- 104	20 A	1			0.72			0.72	1	20 A	FLR BOXES- 104	6
7	FLR BOXES- 104	20 A	1	0.72			0.72			1	20 A	FLR BOXES- 104	8
	RECEPTACLE	20 A	1		0.72			0.90		1	20 A	REC - 105	10
	REC - 106	20 A	1			0.90			0.72	1	20 A	REC - 107	12
	REC - 107	20 A	1	0.36			0.90			1	20 A	REC - 108	14
	REC -109	20 A	1		0.36	0.00		0.36	0.40	1	20 A	REC - 109	16
	REC - 109	20 A	1	0.00		0.36	0.70		0.18	1	20 A	REC - 109	18
-	REC - 110 RECEPTACLE	20 A 20 A	1	0.90	0.54		0.72	0.54		1	20 A	REC - 109.1 REC - 111	20
	RECEPTAGLE REC - 113 & CORRIDOR	20 A 20 A	1		0.54	0.72		0.54	0.18	1	20 A 20 A	REC - 111 REC - 112	22 24
	PRINTER - 113	20 A 20 A	1	0.60		0.72	0.18		0.18	1	20 A 20 A	PLOTTER - 113	24
	REC -114	20 A	1	0.00	0.72		0.10	0.72		1	20 A	REC - 114	28
	REC - 115, 116, 117, 118	20 A	1		0.72	0.72		0.72	0.54	1	20 A	REC - 119	30
31	WATER FOUNTAIN - 119	20 A	1	0.18		0.72	0.00		0.04	1	20 A	REC - PROJECTOR 104	32
33	TREAD MILL - 119	20 A	1	5.10	0.36		5.00	0.36		1	20 A	TREAD MILL - 119	34
	REC - 119	20 A	1			0.36			0.72	1	20 A	REC - 120, 121, CORRIDOR	36
	REC - 123	20 A	1	0.90			0.90			1	20 A	REC - 124	38
39	REC - 125	20 A	1		0.90			0.90		1	20 A	REC - 126	40
41	REC - 127	20 A	1			0.90			0.90	1	20 A	REC - 128	42
43	REC - CORRIDOR	20 A	1	0.90			0.54			1	20 A	REC - CORRIDOR	44
45	REC -KITCHEN	20 A	1		0.90			0.36		1	20 A	REC - KITCHEN	46
47	REC - KITCHEN	20 A	1			0.54			0.60	1	20 A	FRIDGE - KITCHEN	48
49	FRIDGE - KITCHEN	20 A	1	0.60			0.60			1	20 A	FRIDGE - KITCHEN	50
	REC - 134	20 A	1		0.54			0.54		1	20 A	FLR BOXES - 134	52
53	REC - 135, 136, 137, 147	20 A	1			0.54			0.54	1	20 A	REC - 138, 139	54
	REC - MEZZANINE WEST	20 A	1	0.54			0.36			1	20 A	REC - EXTERIOR	56
	REC - EXTERIOR	20 A	1		0.54			4.00		2	50 A	RANGE - KITCHEN	58
	REC - 109	20 A	1			0.72			4.00				60
	REC - 138	20 A	1	0.72	0.70		0.72	0.00		1	20 A	REC - 138	62
	REC - 138	20 A 30 A	1		0.72	1.05		0.60	0.60	1	20 A	FREEZER - 139	64 66
65 67	OVEN - KITCHEN	30 A	2	1.65		1.65	0.54		0.60	1	20 A 20 A	DISHWASHER - KITCHEN RECEPTACLE	68
	 RECEPTACLE DAY ROOM 134	 20 A	1	1.05	0.54		0.54	0.54		1	20 A	RECEPTACLE MEETING 104	70
	RECEPTACLE KITCHEN 133	20 A	1		0.54	0.36		0.04	0.72	1	20 A	RECEPTACLE KITCHEN 133	72
	RECEPTACLE FITNESS 119	20 A	1	0.36		0.00	0.18		0.72	1	20 A	RECEPTACLE IT 129	74
	RECEPTACLE IT 129	20 A	1	0.00	0.18		0.10	0.18		1	20 A	RECEPTACLE IT 129	76
	RECEPTACLE WATCH	20 A	1			0.72			0.72	1	20 A	RECEPTACLE	78
	EXTERIOR SIGNAGE	20 A	1	0.18			0.36			1	20 A	RECEPTACLE	80
81	OPERABLE PARTITION	20 A	1		0.00			0.36		1	20 A	RECEPTACLE FITNESS 119	82
83	FLOORBOX 104	20 A	1			0.54			0.54	1	20 A	FLOORBOX 104	84
85	TV FITNESS 119	20 A	1	0.18			0.36			1	20 A	RECEPTACLE VESTIBULE	86
87	CARD READERS	20 A	1		0.50			0.25		1	20 A	CARD READERS	88
	REC - MICROWAVE 133	20 A	1			0.60			0.18	1	20 A	SOLENOID VALVE	90
	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	92
93	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	94
	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	96
	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	98
	SPARE	20 A	1		0.00	0.00		0.00	0.00	1	20 A	SPARE	100
	SPARE	20 A	1	0.00		0.00	0.00		0.00	1	20 A	SPARE	102
	SPARE SPARE	20 A	1	0.00	0.00		0.00	0.00		1	20 A	SPARE	104
	SPARE	20 A 20 A	1		0.00	0.00		0.00	0.00	1	20 A 20 A	SPARE SPARE	106 108
	SPARE	20 A 20 A	1	0.00		0.00	0.00		0.00	1	20 A 20 A	SPARE	110
	SPARE	20 A	1	0.00	0.00		0.00	0.00		1	20 A 20 A	SPARE	112
	SPARE	20 A	1		5.00	0.00		5.00	0.00	1	20 A	SPARE	114
	SPARE	20 A	1	0.00		5.00	0.00		5.00	1	20 A	SPARE	116
	SPARE	20 A	1	5.00	0.00		5.00	0.00		1	20 A	SPARE	118
	SPARE	20 A	1		5.00	0.00		5.00	0.00	1	20 A	SPARE	120
	SPARE	20 A	1	0.00			0.00			3	30 A	SPD	120
121										-			
	SPARE	20 A	1		0.00			0.00					124

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	Panel: M LOCATION: ELE MOUNTING: Surf	C. 118					RATIN NS TYI					TAGE: 120/208 3Ø 4W ATING: 42kA	
скт	Circuit Description	Trip	Poles	A	В	с	A	В	с	Poles	Trip	Circuit Description	Cł
1	ACCU-1	20 A	2	1.32			0.06			2	20 A	HR-5	2
3					1.32			0.06					
5	HR-1,2,3,4	20 A	2			0.16			0.19	2	20 A	ACU-04,05	
7				0.16			0.19						
9	ACU-01,02,03	20 A	2		0.11			0.08		2	20 A	ACU-09,10,11	
11						0.11			0.08				
13	ACU-07,08,12,13	20 A	2	0.14			0.15			2	20 A	ACU-06,14,23	
15					0.14			0.15					
17	ACU-22,24	20 A	2			0.05			0.45	2	20 A	ACU-16,19,20, 21	
19				0.05			0.45						1
21	ACU-15,17,18	20 A	2		0.33			0.18		1	20 A	WASHER - 135	2
23						0.33			0.50	1	20 A	CH-2 RM 120	2
25	CH-2 RM 121	20 A	1	0.50			0.50			1	20 A	CH-2 RM 103	
27	CH-2 RM 116	20 A	1		0.50			1.01		1	20 A	CH-1 RM 102	:
29	CH-2 RM 133	20 A	1			0.50			0.50	1	20 A	CH-2 RM 137	
31	CH-2 RM 136	20 A	1	0.50			0.50			1	20 A	CH-2 RM 147	;
33	CH-2 RM 115	20 A	1		0.50			2.50		2	30 A	DRYER - 135	
	WASHER - 117	20 A	1			0.18			2.50				:
	WASHER - 117	20 A	1	0.18			2.50			2	30 A	DRYER - 117	
	DRYER - 117	30 A	2		2.50			2.50					
41					2.00	2.50		2.00	0.43	1	20 A	EF-1	
	ACCU-3	20 A	2	1.32		2.00	0.00		0.10	1	20 A	SPARE	
45				1.02	1.32		0.00	0.00		1	20 A	SPARE	
	SPARE	20 A	1		1.52	0.00		0.00	1.50	2	20 A	EXTRACTOR - 139	
	SPARE	20 A	1	0.00		0.00	1.50		1.50				
	EXTRACTOR - 139	20 A	2	0.00	0.00		1.50	6.97		3	 80 A	 VRF-1A	
53	EXTRACTOR - 159	20 A			0.00	0.00		0.97	6.97	_			
	 VRF-1C	 80 A	3	6.97		0.00	6.97		0.97				
				0.97	6.97		0.97	6.97		3		 VRF-1B	
					0.97	6.07		0.97	6.07	_	80 A		
				0.40		6.97	0.07		6.97				
	DRYER 139	30 A	3	2.12	0.40		6.97	0.00					
					2.12	0.40		0.00	0.00	1	20 A	SPARE	
				0.00		2.12	0.00		0.00	1	20 A	SPARE	
	SPARE	20 A	1	0.00	0.00		0.00	0.00		1	20 A	SPARE	
	SPARE	20 A	1		0.00	0.00		0.00	0.00	1	20 A	SPARE	
	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	
	SPACE			0.00	0.01		0.00	0.5-				SPACE	
	SPACE				0.00			0.00	e -			SPACE	
	SPACE					0.00			0.00			SPACE	
79	SPACE			0.00			0.00			3	30 A	SPD	
	SPACE				0.00			0.00					
	SPACE					0.00			0.00				1

	Location: E Mounting: S					MAINS MAI		NG: 60 PE: MO				TAGE: 120/208 3Ø 4W ATING: 14kA	
скт	Circuit Description	Trip	Poles	Α	В	с	Α	В	С	Poles	Trip	Circuit Description	ск
1	FACP	20 A	1	0.60			0.60			1	20 A	FAP	2
3	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	4
5	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	6
7	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE			0.00			0.00					SPACE	32
33	SPACE				0.00			0.00				SPACE	34
35	SPACE					0.00			0.00			SPACE	36
37	SPACE			0.00			0.00			3	30 A	SPD	38
39	SPACE				0.00			0.00					40
41	SPACE					0.00			0.00				42
Conn AØ: BØ: CØ: Notes	ected Load <u>1.20</u> KVA = 0.00 KVA = 0.00 KVA =	10 A A 0 A A 0 A A	4										



Control Contro Control Control	Firehouse Alerting F	Project Notes		GENERAL NOTES
		Wire Length to leave in boxes for device connection: 16"		PARTICULAR VENDOR. HOWEVER, DUE TO THE COORDINATION REQUIRED AND OPERATION, FUNCTIONALITY OF THE SYSTEMS, A BASIS OF DESIGN PRODUCT(S) WAS CHOSEN TO BE DESIG AND ENGINEERED AROUND. DUE TO THE COMPLEXITIES AND INTEGRATION OF THE SYSTEM CHOSEN IT WILL BE THE RESPONSIBILITY OF ANY OTHER VENDOR/MANUFACTURER OF A COMPARABLE SYSTEM OR PRODUCT TO BARE THE COSTS AND RESPONSIBILITIES ASSOCIATED
	· 영상 가장 가장에 가장에 온 특히는 것 같은 것 같			COMPARABLE SYSTEM. THESE COSTS MAY INCLUDE BUT ARE NOT LIMITED TO, A/E FEES AN ASSOCIATED COSTS, MATERIAL, AND LABOR FOR ADDITIONAL UPGRADES TO ANY BUILDING
	 All wire runs to be clearly tagged & labeled Provide all wiring materials (hangars, conduit, surface mold, wire ties, boxes, etc 	CAT6 Cables = RJ45 Class B connections		IF A PROSPECTIVE COMPUTER AIDED DISPATCH SYSTEM VENDOR WISHES TO PROVIDE ALTER SYSTEMS TO THE ONES LISTED HEREIN, A WRITTEN REQUEST SHALL BE SUBMITTED TO THE O TECHNICAL REPRESENTATIVE. REQUESTS SHALL BEE SUBJECT TO THE REQUIREMENTS OF THE PROCUREMENT SUBSTITUTION PROCEDURES SECTION OF THE SPECIFICATIONS.
0. Provide coupling system in additional park (spin) system in additional system in additional system in additional park (spin) s	있다. 김 씨님에서 사내가 많아요. 그 말을 수 있는 것 같은 것 같은 것 같은 것 같아요. 그는 것은 것 같아요. 같이 집에서 집에서 집에서 집에서 집에 집에서 집에 있는 것 같아요. 그는 것 같아요. 그는 것	동안 이 것 같은 것은 것 같은 것 같은 것 같은 것 같이 많이 있는 것 같이 많이 있는 것 같이 것 같은 것 같이 것 같이 것 같이 것 같이 것		
12. Probe is non-site representative when their convertions as wead Bigger #188571. With convertions 4 (1 1 1 1 2 - 1 1 2 1 1 2 - 1 1 2 1 1	 Provide complete system installation (including head end equipment) Provide as-built drawings after installation 	Apparatus Bay LCDs & power outlets - 95" Volume Controls, Alert Selectors, Resets, & Who's In Reader - 48"	CONTROLLER WIRING	CORRIDOR 131'S CEILING SHALL BE PAINTED TO MATCH CEILING OR HAVE A MATCHING FAC FINISH. MECHANICAL, PLUMBING, ELECTRICAL, AND GENERAL CONTRACTORS SHALL PROVID COORDINATED SHOP DRAWINGS OF ALL MEP RELATED ITEMS AND ASSOCIATED MOUNTING
Apple of Work: 1 9 FP FB3 0	에는 것 같아요. 그는 것 같아요. 그는 것 같아요. 그는 것 같아요. 이 같아요. 이 것 같아요. 이 있	이렇는 것 다양 이렇게 잘 못했는 것 같아요. 정말 것 같아요. 같이 아내는 것 같아요. 말을 만들었다. 것 같아요. 말 아내는 것 같아요. 말 다 가 같아요. 그는 것 같아요. 같이 이렇게 가 있는 것 같아요. 말 ? 말 ? 않 ? 말 ? ? ? ? ? ? ? ? ? ? ? ? ?	INPUTS	GENERAL POWER SUPPLY, LOW VOLTAGE COMMUNICATIONS, A/V, DATA WIRING/CABLING
APB Second Work: 0 a disconcel - Located in the salendid 0 a disconcel - Located in the salendid 0 a find base disconcel - d		이렇게 있는 것 같아요. 이는 것 이는 것 같아요. 이는 것 이는 것 같아요. 이는 것 않아요. 이는 것 이는 것 않아요. 이는 것 않아요. 이는 것 이는 것 않아요. 이는 것 이 이는 것 않아요. 이는 것	I1 = RF FIRE	CCTV SYSTEM TO BE RUN IN EXPOSED AREAS THROUGH APPARATUS BAY, MEZZANINE CEILI UNDERSIDE OF MEZZANINE DECKS AND CORRIDOR 131, SHALL BE IN METAL CONDUIT PAINT
2. Pointing stream and properties with registream and properties of the activity of the activit	APS Scope of Work:		I2 = RF EMS	MATCH DECK ABOVE.
3. Product spinore largeore largeor			I3 = Front Doorbell	
5. Provide Type of partial partin partial partial partial partial partial partial parti	같이 것을 벗었는 것 같아. 것은 것 같아. 것은 것 같아. 집에 가지 않는 것은 것 같아. 집에 가지 않는 것 같아. 집에 있는 것 같아. 같이 같아. 같아. 집에 있는 것 같아. 집에 집에 있는 것 같아. 집에 있는 것 같아. 집에 있는 것 같이 같아. 집에 있는 것 같이 않는 것 같아. 집에 있는 것 같이 않는 것 같아. 집에 있는 것 같이 같아. 집에 있는 것 같아. 집에 있는 것 같아. 집에 있는 것 같아. 집에 있는 것 같이 같이 같아. 집에 집에 있는 것 같이	Device Wire Size	I4 = Side Doorbell	
6. Provide PlaneT Bit PlaneT Bit PlaneT Bit PlaneT 6. Provide PlaneT Bit PlaneT Bit PlaneT Bit PlaneT Bit PlaneT Bit PlaneT Bit PlaneT Bit PlaneT Product Mamber Gonzoucher Gonzoucher Gonzoucher F Bit PlaneT Bit PlaneT Bit PlaneT Product Mamber Gonzoucher Gonzoucher F Bit PlaneT Bit PlaneT Bit PlaneT Product Mamber Gonzoucher Gonzoucher F Bit PlaneT Bit PlaneT Bit PlaneT Product Mamber Gonzoucher Gonzoucher F Bit PlaneT Bit PlaneT Bit PlaneT Product Mamber Gonzoucher Gonzoucher F Bit PlaneT Bit PlaneT Bit PlaneT Product Mamber Gonzoucher Gonzoucher F Bit PlaneT Bit PlaneT Bit PlaneT Bit PlaneT Product Mamber Gonzoucher Gonzoucher F Bit PlaneT Bit PlaneT<	. 2012년 1월 2		15 = Fitness Medical Emergency	
Mass Section 2011 Gas Studio 4 mills 100 s Studio mills 100 s	[25] [21] [21] [21] [22] [22] [22] [22] [22		I6 = Master Reset	
Minis Since Since The Since The Since The Since The Since Sinc	make repairs/replacements as needed		I7 = Manual Alert Fire	
Honeyweil: Non-PerumIBeekeNon-PerumNon-WeinNon-WeinNon-WeinNon-Wein10000001000000000000000000000000000000000000	Wire Specifications:		18 = Manual Alert EMS	
And - Refer UT Not of USB Product Mumber Control Arg Control Arg Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not of USB Not USB Not USB Not USB Not Of USB Not USB Not USB Not USB Not USB Not USB Not Of USB Not Of USB Not USB <td< td=""><td></td><td></td><td>I9 = Stove Reset</td><td></td></td<>			I9 = Stove Reset	
Product Number Convertional Color Image: Notice Number Notice Nu		방문 수가 있는 것 같은 것 같	I10 = NOT USED	
1105 100 100 3 100 <td< td=""><td></td><td></td><td>I11 = NOT USED</td><td></td></td<>			I11 = NOT USED	
1214500 142 <		Who's In Remote Reader – 22/6	I12 = NOT USED	
10000 1 48 518 0 000 000012 0 AT6 1000 100000 1 20 AT6 1000 111 = NOT USED 115 = AC Supervisory 111 = NOT USED 116 = Battery Supervisory 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 01 = Appantus Bay Vol Ch1 111 = NOT USED 100 volume control - Single gang 3' deep box 01 = Nor Vol Ch1		RGB LED Clusters= 16/4 STR <25' between lightheads and <25' to Notifier Module (no more than 2	I13 = NOT USED	
And Concerned And Outpet State outpet S		lightheads per Notilier Module)	I14 = NOT USED	
Satz 100 CAR 60x Units Today Today Prinum Product Number Connectors Connenor			I15 = AC Supervisory	
Product Number Connectors Color Length 3122112 142 STR While 5007 3122132 144 STR Mine 5007 3124142 142 STR Mine 5007 3124152 1442 STR Orage 5007 316452 1462 STR Orage 5007 316452 1462 STR Orage 5007 316452 1462 STR Note 5007 316452 1462 STR Note Stread 316452 1462 STR Note Stread 316452 1462 Stread Stread Stread Stread 316512 CATE OAS White 1007 Stread	53921001 CAT6 OAS White 1000'	All devices in the following areas need to be zoned as follows:	I16 = Battery Supervisory	
322112 102 STR While 007 3222552 164 STR While 007 322552 164 STR While 007 3126572 166 STR Gray 5007 3160572 160 STR Gray 5007 Status 12 1007 Status 10007 007 Status 12 CATG OAS While 1007 Status 12 To Walker 10007 Status 12 To Walker Number control Single grag 3" deep box 05 Bunknom Vol Cirl 1 Status 12 To Walker To Walker Single grag 3" deep box 06 1 "Floor Vol Cirls Status 12 Single grag 3" deep box 07 Common Walc 17 Single grag 3" deep box 08 E chiefs Office Vol Cirl Status 12 Single grag 3" deep box 09 Red strobe 01 Black Tobe 01 Single grag 3" deep box 01 Black Tobe 01 Bl			OUTPUTS	
31228 12 142 5TR Maine 500' 3214512 142 STR 0As Giray 500' 3124512 142 STR 0As Giray 500' 316512 CAT6 Yalow 100' Solution CAT6 Yalow 100' Select Information: Select Information: Solution Control - Double gang 3' deep box Solution Control - Solution Gap 3' deep box Solution Control - Solution Gap 3' deep box Solution Control - Solution Gap 3' deep box Solution Control - Solution Solution - Single gang 3' deep box Solution Control - Solution Solution - Single gang 3' deep box Solution Control - Solution Solution - Single gang 3' deep box Solution Solution Solution - S		Bunkrooms, Common Areas, Apparatus Bay, Exterior Speakers	O1 = Apparatus Bay Vol Ctrl	
3113512 106 STR Gray 500' 38811102 CAT6 Yellow 1000' 38811102 CAT6 Yellow 1000' Speaker Information: Six volume control – Double gang 3' deep box 06 9 Reduredo Val Ctrl / LEDs Speaker Type Common Wire 70' Wire Values Six volume control – Single gang 3' deep box 07 Common Val Ctrl / LEDs * Round CS88006 Ceiling Speaker Black Brown 2.5 Six volume control – Single gang 3' deep box 08 Common Val Ctrl * Mart Bahroom Speaker Sixen Postion 4 7.5 Single gang 3' deep box 08 Common Val Ctrl SMAT Bahroom Speaker Sinder Postion 4 7.5 Single gang 3' deep box 08 Common Val Ctrl SMAT Bahroom Speaker Switch Postion 4 7.5 Single gang 3' deep box 08 Common Val Ctrl SMAT Bahroom Speaker Black Green 2.0 Single gang 3' deep box 01 Black Bairo SMAT Bahroom Speaker Black Green 2.0 Single gang 3' deep box 01 1 NOT USED SMAT Bahroom Speaker Bla		Supplied Drawings take precedence over the above	O2 = Fire Alert	
Gald 1102 CAT6 Vellow 1000' Sase2101 CAT6 0AS While 1000' Speaker Information: Common Wire OV Common Single gang 3' deep box O6 E shrkrom Vol Ctrl Common Vol Ctrl Speaker Type Common Wire 70V Wire Wattage Single gang 3' deep box 06 14" Floor Vol Ctrl 8" Round CSS8008 Celling Speaker Black Brow 2.5 Stove reset - Single gang 3' deep box 07 Common Vol Ctrl 8" Round CSS8008 Celling Speaker Black Brow 2.5 Stove reset - Single gang 3' deep box 08 Chief's Office Vol Ctrl 8" Round CSS8008 Celling Speaker Black Brow 2.5 Stove reset - Single gang 3' deep box 09 Red strobe SMAT Bathroom Speaker Sinder Stove reset - Single gang 3' deep box 011 NOT USED 011 NOT USED Sundsphere Speaker Black Purple 7.5 Not USED 012 NOT USED Sundsphere Speaker Type Common Audio 707 Audio LED Power LED Power LED Power L			O3 = EMS Alert	
3321001 CAT6 0AS White 1000* Speaker Information: 35% volume control – Double gang 3° deep box 06 e 14" Floor Vol Ctrls No 6 6 16" Floor Vol Ctrls Speaker Type Conmon Wire 70V Wire Value control – Single gang 3° deep box 07 e common Vol Ctrl / LEDs 10 Value control – Single gang 3° deep box 07 e common Vol Ctrl 8° Round CSS8008 Celling Speaker Black Brow 2.5 100 value control – Single gang 3° deep box 09 e Redstrow 010 e Blue Stobe 019 e Blue Stobe 010 e Blue Stobe 010 e Blue Stobe 011 e NOT USED 012 e NOT USED 012 e NOT USED 014 e Dot Cata 014 e Dy Contact 015 e Supervisory Relay 015 e Supervisory Relay 016 e Stove Disconnect 8° Round CSS8008 Celling Speaker Black Brown Black Red		Regiured boxes:	O4 = Specialty Alert	
Speaker Information: Speaker Type Common Wire Color 7V Wire Color Watage % Road XSS8008 Celling Speaker Black Brown 2.5 Mart Saltworn Speaker Black Brown 2.5 Mart Saltworn Speaker Black Brown 2.5 Mart Saltworn Speaker Black Green 2.0 Mart Saltworn Speaker Black Green 2.0 Sundaphere Speaker Black Green 2.0 LED Speaker Type Common Audig 70 wire LED Power 8'Round CSS8008 Celling Speaker Black Brown LED Power 8'Round CSS8008 Celling Speaker Black Rear LED Power 8'Round CSS8008 Celling Speaker Black Brown LED Power		35w volume control – Double gang 3" deep box	O5 = Bunkroom Vol Ctrl / LEDs	
Speaker Type Common Wire Color 70V Wire Color Wattage Color Alert selectuation – Single gang 3" deep box Store reset – Single gang 3" deep box Dorbells- Single gang 3" deep box D0 E Chief's Office Vol Cit/ 8" Round CSS8008 Ceiling Speaker Black Brown 2.5 Store reset – Single gang 3" deep box D9 Red strobe SM4T Bathroom Speaker Switch Position 4 7.5 Tote D10 Blue Strobe SM4T Bathroom Speaker Black Green 2.0 D11 NOT USED Soundsphere Speaker Black Green 2.0 D12 NOT USED LED Speaker Type Common Audio 70V Audio LED Power LED Power LED Power 8" Round CSS8008 Ceiling Speaker Black Brown Black Red	Speaker Information:	10w volume control – Single gang 3" deep box	O6 = 1 st Floor Vol Ctris	
Speaker TypeCommon Wire ColorYoW Wire ColorWattageStove reset - Single gang 3" deep box Doorbells- Single gang 3" deep box Doorbells- Single gang 3" deep box Doorbells- Single gang 3" deep box08Chiefs Office Vol Chri8" Round CSS8008 Ceiling SpeakerBlackBrown2.509= Red strobeSM4T Bathroom SpeakerSindle Yostich W Jumper set to 701.0- Verble91= Blue StrobeSM4T Bathroom SpeakerBlackGreen2.0- 01= NOT USEDSoundsphere SpeakerBlackPurple7.5- 01= NOT USEDLED Speaker TypeCommon Audio70V AudioLED Power- LED Power- 01= Supervisory Relay8" Round CSS8008 Ceiling SpeakerBlackBrownBlackRed- 01= Supervisory Relay9" Round CSS8008 Ceiling SpeakerBlackBrownBlackRed- 01= Supervisory Relay9" Round CSS8008 Ceiling SpeakerBlackBrown			O7 = Common Vol Ctrl	
8" Round CSS8008 Ceiling Speaker Black Brown 2.5 Exterior Loudspeaker Switch Position 4 7.5 SM4T Bathroom Speaker Rotary Switch W 1.0 MB8TSL Metal Wall Mount Speaker Black Green 2.0 Soundsphere Speaker Black Green 2.0 LED Speaker Type Town Audio Tov Audio LED Power 8" Round CSS8008 Ceiling Speaker Black Brown Black 8" Round CSS8008 Ceiling Speaker Black Forman Audio LED Power 8" Round CSS8008 Ceiling Speaker Black Brown Black Red	Shoakar Lyna	Stove reset – Single gang 3" deep box	O8 = Chief's Office Vol Ctrl	
Exterior LoudspeakerSwitch Position 47.5SM4T Bathroom SpeakerRotary Switch w/ Jumper set to 70V1.0MB8TSL Metal Wall Mount SpeakerBlackGreen2.0Soundsphere SpeakerBlackPurple2.0LED Speaker TypeCommon AudioTOV AudioLED Power8' Round CSS8008 Ceiling SpeakerBlackBrownBlackRed8'' Round CSS8008 Ceiling SpeakerBlackBrownBlackRed	8" Round CSS8008 Ceiling Speaker Black Brown 2.5		O9 = Red strobe	
Sind F Balmon SpeakerJumper set to 70V1.0MB8TSL Metal Wall Mount SpeakerBlackGreen2.0Soundsphere SpeakerBlackPurple7.5LED Speaker TypeCommon AudioLED Common WireLED Power8" Round CSS8008 Celling SpeakerBlackBrownBlackRed	Exterior Loudspeaker Switch Position 4 7.5		O10 = Blue Strobe	
MB8TSL Metal Wall Mount SpeakerBlackGreen2.0Soundsphere SpeakerBlackPurple7.5LED Speaker TypeCommon Audio70V AudioLED Common WireLED Power8" Round CSS8008 Ceilling SpeakerBlackBrownBlackRed	SMAT BOMMONT STOORAT		O11 = NOT USED	
LED Speaker Type Common Audio 70V Audio LED Common Wire LED Power 8" Round CSS8008 Ceiling Speaker Black Brown Black Red			O12 = NOT USED	
LED Speaker Type Common Audio 70V Audio LED Common Wire LED Power 8" Round CSS8008 Ceiling Speaker Black Brown Black Red				
LED Speaker TypeCommon Audio70V AudioLED Common WireLED Power8" Round CSS8008 Ceiling SpeakerBlackBrownBlackRed				
Bit Common Audio Wire Wire Vire 016 = Stove Disconnect 8" Round CSS8008 Ceiling Speaker Black Black Red		ED Power		
8" Round CSS8008 Ceiling Speaker Black Brown Black Red	LED Speaker Type Common Audio 70V Audio Wire L			
	8" Round CSS8008 Ceiling Speaker Black Brown Black	Red	O17 = Stove Disconnect Lamp	

STUDIOS ARCHITECTURE + MASTER PLANNING 10839-d Philadelphia Rd WHITE MARSH, MD 21162 (P) 410-344-1460 (F) 443-403-2460 (E) INFO@MWSARCH.COM WWW.MWSARCH.COM I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF PENNSYLVANIA. LICENSE NUMBER: #RA405311 EXPIRATION DATE: 6-30-2023 EXPIRATION DATE: 6-30-2023 THIS CONFORMED SET IS COMPRISED OF THE ORIGINAL BID DOCUMENTS (BOTH THE DRAWINGS AND THE PROJECT MANUAL) AND REVISIONS REFLECTING THE CHANGES TO THE CONTRACT DOCUMENTS MADE IN ADDENDA 1-4. THIS CONFORMED SET SHALL BE CONSIDERED SECONDARY AND SUPPLEMENTAL TO THE CONTRACT DOCUMENTS, WHICH CONSIST OF THE BID DOCUMENTS, WHICH CONSIST OF THE BID DOCUMENTS (DRAWINGS & SPECIFICATIONS), ALL ADDENDA, AND THE OWNERS ACCEPTED BID ALTERNATES AND CONTINGENCIES. THIS CONFORMED SET IS PROVIDED AS A CONVENIENCE FROM COMPLIANCE WITH THE FULL REQUIREMENTS OF THE CONTRACT DOCUMENTS. CUMRU FIRE DEPARTMENT 1775 WELSH ROAD MOHNTON, PA 19540 NO. DESCRIPTION DATE PROJECT NUMBER: 18-036 PROJECT SET: BID SET DATE ISSUED: 11/30/2023 DRAWING TITLE: COVER SHEET SHEET NUMBER: AL-100

Α.	G	eneral Requirements		anno
	1.	All work shall be performed in accordance with national, State and local electrical and/or building codes.	6.	The
	2.	All critical components of the System shall be supported by an uninterruptible power supply.		and s conn broa
	3.	The System shall be capable of providing a scalable fire station alerting system that is compatible with non-proprietary industry standard products.		solut syste statio
В.	N	FPA 1221 Compliance	7.	The
	1.	The System's components, control, and operation shall comply with NFPA 1221 as it applies to a standalone fire station alerting system.		units supp indic of an
	2.	The System and its components shall comply with NFPA 1221 when a dispatch server and station controller are implemented.	G.	Fire
	3.	Redundancy to computer aided dispatch (CAD) alerting shall be implemented and utilized in the event of a CAD data delivery failure.		1. <u>S</u>
C.	Co	omputer Aided Dispatch Integration		
	1.	The System shall interface with the customer's CAD system.		
	2.	Samples of CAD alert output Incident Number: 1234567 Type: Medical Priority: 2 Units: A19 A58 Date: 10/11/16 08:52 Box: 111 Location Name: Walmart		
		Address: 960 Sea Shell Ct City: North Beach XST: Main St and North Ave Remarks: subject 250pd alarm		2. <u>R</u>
	3.	The System shall be capable of supporting all dispatch messages and general announcements.		
	4.	The System shall have the capability to display CAD incident data (units assigned, incident type, location) to a color display (minimum 24-inch diagonal) located at customer required locations in each fire station. The System displays shall be capable of showing a minimum of four panes of non-emergency information. Upon alert, a separate emergency pane shall automatically display, overriding the non-emergency information.		3. <u>A</u>
D.	S	ystem Monitoring and Recording		4. <u>D</u>
	1.	The System shall monitor critical power sources. Automatic visual, electronic notification and time-stamped logs shall be generated for loss of critical power and network connections.		
	2.	All alarm transmissions shall be recorded and archived to include date and time of the alarm and be available on the display.		5. <u>R</u>
	3.	System monitored faults or failurs shall notify visually and audibly in a prominent fashion that satisfies the visual trouble requirements.		
	4.	The System shall be capable of remotely alerting both customer and vendor support staff of critical events that occur within the alerting system via email, SMS text, or audiovisual annunciation.		6. <u>V</u>
	5.	System controller(s) shall visually and audibly notify fire station personnel of System trouble. The visual trouble indicator shall be located in a common area of the fire station.		
E.	Ra	adio Dispatch		
	1.	The System shall automatically generate an audible dispatch announcement that shall include units assigned, incident type, and incident location.		
	2.	The voice announcement should be human-like, non-synthesized, non-robotic, and easily understood. A sample of voice announcements shall be provided upon request.		7. <u>LE</u>
	3.	The System voice database shall have the ability to be upgraded as needed.		
	4.	The System shall have the ability to transmit a specific alert tone generated through the station alerting system based on the unit type.		
F.	Fi	re Station Activation		
	1.	The System shall receive CAD data via SMTP, TCP/IP or linked database servers. The System shall have remote access via port forwarding or VPN tunnel for system updates / troubleshooting.		
	2.	The System shall have the ability to manually control alerting functions in the event of loss of the CAD link or CAD server.		
	3.	The System shall provide the ability to provide priority to the System alert audio during dispatch alerts.		
	4.	The System shall be a modular design providing a minimum of 16 inputs and 16 outputs to monitor and control external and switched functions. The System shall provide for the control of multiple zones and system resets. The System shall be able to interface with door access, traffic control devices, high voltage lighting and other equipment or appliances.		

The System shall be capable of displaying non-emergency information on displays that include weather, incident history, last incident information and

ouncements. The System shall also display emergency incident CAD mation on dispatch alert.

customer shall provide each fire station with a dedicated base station radio speaker for monitoring the primary dispatch audio. Each base radio shall be ected to a station public address amplifier whose sole purpose is for the adcast of a dispatch, nonemergency or general announcements. The System ution shall be able to provide audio through the fire station public address em only when activated for the specific station and certain zones of that on.

System shall provide an audible alert tone and can separately identify the and incident type that is being dispatched. The System shall be able to port a minimum of six customized tones so that different tones can be used to cate the individual unit for the alert notification. The System shall be capable nnouncing the incident address as an option.

Station Alerting

Speakers

- Commercial, non-proprietary ceiling (with ceiling bridge assemblies) and wall-mounted speakers shall be provided for audible alerting over the fire station's public address system. Speaker shall provide 70V Taps (5W, 2.5W, 1.3W, 0.7W) External speakers shall be capable of being controlled through a timing circuit.
- b. Speakers shall produce a clear, understandable sound (voice and tone) throughout the space for the area where it is installed.
- c. Omni-directional speakers shall be used for interior apparatus bay audio. These speakers shall be capable of being hung directly from the ceiling and can be used to distribute clean audio to an entire apparatus bay.

elay Controls and Inputs

a. The System shall provide a minimum of 16 inputs and 16 relay contacts for the purpose of controlling external switched functions. These relays shall be able to be energeized for a configurable period of time upon receipt of an alert. The outputs shall be configurable as normally open or normally closed contact closures.

ppliance Controls

a. The System shall be able to provide relay contact closure to control gas or electric stoves, ovens, and other user defined appliances when an alert is received.

oorbells)

a. The System shall be capable of connecting doorbells that will announce the location over the fire station's public address system.

oom and Area Selector Switches

 The System shall be capable of providing an alert selector mounted in a single-gang box to allow station personnel to appropriately zone the alerting for their room or area. The alert selector shall be able to select from one to six types of alerts.

olume Control

- The System shall be configurable for time-of-day (day/night) control.
- b. The System shall be capable of sensing ambient noise to automatically adjust the speaker volume for noise compensation if required by the customer.
- c. All volume controls shall include an override relay that will provide maximum volume when there is an alert. Volume controls shall be in 10-watt (single gang) or 35-watt (double gang) boxes.

ED and Other Lighting

- a. The System shall provide for a variety of LED visual alert lighting. A minimum of five colors shall be available that will be associated with different apparatus alerting requirements. The basic colors that shall be provided are: green, red, blue, amber, and purple.
- b. A LED lighting cluster shall be provided as required. The LED cluster shall be capable of being ceiling or wall-mounted. The LED cluster will include a 5-second ramp up function.
- c. A LED speaker light shall be provided as required. The LED speaker light shall include one, 12VDC LED light fixture to be activate during an alert. The LED speaker light shall include multiple wattage 25V/70V speaker taps and include a 5-second ramp up function.
- A multi-colored custom alerting LED light shall be provided as required. The LED light shall be capable of cycling through a custom set of colors associated with specific apparatus alerting. This light shall be capable of being ceiling or wall-mounted and connected to the System using CAT5 PoE.
- The System shall provide for the use of individual colored strobe or modular stack lighting that is customizable based upon customer requirements. Strobe lighting colors shall be available in Red, Blue, Yellow, or Clear. Stack lighting colors shall be available in Green. Red, Blue, Amber, or Clear.

8. Visual Displays

 The System shall have the capability to display emergency and nonemergency information on LCD displays. The size and location of the LCD displays shall be specified by the customer.

- emergency display status.

9. Fire Station Zoning

10. Alerting Resets

- dispatch alert.

H. Alerting System Configuration

- administrors shall have full control access.

I. Training and System Manuals

- provided for the customer's technical staff.

J. Components

- for ease of replacement.
- equipment shall have the ability to be mounted in a rack.
- department or qualified personnel.

K. Warrenties and Support Aggrements

- Describe warranty provided as well as length of warranty.
- Describe extended yearly warranties available and their cost.
- capabilities.
- support.

L. Training

provided for the customer's technical staff.

b. Non-emergency information that shall be displayed will include: incident history, announcements, weather mapping, and last incident dispatched information. The System shall have the capability to display advanced and custom non-emergency information to include: weather and traffic information, IP cameras (station or highway cameras), global panes that can be shared among multiple stations, and shared panes where information can be entered manually and shared with all stations. Non-Emergency screens shall be capable of displaying up to six panes of standard or customized information.

 Emergency information that is provided by the customer's CAD system and required by the customer shall be displayed. The System shall be capable to display advanced emergency information such as: response mapping with geocoding and water sources and road closures. Emergency screens shall be capable of being manually programmed to time-out after a customer determined time period and return to non-

 d. Single or multi-line LED displays shall be capable of displaying emergency alert or non-emergency information. LED displays shall be capable of displaying a custom static message.

a. The System shall provide for fire station zoning such that portions of a fire station can be alerted without alerting the entire fire station.

a. The System shall have the ability to provide a means to reset all station speakers or zones, lighting and relay activation, while maintaining he ability to be overridden by the receipt of a subsequent

b. All reset switches shall be identifiable with a custom label.

1. The System shall be centrally managed. Both the vendor and the customer's

Authorized administrators shall be able to control, configure and update the System on a browser from any web-enabled device. In addition, manual alerting shall be available from a browser from any web-enabled device.

1. System maintenance, programming and troubleshooting training shall be

Digital copies of all technical documents, user manuals, and any training materials required for the operation of the System shall be provided.

 Preference will be given to the solution that allows for the easiest upgrading. replacement, and adding of components. Equipment shall be non-proprietary

Any electronic components such as servers, amplifiers, and other similar

All field devices shall be available for replacement within 24 hours by

Specify your twenty-four hour a day, seven days a week software support

Specify your eight hours a day, five days a week software support capabilities. Specify in pricing sheet, pricing for single year support and for five-year

System maintenance, programming and trouble-shooting training shall be

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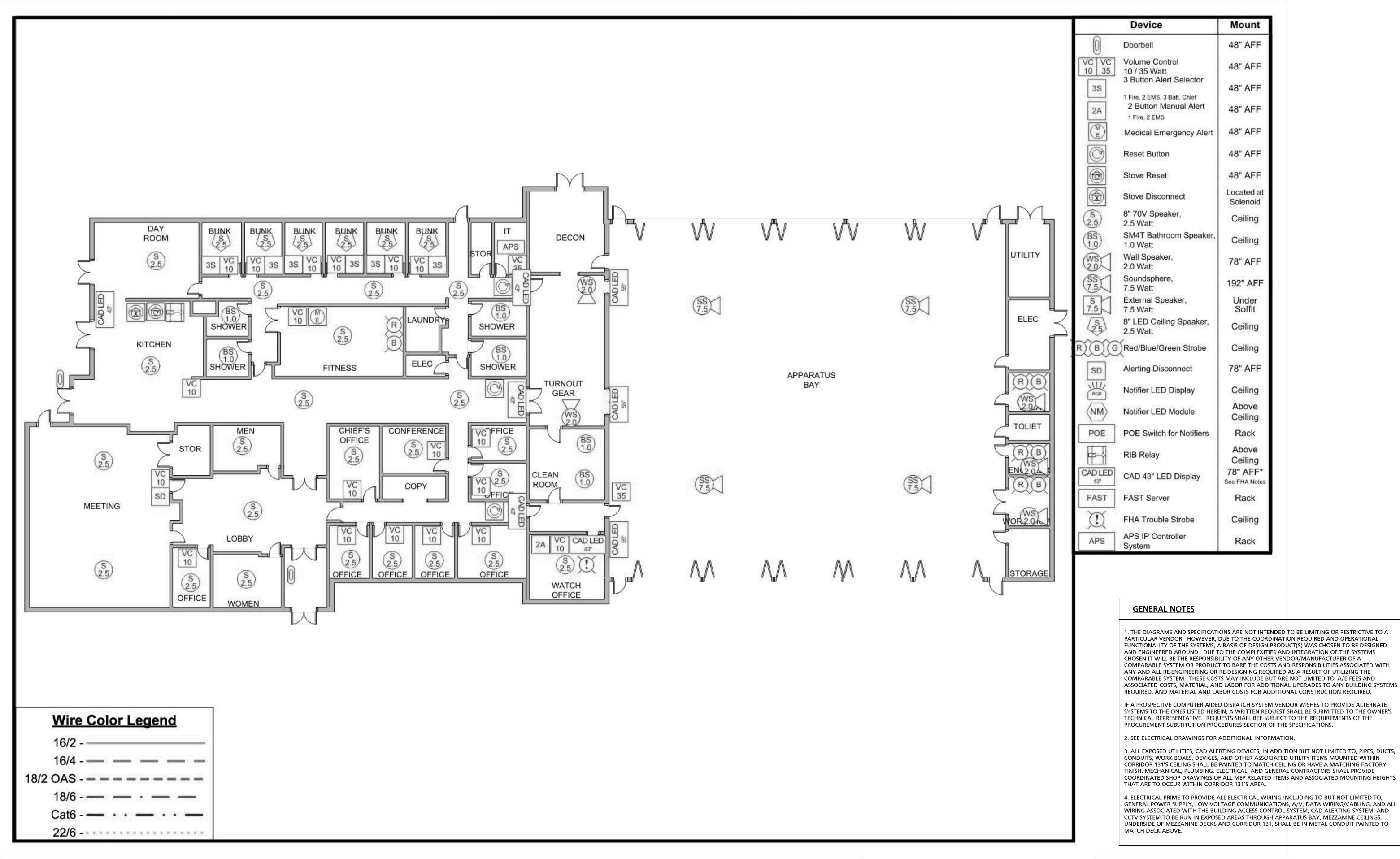
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2. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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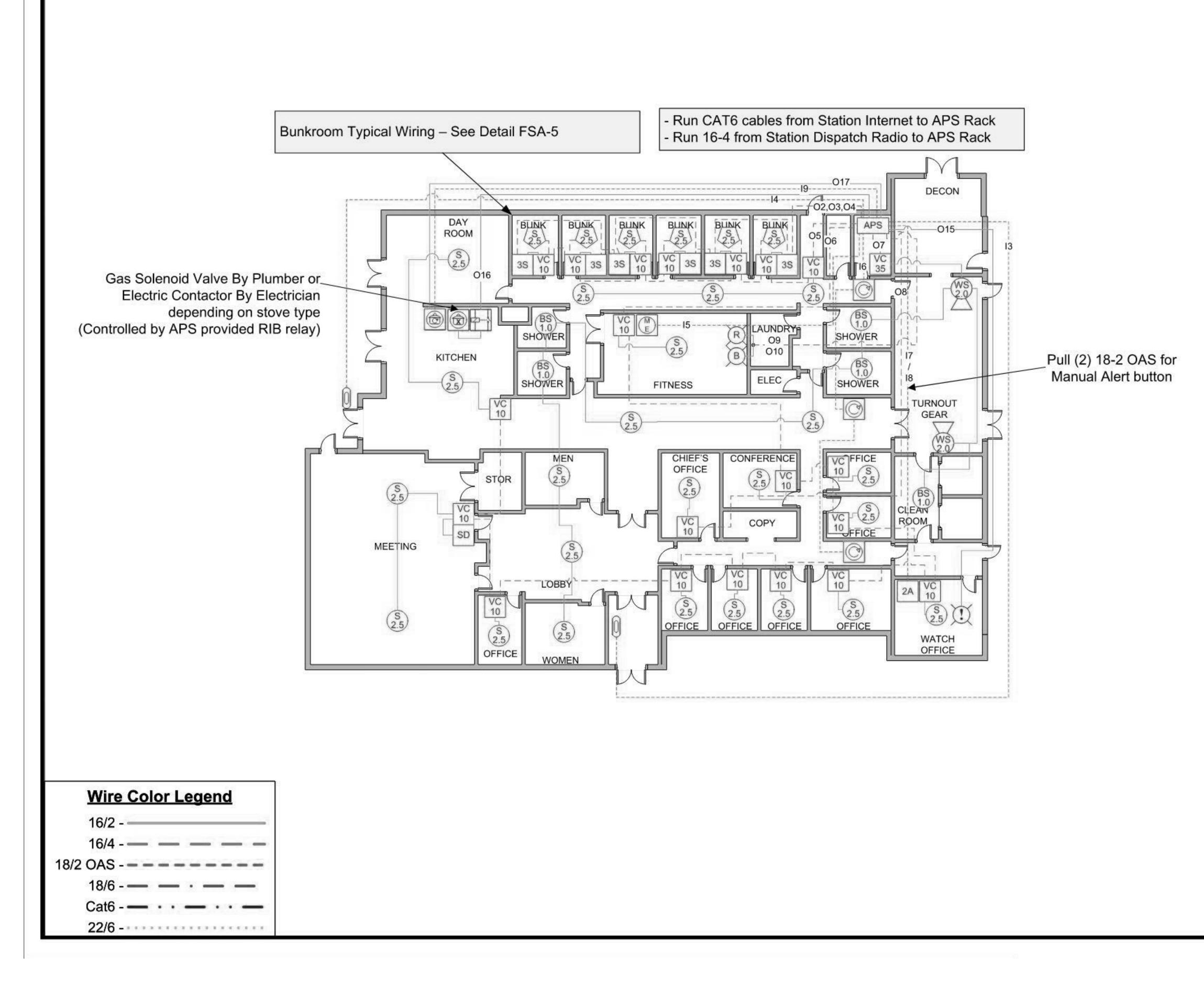


FIRST FLOOR ALERTING DIAGRAM

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FIRST FLOOR ALERTING WIRING DIAGRAM

	Device	Mount
O	Doorbell	48" AFF
VC VC 10 35	Volume Control 10 / 35 Watt	48" AFF
3S	3 Button Alert Selector	48" AFF
2A	1 Fire, 2 EMS, 3 Batt. Chief 2 Button Manual Alert 1 Fire, 2 EMS	48" AFF
	Medical Emergency Alert	48" AFF
Ø	Reset Button	48" AFF
٢	Stove Reset	48" AFF
	Stove Disconnect	Located at Solenoid
(S 2.5)	8" 70V Speaker, 2.5 Watt	Ceiling
(BS) 1.0	SM4T Bathroom Speaker, 1.0 Watt	Ceiling
WS 2.0	Wall Speaker, 2.0 Watt	78" AFF
(SS 7.5)	Soundsphere, 7.5 Watt	192" AFF
S 7.5	External Speaker, 7.5 Watt	Under Soffit
2.5	8" LED Ceiling Speaker, 2.5 Watt	Ceiling
RBIG	Red/Blue/Green Strobe	Ceiling
SD	Alerting Disconnect	78" AFF
RGB	Notifier LED Display	Ceiling
NM	Notifier LED Module	Above Ceiling
POE	POE Switch for Notifiers	Rack
	RIB Relay	Above Ceiling
CAD LED 43"	CAD 43" LED Display	78" AFF* See FHA Notes
FAST	FAST Server	Rack
\mathfrak{O}	FHA Trouble Strobe	Ceiling
APS	APS IP Controller System	Rack

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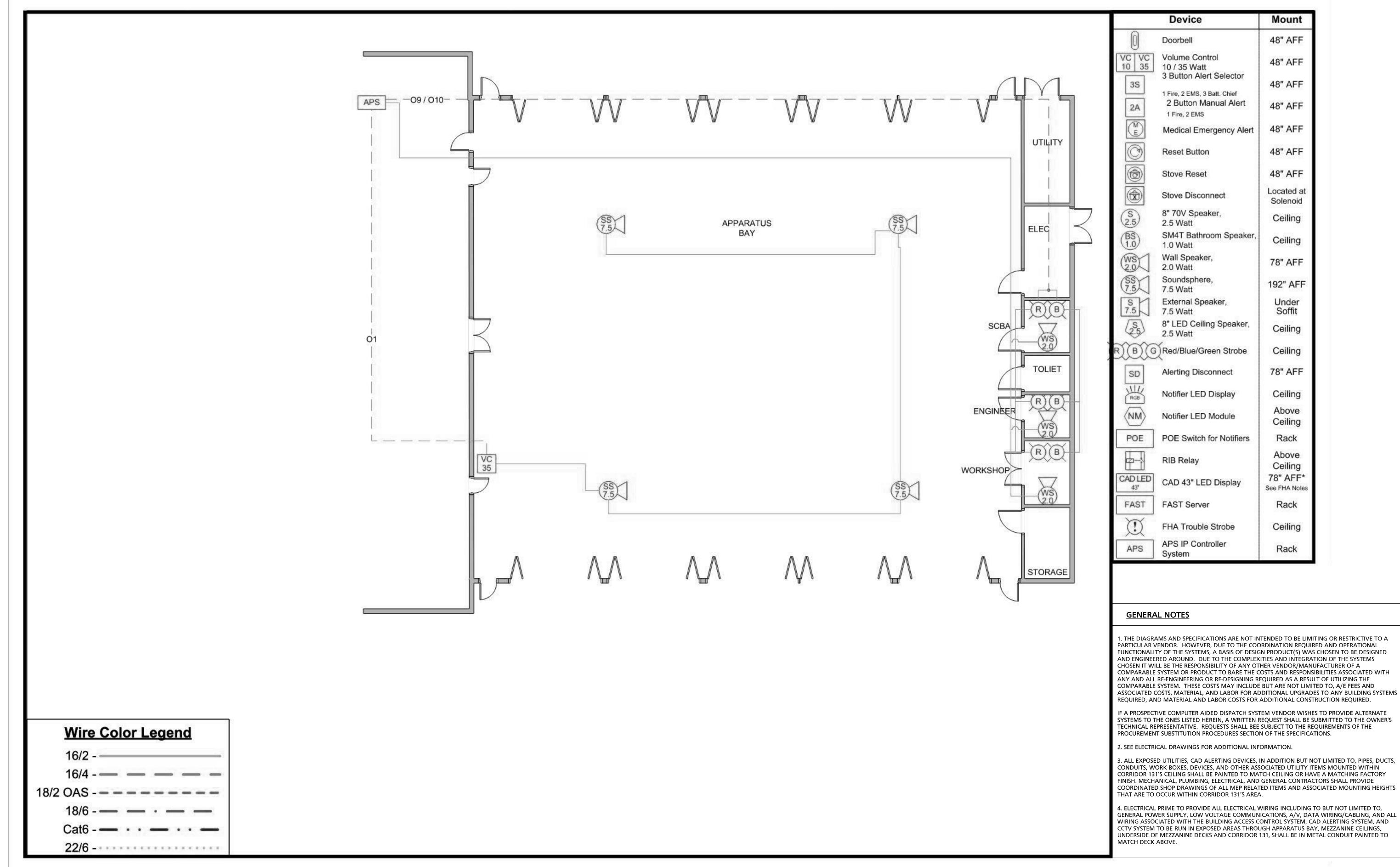
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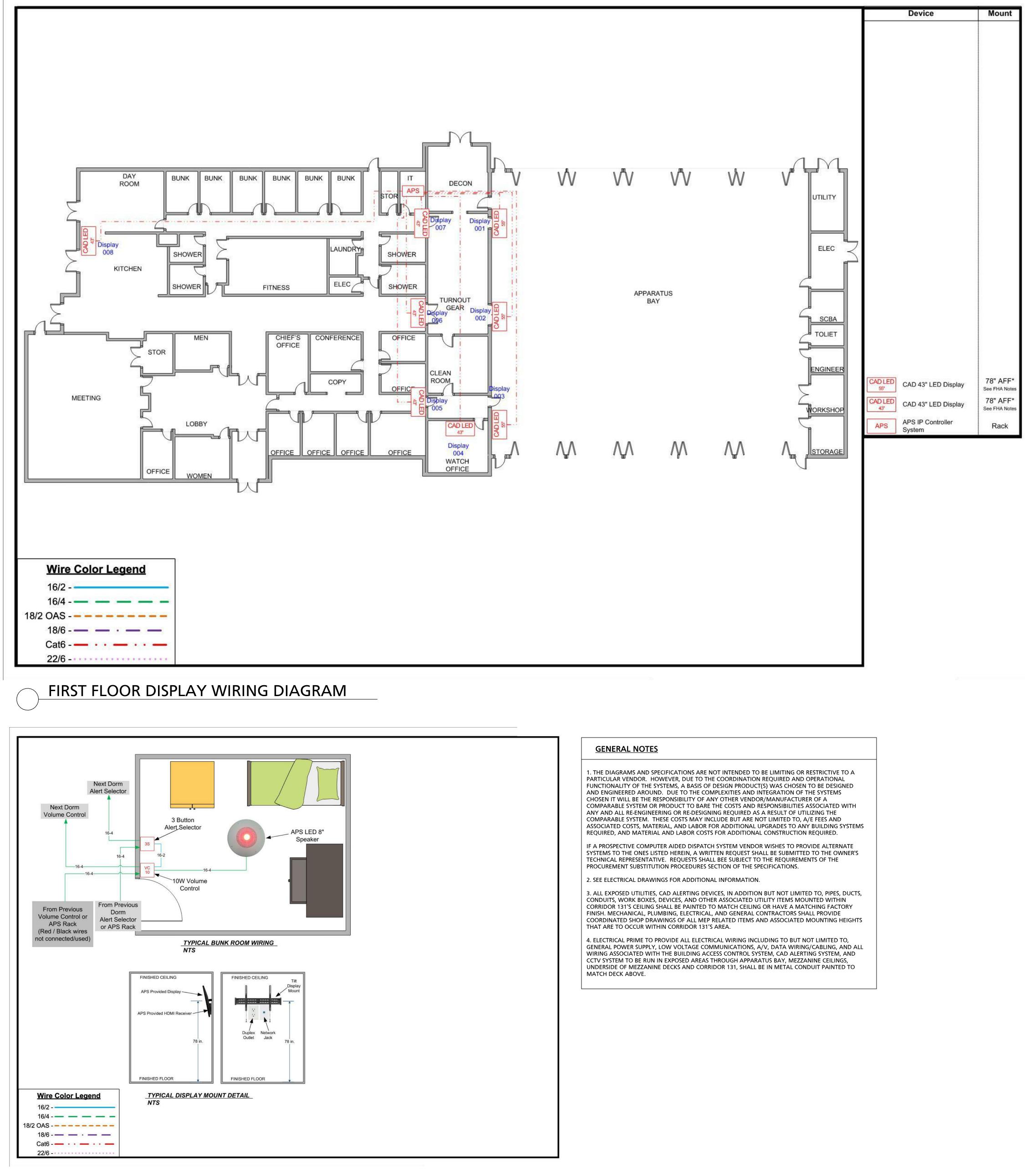
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FIRST FLOOR ALERTING WIRING DIAGRAM

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