A Project For :

Centerville-Abington Community Schools Centerville-Abington High School - Cooling Tower Replacement

Project Location -

Centerville Indiana

Centerville-Abington Community Schools Board of Trustees

Todd Duke - President Renee Westover - Vice President Susan Hamilton - Secretary Brad Lambright - Member Andy Wandersee - Member

School Administration

Dr. Mike McCoy - Superintendent Sean Stevenson - Assistant Superintendent Kelly VanWinkle - Principal

Architect:

Moake Park Group, Inc. 7223 Engel Rd. Suite 200 Ft. Wayne, IN 46804 ph. (260) 424-6516 web: www.moakepark.com

Structural Engineer:

Structural Engineering Services, LLC 15610 Lima Road Huntertown, IN 46748 ph. (260) 637-7867 web: https://www.structuralengr.com/

SCO Engineering, LLC 6534 Constitution Drive Fort Wayne, Indiana 46804 ph. (260) 436-9213 web: https://www.sco-llc.com/

MEP Engineer:



Project Location

MPG Project #473004.00

Drawing List

Structural

S1.1 Structural Plans, Notes, and Details

Architectural

A2.1 Partial Roof Plan and Misc Details

Plumbing

P1.0 Plumbing Schedules and General Information

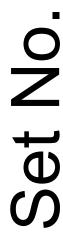
Mechanica

- First Floor Mechanical Demolition Plan
- becond Floor Mechanical Demolition Plan
- M2.1 First Floor Mechanical Plan
- M2.2 Second Floor Mechanical Plan M2.3 Mechanical Roof Plan
- MG1.0 Mechanical Schedules and General Information
- Electrical
- EO.O Electrical General Notes & Information
- EO.1 First Floor Electrical Demolition Plan
- EO.2 Second Floor Electrical Demolition Plan
- E1.1 First Floor Electrical Power Plan
- E1.2 Second Floor Electrical Power Plan





Commission No. 473004 December 21, 2022

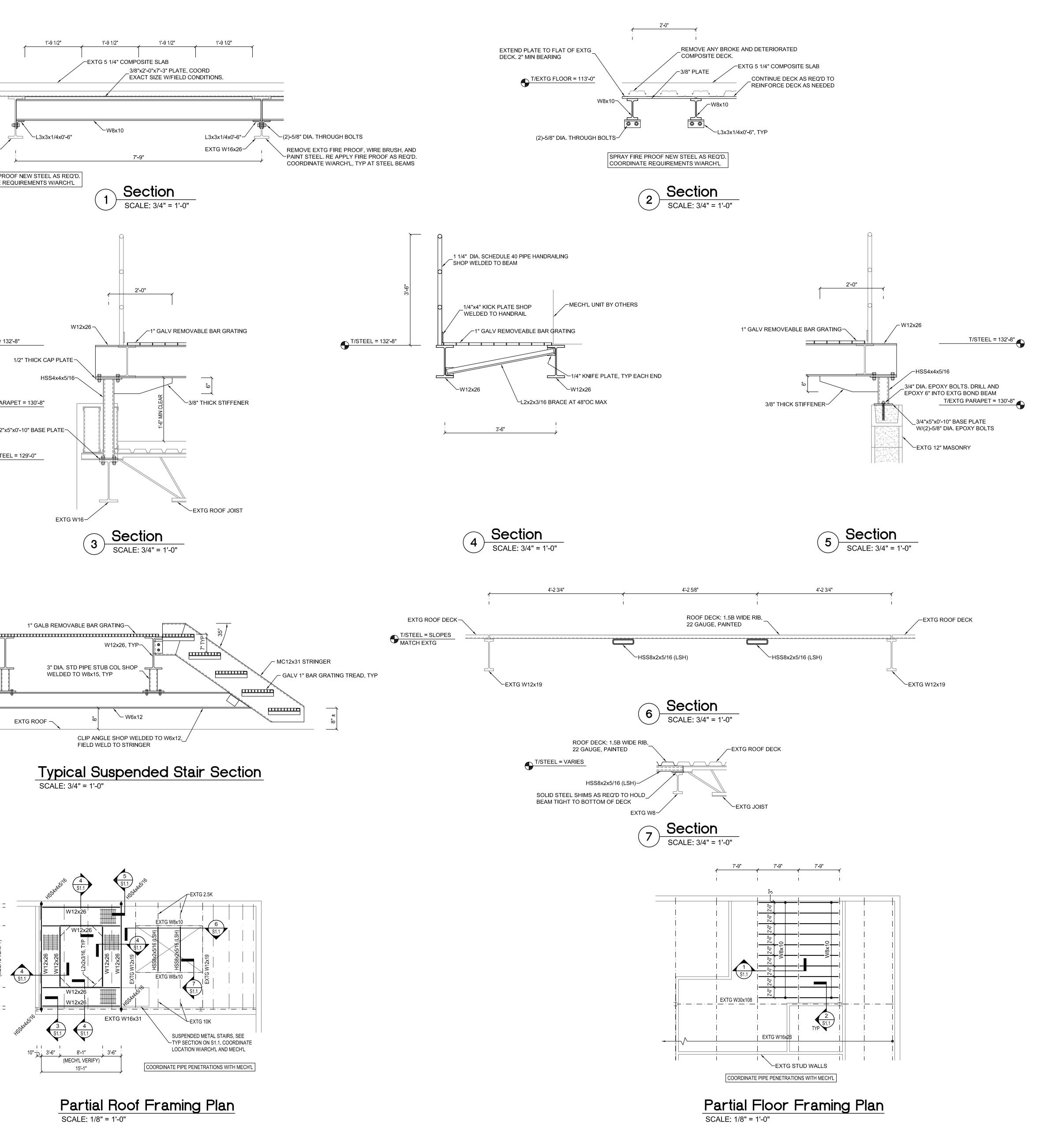


STRUCTURAL STEEL

1.	All structural steel shall be detailed with load transmitting field connections made with bearing-type 3/4" diameter ASTM A-325 bolts (snug-tight) UNO. All high strength bolts shall be designed as bearing "N" type so that continuous special inspection is not	T/EXTG FLOOR = 113'-0"
	needed unless indicated otherwise on drawings. Shop con- nections shall be welded. Use no more than two bolt diameters for the project UNO. Skip one size between bolt diameters.	
2.	Structural steel material is as follows: a. Wide flange shapes ASTM A992 b. Structural steel plates and rolled shapes other than wide flange shapes ASTM A36 c. Structural steel tubing ASTM A500, Grade B	EXTG W16x26
3.	Provide 1/4" beam stiffeners to all beams at center line of columns crossed over by beams except where framed	SPRAY FIRE PRO
4	connections of other beams occur.	COORDINATE RE
4.	Set leveling or bearing plates on cleaned bearing surfaces using wedges or other adjustments as required. Solidly pack open spaces with non-shrink, non-metallic grout.	
5.	Field welds to be made with E70XX electrodes according to AWS. Welded connections using ASTM A992 steel as a base metal shall be made with E70XX low hydrogen electrodes.	
6.	All design, fabrication and erection of structural steel shall be in accordance with AISC and AWS specifications.	
7.	All connections not specifically detailed on contract documents shall be designed and detailed by the structural steel fabricator in compliance with AISC standards. All connections shall be clearly shown on final shop drawings submitted for approval prior to fabrication.	
8.	 Lintels not indicated on plans are as follows: a. Provide angle lintels over all openings and recesses in both interior and exterior walls unless otherwise noted. All lintels for mechanical and electrical openings are not shown. See mechanical and electrical plans for locations of lintels and lengths required for ductwork, pipes, electrical conduits, etc. b. Angle lintels shall have a minimum end bearing on masonry of 4 1/2", but not less than 1" of such bearing for each foot of opening width. Angles in pairs shall be welded 	T/STEEL = 132
	 or bolted together with 1/2" diameter bolts at 18" oc. In case of single angle, anchor to concrete or masonry backup with 1/2" diameter expansion type anchors at 18" oc. c. For 6" block partitions use two (2)-L3 1/2x 2 1/2x 5/16 (LLV) for spans up to 10'-0". For 8" to 10" block partitions use two (2)-L4x 3 1/2x 5/16 (LLV) for spans up to 7'-0". For spans 7'-0" to 10'-0" use two (2)-L5x 3 1/2x 3/8 (LLV). For 12" walls use three (3) angles as specified for 8" to 10" walls above. 	T/EXTG PARA 1/2"x5
9.	 Coordinate masonry rough openings with all trades. Shop drawings shall show complete details and schedules for 	
0.	fabrication, layout and erection. Submit shop drawings for approval prior to fabrication.	
10.	All beams and beam lintels shall be field welded to bearing plates with 3/16" fillet weld each side of bottom flange.	
11.	All exposed steel shall be galvanized. See architectural for painting specifications.	
12.	Field drilled holes shall be reamed, cleaned and deburred prior to assembly of the connection.	
13.	Beams with specified camber shall be cambered upward. Beams with specified camber shall be fabricated so that after erection any minor camber due to rolling or shop assembly is upward.	
14.	Thermal cutting shall preferably be done by machine. Hand thermally cut edges subjected to substantial stress or are to be welded, shall be reasonably free of notches or gouges. Notches or gouges larger than 3/16" that remain from cutting shall be removed by grinding. Re-entrant corners shall be shaped notch-free to a radius of at least 1/2".	
15.	Fabricator shall be responsible for design of all connections not specifically detailed on the plans. Where end reaction are not shown on the plans, design simple beam connections for at least 50% of the allowable uniform load given in the beam tables in Chapter 3 of the AISC Steel Construction Manual - Allowable Stress Design (14th Ed.) for the given span and beam size. Use ASD values unless noted otherwise.	
		B/PLATFORM STEEL = F.D.

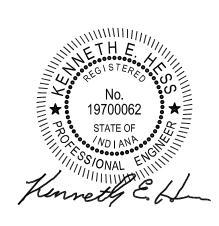
T/EXTG ROOF = F.D.

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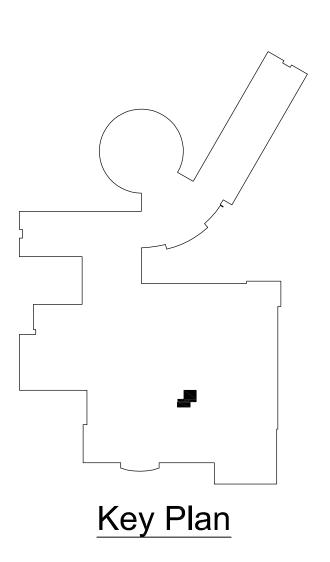




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A PROJECT FOR:

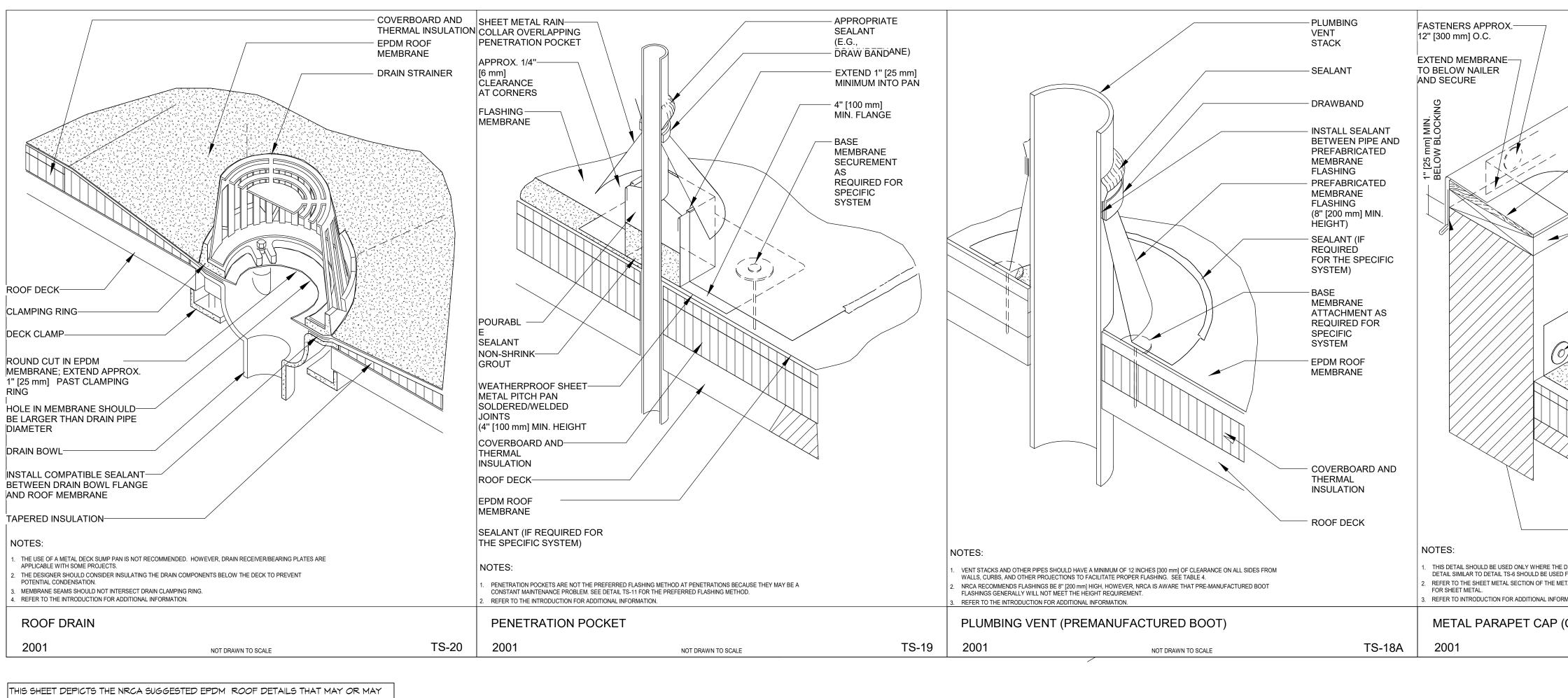


Cooling Tower Replacement for Centerville-Abington High School School

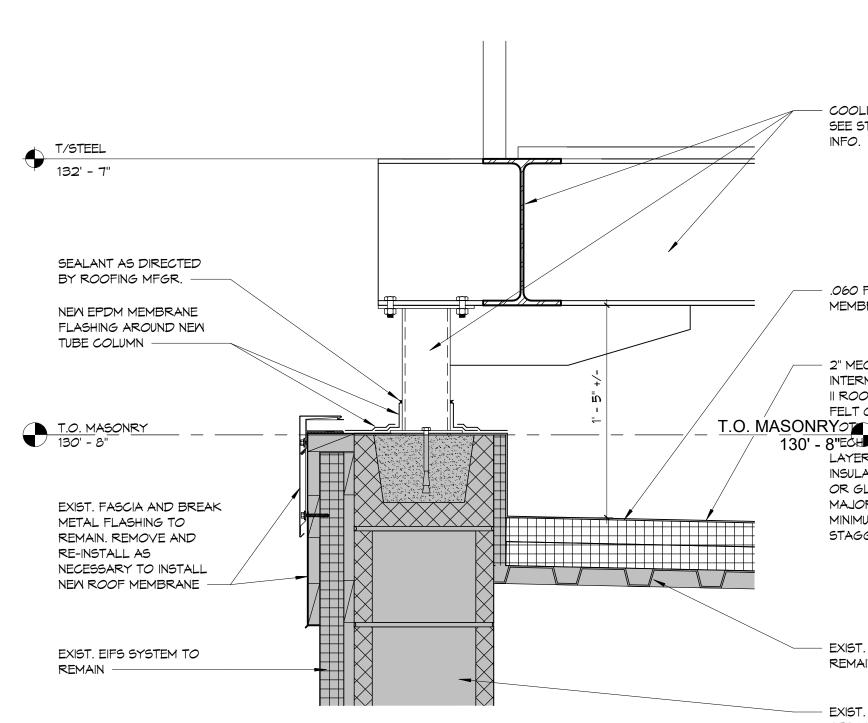
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Structural Plans, Notes, and Details

date: December 21, 202	<u></u>
^{date:} December 21, 202	Ζ
project: 473004	
coordinator: JMO	-
drawn: EPH	S1.1
checked: KEH	_



NOT BE USED ON THIS PROJECT. IT SHALL BE UNDERSTOOD THAT ALL BIDDERS ARE RESPONSIBLE FOR SELECTING THE PROPER DETAILS FROM THE MANUFACTURES MANUAL AND INSTALLING IT PER THEIR SPECIFICATION TO MEET MANUFACTURES WARRANTY REQUIREMENTS.



6

12" = 1'-0" COOLING TOWER STEEL PLATFORM. SEE STRUCTURAL DWGS. FOR MORE

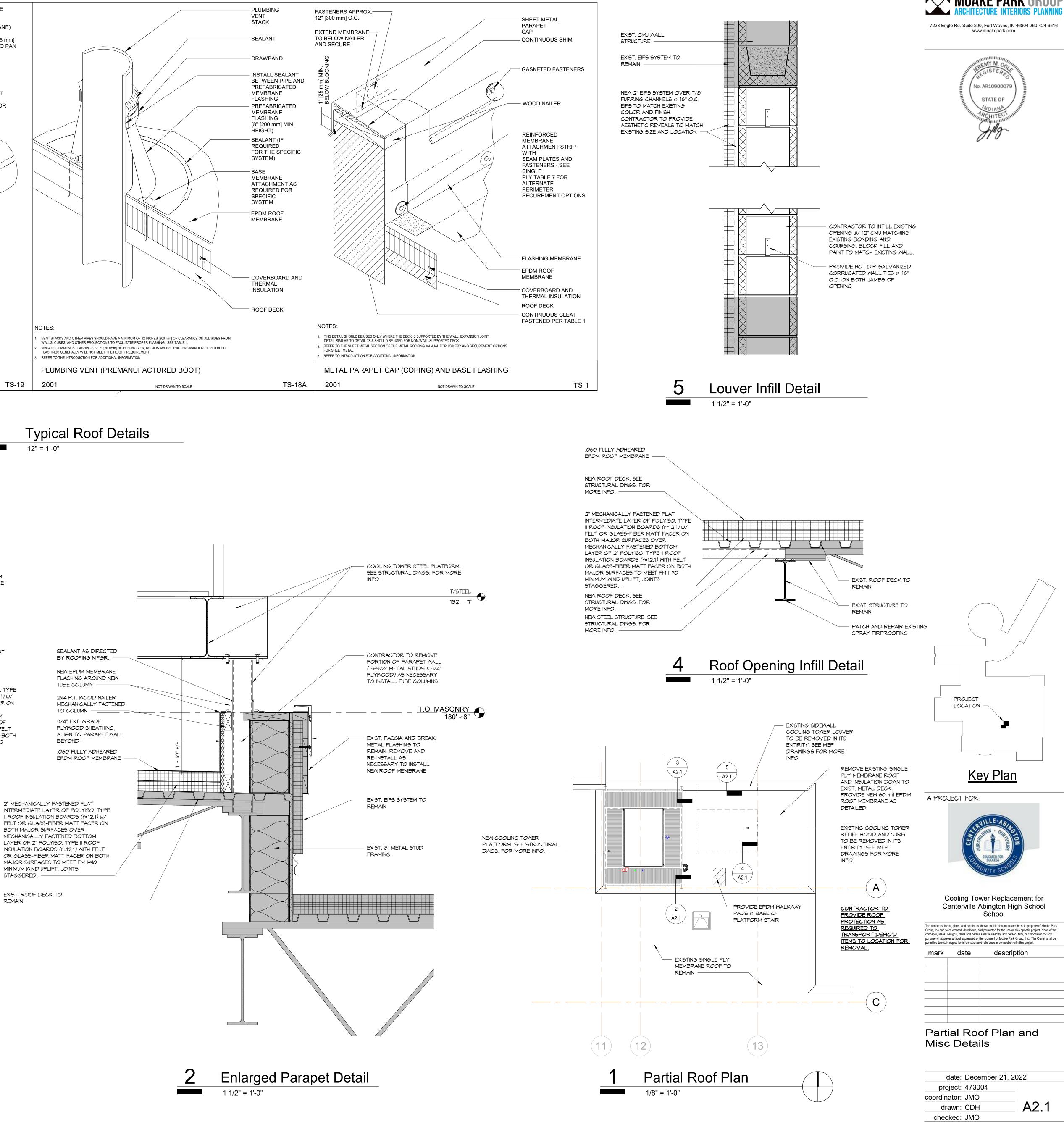
.060 FULLY ADHEARED EPDM ROOF MEMBRANE

2" MECHANICALLY FASTENED FLAT INTERMEDIATE LAYER OF POLYISO. TYPE || ROOF INSULATION BOARDS (r=12.1) W/ FELT OR GLASS-FIBER MATT FACER ON T.O. MASONRYOT MAJOR SURFACES OVER 130' - 8"ECHANICALLY FASTENED BOTTOM LAYER OF 2" POLYISO. TYPE II ROOF INSULATION BOARDS (r=12.1) WITH FELT OR GLASS-FIBER MATT FACER ON BOTH MAJOR SURFACES TO MEET FM 1-90 MINIMUM WIND UPLIFT, JOINTS STAGGERED.

REMAIN -

- EXIST. ROOF DECK TO REMAIN

EXIST. CMU WALL STRUCTURE







PLUMBING SPECIFICATIONS

ALL MATERIALS, EQUIPMENT AND INSTALLATIONS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE STATE ENERGY CODE (ASHRAE STANDARD 90.1 2007) WARRANTED FOR ONE YEAR MINIMUM FROM DATE OF SUBSTANTIAL COMPLETION.

AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE ALL ASPECTS WORK OF OTHER TRADES PRIOR TO AND DURING CONSTRUTION AND INSTALLATION.

VERIFY ALL DIMENSIONS FROM ARCHITECTURAL PLANS AND OR STRUCTURAL PLANS. ALL PLUMBING AND HVAC EQUIPMENT SHALL BE LISTED FOR ITS USE AND MOUNTED OR HUNG PER MANUFACTURER'S RECOMMENDATIONS AND LISTING. WHEN A CONFLICT OCCURS BETWEEN PLANS AND NOTES, THE ENGINEER SHALL DETERMINE WHICH GOVERNS.

PATCHING FOR HIS WORK AS REQUIRED.

LOCATIONS OF ALL PIPING, DUCTWORK, FIXTURES, AND EQUIPMENT ARE APPROXIMATE ONLY AND MAY BE CHANGED TO MEET ARCHITECTURAL AND STRUCTURAL CONDITIONS AS REQUIRED AND AS APPROVED BY THE ARCHITECT/ ENGINEER. PROVIDE ALL OFFSETS AS REQUIRED TO MEET ACTUAL FIELD CONDITIONS. PROVIDE PIPE AND EQUIPMENT IDENTIFICATION. EQUIPMENT PLASTIC LABELS, MINIMUM 1/16-INCH THICK AND FASTEN WITH RIVITS. PIPE LABELS SHALL BE PRECOILED, SEMI-RIGID PLASTIC FORMED TO COVER FULL CIRCUMFERENCE OF PIPE TO BE ATTACHED TO PIPE WITHOUT FASTNERS OR ADHESIVES. LABEL

PIPING EVERY 30-FEET MAXIMUM, DIRECTIONAL CHANGE OR TEE, WHICHEVER IS LEAST. UNIONS AND VALVES SHALL BE PROVIDED AT CONNECTIONS TO ALL EQUIPMENT. ALL POTABLE HOT WATER AND COLD WATER LINES SHALL BE COVERED WITH 1/2-INCH CLOSED CELL ELASTOMERIC INSULATION.

"STAYSAFE" SOLDER OR PRESS FIT SYSTEM. ALL POTABLE WATER PIPING BELOW SLAB SHALL BE TYPE K SOFT COPPER OR PEX. NO FITTINGS WILL BE ALLOWED BELOW SLAB.

ALL ABOVE GRADE NATURAL GAS PIPING SHALL BE BLACK STEEL WITH MALLEABLE FITTING AND SHALL BE GRADED TO DRAIN TO ACCESSIBLE CONDENSATE LEGS.

MINIMUM 30-INCH DEPTH AND INSTALL #12 GAUGE COATED TRACER WIRE. PLASTIC PIPING SHALL NOT BE BELOW CONCRETE. VERIFY TYPE AND QUANTITY WITH GAS UTILITY. PROVIDE GAS COCK AT EACH PIECE OF EQUIPMENT USING GAS.

ON DRAWINGS.

ALL VALVES SHALL BE FULL PORT BALL VALVES. ALL SHUT OFF VALVES SHALL BE EASILY SEEN AND ACCESSIBLE FROM FLOOR OR LADDER. WHERE VALVES MUST BE INSTALLED WITHIN A WALL OR CHASE, CONTRACTOR SHALL PROVIDE AND INSTALL 8-INCH X 8-INCH MINIMUM ACCESS DOOR.

GALVANIC ACTION. CHROME PLATED ESCUTCHEONS SHALL BE PROVIDED AT ALL PIPING PENETRATING FLOORS AND WALLS. ALL EXPOSED PIPING LOCATED BELOW FIXTURES SHALL BE CHROME PLATED. PROVIDE AND INSTALL SHOCK ABSORBERS AT COLD AND HOT WATER CONNECTION TO EQUIPMENTAND FIXTURE WITH QUICK CLOSING VALVES AND AT EACH RETROOM GROUP. SIZE AND INSTALL SHOCK

ARRESTORS PER FIXTURE GROUP AS RECOMMENDED BY PDI INSTITUTE AND MANUFACTURER. ALL HORIZONTAL SANITARY DRAINS SHALL BE GIVEN A GRADE OF NOT LESS THAN 1/8-INCH PER FOOT. COORDINATE WITH SITE CONTRACTOR AS REQUIRED TO MATCH PIPE INVERTS EXTENDING FROM BUILDING.

ALL INSULATED PIPING SHALL HAVE SADDLES AND UL LISTED HANGERS. ALL POTABLE WATER LINES SHALL BE TESTED AND DISINFECTED. HANGING OF PIPING SHALL BE ON NOT MORE THAN 10-FOOT CENTERS WITH 3/8-INCH RODS. ALL WASTE AND VENT PIPING BELOW SLAB SHALL BE DWV PVC PIPING AND FITTINGS. ALL WASTE AND VENT PIPING ABOVE SLAB AND LOCATED IN AN AIR PLENUM SHALL BE HUBLESS CAST IRON COMPLYING

WITH CISPI 301-99.

PAINT ALL EXTERIOR GAS PIPING WITH GRAY RUST INHIBITIVE PAINT.

EXISTING UTILITIES

THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITIES FOR ALL EXISTING GAS, STORM, AND SANITARY SEWER LINES WITHIN HIS SITE LIMITS. BEFORE WORKING WITH OR AROUND THE EXISTING UTILITIES, ANY APPLICABLE UTILITY SHALL BE CONTACTED.

ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN IN SERVICE. ANY UTILITY THAT CAN BE REMOVED WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH PERMISSION OF THE OWNER AND THE UTILITY. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE AREA AND NO EXTRA COMPENSATION CONNECTED WITH THE UTILITIES WILL BE ALLOWED. PLUMBING CONTRACTOR FOR BUILDING WILL EXTEND SANITARY, STORM, AND WATER OUT 5-FEET FROM BUILDING.

ACCEPTABLE MANUFACTURERS

WATER SOFTENER: CULLIGAN INTERNATIONAL, KINETICO INC., MARLO INC. NOTE: ELECTRICAL CHARACTERISTICS FOR PLUMBING EQUIPMENT: EQUIPMENT OF DIFFERENT ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED AT THE COST OF THE CONTRACTOR. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT SHALL COMPLY WITH REQUIREMENTS.

	WATER SOFTENER SCHEDULE											
			FLOW	P.D.	CONNECTION	RESIN EXCHANGE						
TAG	MFG	MODEL	(GPM)	(PSI)	SIZE (IN)	CAPACITY (GRAINS)	ELECT	REMARKS				
WS-1	NELSON	MT 91/16MB-64B 6 15.0 3/4 64000					120/1	1, 2, 3, 4				
REMAR	KS:											
1. PR	OVIDE DUPLEX	PROGRESSIVE SOFTENERS	WITH BRINE	RECLAIM 1	KIT.							
2. PR	OVIDE WITH 120	0V/24V TRANSFORMER.										
3. WA	TER SOFTENER	MANUFACTURER SHALL F	ROVIDE WATE	R ANALYS	SIS TO CONFIRM	OPERATION WITHIN DES	GN CRITER	RIA.				
4. PR	OVIDE AND INS	TALL WITH FLECK 9100 M	ETER CONTRO	L, BYPAS	S, BRINE TANK, I	BRINE GRID.						

ALL WORK SHALL COMPLY WITH ALL STATE, LOCAL, AND NATIONAL CODES.

ALL MATERIAL AND EQUIPMENT SHALL BE NEW. EQUIPMENT, MATERIAL, AND WOKMANSHIP SHALL BE

THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY THE

GENERALLY, THE MOST RESTRICTIVE AND COSTLY ALTERNATIVE SHALL TAKE PRECEDENCE. THIS CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND PAY FOR ALL CUTTING AND

ALL POTABLE WATER LINES ABOVE FLOOR SHALL BE TYPE L HARD COPPER WITH WROUGHT FITTINGS WITH

ALL UNDERGROUND NATURAL GAS PIPING SHALL BE PLASTIC AND SHALL MEET ASTM 25-13 AND 19 STANDARDS AND BE APPROVED FOR NATURAL GAS USE BY LOCAL GAS UTILITY. JOINTS SHALL BE MADE WITH FUSION BUTT WELDS PER DOT STANDARDS OR APPROVED COMPRESSION COUPLINGS. MAINTAIN

INSTALLED ABOVE GROUND. PROVIDE AND INSTALL VENTS ABOVE GAS MAIN WERE MAIN IS INSTALLED

CONTRACTOR SHALL PAY FOR ALL CHARGES BY GAS COMPANY TO PROVIDE COMPLETE SERVICE AS SHOWN

ALL CONNECTIONS BETWEEN DISSIMILAR PIPE MATERIALS SHALL BE MADE WITH EPCO FITTINGS TO PREVENT

PLUMBING SYMBOL SCHEDULE

•	BALL VALVE	SAN	- SANITARY DRAIN ABOVE FLOOR
l II	BUTTERFLY VALVE		• SANITARY DRAIN BELOW FLOOR
	PRESSURE REDUCING STATION	ST	- STORM DRAIN ABOVE FLOOR
R R	PRESSURE REDUCING VALVE	<u> </u>	STORM DRAIN BELOW FLOOR
₩	GATE VALVE	G	- GAS
p ē t	GLOBE VALVE		VENT
	TEMPERATURE MIXING VALVE		- COLD WATER
I∳I	GAS COCK		- DOMESTIC WATER (RAW)
+	GAS TURRET		- HOT WATER
⊸	COMPRESSED AIR TURRET		HOT WATER RECIRC
	CHECK VALVE	BT-	BRINE TANK
Ø	IN LINE PUMP	C0-	CLEANOUT
	STRAINER	DF-	DRINKING FOUNTAIN
*	AUTOMATIC FLOW VALVE	EDS-	EMERGENCY DRENCH SHOWER
	MANUAL FLOW CONTROL VALVE	EEW-	EMERGENCY EYE WASH
	UNION	ET-	EXPANSION TANK
	ACTUATOR		
M	METER	EWC-	ELECTRIC WATER COOLER
–	PIPING DROP	EWH-	ELECTRIC WATER HEATER
		FD-	FLOOR DRAIN
-•	PIPING RISE	GD-	GARBAGE DISPOSER
		GWH-	GAS WATER HEATER
		HB-	HOSE BIBB
	WALL CLEANOUT/ END FERRULE CLEANOUT	L-	LAVATORY
Ō	THERMOMETER	MB-	MOP BASIN
	WATER HAMMER ARRESTOR TAG	RD-	ROOF DRAIN
	(SHOCK ABSORBER)	RPBP-	REDUCED PRESSURE PRINCIPLE
ዋ	SHOCK ABSORBER	Krbr-	BACKFLOW PREVENTER
•	CLEAN OUT	S–	SINK
0	FLOOR DRAIN	SH-	SHOWER
	FLOOR SINK	SP-	SUMP PUMP
	ROOF DRAIN VENT THROUGH ROOF	STT-	STORAGE TANK
	WALL HYDRANT/ HOSE BIBB	TD-	TRENCH DRAIN
	SHOWER HEAD	TMV-	TEMPERATURE MIXING VALVE
	BACKFLOW PREVENTER	U-	URINAL
		VTR-	VENT THROUGH ROOF
		WB-	WALL BOX
		WC-	WATER CLOSET
		WH-	WALL HYDRANT
		YH–	YARD HYDRANT
		"H"	SUFFIX INDICATES HANDICAP
			ACCESSIBLE

GENERAL PLUMBING NOTES

A.F.F. ABOVE FINISHED FLOOR

ALL WORK SHALL CONFORM TO STATE AND LOCAL PLUMBING AND BACKFLOW PREVENTION CODES, AND THE REQUIREMENTS OF THE LOCAL WATER UTILITY. EQUIPMENT, DOMESTIC WATER PIPING, SANITARY WASTE, SANITARY VENT, AND STORM PIPING LAYOUTS ARE SCHEMATIC IN NATURE. CONTRACTOR MUST ADJUST TO FIELD CONDITIONS AND COORDINATE WITH OTHER TRADES DURING CONSTRUCTION BY ADDING OFFSETS AND ELBOWS WHERE REQUIRED. VACUUM BREAKERS MUST BE INSTALLED ON ALL EXISTING OR PROPOSED HOSE THREAD FITTINGS, INCLUDING BUT NOT LIMITED TO HOSE BIBBS, WALL/ YARD HYDRANTS, MOP/ SERVICE SINKS. A CROSS-CONNECTION CONTROL DEVICE INSPECTOR SHALL TEST ALL BACKFLOW DEVICES AT THE TIME OF INSTALLATION AND SUBMIT REPORTS TO THE LOCAL WATER UTILITY AS REQUIRED. ALL WATER LINES 3" AND LARGER MUST BE DISINFECTED PER ANSI/ AWWA C651-92. SAMPLES FROM 2 CONSECUTIVE DAYS MUST BE TAKEN TO AN APPROVED TEST LAB. LAB ANALYSES REPORTS SHALL BE

SUBMITTED TO THE LOCAL WATER UTILITY AS REQUIRED FOR COMPLIANCE. COORDINATE EXACT LOCATION OF ROOF DRAINS WITH ARCHITECTURAL AND STRUCTURAL PLANS. ALL MATERIALS INSTALLED WITHIN PLENUM SHALL HAVE FLAME SPREAD RATING OF NOT MORE THEN 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50 IN ACCORDANCE WITH STATE CODES.

THIS CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR FOR CORE DRILLING AS REQUIRED FOR INSTALLATION OF PIPING PENETRATING BUILDING CONSTRUCTION. TYPE "K" COPPER TUBING SHALL BE USED FOR ALL DOMESTIC SUPPLY PLUMBING BELOW SLAB. NO FITTINGS SUCH AS COUPLINGS, TEES, OR ELBOWS SHALL BE USED BELOW OR WITHIN SLAB.

ALL EQUIPMENT USING NATURAL GAS SHALL HAVE A GAS COCK AND DIRT LEG FOR EACH PIECE OF EQUIPMENT. REFERENCE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.

ALL EQUIPMENT AND MATERIALS SHALL BE UL LISTED AND LABELED FOR TYPE OF EQUIPMENT AND MATERIALS FOR WHICH LISTING AND LABELING IS AVAILABLE.

THIS CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT PIPE ROUTING WITH THE PLUMBING, MECHANICAL, AND ELECTRICAL CONTRACTORS. FIRE PROTECTION CONTRACTOR SHALL PROVIDE AND INSTALL ADDITIONAL DRAINS, FITTINGS, PIPING, AND OFFSETS AS REQUIRED TO ROUTE FIRE SUPPRESSION PIPING AROUND ALL NEW PLUMBING, MECHANICAL, AND ELECTRICAL PIPING AND EQUIPMENT TO BE INSTALLED AS PART OF THIS PROJECT.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL THROUGH PENETRATION FIRESTOP SYSTEMS AS REQUIRED TO SEAL WHERE PIPING PENETRATES A FIRE RATED WALL, FLOOR, OR OTHER LISTED ASSEMBLY. THE PLUMBING CONTRACTOR IS TO REVIEW LIFE SAFETY, AND ALL OTHER ARCHITECTURAL, DRAWINGS FOR THE EXACT LOCATION OF FIRE RATED ASSEMBLIES.

COORDINATE ROUTING OF ALL PIPING WITH ELECTRICAL PANEL LOCATIONS. DO NOT ROUTE PIPING OVER ELECTRICAL PANELS AND PROVIDE ALL WORKING CLEARANCES PER ELECTRICAL CODE. COORDINATE ROUTING WITH ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS FOR PANEL LOCATIONS.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW, COORDINATE AND INCLUDE ALL DIVISION 22 WORK INDICATED ON ANY OF THE PROJECT DRAWINGS AS WORK OF THIS PROJECT, TO INCLUDE BUT NOT LIMITED TO ARCHITECTURAL, CIVIL, PLUMBING, MECHANICAL, DRAWINGS, ETC.

BUILDING STRUCTURE IS NOT SHOWN. PROVIDE ALL FITTINGS, OFFSETS, AND DRAINS AS REQUIRED FOR INSTALLATION OF FIRE PROTECTION SYSTEM. CONTRACTOR SHALL MOUNT ALL PIPING TIGHT TO BUILDING STRUCTURE

GENERAL CONDITIONS NOTE

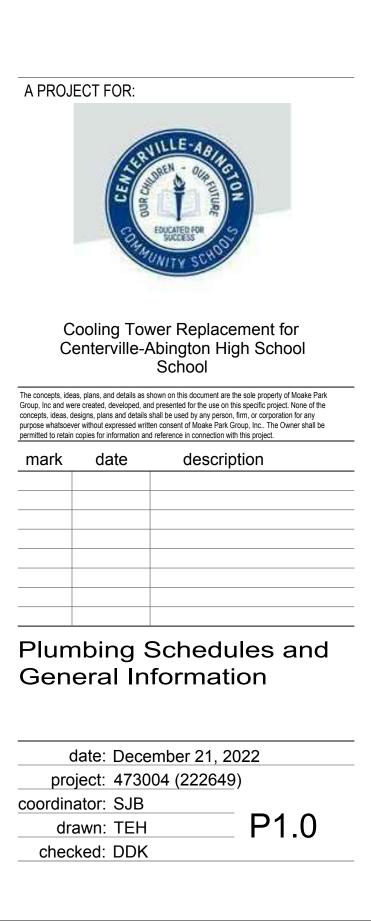
ALL CONTRACTORS, BY MAKING THEIR BID, REPRESENT THAT THEY HAVE READ AND UNDERSTAND THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL REFER TO THE ENTIRE CONSTRUCTION DOCUMENT SET FOR GUIDANCE ON DIMENSIONS, HEIGHTS, DETAILING, ETC. AND INSTALL THEIR WORK SO AS NOT TO INTERFERE WITH THE INSTALLATION OF ANOTHER DISCIPLINE'S WORK OR THE GENERAL INTENT OF THE CONSTRUCTION DOCUMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE SPECIFICATIONS AND/ OR DRAWINGS, THE ARCHITECT SHALL DETERMINE WHICH INFORMATION GOVERNS.

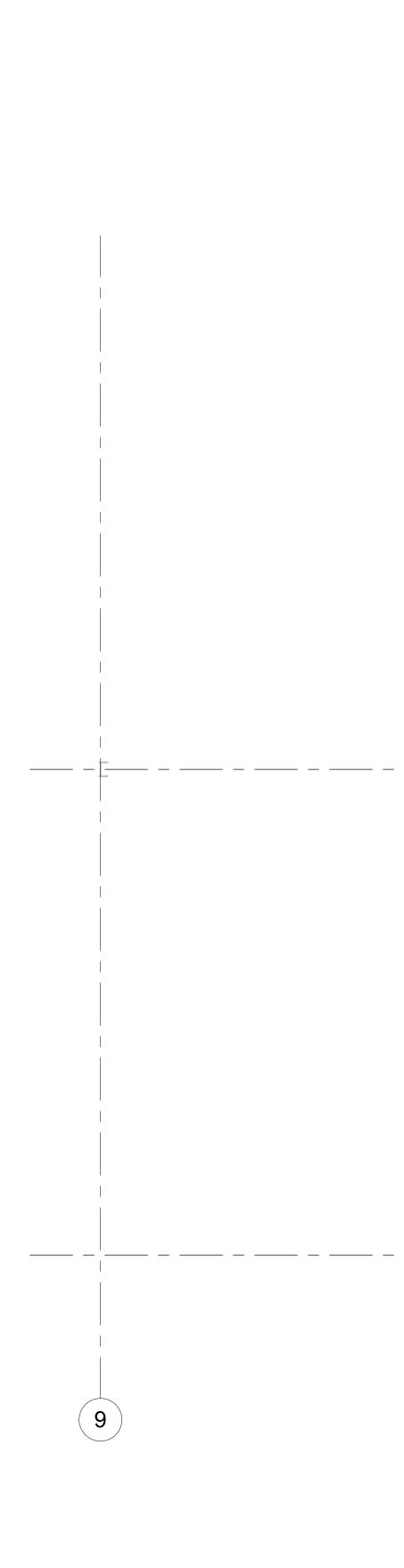
M/P/E TRADES **NOTE**: IN REFERRING TO THIS SHEET YOU ACKNOWLEDGE: 1.) REVIEWING THE ENTIRE DRAWING SET INCLUDING ALL 'S', 'C' & 'A' SERIES. 2.) COORDINATING WITH THE GENERAL TRADES CONTRACTOR OR C.M. FOR EXACT DETAILING, HEIGHTS, ETC. PRIOR TO

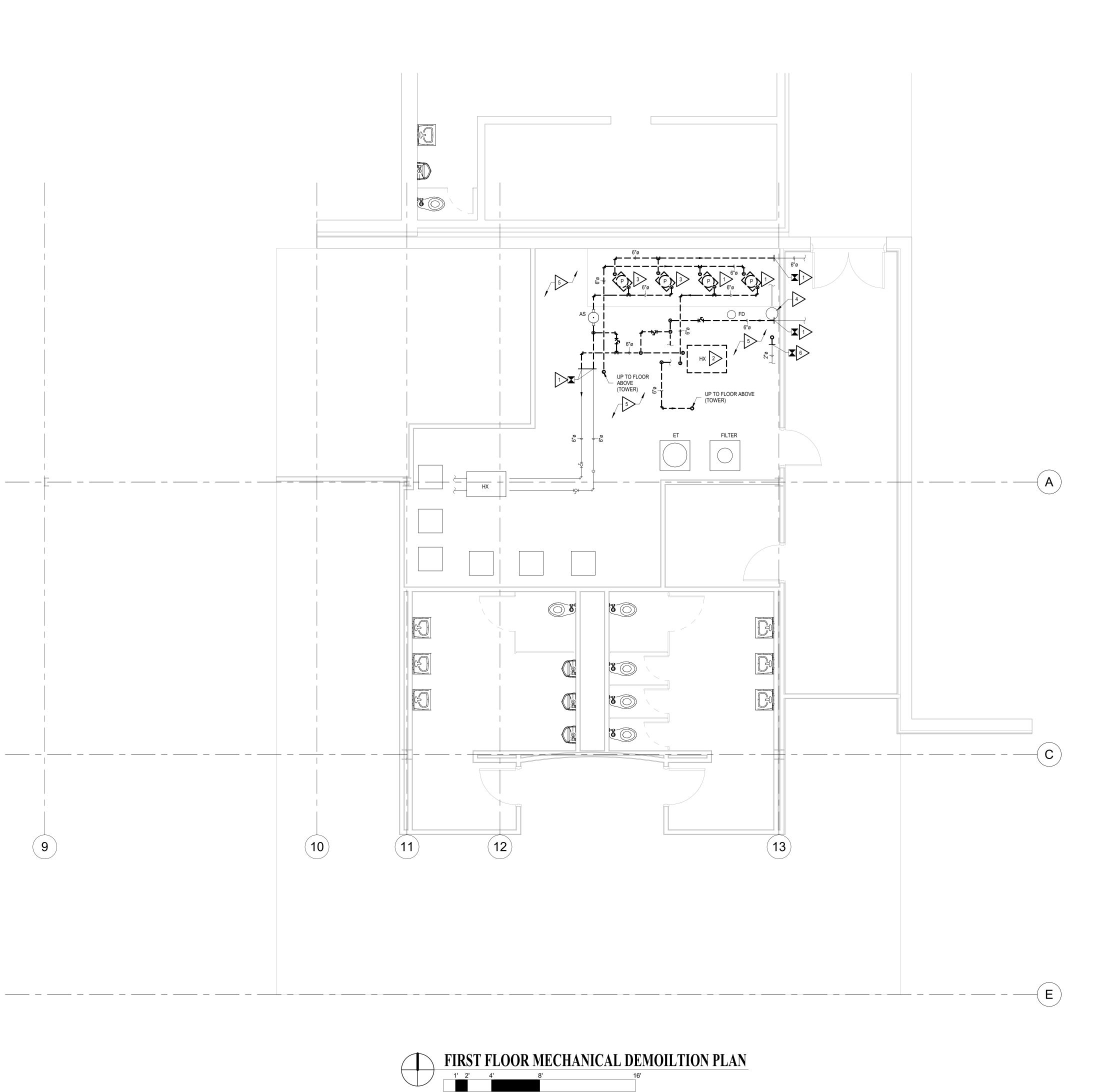
INSTALLING WORK.











SCALE

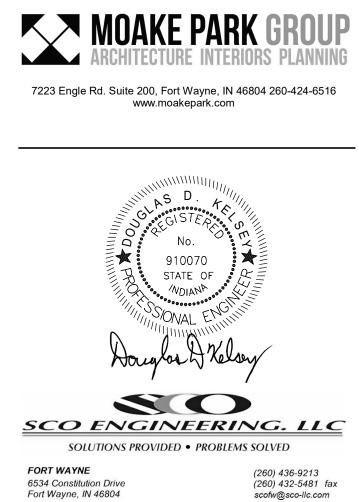
MECHANICAL DEMOLITION PLAN NOTES

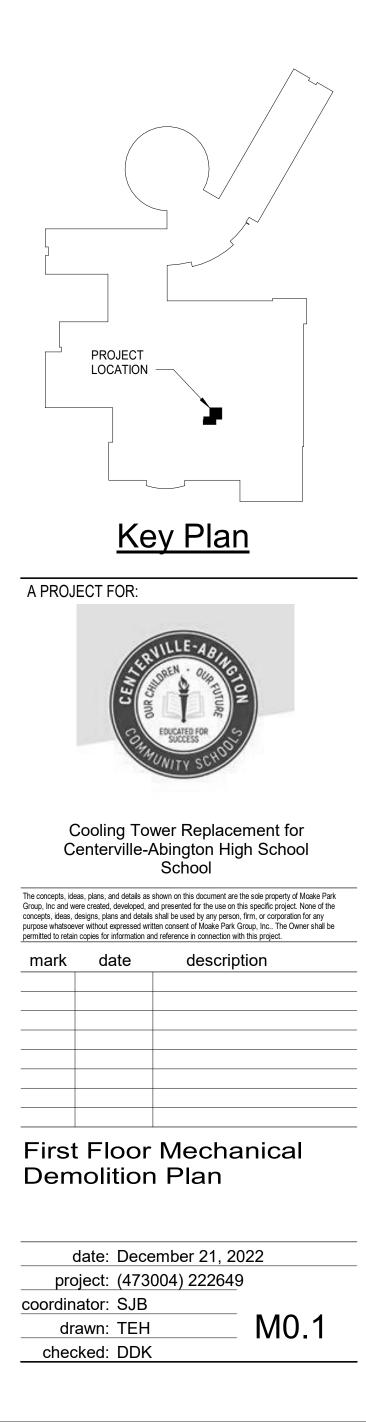
1 REMOVE TOWER LOOP PUMPS COMPLETE INCLUDING ALL CONTROLS, WIRING, DRAIN PIPING, AND ACCESSORIES. REMOVE 6" TOWER LOOP AND BUILDING LOOP PIPING COMPLETE AND PREPARE FOR NEW WORK. REMOVE EXISTING AIR SEPARATOR AND PREPARE FOR REINSTALLATION.

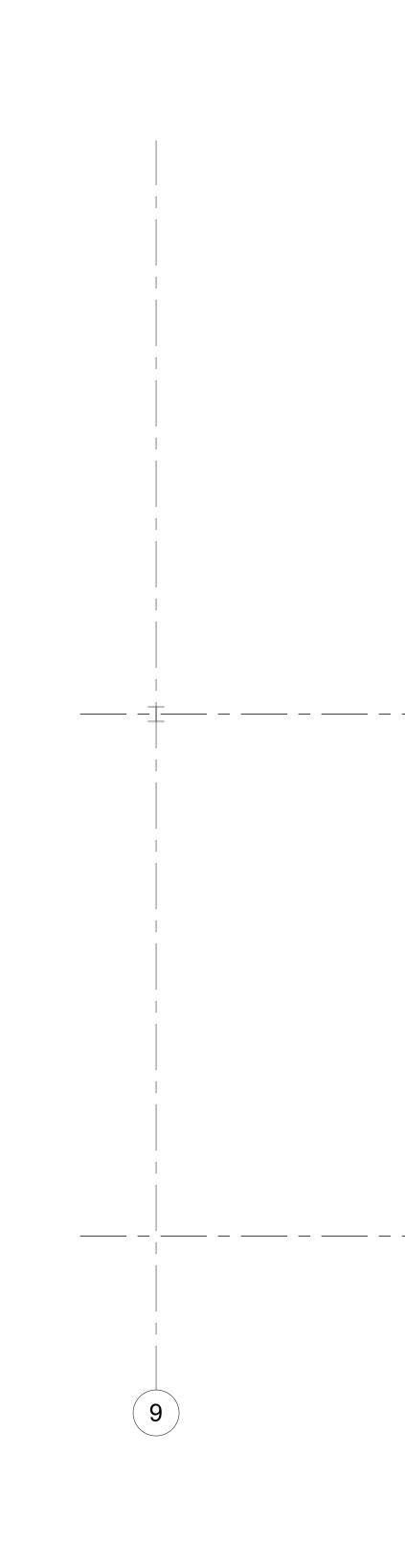
- BASE BID: EXISTING PLATE HEAT EXCHANGER TO REMAIN. DISCONNECT 6" PIPING AT CLOSEST FITTING AND FLUSH HEAT EXCHANGER. ALTERNATE BID #1: REMOVE PLATE HEAT EXCHANGER AND PREPARE PIPING FOR NEW WORK.
- BASE BID: EXISTING PUMPS TO REMAIN. ALTERNATE BID #2: REMOVE BUILDING LOOP PUMPS COMPLETE INCLUDING ALL CONTROLS, WIRING, DRAIN PIPING, AND ACCESSORIES.
- CHEMICAL FEEDER AND ASSOCIATED PIPING TO REMAIN. DISCONNECT EXISTING PIPING AS REQUIRED FOR INSTALLATION OF NEW PUMPS AND HYDRONIC PIPING. PREPARE PIPING FOR NEW WORK.

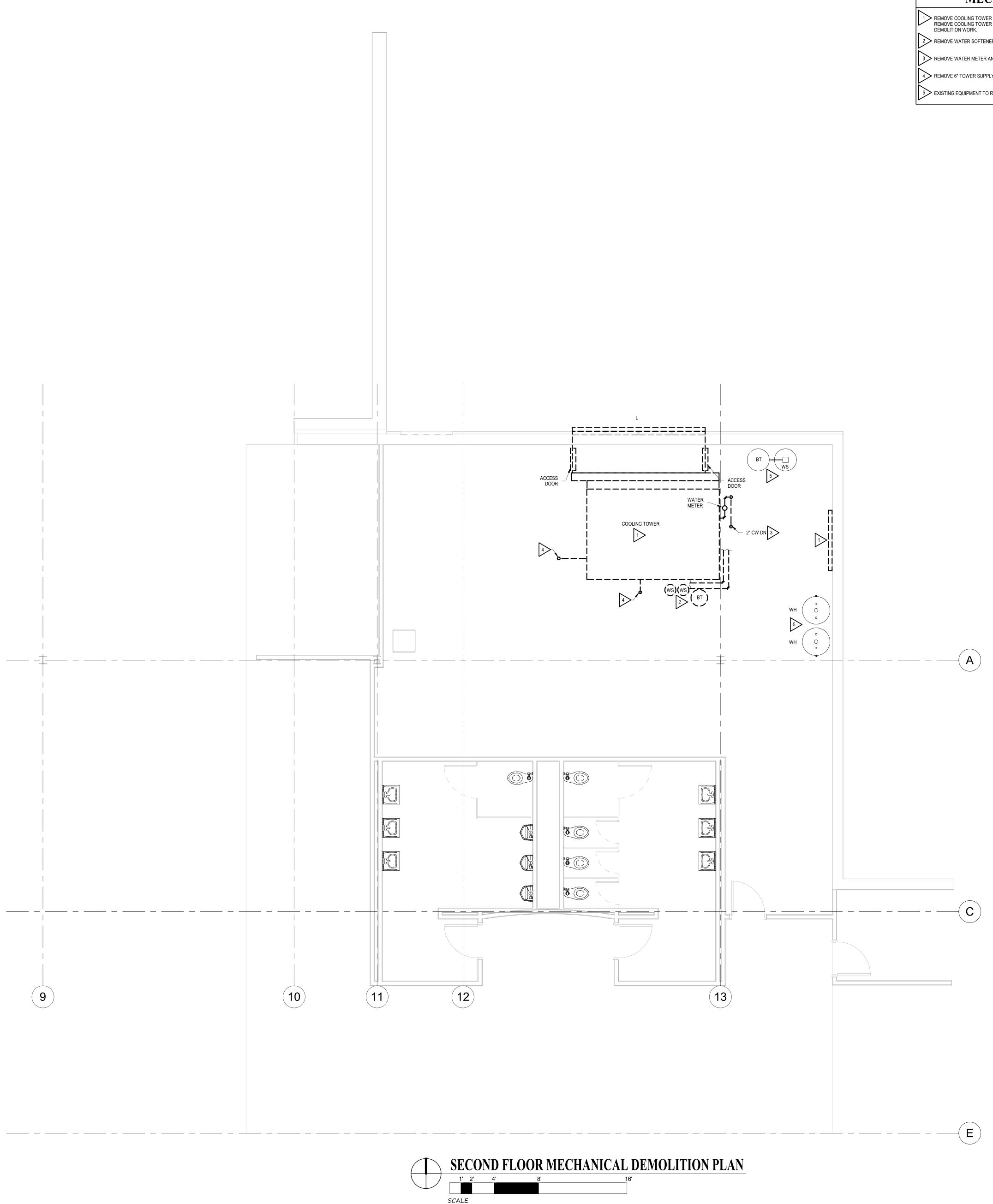
5 ALL PIPING BEING SUPPORTED FROM STRUCTURE AND DECK ABOVE TO BE REMOVED AS REQUIRED FOR INSTALLATION OF NEW STEEL PLATES AND STRUCTURE. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

6 REMOVE 2" MAKE-UP WATER PIPING TO POINT INDICATED AND PREPARE FOR NEW WORK.







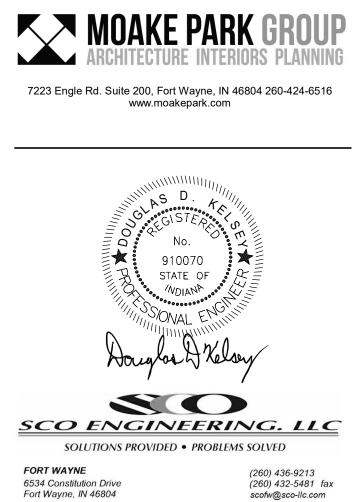


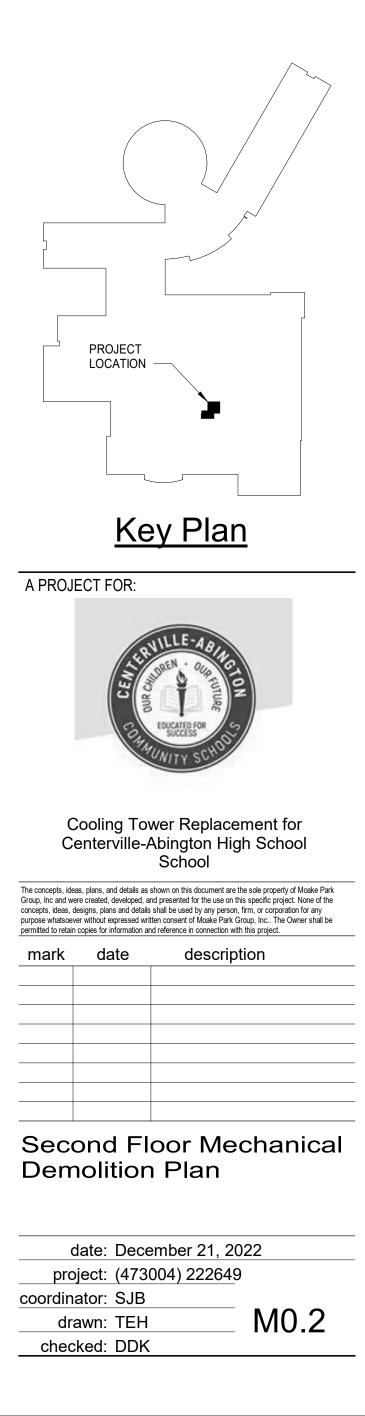
MECHANICAL DEMOLITION PLAN NOTES

REMOVE COOLING TOWER COMPLETE INCLUDING ALL CONTROLS, CONTROL PANELS, WIRING, LOUVER, ROOF HOODS, AND ACCESSORIES. REMOVE COOLING TOWER IN SECTIONS AS REQUIRED. PROTECT ALL ROOF AND STRUCTURE AS REQUIRED FOR REMOVAL PATH OF DEMOLITION WORK.

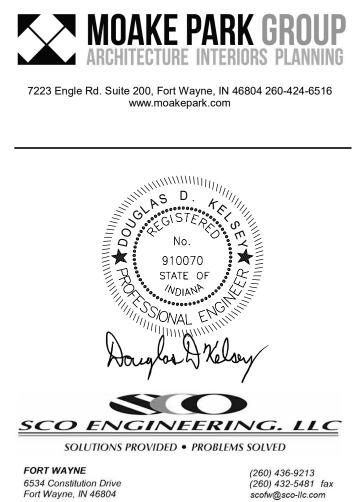
- 2 REMOVE WATER SOFTENER AND PIPING ASSOCIATED WITH COOLING TOWER MAKE-UP WATER COMPLETE.
- 3 REMOVE WATER METER AND 2" MAKE-UP WATER PIPING TO FIRST FLOOR AND PREPARE FOR NEW WORK.
- 4 REMOVE 6" TOWER SUPPLY AND RETURN PIPING COMPLETE AND PREPARE PIPING FOR NEW WORK.

5> EXISTING EQUIPMENT TO REMAIN.



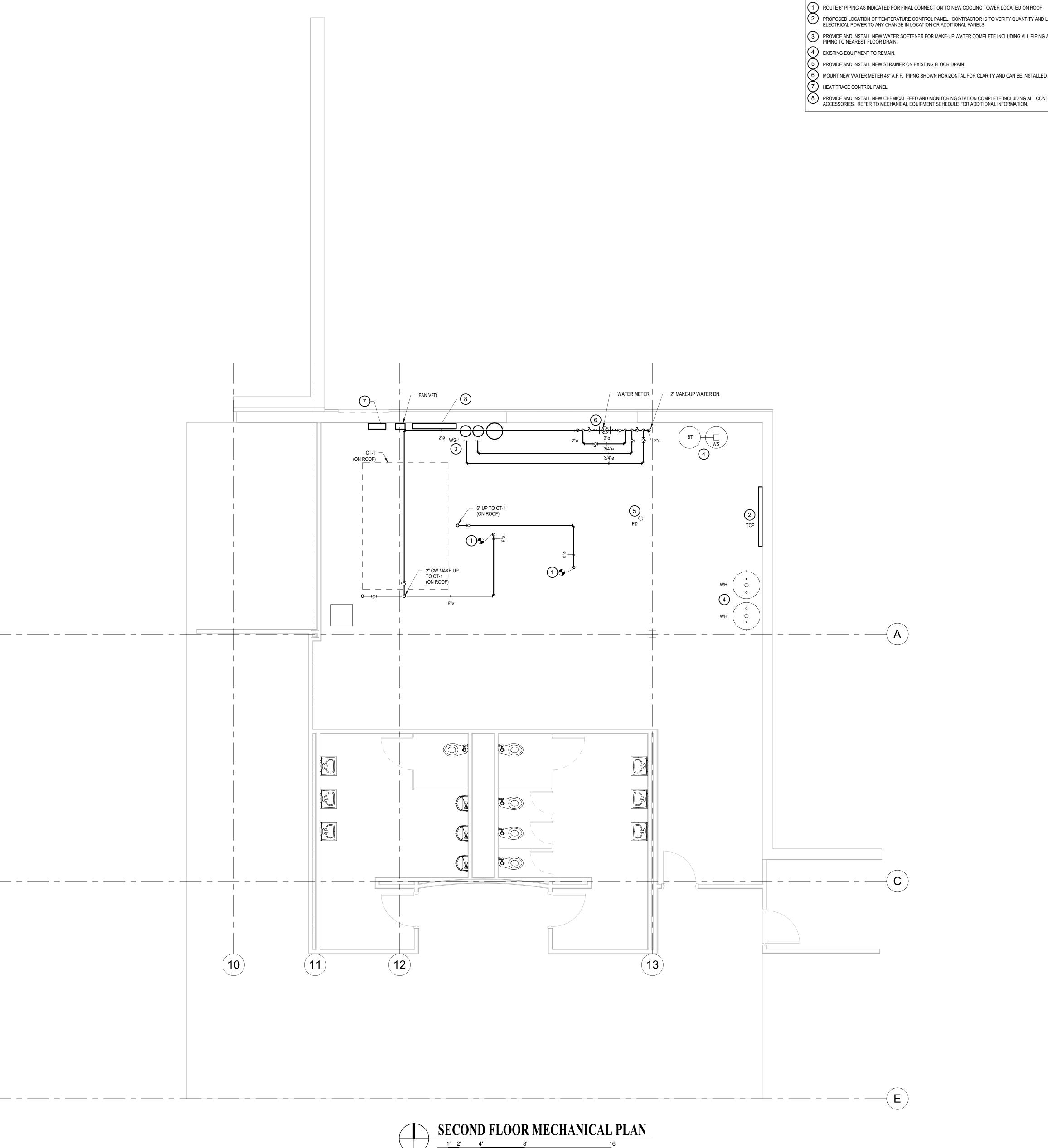








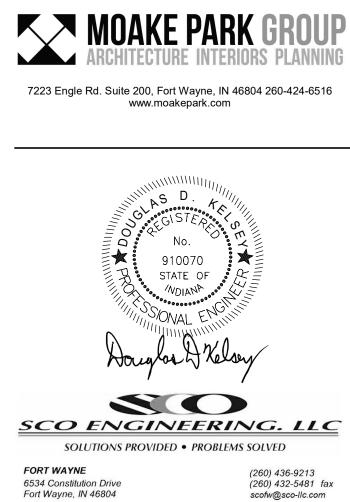
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MECHANICAL PLAN NOTES

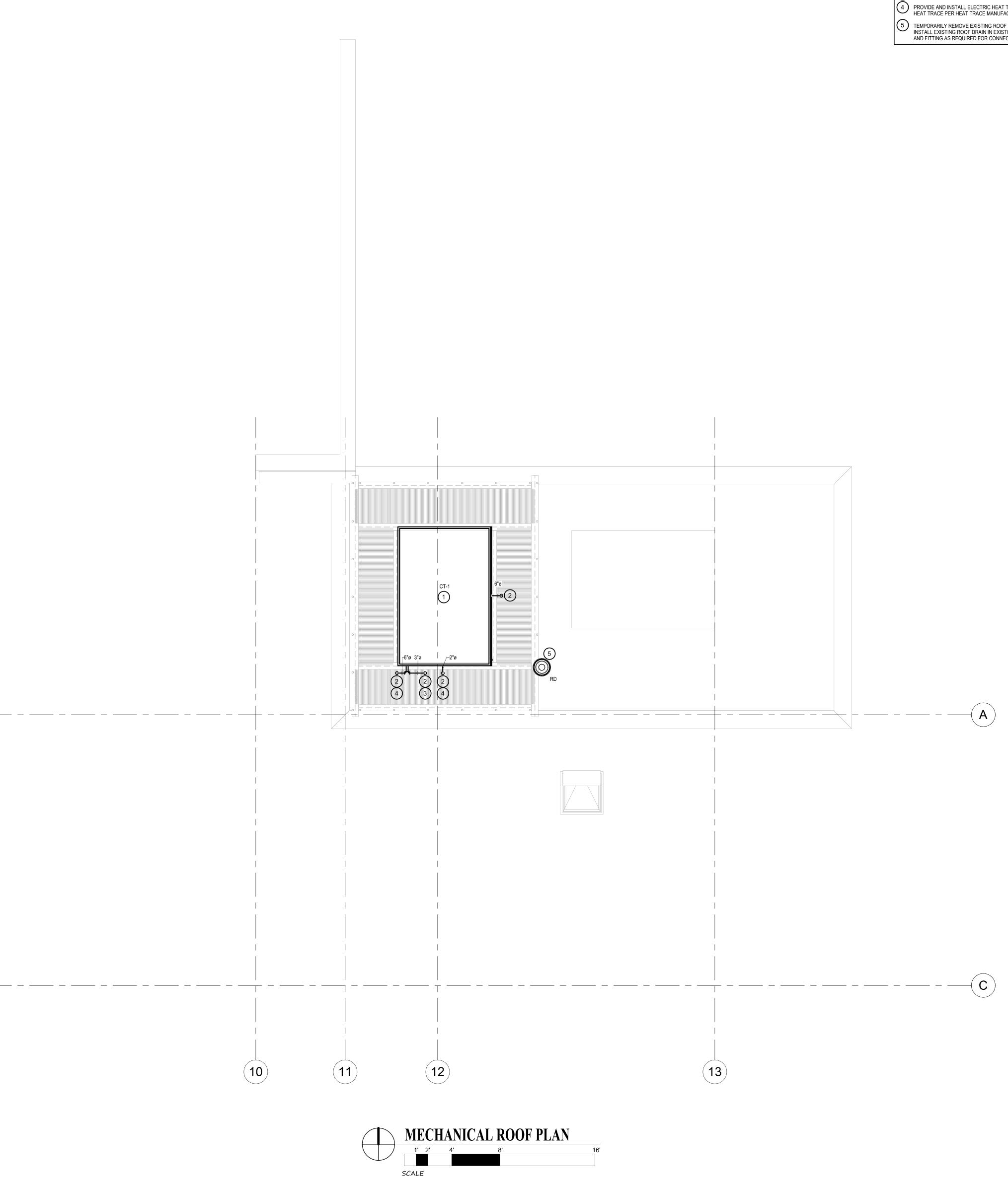
- 2 PROPOSED LOCATION OF TEMPERATURE CONTROL PANEL. CONTRACTOR IS TO VERIFY QUANTITY AND LOCATION OF PANELS AND PROVIDE ELECTRICAL POWER TO ANY CHANGE IN LOCATION OR ADDITIONAL PANELS. 3 PROVIDE AND INSTALL NEW WATER SOFTENER FOR MAKE-UP WATER COMPLETE INCLUDING ALL PIPING AND ACCESSORIES. ROUTE DRAIN PIPING TO NEAREST FLOOR DRAIN.
- (5) PROVIDE AND INSTALL NEW STRAINER ON EXISTING FLOOR DRAIN.
- 6) MOUNT NEW WATER METER 48" A.F.F. PIPNG SHOWN HORIZONTAL FOR CLARITY AND CAN BE INSTALLED VERTICALLY AS REQUIRED FOR SPACE.
- 8 PROVIDE AND INSTALL NEW CHEMICAL FEED AND MONITORING STATION COMPLETE INCLUDING ALL CONTROLS, WIRING, PIPING, AND ACCESSORIES. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.

SCALE





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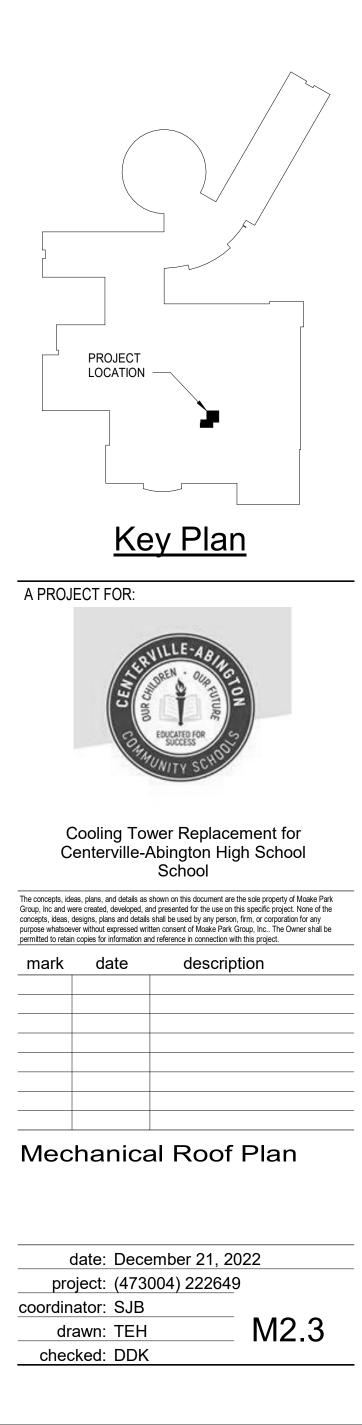


MECHANICAL PLAN NOTES

- PROVIDE AND INSTALL NEW COOLING TOWER COMPLETE INCLUDING ALL CONTROLS, WIRING, PIPING AND ACCESSORIES. REFER TO STRUCTURAL AND ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
- 2 COORDINATE ROUTING OF PIPING WITH STRUCTURAL PLATFORM OPENINGS.
- 3 TERMINATE 3" DRAIN PIPING 18" ABOVE ROOF DECK.
- PROVIDE AND INSTALL ELECTRIC HEAT TRACE ON TOWER OUTLET PIPING AND MAKE-UP WATER FILL LINE. INSULATE ALL PIPING RECEIVING HEAT TRACE PER HEAT TRACE MANUFACTURERS RECOMMENDATIONS.

5 TEMPORARILY REMOVE EXISTING ROOF DRAIN FOR INSTALLATION OF NEW ROOF. DISCONNECT AND SUPPORT STORM PIPING FROM BELOW. INSTALL EXISTING ROOF DRAIN IN EXISTING LOCATION AFTER NEW ROOF SYSTEM IS INSTALLED. PROVIDE AND INSTALL ALL NECESSARY PIPING AND FITTING AS REQUIRED FOR CONNECTION OF EXISTING STORM PIPING TO ROOF DRAIN.





	TAG	MFG	MODEL
	CT-1	BALTIMORE AIR COIL	VT1-N209
RE	MARKS:		
1.	PROVID	E AND INSTALL WITH NON-FUSE	D NEMA 4R
	SECONE) STAGE TO START 5HP SECOND	ARY FAN, T
2.	PROVID	E AND INSTALL WITH ELECTRONIC	WATER LE
	BASIN	HEATER WITH LOW WATER CUTOL	JT AND THE
	PROTEC	TED WITH CORROSION PROTECTION	ON SYSTEM.
	WALKW		

	ALTERNATE BID - PLATE AND FRAME HEAT EXCHANGER SCHEDULE												
	COOLING MODE									PRESSU			
TAG	MFG	MODEL	FLOW (GPM) INLET TE		MP (F) OUTL		TEMP (F)	HEAT EXCHANGED	(P	SI)	REMARKS		
			TOWER	BUILDING	TOWER	BUILDING	TOWER	BUILDING	(MBH)	TOWER	BUILDING		
PHX-1	ALFA LAVAL	AQ4T-BFG (155)	450	450	85	101.4	96.3	90	2532.7	7.9	7.9	1, 2	
REMAR													
1. TO	WER - COOLING TO	OWER WATER LOOP, I	BUILDING	- BUILDIN	G WATER LO	OP							
2. PR	OVIDE 304SS PLAT	ES, 0.40" MIN PLATE	E THICKNE	ESS.									

	PUMP SCHEDULE											
TAG	MFG	MODEL	FLOW (GPM)	HEAD (FT)	PUMP EFF (+/- 5%)	RPM	HP	BHP	ELEC. (V/PH)	SERVICE	REMARKS	
TP-1	BELL & GOSSETT	E-1510-3BD	450	80	78	1800	15	10.8	480 / 3	TOWER LOOP	1, 2, 3, 4, 5	
TP-2	BELL & GOSSETT	E-1510-3BD	450	80	78	1800	15	10.8	480 / 3	TOWER LOOP	1, 2, 3, 4, 5	
LP-1	BELL & GOSSETT	E-1510-EB	450	100	80	1800	20	14.1	480 / 3	BUILDING LOOP	1, 2, 3, 4, 5,	
LP-2	BELL & GOSSETT	E-1510-EB	450	100	80	1800	20	14.1	480 / 3	BUILDING LOOP	1, 2, 3, 4, 5,	
2. PUMP 5. PUMP 5. PROVI 5. FLUID	SHALL BE NON OVER MOTOR SHALL BE HI S ARE 100% BACKUP.	GH EFFICIENCY. ONLY ONE PUMP WIL I VARIABLE SPEED DR		.T ANY	TIME.		<u> </u>		<u> </u>		•	

	COOLING TOWER SCHEDULE										
	CAPACITY	AMBIENT	EVAPORATOR					ELECTRICAL			
_	(TONS)	AIR (F)	EWT (F)	LWT (F)	FLOW (GPM)	PD (FT H2O)	FLUID	(VOLTS/PHASE)	REMARKS		
-MM	209	105	96.4	85	450	16.7	WATER	480 / 3	1, 2, 3		

DISCONNECT SWITCH AT ELECTRICAL CONNECTIONS, AND CONTROLLER TO STAGE STEPS OF CAPACITY, FIRST STAGE TO START FLOW TO COILS, THIRD STAGE TO START 20HP MAIN FAN AFTER SECONDARY FAN HAS BEEN DISABLED. EVEL CONTROL WITH SOLENOID MAKE UP VALVE, 20 HP MAIN MOTOR, 5 HP "BALTIGUARD" SECONDARY MOTOR WITH VFD CONTROL, 7 KW ERMOSTAT, INSULATED HOOD AND COIL CASING, EXTENDED LUBRICATION LINES, SOUND ATTENUATORS ON INTAKE AND DISCHARGE SIDE I, EXTERNAL GUARD RAILS AND ALUMINUM LADDER WITH SUPPORTS PROTECTED WITH CORROSION PROTECTION SYSTEM, AND INTERNAL COORDINATE CHEMICAL TREATMENT WITH SUCCESSFUL CHEMICAL TREATMENT CONTRACTOR REFER TO DRAWINGS FOR NECESSARY ITEMS PROVIDED BY CHEMICAL CONTRACTOR.

PROVIDE 30455 PLATES, 0.40 MIN PLATE THICKNESS.

MECHANICAL EQUIPMENT

TYPE: CHEMICAL FEED AND MONITORING MANUFACTURER: HEAT POWER ENGINEERING ELECTRICAL: 120 V, 1–PHASE, 60 HZ

ANUFACTURER: CHROMALOX

REMARKS: PROVIDE AND INSTALL XS-C1F3E11-H BOARD MOUNTED CONTROLLER, AWM-100 CONTACTING HEAD WATER METER. ABC-3/4"MOTORIZED BLEED VALVE, PULSAFEEDER A+ CHEMICAL PUMPS W/5FV, AND SPILL CONTAINMENT DRUMS. CONTROLS CONTRACTOR TO INTEGRATE CHEMICAL FEED STATION INTO EXISTING BUILDING MANAGEMENT SYSTEM.

HEAT TRACE SCHEDULE

MODEL: CPR8-2 MODEL: CPR8-2HEATING CABLE: HEAT CABLE SHALL BE SELF-REGULATING HEAT TRACE EQUAL TO CHROMALOX CPR8-2 FOR PIPE FREEZE PROTECTION, 8 W/FT, 277V/1, 270 FT MAX LENGTH AT 15 AMP BEAKER SIZE EACH CIRCUIT. PROVIDE CTC CONTROL CABINETS, STAINLESS STEEL, AND ALL REQUIRED COMMERCIAL ACCESSORIES INCLUDING BUT NOT LIMITED TO POWER CONNECTION BOXES, SLICE AND TEE BOXES, END SEAL KIT, PANEL MOUNTING KIT, FIBERGLASS TAPE, LABEL, PIPE STRAPS, ETC. SEE DRAWINGS AND COORDINATE WITH CONTRACTOR FOR EXACT LENGTHS AND QUANTITIES OF ACCESSORIES.

MECHANICAL SPECIFICATIONS

ALL WORK SHALL COMPLY WITH ALL STATE, LOCAL, AND NATIONAL CODES. ALL MATERIALS, EQUIPMENT, AND INSTALLATIONS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE STATE ENERGY CODE (ASHRAE STANDARD 90.1 2007). ALL MATERIAL AND EQUIPMENT SHALL BE NEW. EQUIPMENT, MATERIAL, AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR MINIMUM FROM DATE OF SUBSTANTIAL COMPLETION. THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY THE

AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE ALL ASPECTS WORK OF OTHER TRADES PRIOR TO AND DURING CONSTRUCTION AND INSTALLATION.

VERIFY ALL DIMENSIONS FROM ARCHITECTURAL PLANS AND OR STRUCTURAL PLANS. WHEN A CONFLICT OCCURS BETWEEN PLANS AND NOTES, THE ENGINEER SHALL DETERMINE WHICH GOVERNS. GENERALLY, THE MOST RESTRICTIVE AND COSTLY ALTERNATIVE SHALL TAKE PRECEDENCE. THIS CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND PAY FOR ALL CUTTING AND PATCHING FOR HIS WORK AS REQUIRED.

ALL SHEET METAL DUCTWORK AND VENTS SHALL BE AIR TIGHT AND ALL SEALS SEALED AND ALL CONSTRUCTION AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH CURRENT EDITIONS OF SMACNA. SEAL ALL TRANSVERSE AND LONGITUDINAL SEAMS. ALL 90 DEGREE RECTANGULAR ELBOWS 2-INCH PRESSURE CLASS AND BELOW, SHALL BE EQUIPPED WITH

SINGLE THICKNESS TURNING VANES MOUNTED TO A PREFABRICATED VANE RAIL, UNLESS INDICATED OTHERWISE ON THE DRAWINGS. PROVIDE MANUAL, SINGLE BLADE, BALANCING DAMPERS WITH LOCKING QUADRANT AND INTEGRAL POSITION

INDICATOR ON ALL RUNOUTS TO SUPPLY AND EXHAUST AIR DEVICES. LOCATIONS OF ALL PIPING, DUCTWORK, FIXTURES, AND EQUIPMENT ARE APPROXIMATE ONLY AND MAY BE CHANGED TO MEET ARCHITECTURAL AND STRUCTURAL CONDITIONS AS REQUIRED AND AS APPROVED BY THE ARCHITECT/ ENGINEER. PROVIDE ALL OFFSETS AS REQUIRED TO MEET ACTUAL FIELD CONDITIONS.

ALL HVAC EQUIPMENT SHALL BE LISTED FOR ITS USE AND MOUNTED OR HUNG PER MANUFACTURER'S RECOMMENDATIONS AND LISTING. COORDINATE AND INSTALL EQUIPMENT WITH REQUIRED SERVICE CLEARANCES. COORDINATE WITH OTHER TRADES TO MAINTAIN CLEARANCES. OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10-FEET FROM ANY PLUMBING VENTS ON EXHAUST DISCHARGES.

PROVIDE PIPE AND EQUIPMENT IDENTIFICATION. EQUIPMENT PLASTIC LABELS, MINIMUM 1/16-INCH THICK AND FASTEN WITH RIVETS. PIPE LABELS SHALL BE PRECOILED, SEMI-RIGID PLASTIC FORMED TO COVER FULL CIRCUMFERENCE OF PIPE TO BE ATTACHED TO PIPE WITHOUT FASTENERS OR ADHESIVES. LABEL PIPING EVERY 30-FEET MAXIMUM, DIRECTIONAL CHANGE OR TEE, WHICHEVER IS LEAST. UNIONS AND VALVES SHALL BE PROVIDED AT CONNECTIONS TO ALL EQUIPMENT. ALL CONNECTIONS BETWEEN DISSIMILAR PIPE MATERIALS SHALL BE MADE WITH EPCO FITTINGS TO PREVENT GALVANIC ACTION.

DUCT DIMENSIONS ARE "FREE AREA" AND SHALL NOT BE REDUCED. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPERATURE CONTROL WIRING, THERMOSTATS, RELAYS, INTERLOCKS, ETC., AS REQUIRED TO MEET THE SEQUENCE OF OPERATIONS. SHEET METAL ELBOWS SHALL NOT HAVE A RADIUS OF LESS THAN 1-1/2 TIMES THE WIDTH OF THE

DUC

EXISTING UTILITIES

AIR BALANCE CONTRACTOR.

THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITIES FOR ALL EXISTING GAS, STORM, AND SANITARY SEWER LINES WITHIN HIS SITE LIMITS. BEFORE WORKING WITH OR AROUND THE EXISTING UTILITIES, ANY APPLICABLE UTILITY SHALL BE CONTACTED.

ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN IN SERVICE. ANY UTILITY THAT CAN BE REMOVED WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH PERMISSION OF

THE OWNER AND THE UTILITY. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE AREA AND NO EXTRA COMPENSATION CONNECTED WITH THE UTILITIES WILL BE ALLOWED AFTER BID.

ACCEPTABLE MANUFACTURERS

COOLING TOWER: BALTIMORE AIRCOIL, EVAPCO INC., MARLEY COOLING TECHNOLOGIES.

HYDRONIC PUMPS: ITT COOPORATION, ARMSTRONG, TACO.

INSTRUMENTATION AND CONTROLS: HONEYWELL INTERNATIONAL, INDIANAPOLIS BRANCH OFFICE

NOTE: ELECTRICAL CHARACTERISTICS FOR HVAC EQUIPMENT: EQUIPMENT OF DIFFERENT ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED AT THE COST OF THE CONTRACTOR. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT SHALL COMPLY WITH REQUIREMENTS.

THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW, COORDINATE AND INCLUDE ALL DIVISION 23 WORK INDICATED ON ANY OF THE PROJECT DRAWINGS AS WORK OF THIS PROJECT, TO INCLUDE BUT NOT LIMITED TO ARCHITECTURAL, CIVIL, PLUMBING, MECHANICAL, DRAWINGS, ETC.

COORDINATE ROUTING OF ALL DUCTWORK AND PIPING WITH ELECTRICAL PANEL LOCATIONS. DO NOT ROUTE DUCTWORK OR PIPING OVER ELECTRICAL PANELS AND PROVIDE ALL WORKING CLEARANCES PER ELECTRICAL CODE. COORDINATE ROUTING WITH ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS FOR PANEL LOCATIONS.

THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL THROUGH PENETRATION FIRESTOP SYSTEMS AS REQUIRED TO SEAL WHERE PIPING AND DUCTWORK PENETRATES A FIRE RATED WALL, FLOOR, OR OTHER LISTED ASSEMBLY. THE MECHANICAL CONTRACTOR IS TO REVIEW LIFE SAFETY, AND ALL OTHER ARCHITECTURAL, DRAWINGS FOR THE EXACT LOCATION OF FIRE RATED ASSEMBLIES.

ALL CONTRACTORS, BY MAKING THEIR BID, REPRESENT THAT THEY HAVE READ AND UNDERSTAND THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL REFER TO THE ENTIRE CONSTRUCTION DOCUMENT SET FOR GUIDANCE ON DIMENSIONS, HEIGHTS, DETAILING, ETC. AND INSTALL THEIR WORK SO AS NOT TO INTERFERE WITH THE INSTALLATION OF ANOTHER DISCIPLINE'S WORK OR THE GENERAL INTENT OF THE CONSTRUCTION DOCUMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE SPECIFICATIONS AND/ OR DRAWINGS, THE ARCHITECT SHALL DETERMINE WHICH INFORMATION GOVERNS.

M/P/E TRADES NOTE: IN REFERRING TO THIS SHEET YOU ACKNOWLEDGE: 1.) REVIEWING THE ENTIRE DRAWING SET INCLUDING ALL 'S', 'C' & 'A' SERIES. 2.) COORDINATING WITH THE GENERAL TRADES CONTRACTOR OR C.M. FOR EXACT DETAILING, HEIGHTS, ETC. PRIOR TO INSTALLING WORK.

THIS CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR AS REQUIRED AND AS SHOWN ON DRAWINGS TO PROVIDE A COMPLETE AIR BALANCE. PROVIDE REPORT BY A CERTIFIED (AABC OR NEEB)

GENERAL CONDITIONS NOTE

MECHANICAL DEMOLITION SYMBOL SCHEDULE

- - - - LINETYPE AND WEIGHT DESIGNATES MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. TO BE REMOVED. LINETYPE AND WEIGHT DESIGNATES MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. TO REMAIN.

EXTENT OF DEMOLITION.

	MECHANICAL	SYMBOI	201	
		STIVIDOL		
Б	BALL VALVE	_		EXISTING MECHANICAL EQUIPMENT AND DUCTWORK TO REMAIN
l I NT (BUTTERFLY VALVE	_		NEW MECHANICAL DUCTWORK
_	GLOBE VALVE	_		NEW MECHANICAL EQUIPMENT
Ñ	CHECK VALVE	_	—s—	STEAM
-	GATE VALVE	_	-COND	STEAM CONDENSATE
R R	PNEUMATIC 2-WAY VALVE	_	D	CONDENSATE DRAIN
_	PNEUMATIC 3-WAY VALVE	_	—HWS——	HOT WATER SUPPLY PIPING
_	ELECTRONIC 2-WAY VALVE	—	—HWR——	HOT WATER RETURN PIPING
凶	ELECTRONIC 3-WAY VALVE	_	-CHWS-	CHILLED WATER SUPPLY PIPING
	PRESSURE REGULATING VALVE PRESSURE RELIEF VALVE	_	-CHWR	CHILLED WATER RETURN PIPING
A 	AUTOMATIC FLOW CONTROL VALVE	_	—cws——	CONDENSER WATER SUPPLY
	WITH P & T PORTS	_	—CWR——	CONDENSER WATER RETURN
*	MANUAL FLOW CONTROL VALVE WITH P & T PORTS		ACCU-	AIR COOLED CONDENSING UNIT
ılı	UNION		AFMS-	AIR FLOW MEASURING STATION
-IF	FLANGE CONNECTION		AHU—	AIR HANDLING UNIT
귀	BLIND FLANGE CONNECTION		AS-	AIR SEPARATOR
М	METER		В—	BOILER
	PIPING SLEEVE		CUH-	CABINET UNIT HEATER
—	PIPING DROP		D-	DIFFUSER
-•	PIPING RISE		DC-	DUCT COIL
÷	INLINE DROP		EF-	EXHAUST FAN
رک	THREADED HOSE CONNECTION W/ CAP		EG-	EXHAUST GRILLE
Ø	INLINE PUMP		ER-	EXHAUST REGISTER
Ϋ́	STRAINER		ET–	EXPANSION TANK
Ŷ	PRESSURE & TEMPERATURE TEST PLUG		FD-	FIRE DAMPER
Φ	THERMOMETER		FTR-	FINNED TUBE RADIATION
, De			H–	HUMIDIFIER
\mathbf{I}_{2}	TEMPERATURE WELL		HVAC-	HEATING VENTILLATION AIR
Ψ	STEAM TRAP			CONDITIONING UNIT
Ŵ	ACTUATOR		HP-	HEAT PUMP
P	PRESSURE GAUGE		HX—	HEAT EXCHANGER
Ę	FLOW SWITCH		L-	LOUVER
Ļ	FLOW METER WITH WELL		LRP-	LINEAR RADIANT PANEL
			MAU-	MAKE UP AIR UNIT
	SPHERICAL RUBBER VIBRATION ISOLATOR		P–	PUMP
	PIPING INCREASER		RAD-	ELECTRIC RADIATION
	TIE-IN MANUAL AIR BALANCING DAMPER		RC-	ROOF CAP
<u>~~</u> ~	MANUAL OPPOSED BLADE DAMPER		RF–	RELIEF FAN
	BACKDRAFT DAMPER		RG–	RETURN AIR GRILLE
	FLEXIBLE DUCT		RR-	RETURN REGISTER
T	ELECTRONIC THERMOSTAT		RTU-	ROOFTOP UNIT
\mathbb{T}_{P}	PNUEMATIC THERMOSTAT		RV–	RELIEF VENT
\mathbb{O}_{S}	TEMPERATURE SENSOR		SF-	SUPPLY FAN
\Diamond	SECURITY THERMOSTAT		SFD-	SMOKE/FIRE DAMPER
Ð	HUMIDISTAT		SR-	SUPPLY REGISTER
S	SMOKE SENSOR		TB-	TERMINAL BOX
₽ ^{₩V}	MANUAL AIR VENT		TG-	TRANSFER AIR GRILLE
Πav	AUTOMATIC AIR VENT		UH-	UNIT HEATER
•	TURBINE FLOWMETER		UV–	UNIT VENTILATOR
_			VAV-	VARIABLE AIR VOLUME TERMINAL BOX
	ORIFICE FLOWMETER		A.F.F.	ABOVE FINISHED FLOOR
-+	EXPANSION LOOP		0.A.C.	OPENING ABOVE CEILING
	SHUT-OFF TERMINAL BOX		XX"xXX"ø	FLAT OVAL DUCT
	SHUT-OFF TERMINAL BOX W/ REHEAT		XX"xXX"	RECTANGULAR DUCT
			Χ"ø	ROUND DUCT
	DUAL DUCT TERMINAL BOX		FD	
\bowtie	DIFFUSER		FIRE SFD	DAMPER
\square	EXHAUST OR RETURN GRILLE		77	KE/FIRE DAMPER
	LANAUGT ON NETUNN UNILLE	-		
	DUCT COIL	-		T WORK (UNLINED)
4		=		T WORK (LINED)
l	FAN POWERED VAV BOX WITH REHEAT	=		T WORK (DOUBLE WALL/PERFORATED INNER)

GENERAL MECHANICAL DEMOLITION NOTES

CONTRACTOR SHALL DISPOSE OF ALL REMOVED EQUIPMENT, PIPING, DUCTWORK, ETC. UNLESS NOTED OTHERWISE. REMOVE ALL HANGERS, UNISTRUT, BRACING AND ALL OTHER SUPPORT OR HANGING DEVICES ASSOCIATED WITH EQUIPMENT BEING SERVED. CUT AND PATCH ALL EXISTING TO REMAIN SURFACES AFFECTED BY THIS DEMOLITION. IF NEW FINISHES ARE NOT INCLUDED BY OTHERS ON THIS PROJECT, THEN THIS CONTRACTOR SHALL RESTORE ALL FINISHES TO MATCH SURROUNDING UNDAMAGED CONDITIONS. THIS CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REINSTALLING ANY EXISTING CEILING TILES AND GRID AFFECTED BY THIS WORK. REPLACE ANY TILES DAMAGED AS A RESULT OF THE ABOVE WORK. TILES SHALL MATCH SURROUNDING CONDITIONS THAT ARE NOT COVERED UNDER DEMOLITION WORK TO BE PERFORMED BY THE GENERAL CONTRACTOR. ANY EXISTING PIPING, CONDUIT, WIRING, EQUIPMENT, ETC. THAT IS SUPPORTED FROM MATERIALS THAT ARE TO BE REMOVED SHALL BE SUPPORTED BY NEW HANGING DEVICES PROVIDED AND INSTALLED BY THIS CONTRACTOR. CAP EXISTING WASTE, VENT, AND WATER PIPING IN CONCEALED LOCATIONS IN WALLS TO REMAIN. ABOVE CEILING, OR BELOW SLABS FOR ALL FIXTURES AND EQUIPMENT TO BE REMOVED OR RELOCATED, FIELD VERIFY EXACT LOCATION OF EXISTING PIPING. THESE DRAWINGS ARE A REASONABLE INDICATION OF THE EXISTING PIPING, DUCTWORK, AND EQUIPMENT

CONDITIONS. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AS REQUIRED. OWNER SHALL RETAIN THE FIRST RIGHT OF REFUSAL FOR ALL PRODUCTS TO BE REMOVED.

GENERAL MECHANICAL NOTES

COORDINATE ALL WORK WITH OTHER TRADES AS REQUIRED.

EQUIPMENT, PIPING, AND DUCTWORK LAYOUTS ARE SCHEMATIC IN NATURE. CONTRACTOR MUST ADJUST TO FIELD CONDITIONS AND COORDINATE WITH OTHER TRADES DURING CONSTRUCTION BY ADDING OFFSETS AND ELBOWS WHERE REQUIRED. PRIOR TO INSTALLATION THE ENGINEER SHALL APPROVE ALL PROPOSED MODIFICATIONS TO DUCTWORK

LAYOUT AND DESIGN. ALL SUPPLY AIR DUCTWORK (OTHER THAN THAT SHOWN TO BE LINED) SHALL BE INSULATED (WRAPPED) PER SPECIFICATIONS.

ALL MATERIALS INSTALLED WITHIN PLENUM SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25, SMOKE DEVELOPED RATING NOT EXCEEDING 50 IN ACCORDANCE WITH STATE CODES. COORDINATE EXACT LOCATION OF CEILING DIFFUSERS AND GRILLES WITH LIGHTS AND ARCHITECTURAL CEILING PLAN.

FLEXIBLE DUCT SHALL BE USED WHERE INDICATED, FOR STRAIGHT LINE SEGMENTS NOT EXCEEDING 6 FEET WHEN CONNECTING DIFFUSERS TO RIGID DUCTWORK ABOVE A REMOVABLE CEILING. USE RIGID METAL ELBOWS FOR CHANGES IN DIRECTION.

THIS CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, AND LABOR REQUIRED FOR CORE DRILLING AS REQUIRED FOR INSTALLATION OF MATERIAL PENETRATING BUILDING CONSTRUCTION. REFERENCE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.

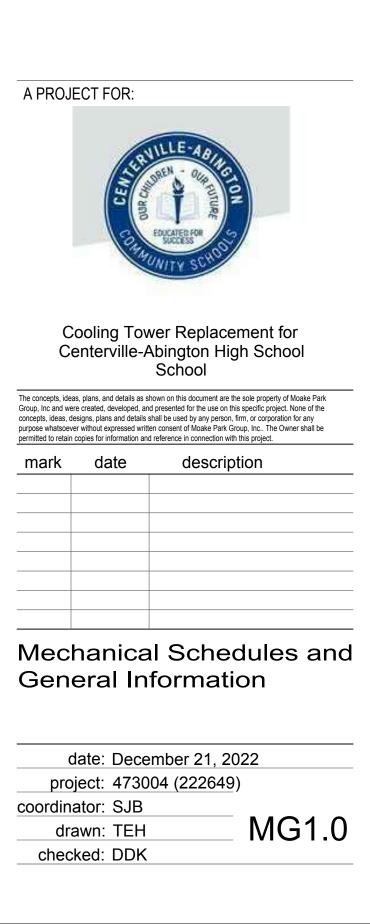
ALL SIZES ON DUCTWORK ARE IN INCHES UNLESS NOTED OTHERWISE.

SHEET METAL CONTRACTOR SHALL FABRICATE ALL DUCT TAKE-OFF FITTINGS AS SHOWN ON CONTRACT DETAIL SHEET. DUCT SIZES LISTED ARE "FREE AREA" AND SHALL NOT BE REDUCED. INCREASE DUCT SIZES AS REQUIRED

TO ACCOUNT FOR LINING. ALL EQUIPMENT AND MATERIALS SHALL BE UL LISTED AND LABELED FOR TYPE OF EQUIPMENT AND MATERIALS FOR WHICH LISTING AND LABELING IS AVAILABLE.







** ALL DEV	ICE INDICATED ON SYMBOL SCHEDULE SHALL BE PROVIDED AND INSTALL BY CONTRA		ELECTRICAL SYMBOL SCHEDULE ATIONS. IF AN ITEM IS NOT SPECIFIED PER MANUFACTURE, CONTRACTOR SHALL NOTIFY E	ENGINEER ON REQUIF	RED MANUFACTURERS SPECIFICATIONS.
	IOLITION PLAN NOTE: X INDICATES A DEMOLITION NOTE FOUND IN THE	©	COIL		2X2 LUMINAIRE;XX INDICATES FIXTURE TYPE,
X ELE	CTRICAL DEMOLITION PLAN NOTE BOX SPECIFIC TO THE DRAWING ON WHICH IT PEARS. (WILL NOT BE FOUND ON BUILDINGS THAT ARE NEW CONSTRUCTION)	T	THERMOSTAT		a INDICATES SWITCH LEG 2X2 LUMINAIRE;XX INDICATES FIXTURE TYPE,
X PLA NOT	N NOTE: X INDICATES A PLAN NOTE FOUND IN THE ELECTRICAL PLAN E BOX SPECIFIC TO THE DRAWING ON WHICH IT APPEARS.	(R) E f	RELAY RED MUSHROOM-HEAD EMERGENCY OFF PUSH BUTTON, MOUNT AT 44 INCHES ABOVE FINISHED FLOOR		a INDICATES SWITCH LEG, LINES INDICATE INSTALLATION ALIGNMENT 2X4 LUMINAIRE; XX INDICATES LUMINAIRE TYPE, a INDICATES SWITCH LEG
	OWER CONDUIT AND CONDUCTOR SCHEDULE: X INDICATES NOTE ON CHEDULE DESCRIBING CONDUIT SIZE, CONDUCTOR SIZE AND QUANTITY.	A T	ADA ACTUATOR BUTTON PROVIDED BY MANUFACTURER, COORDINATE ROUGH-IN REQUIREMENTS AND MOUNT AT 44 INCHES ABOVE FINISHED FLOOR	a XX	a INDICATES SWITCH LEG 1X4 LUMINAIRE, XX INDICATES LUMINAIRE TYPE, a INDICATES SWITCH LEG
CM]Z KCAKC \CLK 3QJD QWUH[2HF]SGK	DOUBLE BORDER NOTE BOX: A GENERAL NOTE THAT APPLIES TO THE ENTIRE DRAWING OR DETAIL WHERE IT APPEARS.		"ON-OFF" WITH PILOT LIGHT OR "OPEN-CLOSE-STOP" PUSH BUTTON STATION	XX XX	LINEAR LUMINAIRE, XX INDICATES LUMINAIRE TYPE, a INDICATES SWITCH LEG, REFER TO DRAWINGS FOR LENGTHS AND CONFIGURATIONS
	AIL BUBBLE: XX INDICATES DETAIL NUMBER, YY INDICATES SHEET NUMBER ON	EE	ELECTRIC EYE FOR OVERHEAD DOOR		EMERGENCY LUMINAIRE; XX INDICATES LUMINAIRE TYPE, a INDICATES SWITCH LEG, PROVIDE EM BALLAST OR GTD AS REQUIRED
YY THE SEV	AIL BUBBLE: XX INDICATES DETAIL NUMBER, YY INDICATES SHEET NUMBER ON CH APPEARS. DETAIL BUBBLE WILL NOT BE SHOWN AT EVERY SITUATION ON FLOOR PLAN WHERE IT IS REQUIRED TO BE FOLLOWED, IT WILL SHOWN AT ERAL LOCATIONS TO GIVE THE CONTRACTOR A TYPICAL IDEA OF THE	СХ	LIGHTING CONTACTOR, X INDICATES CONTACTOR NUMBER		EMERGENCY/NIGHT LIGHT LUMINAIRE; XX INDICATES LUMINAIRE TYPE STRIP LUMINAIRE; XX INDICATES LUMINAIRE TYPE.
	UIREMENTS.	HD	HAIR OR HAND DRYER		a INDICATES SWITCH LEG STAGGERED STRIP LUMINAIRE, XX INDICATES LUMINAIRE TYPE.
	METERBASE AS NOTED) FBX	FLUSH MOUNTED FLOOR BOX FOR POWER AND TEL/COM, CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO ROUGH-IN/INSTALLATION WITH ARCHITECT. REFER TO DETAIL		a INDICATES SWITCH LEG TRACK LIGHTING, XX INDICATES LUMINAIRE TYPE, a INDICATED SWITCH LEG
	"MSB" MAIN SWITCHBOARD	D _X	DATA OUTLET: X DENOTES NUMBER OF DATA DROPS PER OUTLET, REFER TO DETAIL	xx	CEILING/SURFACE PENDANT MOUNTED LUMINAIRE;
	DISTRIBUTION PANEL	V	VOICE OUTLET, REFER TO DETAIL	م xx	XX INDICATES LUMINAIRE TYPE, a INDICATES SWITCH LEG WALL/SURFACE MOUNTED LUMINAIRE;
	SURFACE MOUNTED PANELBOARD	<u>v</u>	VOICE OUTLET, REFER TO DETAIL, MOUNT AT +44" A.F.F.	$\mathbf{\hat{Q}}_{a}$	XX INDICATES LUMINAIRE TYPE, a INDICATES SWITCH LEG WALL MOUNTED EMERGENCY LIGHT; XX INDICATES LUMINAIRE TYPE, TERMINATE TO
)	INVERSE THERMAL-MAGNETIC CIRCUIT BREAKER UNLESS OTHERWISE NOTED	Vw	VOICE OUTLET (WALL PHONE), REFER TO DETAIL	∕—×××	LINE-SIDE OF RESPECTIVE LIGHTING CIRCUIT FEEDING AREA WHERE LUMINAIRE IS LOCATED, TO BE MOUNTED 6" BELOW CEILING OR 10' FOR CEILINGS OVER 11'-0" A.F.F.
\boxtimes	TRANSFORMER	VA	ANALOG VOICE OUTLET, REFER TO DETAIL	кхх Ф	SAME AS ABOVE ONLY REMOTE FIXTURE; XX INDICATES FIXTURE TYPE, TERMINATE TO LINE-SIDE OF RESPECTIVE LIGHTING CIRCUIT FEEDING AREA WHERE FIXTURE IS
L⊠ XX	COMBINATION STARTER AND FUSED DISCONNECT SWITCH; XX INDICATES STARTER NUMBER, REFER TO SCHEDULE.	DVX	DATA/VOICE OUTLET: X INDICATES NUMBER OF DATA DROPS PER OUTLET, REFER TO DETAIL		LOCATED UNIVERSAL MOUNT EXIT LIGHT WITH DIRECTIONAL ARROW(S); XX INDICATES FIXTURE
	NONFUSED HEAVY DUTY DISCONNECT SWITCH; XX INDICATES AMPERE RATING	PD _X x DV ^A	120V DOUBLE DUPLEX RECEPTACLE ADJACENT TO DATA OUTLET, X INDICATES NUMBER OF DATA OUTLETS, REFER TO DETAIL ANALOG VOICE/VOICE/DATA OUTLET: X INDICATES NUMBER OF DATA OUTLET, REFER TO DETAIL	×× ⊗ \$	UNIVERSAL MOUNT EXIT LIGHT WITH DIRECTIONAL ARROW(S); XX INDICATES FIXTURE TYPE, TERMINATE TO LINE-SIDE OF RESPECTIVE LIGHTING CIRCUIT FEEDING AREA WHERE FIXTURE IS LOCATED. EXIT LIGHTS MAY BE CEILING MOUNTED WHEN CEILING IS 10' AFF OR LESS. WHEN CEILING HEIGHT IS MORE THAN 10' AFF, WALL MOUNT ABOVE FINISHED DOOR FRAME
453 XX	FUSED HEAVY DUTY DISCONNECT SWITCH; XX INDICATES FUSE SIZE	X UV TWSX	REFER TO DETAIL TEACHERS WORK STATION, REFER TO DETAIL	xx	UNIVERSAL MOUNT EXIT LIGHT WITH NO DIRECTIONAL ARROWS; XX INDICATES FIXTURE TYPE, TERMINATE TO LINE-SIDE OF RESPECTIVE LIGHTING CIRCUIT FEEDING
	ENCLOSED CIRCUIT BREAKER FLOOR MOUNTED UNISTRUT STAND, REFER TO DETAIL	TVAX	VIDEO/AUDIO DISTRIBUTION OUTLET, REFER TO DETAIL	×× ⊗I	AREA WHERE FIXTURE IS LOCATED. EXIT LIGHTS MAY BE CEILING MOUNTED WHEN CEILING IS 10' AFF OR LESS. WHEN CEILING HEIGHT IS MORE THAN 10' AFF, WALL
e	ROOF MOUNTED GALVANIZED UNISTRUT STAND, MOUNTED TO STRUCTURE,	TV	TELEVISION DISTRIBUTION OUTLET, REFER TO DETAIL		MOUNT ABOVE FINISHED DOOR FRAME UNIVERSAL MOUNT EXIT LIGHT/EMERGENCY LIGHT COMBO WITH NO DIRECTIONAL
		- 	CONTINUOUS CENTER HUNG RAIL/RUNG ALUMINUM CABLE TRAY	×x⊿ ⊗	ARROWS. XX INDICATES FIXTURE TYPE, TERMINATE TO LINE-SIDE OF RESPECTIVE LIGHTING CIRCUIT FEEDING AREA WHERE FIXTURE IS LOCATED. EXIT LIGHTS MAY BE
	MOTOR CONTROL CENTER MOTOR GROUND BUS	[—] .	EMT SYSTEMS TEL/COM SLEEVE, PROVIDE WITH ARLINGTON INDUSTRIES EMT BUSHING AND FIRE STOP AT EACH END. X INDICATES INSIDE DIAMETER OF SLEEVE, (Y) INDICATES QUANTITY	XX •	CEILING MOUNTED WHEN CEILING IS 10' AFF OR LESS. WHEN CEILING HEIGHT IS MORE THAN 10' AFF, WALL MOUNT 16" ABOVE FINISHED DOOR FRAME ARM MOUNT SITE LIGHTING; XX INDICATES FIXTURE TYPE
○ —○ ● ^{XX}	TWISTLOCK RECEPTACLE; XX INDICATES REQUIRED AMPERAGE CONFIGURATION SHALL MATCH CORD SET OF EQUIPMENT BEING PROVIDED	X(Y) ⊗	SAME AS ABOVE ONLY VERTICAL FROM LOWER LEVEL ACCESSIBLE CEILING CAVITY OR STRUCTURE TO UPPER LEVEL ACCESSIBLE CEILING	×x •	POST TOP MOUNT SITE LIGHTING; XX INDICATES FIXTURE TYPE
۵ ^{XX}	SPECIAL PURPOSE RECEPTACLE; XX INDICATES REQUIRED AMPERAGE, NEMA CONFIGURATION SHALL MATCH CORD SET OF EQUIPMENT BEING PROVIDED	••	CAVITY OR STRUCTURE OPEN RELAY STYLE TEL/COM RACK	XX Q	GROUND OR IN-GROUND MOUNTED LUMINAIRE XX INDICATES FIXTURE TYPE, a INDICATES SWITCH LEG
14 M	EXISTING RECEPTACLE		SHULK ENGLOSED WITH EDONT AND DAOK LOOKING DOOD TEL (OOM DAOK	\$P	120 OR 277 VOLT MANUAL MOTOR STARTER SWITCH WITH PILOT LIGHT AND THERMAL OVERLOAD PROTECTION
\$Å	NEW DEVICE AS NOTED WITHIN EXISTING ROUGH-IN AND TERMINATED TO EXISTING BRANCH CIRCUIT		FULLY ENCLOSED WITH FRONT AND BACK LOCKING DOOR TEL/COM RACK	\$a	120-277 VOLT, SINGLE POLE, 20 AMPERE AC SWITCH
Ф	120 VOLT, 20 AMPERE DUPLEX RECEPTACLE. MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED		SLIDE-OUT/ ROTATING STYLE TEL/COM RACK	\$ _a \$ _b	120-277 VOLT, SINGLE POLE, 20 AMPERE AC SWITCHES. "ab" INDICATES OUTBOARD LAMPS TO BE ON SWITCH "a" AND INBOARD LAMP(S) TO BE ON SWITCH "b"
Φ	120 VOLT, 20 AMPERE SINGLE RECEPTACLE. MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	WP	"WP" INDICATES WEATHERPROOF DEVICE	\$ ²	120-277 VOLT, DOUBLE POLE, 20 AMPERE AC SWITCH
^{ie} ΦΦ ^{ie}	120 VOLT, 20 AMPERE ISOLATED GROUND SINGLE OR DUPLEX RECEPTACLE MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. EACH RECEPTACLE SHALL HAVE A DEDICATED GROUNDING CONDUCTOR TERMINATED	WG	WG" INDICATES WIRE GUARDED DEVICE, EXTERIOR WIRE GUARDS SHALL BE STAINLESS STEEL	\$ ³	120-277 VOLT, THREE WAY, 20 AMPERE AC SWITCH
	TO ISOLATED GROUND BUS	SP	SCRAMBLE PAD	\$ ⁴	120-277 VOLT, FOUR WAY, 20 AMPERE AC SWITCH
₩ Φ	120 VOLT, 20 AMPERE DOUBLE DUPLEX RECEPTACLE, MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	$\langle M \rangle$	DOOR MONITOR	\$D	120-277 VOLT, 60 Hz, SINGLE POLE DIMMER SWITCH. PROVIDE 0-10V DIMMING UNLESS OTHERWISE NOTED
\	120 VOLT, 20 AMPERE DUPLEX RECEPTACLE. MOUNT HORIZONTAL WITHIN CASEWORK TOE-KICK, REFER TO DETAIL		CCTV CAMERA	\$ ^ĸ	120-277 VOLT, KEY OPERATED, 20 AMPERE AC SWITCH
ቑቑ	120 VOLT, 20 AMPERE DUPLEX OR SINGLE RECEPTACLE. MOUNT AT 44 INCHES ABOVE FINISHED FLOOR OR 4 INCHES ABOVE CASEWORK/COUNTER, OR 2 INCHES		CCTV CAMERA	\$ ^M	120-277 VOLT, MOMENTARY CONTACT, 20 AMPERE AC SWITCH
	ABOVE CASEWORK/COUNTER WITH BACKSPLASH 120 VOLT, 20 AMPERE DUPLEX RECEPTACLE WITH BUILT IN SURGE	\triangleleft	CCTV CAMERA	\$P + S	120-277 VOLT, 20 AMPERE AC SWITCH WITH PILOT LIGHT
¢s	SUPPRESSION. MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	N	DOME LIGHT NURSE CALL-PATIENT STATION	\$ ^s	SPECIAL PURPOSE SWITCH
	ELECTRIC CORD AND CABLE REEL, REFER TO DETAIL.	2 (N)	DOME LIGHT (DOUBLE)	\$ _{cb}	20A/1P CIRCUIT BREAKER IN A NEMA 1 LOCKABLE ENCLOSURE
Фт	120 VOLT, 20 AMPERE TAMPERPROOF DUPLEX RECEPTACLE. MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	~{N}E N ^S	NURSE CALL-EMERGENCY STATION NURSE CALL-STAFF	OS × y	CEILING MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY 'x' AND 'y' INDICATE SWITCH LEG, REFER TO OCCUPANCY SCHEDULE
⊕ _{EMC}	120 VOLT, 20 AMPERE SINGLE RECEPTACLE FOR ELECTRIC WATER COOLER.		NURSE CALL-STAFF	os	CEILING MOUNTED HALL/CORRIDOR OCCUPANCY SENSOR, DUAL TECHNOLOGY 'x' AND 'y' INDICATE SWITCH LEG, REFER TO OCCUPANCY SCHEDULE
Ψc ተ	MOUNT SO RECEPTACLE IS CONCEALED BEHIND WATER COOLER COVER 120 VOLT, 20 AMPERE DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT	 -++	NORMALLY OPEN CONTACTS	×y ~ (VC) → ×y	CEILING MOUNTED VACANCY SENSOR, DUAL TECHNOLOGY, WITH BMS TERMINATIONS 'x' AND 'y' INDICATE SWITCH LEG, REFER TO DETAIL
Φ°	INTERRUPTER. MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	-₩ □	NORMALLY CLOSED CONTACTS DUCT MOUNTED SMOKE DETECTOR WALL MOUNTED REMOTE INDICATOR LABELED BY		WALL MOUNTED LARGE AREA OCCUPANCY SENSOR, DUAL TECHNOLOGY 'x' AND 'y' INDICATE SWITCH LEG, REFER TO OCCUPANCY SCHEDULE
Ф	120 VOLT, 20 AMPERE DUPLEX RECEPTACLE WITH USB CHARGER PORTS. MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	RI	UNIT AND DUCT FUNCTION	<f sp<="" td=""><td>FIRE ALARM SPEAKER/STROBE FOR VOICE SYSTEM. MOUNT AT 80 INCHES ABOVE FINISHED FLOOR</td></f>	FIRE ALARM SPEAKER/STROBE FOR VOICE SYSTEM. MOUNT AT 80 INCHES ABOVE FINISHED FLOOR
•	120 VOLT, 20 AMPERE DUPLEX RECEPTACLE ON OPTIONAL STANDBY CIRCUIT WITH USB CHARGER PORTS. MOUNT AT 16 INCHES ABOVE	RI C	SAME AS ABOVE, ONLY CEILING MOUNTED FIRE ALARM MAGNETIC OR SENTRONIC DOOR HOLD OPEN.	< F	ABOVE FINISHED FLOOR FIRE ALARM HORN/VISUAL. MOUNT AT 80 INCHES ABOVE FINISHED FLOOR
<i>њ</i>	FINISHED FLOOR UNLESS OTHERWISE NOTED 120 VOLT, 20 AMPERE DUPLEX RECEPTACLE ON OPTIONAL STANDBY CIRCUIT.	Н	COORDINATE WITH DOOR HARDWARE SCHEDULE. TRANSFORMER TO BE TERMINATED TO NEAREST UNSWITCHED 120V CIRCUIT AS REQUIRED		FIRE ALARM HORN. MOUNT AT 80 INCHES ABOVE FINISHED FLOOR
₩ P	MOUNT AT 16 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	FACP	FIRE ALARM CONTROL PANEL	< F V	FIRE ALARM VISUAL. MOUNT AT 80 INCHES ABOVE FINISHED FLOOR
Φ_{G}^{WP}	120 VOLT, 20 AMPERE DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER WITH HUBBELL #WP26MH COVER. MOUNT HORIZONTAL		FIRE ALARM ANNUNCIATOR	۲Ċ 	FIRE ALARM CEILING MOUNTED HORN/VISUAL
,. D	AT 24 INCHES ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED 120 VOLT, 20 AMPERE DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT	FAEP	FIRE ALARM EXTENDER PANEL, QUANTITY REQUIRED SHALL BE DETERMINED BY FIRE ALARM SYSTEM MANUFACTURER	F	MANUAL FIRE ALARM PULL STATION AND HORN/STROBE. MOUNT PULL STATION AT 44 INCHES AND HORN/STROBE AT 80 INCHES ABOVE FINISHED FLOOR
Φ _G	INTERRUPTER AND P & S (OR EQUAL) #WP26 STAINLESS STEEL COVER. MOUNT AT 24 INCHES ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED		FIRE ALARM POST INDICATOR VALVE, PROVIDE AND INSTALL SIGNAL MODULE AND TERMINATE TO FACP AS REQUIRED	F	MANUAL FIRE ALARM PULL STATION. MOUNT AT 44 INCHES ABOVE
LV-X,X	INDICATES SINGLE POLE CIRCUITS	T F X	FIRE SUPPRESSION SYSTEM TAMPER AND FLOW SWITCH	(F)	FINISHED FLOOR FIRE ALARM SMOKE DAMPER. MOUNT DUCT DETECTOR NEAR DAMPER, AND
LV-X(X) LV-X(X,X)	INDICATES TWO POLE CIRCUITS INDICATES THREE POLE CIRCUITS	a N	FIRE SUPPRESSION SYSTEM BELL	∨ _{SD}	INTERFACE WITH ACTUATOR AS REQUIRED.
	SURFACE RACEWAY MOUNTED DEVICE, REFER TO DETAILS FOR REQUIRED	Ē	WALL MOUNTED DUAL-FACE CLOCK	В	FIRE ALARM CEILING/STRUCTURE MOUNTED BEAM DETECTOR AND REFLECTOR
-	SURFACE RACEWAY - WHERE HATCHED RECTANGLE SYMBOL IS NOT SHOWN FOR DEVICE LOCATED ON AN EXISTING WALL, SURFACE MOUNTED CONDUIT IS	ΗĊ	WALL MOUNTED CLOCK	€ _T	FIRE ALARM CEILING MOUNTED THERMAL DETECTOR
	ACCEPTABLE FOR LOCATION DEVICE OR BRANCH CIRCUIT FEED THAT SHALL BE CUT-IN OR SLOTTED INTO	() ()	REFER TO JUNCTION BOX SCHEDULE JUNCTION BOX AS REQUIRED FOR ROUGH-IN OR TERMINATION WHEN NOT SPECIFIED	(F) _S	FIRE ALARM CEILING MOUNTED SMOKE DETECTOR
▼	EXISTING SURFACE. WHERE INDICATED ADJACENT TO UNOCCUPIED AREAS, SURFAC CONDUIT MAY BE INSTALLED AND FED THRU WALL INTO BACK OF THE SURFACE D	Е Ú	SENSION DOW NO REQUIRED FOR ROOM IN ON TERMINATION WHEN NOT SPECIFIED	(F) _S ^{CM}	CONTROL MODULE
\frown	HOME RUN TO PANELBOARD			(F) _S	FIRE ALARM CEILING MOUNTED SMOKE DETECTOR WITH LOW FREQUENCY SOUNDER
	UNDER SLAB OR UNDERGROUND HOME RUN TO PANELBOARD			F	FIRE ALARM DUCT MOUNTED SMOKE DETECTOR. QUANTITY AND INSTALLATION POSITION SHALL BE FIELD DETERMINED BY FINAL DUCT CONFIGURATION AND MANUFACTURER'S REQUIREMENTS
· · · · · · · · · · · · · · · · · · ·	BRANCH CIRCUIT UNDER SLAB OR UNDERGROUND BRANCH CIRCUIT				

	ELECTRICAL S	PECIFI	CATIONS
	CAL COSTS SHALL CONSIST OF REQUIRED LABOR A ED ON THESE DRAWINGS.	ND MATERIAL	TO COMPLETELY INSTALL ELECTRICAL WORK AS
THE EN	TIRE INSTALLATION SHALL CONFORM TO THE LATES' CAL CODES.	T VERSION OF	THE NATIONAL ELECTRICAL CODE AND ALL STATE
	TIRE ELECTRICAL SYSTEM SHALL BE GROUNDED IN /	ACCORDANCE	WITH THE NATIONAL ELECTRICAL CODE.
	TALS SHALL BE FORWARDED TO THE ENGINEER FOR		
CONDUIT	T, CONDUIT FITTINGS, WIRE, BOXES, WIRING DEVICES, RS, SAFETY SWITCHES, AND UNISTRUT.		
STEEL C EXPOSE COATS	T SHALL BE EMT OR RIGID GALVANIZED CONDUIT (R CONSTRUCTION WITH INSULATED THROAT, DIE CAST D CONDUITS SHALL BE RGC, EXTERIOR RGC SHALL OF GALVANIZED SPRAY. UNDER-SLAB, UNDERGRO CONCRETE ENCASEMENT) MAY BE PVC WITH RGC 90	FITTINGS ÅRE HAVE EXPOSE UND BENEATH	NOT ACCEPTABLE. PANEL FEEDERS AND EXTERIO D THREADS DEGREASED AND SPRAYED WITH (2) GRASS, AND UNDERGROUND BENEATH PAVEMENT
NON-ME	TALLIC SHEATH, AC, OR MC CABLE ARE NOT APPR	OVED WIRING	METHODS ON THIS PROJECT.
BE WET NSULAT	RE SHALL BE COPPER WITH TYPE THW, THHN, THWN LOCATION RATED. ALL CONDUCTORS SHALL HAVE TION TO READILY IDENTIFY IT AS A SPECIFIC PHASE ALONG IT'S ENTIRE LENGTH.	FACTORY AP	PLIED COLOR THE ENTIRE LENGTH OF THE
ALL BOX	XES SHALL BE PRESSED STEEL, SINGLE PIECE (NON	-GANGABLE)	TYPE.
	VICE COVER PLATES SHALL BE STAINLESS STEEL.		
IARKER	VER PLATES FOR DEVICES AND JUNCTION BOXES SH R, DEVICE COVERS SHALL BE LABELED ON THE BACK	K, JUNCTION E	BOX COVERS SHALL BE LABELED ON THE FRONT.
	ACLES SHALL BE 120 VOLT, 20A, WITH PART NUMB SHALL BE CHOSEN BY ARCHITECT.		D BY HUBBELL OR EQUAL BY COOPER, OR P&S.
	SINGLE RECEPTACLE #HBL5361> DUPLEX RECEPTACLE #HBL5352> GFCI RECEPTACLE #GF5352X		
	ES SHALL BE 120/277V, 20A, WITH PART NUMBERS SHALL BE CHOSEN BY ARCHITECT.	AS LISTED B	Y HUBBELL OR EQUAL BY COOPER, OR P&S.
	SINGLE POLE #HBL1221 THREE WAY #HBL1223 FOUR WAY #HBL1224 (ADD "L" SUFFIX FOR KEYED LOCH	KING TYPE)	
JGHT F	IXTURES SHALL BE AS SCHEDULED, WITH ONLY PRE	-APPROVED E	QUAL FIXTURES ACCEPTABLE.
ANELB	OARDS, MOTOR STARTERS, SAFETY SWITCHES (HEAN ENS, OR CUTLER HAMMER. ALL BUS SHALL BE CO	/Y DUTY), ETC	., SHALL BE AS MANUFACTURED BY G.E., SQUARE
OMPLIT		IDED IN EACH	PANELBOARD.
	ER GENERATED CIRCUIT SCHEDULE SHALL BE PROV		
ALL EQU	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W	ALLS SHALL B	
ALL EQU FROM W	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W		E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8'
ALL EQU FROM W EXTERIO	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ /ALL.	S SPRAYED W	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8' TH (2) COATS OF GALVANIZED SPRAY.
ALL EQU FROM W EXTERIO	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ /ALL. /R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS	S SPRAYED W	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8' TH (2) COATS OF GALVANIZED SPRAY.
ALL EQU FROM W EXTERIO	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ /ALL. /R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS	S SPRAYED W	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY.
ALL EQU ROM W XTERIO	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ /ALL. /R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS	S SPRAYED WI STAINLESS STI	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED.
ALL EQU ROM W EXTERIO EXTERIO DTE	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ /ALL. /R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS /R CONDUIT SUPPORTS AND FASTENERS SHALL BE :	S SPRAYED WI STAINLESS STI	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED.
ALL EQU TROM W EXTERIO EXTERIO EXTERIO OTE NO.	UIPMENT THAT IS TO BE MOUNTED ON MASONRY WATALL. WR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS WR CONDUIT SUPPORTS AND FASTENERS SHALL BE WER CONDUIT AND CO	S SPRAYED WI STAINLESS STI NDUC	e mounted on a 12ga. UNISTRUT at least 7/8 Th (2) coats of galvanized spray. Eel or hot-dipped galvanized. TORS SCHEDULE (CU)
ALL EQU TROM W EXTERIO EXTERIO EXTERIO OTE NO.	UIPMENT THAT IS TO BE MOUNTED ON MASONRY WATALL. WR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS WR CONDUIT SUPPORTS AND FASTENERS SHALL BE OWER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND	S SPRAYED WI STAINLESS STI NDUC NOTE NO.	e mounted on a 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND
ALL EQU ROM W EXTERIO EXTERIO EXTERIO OTE NO.	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WAALL. WR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS WR CONDUIT SUPPORTS AND FASTENERS SHALL BE OWER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10	S SPRAYED WI STAINLESS STI NDUC NOTE NO. (28)	e mounted on a 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4
ALL EQU ROM W EXTERIO EXTERIO EXTERIO OTE NO. (1) (2) (3) (4)	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WAALL. WR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS WR CONDUIT SUPPORTS AND FASTENERS SHALL BE WER CONDUIT SUPPORTS AND FASTENERS SHALL BE CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 3-#10, 1-#10	S SPRAYED WI STAINLESS STI NDUC NOTE NO. (28) (29)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4
PC OTE NO. (1) (2) (4) (5)	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WAALL. IN UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS IN CONDUIT SUPPORTS AND FASTENERS SHALL BE OWER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 4-#10, 1-#10	S SPRAYED WI STAINLESS STI NOTE NO. (28) (29) (30) (31) (32)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3
PC OTE NO. (1) (2) (3) (4) (5) (6)	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. IR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS IR CONDUIT SUPPORTS AND FASTENERS SHALL BE OWER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 2-#8, 1-#10 3/4"C, 2-#8, 1-#10 1"C, 4-#8, 1-#10	S SPRAYED WI STAINLESS STI NDUC NOTE NO. (28) (29) (30) (31)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3
PC OTE NO. (1) (2) (3) (4) (5) (6) (7) (1) (2) (3) (4) (5) (6) (7) (1) (1) (2) (3) (4) (5) (6) (7) (1) (1) (1) (2) (1) (2) (3) (1) (2) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (1) (3) (3) (3) (3) (3) (3) (3) (3	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. IR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS IR CONDUIT SUPPORTS AND FASTENERS SHALL BE OWER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 3-#10, 1-#10 3/4"C, 2-#8, 1-#10 1"C, 2-#6, 1-#8	S SPRAYED WI STAINLESS ST NOTE NO. (28) (29) (30) (31) (32) (33) (33) (34)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 3-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2)
PC OTE VO. (1) (2) (3) (4) (5) (6) (7) (8)	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE OWEER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 3-#10, 1-#10 3/4"C, 2-#8, 1-#10 1"C, 2-#8, 1-#10 1"C, 2-#6, 1-#8 1"C, 3-#6, 1-#8	S SPRAYED WI STAINLESS ST NDUC NOTE NO. (28) (29) (30) (31) (32) (33) (33) (34) (35)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 3-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2)
ALL EQU ROM W IXTERIO IXTERIO OTE VO. 1 2 3 4 5 6 7 8 9	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. AR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS AR CONDUIT SUPPORTS AND FASTENERS SHALL BE OWEER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 2-#8, 1-#10 3/4"C, 2-#8, 1-#10 1"C, 4-#8, 1-#10 1"C, 2-#6, 1-#8 1 1/4"C, 4-#6, 1-#8	S SPRAYED WI STAINLESS ST NDUC NOTE NO. (28) (29) (30) (31) (32) (33) (33) (33) (33) (33) (34) (35) (35) (36)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2)
ALL EQU ROM W EXTERIO EXTERIO EXTERIO OTE NO. (1) (2) (3) (1) (2) (3) (3) (4) (5) (6) (5) (6) (7) (8) (9) (9) (10)	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 1	S SPRAYED WI STAINLESS ST NDUC NOTE NO. (29) (30) (31) (32) (33) (33) (33) (33) (34) (35) (35) (36) (37)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#2)
	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 1	S SPRAYED WI STAINLESS ST NDUC NOTE NO. (28) (29) (30) (30) (31) (32) (33) (33) (33) (33) (33) (33) (33	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1)
ALL EQU ROM W IXTERIO IXTERIO IXTERIO IXTERIO OTE VO. 1 2 3 4 3 4 5 6 6 7 8 6 7 8 9 10 11 12	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE OWEER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 3-#10, 1-#10 3/4"C, 2-#8, 1-#10 3/4"C, 3-#8, 1-#10 1"C, 2-#6, 1-#8 1 1/4"C, 3-#6, 1-#8 1 1/4"C, 4-#4, 1-#8 1 1/4"C, 3-#3, 1-#8	S SPRAYED WI STAINLESS STI NOTE NO. 28 29 30 31 32 33 33 33 33 33 35 36 37 38 39	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1)
ALL EQU ROM W IXTERIO IXTERIO IXTERIO OTE 10 (1) (2) (3) (4) (5) (6) (7) (6) (7) (6) (7) (8) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE OWEER CONDUIT AND CO CONDUIT, CONDUCTORS, GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 3-#10, 1-#10 3/4"C, 3-#8, 1-#10 3/4"C, 3-#8, 1-#10 1"C, 4-#8, 1-#10 1"C, 4-#8, 1-#10 1"C, 2-#6, 1-#8 1 1/4"C, 4-#6, 1-#8 1 1/4"C, 3-#4, 1-#8 1 1/4"C, 3-#3, 1-#8 1 1/4"C, 4-#3, 1-#8	S SPRAYED WI STAINLESS STI NOTE NO. 28 29 30 31 32 33 33 34 35 36 37 38 39 40	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0)
ALL EQU ROM W IXTERIO IXTERIO IXTERIO OTE NO. (1) (2) (3) (4) (3) (4) (5) (6) (7) (3) (4) (5) (6) (7) (7) (8) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 1 EXAMPL 	S SPRAYED WI STAINLESS STI NOTE NO. 28 29 30 31 32 33 34 35 36 37 38 39 40 41	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 4-#500KcMil, 1-#1/0)
ALL EQU ROM W XTERIO XTERIO XTERIO OTE 10 10 10 10 11 12 13 14 15	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 CONDUCTORS, GROUND $3/4^{\circ}C$, 2-#10, 1-#10 $3/4^{\circ}C$, 2-#10, 1-#10 $3/4^{\circ}C$, 2-#8, 1-#10 $3/4^{\circ}C$, 2-#8, 1-#10 $3/4^{\circ}C$, 2-#8, 1-#10 $1^{\circ}C$, 4-#8, 1-#10 $1^{\circ}C$, 2-#6, 1-#8 $1^{\circ}C$, 3-#6, 1-#8 $1^{\circ}C$, 3-#6, 1-#8 $1^{\circ}A^{\circ}C$, 3-#4, 1-#8 $1^{\circ}A^{\circ}C$, 3-#3, 1-#8 $1^{\circ}A^{\circ}C$, 3-#2, 1-#6 $1^{\circ}A^{\circ}C$, 4-#2, 1-#6	S SPRAYED WI STAINLESS STI NOTE NO. (28) (29) (30) (31) (32) (33) (32) (33) (32) (33) (32) (33) (32) (33) (32) (33) (32) (33) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0)
ALL EQU ROM W IXTERIO IXTERIO IXTERIO OTE VO. 1 2 3 4 5 6 6 7 6 6 7 8 9 10 11 12 13 10 11 12 13 14 15 15	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 	S SPRAYED WI STAINLESS STI NOTE NO. 28 29 30 31 32 33 33 33 35 35 35 35 35 35 36 37 38 39 40 41 42 43	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 4-#600KcMil, 1-#1/0)
ALL EQU ROM W EXTERIO EXTERIO EXTERIO OTE NO. (1) (2) (3) (4) (3) (4) (5) (6) (7) (3) (4) (3) (4) (5) (6) (7) (6) (7) (7) (8) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 CONDUCTORS, GROUND $3/4^{\circ}C$, 2-#10, 1-#10 $3/4^{\circ}C$, 2-#10, 1-#10 $3/4^{\circ}C$, 2-#8, 1-#10 $3/4^{\circ}C$, 2-#8, 1-#10 $3/4^{\circ}C$, 2-#8, 1-#10 $1^{\circ}C$, 4-#8, 1-#10 $1^{\circ}C$, 2-#6, 1-#8 $1^{\circ}C$, 3-#6, 1-#8 $1^{\circ}C$, 3-#6, 1-#8 $1^{\circ}A^{\circ}C$, 3-#4, 1-#8 $1^{\circ}A^{\circ}C$, 3-#3, 1-#8 $1^{\circ}A^{\circ}C$, 3-#2, 1-#6 $1^{\circ}A^{\circ}C$, 4-#2, 1-#6	S SPRAYED WI STAINLESS STI NOTE NO. (28) (29) (30) (31) (32) (33) (32) (33) (32) (33) (32) (33) (32) (33) (33) (34) (35) (35) (36) (37) (38) (39) (40) (41) (42) (43) (43) (44)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0)
ALL EQU ROM W EXTERIO EXTERIO EXTERIO OTE NO. (1) (2) (3) (4) (3) (4) (5) (6) (7) (3) (4) (5) (6) (7) (3) (4) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 	S SPRAYED WI STAINLESS STI NOTE NO. (28) (29) (30) (31) (32) (33) (33) (34) (35) (36) (35) (36) (35) (36) (35) (36) (37) (38) (39) (40) (40) (41) (42) (43) (43) (44) (44) (45)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 3-#350KcMil, 1-#1/0) 3 SETS OF (4"C, 3-#350KcMil, 1-#1/0) 3 SETS OF (4"C, 3-#350KcMil, 1-#1/0)
ALL EQU ROM W EXTERIO EXTERIO EXTERIO EXTERIO O TE VO. 1 2 3 4 3 4 5 5 6 7 3 4 5 6 7 6 7 6 7 6 7 8 8 9 9 10 11 12 13 12 10 11 12 13 14 15 15 16 17 17 18 19	JIPMENT THAT IS TO BE MOUNTED ON MASONRY W/ ALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 1 EXAMPL 	S SPRAYED WI STAINLESS STI NOTE NO. (28) (29) (30) (31) (32) (33) (33) (34) (35) (36) (35) (36) (37) (38) (39) (40) (40) (41) (42) (43) (43) (44) (43) (44) (45) (46)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 4-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 4-#350KcMil, 1-#1/0) 3 SETS OF (4"C, 4-#350KcMil, 1-#2/0)
ALL EQU ROM W EXTERIO EXTERIO EXTERIO EXTERIO EXTERIO IDTE NO. 1 2 3 4 5 6 7 8 9 10 10 10 10 10 10 10 10 10 10	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 (CONDUCTORS, GROUND $3/4^{*}C$, $2-\#10$, $1-\#10$ $3/4^{*}C$, $3-\#10$, $1-\#10$ $3/4^{*}C$, $3-\#10$, $1-\#10$ $3/4^{*}C$, $2-\#8$, $1-\#10$ $3/4^{*}C$, $2-\#8$, $1-\#10$ $3/4^{*}C$, $3-\#8$, $1-\#10$ $1^{*}C$, $2-\#8$, $1-\#10$ $1^{*}C$, $2-\#6$, $1-\#8$ $1^{*}C$, $3-\#6$, $1-\#8$ $1^{*}C$, $3-\#6$, $1-\#8$ $1^{*}C$, $3-\#6$, $1-\#8$ $1^{*}C$, $4-\#6$, $1-\#8$ $1^{*}C$, $4-\#6$, $1-\#8$ $1^{*}C$, $4-\#4$, $1-\#8$ $1^{*}C$, $4-\#4$, $1-\#8$ $1^{*}C$, $4-\#4$, $1-\#8$ $1^{*}C$, $4-\#3$, $1-\#8$ $1^{*}C$, $4-\#1$, $1-\#6$ $2^{*}C$, $4-\#1$, $1-\#6$ $2^{*}C$, $4-\#1$, $1-\#6$ $2^{*}C$, $4-\#1/0$, $1-\#6$	S SPRAYED WI STAINLESS STI NOTE NO. (28) (29) (30) (31) (32) (33) (33) (34) (35) (36) (35) (36) (35) (36) (37) (38) (39) (40) (40) (41) (42) (43) (43) (44) (44) (45)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 3-#600KcMil, 1-#2/0) 3 SETS OF (4"C, 3-#600KcMil, 1-#3/0)
ALL EQU ROM W EXTERIO EXTERIO EXTERIO EXTERIO EXTERIO OTE NO. 1 2 3 4 5 6 7 8 9 10 10 10 10 10 10 10 10 10 10	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. IR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS IR CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 CONDUCTORS, GROUND $3/4^{*}C$, 2-#10, 1-#10 $3/4^{*}C$, 2-#10, 1-#10 $3/4^{*}C$, 2-#8, 1-#10 $3/4^{*}C$, 2-#8, 1-#10 $3/4^{*}C$, 2-#8, 1-#10 $1^{*}C$, 2-#8, 1-#10 $1^{*}C$, 2-#8, 1-#10 $1^{*}C$, 2-#6, 1-#8 $1^{*}C$, 3-#6, 1-#8 $1^{*}C$, 3-#6, 1-#8 $1^{*}C$, 3-#6, 1-#8 $1^{*}C$, 3-#4, 1-#8 $1^{*}C$, 3-#4, 1-#8 $1^{*}C$, 3-#4, 1-#8 $1^{*}C$, 3-#3, 1-#8 $1^{*}C$, 3-#2, 1-#6 $1^{*}C$, 3-#1, 1-#6 $2^{*}C$, 3-#1/0, 1-#6 $2^{*}C$, 3-#2/0, 1-#6 $2^{*}C$, 3-#2/0, 1-#6	S SPRAYED WI STAINLESS STI NOTE NO. 28 29 30 31 32 33 340 35	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8' TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 3-#600KcMil, 1-#2/0) 3 SETS OF (4"C, 3-#600KcMil, 1-#3/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#3/0) 4 SETS OF (4"C, 4-#600KcMil, 1-#3/0) 3 SETS OF (4"C, 4-#60
ALL EQU ROM W EXTERIO EXTERIO EXTERIO EXTERIO EXTERIO OTE NO. 1 2 3 4 5 6 7 8 9 10 10 10 10 10 10 10 10 10 10	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. IR UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS IR CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 1 SWEER CONDUCTORS , GROUND 3/4"C, 2-#10, 1-#10 3/4"C, 2-#10, 1-#10 3/4"C, 2-#8, 1-#10 3/4"C, 2-#8, 1-#10 3/4"C, 2-#8, 1-#10 1"C, 4-#8, 1-#10 1"C, 2-#6, 1-#8 1 1/4"C, 3-#6, 1-#8 1 1/4"C, 3-#4, 1-#8 1 1/4"C, 3-#4, 1-#8 1 1/4"C, 4-#4, 1-#8 1 1/4"C, 4-#4, 1-#8 1 1/4"C, 4-#3, 1-#8 1 1/4"C, 4-#3, 1-#8 1 1/4"C, 4-#3, 1-#8 1 1/4"C, 3-#2, 1-#6 1 1/2"C, 3-#1, 1-#6 2"C, 4-#1, 1-#6 2"C, 4-#1/0, 1-#6 2"C, 4-#2/0, 1-#6	S SPRAYED WI STAINLESS STI NOTE NO. (29) (30) (30) (31) (31) (32) (33) (34) (35) (35) (36) (37) (38) (39) (40) (41) (42) (43) (41) (42) (43) (44) (45) (46) (45) (46) (47) (48)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8' TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORPS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#3/0) 3 SETS OF [4"C, 4-#600KcMil, 1-#3/0] 3 SETS OF [4"C, 4-#600KcMil, 1-#3/0] 4 SETS OF [4"C, 4-#600KcMil, 1-#3/0] 3 SETS OF [4"C, 4-#600KcMil, 1-#3/0] 4 SETS OF [4"C, 4-#600KcMil, 1-#3/0] 3 SETS OF [4"C, 4-#600KcMil, 0./(1) 4" SPARE]
ALL EQU ROM W EXTERIO EXTE	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 EXAMPLE 1	S SPRAYED WI STAINLESS STI NOTE NO. 28 29 30 31 32 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8' TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORS SCHEDULE (CU) 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 2 SETS OF (4"C, 3-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#3/0) 3 SETS OF [4"C, 4-#600KcMil, 1-#3/0) 3 SETS OF [4"C, 4-#600KcMil, 1-#3/0] 3 SETS OF [4"C, 4-#600KcMil, 0/(1) 4" SPARE] 3 SETS OF [4"C, 4-#600KcMil, W/(1) 4" SPARE]
ALL EQU ROM W EXTERIO EXTEX	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 CONDUCTORS, GROUND $3/4^{*}C$, 2-#10, 1-#10 $3/4^{*}C$, 2-#10, 1-#10 $3/4^{*}C$, 2-#8, 1-#10 $3/4^{*}C$, 2-#8, 1-#10 $3/4^{*}C$, 2-#8, 1-#10 $3/4^{*}C$, 2-#8, 1-#10 $1^{*}C$, 2-#6, 1-#8 $1^{*}C$, 3-#6, 1-#8 $1 1/4^{*}C$, 3-#4, 1-#8 $1 1/4^{*}C$, 3-#4, 1-#8 $1 1/4^{*}C$, 3-#4, 1-#8 $1 1/4^{*}C$, 3-#3, 1-#8 $1 1/4^{*}C$, 3-#4, 1-#8 $1 1/4^{*}C$, 3-#2, 1-#6 $1 1/2^{*}C$, 3-#1, 1-#6 $2^{*}C$, 3-#1/0, 1-#6 $2^{*}C$, 3-#2/0, 1-#6 $2^{*}C$, 3-#3/0, 1-#6 $2^{*}C$, 3-#3/0, 1-#6 $2^{*}C$, 3-#3/0, 1-#6 $2^{*}C$, 3-#3/0, 1-#6	S SPRAYED WI STAINLESS STI NOTE NO. (29) (30) (30) (31) (31) (32) (33) (34) (35) (35) (36) (37) (38) (39) (40) (41) (42) (43) (41) (42) (43) (44) (45) (46) (45) (46) (47) (48)	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8' TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) CONDUIT, CONDUCTORS, GROUND 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#250KcMil, 1-#2) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#350KcMil, 1-#1) 2 SETS OF (4"C, 4-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 4-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#2/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#3/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#3/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#3/0)
ALL EQU ROM W EXTERIO EXTEX	JIPMENT THAT IS TO BE MOUNTED ON MASONRY WALL. R UNISTRUT SHALL BE GALVANIZED WITH CUT ENDS R CONDUIT SUPPORTS AND FASTENERS SHALL BE EXAMPLE 1 (CONDUCTORS, GROUND $3/4^{\text{rc}}$, 2-#10, 1-#10 $3/4^{\text{rc}}$, 2-#10, 1-#10 $3/4^{\text{rc}}$, 2-#8, 1-#10 $3/4^{\text{rc}}$, 2-#8, 1-#10 1^{rc} , 4-#8, 1-#10 1^{rc} , 2-#6, 1-#8 1^{rc} , 3-#6, 1-#8 1^{rc} , 3-#6, 1-#8 1^{rc} , 3-#4, 1-#8 1^{rc} , 3-#4, 1-#8 1^{rc} , 3-#4, 1-#8 1^{rc} , 3-#3, 1-#8 1^{rc} , 3-#4, 1-#8 1^{rc} , 3-#2, 1-#6 1^{rc} , 3-#1, 1-#6 2^{rc} , 3-#1, 0, 1-#6 2^{rc} , 3-#2, 0, 1-#6 2^{rc} , 3-#3/0, 1-#6 2^{rc} , 3-#3/0, 1-#6 2^{rc} , 3-#3/0, 1-#6 2^{rc} , 3-#4/0, 1-#4	S SPRAYED WI STAINLESS STI NOTE NO. 28 29 30 33 340 35	E MOUNTED ON A 12ga. UNISTRUT AT LEAST 7/8 TH (2) COATS OF GALVANIZED SPRAY. EEL OR HOT-DIPPED GALVANIZED. TORRS SCHEEDULE (CU) 3"C, 3-#350KcMil, 1-#4 3"C, 4-#350KcMil, 1-#4 4"C, 3-#500KcMil, 1-#3 4"C, 4-#500KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 4"C, 4-#600KcMil, 1-#3 2 SETS OF (2 1/2"C, 3-#4/0, 1-#2) 2 SETS OF (2 1/2"C, 4-#4/0, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#250KcMil, 1-#2) 2 SETS OF (3"C, 3-#350KcMil, 1-#1) 2 SETS OF (3"C, 4-#500KcMil, 1-#1) 2 SETS OF (3"C, 4-#500KcMil, 1-#1) 2 SETS OF (4"C, 4-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 4-#500KcMil, 1-#1/0) 2 SETS OF (4"C, 4-#600KcMil, 1-#1/0) 3 SETS OF (4"C, 3-#600KcMil, 1-#3/0) 3 SETS OF (4"C, 4-#600KcMil, 1-#3/0) 4 SETS OF [4"C, 4-#600KcMil, W/(1) 4" SPARE] 4 SETS OF [4"C, 4-#600KcMil, W/(1) 4" SPARE]

	MOTOR CONTROLLER SCHEDULE											
STR TR.	EQPMNT.	ROOM		EQUIPMENT DATA			STARTER DATA POWER FACTOR					
NO.	SERVED	LOCATION	HP	FLA	VOLTS	PHASE	TYPE	NEMA SIZE	NEMA ENCL.	CAPACITOR KVAR	REMARKS	
MS-1	CT-1	-	20	27	480	3	FVNR	0	0	-	1,2,3,4,5,6	
2. CLASS 3. VOLTAG		D STATE OVER HASE FAILURE		5 6. Pl Y 7. 2-	C CAPACI		CONTAC	LIMITING CTS	FUSES /	CELL FUSED WITH AND BLOWN INDIC CAPACITY		

GENERAL ELECTRICAL NOTES

VERIFY ALL DIMENSIONS FROM THE ARCHITECTURAL PLANS.

DIMENSIONS SHOWN OR NOTED FOR OUTLET BOXES AND DEVICES SHALL BE TO THE BOTTOM OF THE BOX. COORDINATE LOCATION OF LIGHT FIXTURES IN AREAS OF MECHANICAL DUCTWORK AND PIPING WITH MECHANICAL CONTRACTOR. RELOCATE LIGHT FIXTURES, WIRING AND CONDUIT IF NECESSARY AS DIRECTED BY THE ARCHITECT/ENGINEER.

VERIFY LOCATION OF ALL BACK BOXES IN LABORATORY EQUIPMENT AND BUILT-IN FURNITURE WITH EQUIPMENT SUPPLIER BEFORE ROUGH-IN. CIRCUIT ARCS SHOWN FROM LIGHT SWITCH TO LIGHT SWITCH INDICATE BRANCH CIRCUIT FEED FOR POWER, SWITCH-LEG BRANCH BETWEEN FIXTURES AND INTERLOCK (TRAVELERS) BETWEEN SWITCHES SHALL BE AS REQUIRED.

VERIFY HEIGHT AND LOCATION OF RECEPTACLES BEHIND ELECTRIC WATER COOLERS WITH THE MECHANICAL CONTRACTOR BEFORE ROUGH-IN. THE ELECTRICAL DRAWINGS ARE FOR LAYOUT PURPOSES AND DIAGRAMMATIC IN NATURE. REFER TO THE ENTIRE CONSTRUCTION DRAWING SET AND SPECIFICATIONS FOR GUIDANCE ON DIMENSIONS, CEILING HEIGHTS, DOOR SWINGS,

ROOM FINISHES, STRUCTURAL DETAILS, LOCATIONS OF DUCTWORK, PIPING AND STRUCTURAL MEMBERS. INSTALL THE ELECTRICAL SYSTEMS SO AS NOT TO INTERFERE WITH THE INSTALLATION OR FUNCTION OF ANOTHER DISCIPLINES WORK. AT NO TIME SHALL A BACK-TO-BACK DEVICE BOX BE USED, DEVICES THAT APPEAR DIAGRAMATICALLY BACK-TO-BACK ON THE DRAWINGS SHALL BE ROUGHED-IN ON OPPOSITE SIDES OF A FRAMING MEMBER OR IN SEPARATE CMU CELLS. ALL DIMENSIONS OF EXISTING CONSTRUCTION ARE APPROXIMATE. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL NECESSARY FIELD MEASUREMENTS OF EXISTING STRUCTURES, AND EQUIPMENT TO VERIFY DIMENSIONS SHOWN ON THE DRAWINGS PRIOR TO BID. PROVIDE PROPER DIMENSIONS NOT SHOWN PRIOR TO EQUIPMENT FABRICATION. ALL COST FOR

MODIFICATIONS OF NEW CONSTRUCTION DUE TO LACK OF CONFIRMATION OF DIMENSIONS BY FIELD MEASUREMENTS SHALL BE BORNE BY THE ELECTRICAL CONTRACTOR. PROVIDE ADDITIONAL SUPPORT FOR SWITCHES, STARTERS, RACEWAY, GROUNDING SYSTEMS, AND OTHER ELECTRICAL EQUIPMENT WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING. PROVIDE FIRE STOPPING AROUND ALL ELECTRICAL COMPONENTS PENETRATING FIRE RATED WALLS, FLOORS OR CEILINGS.

STI SPECSEAL, 3M, OR HILTI FIRESTOP PRODUCTS SHALL BE INSTALLED PER MANUFACTURERS APPLICATION GUIDE, ALTERNATE MANUFACTURERS MUST RECEIVE ENGINEER'S PRIOR APPROVAL. COORDINATE ALL ELECTRICAL REQUIREMENTS FOR EQUIPMENT WIRING. ANY CHANGES REQUIRED DUE TO EQUIPMENT BEING SUPPLIED OTHER THAN WHAT IS SPECIFIED SHALL BE BORNE BY THE CONTRACTOR WHO INSTIGATED THE CHANGE. SIZING OF BRANCH CIRCUITS AND FEEDERS FOR EQUIPMENT IS BASED ON DESIGN LOADS. PRIOR TO INSTALLATION CONFIRM EXACT LOADS WITH RELEASED SHOP DRAWINGS. BRING DISCREPANCIES TO THE ENGINEER'S ATTENTION FOR

DESIGN CHANGES PRIOR TO ROUGH-IN. ALL BRANCH CIRCUITS SHALL BE WIRED WITH A MINIMUM OF 3/4"C, #12 PHASE CONDUCTOR, #12 GROUNDED (NEUTRAL) CONDUCTOR, AND A 1-#12 EQUIPMENT GROUNDING CONDUCTOR UNLESS NOTED OTHERWISE ON THE PLANS. MULTIWIRE BRANCH CIRCUITS, SHARING A SINGLE GROUNDED CONDUCTOR SHALL NOT BE USED.

WHERE CONDUIT AND WIRING HAS NOT BEEN SHOWN ON THE DRAWINGS THE ARRANGEMENT AND ROUTING OF LIGHTING AND RECEPTACLE BRANCH CIRCUITS WILL BE AT THE CONTRACTORS DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED GOOD PRACTICE, N.E.C. REQUIREMENTS AND THE FOLLOWING LIMITATIONS:

CIRCUIT

<u>LENGTH</u>

65 FEET

110 FEET 165 FEF1 270 FEET

EXCEPT WHERE NOTED OTHERWISE, SIZE BRANCH CIRCUIT CONDUCTORS WITHIN THE FOLLOWING MAXIMUM LENGTH LIMITS: (MEASURE TO THE CENTER OF THE LOAD FOR LIGHTING AND MOST REMOTE OUTLET FOR RECEPTACLE CIRCUITS).

> CIRCUIT <u>BREAKER</u> 120V, 20A

CONDUCTOR SIZE

PROVIDE #12 AWG MINIMUM FOR ALL 120 VOLT CIRCUITS. PROVIDE ADDITIONAL DERATING PER NEC TABLES 310.15(B)(2)(a) FOR ALL BRANCH CIRCUITS WITH MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A RACEWAY.

HVAC CONTROL WIRING SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR IN ACCORDANCE WITH SPECIFICATIONS UNLESS OTHERWISE NOTED. THE ELECTRICAL CONTRACTOR SHALL REVIEW ALL SPECIFICATION SECTIONS, EQUIPMENT SCHEDULES, AND/OR DETAILS THROUGHOUT DOCUMENTS THAT PERTAIN TO EQUIPMENT PROVIDED BY OTHERS AND INCLUDE ALL WIRING AND DEVICES

REFERENCED IN THEIR BIDS. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF THIS EQUIPMENT WITH RESPECTIVE CONTRACTOR PRIOR TO ROUGH-IN. ALL CONDUIT, BOXES, AND WIRING DEVICES IN ALL AREAS SHALL BE RAN IN CONCEALED SPACES OR RECESSED IN WALLS EXCEPT IN MECHANICAL/ELECTRICAL ROOMS OR WITH SPECIFIC PERMISSION FROM ARCHITECT/ENGINEER. WHERE PATCHING OF THE EXISTING BUILDING ROOF, FLOORS, WALLS AND/OR CEILINGS ARE REQUIRED TO COMPLETE ELECTRICAL CONSTRUCTION, AND NO RESTORATION IS CALLED FOR BY OTHER CONSTRUCTION TRADES WITHIN DOCUMENTS, THE ELECTRICAL CONTRACTOR SHALL BEAR ENTIRE COST FOR RESTORATION TO MATCH ADJACENT FINISHES. WORK SHALL BE PERFORMED BY PROPER CORRESPONDING ON-SITE CONTRACTOR AND PAID FOR BY ELECTRICAL CONTRACTOR, REFER TO ENTIRE SET OF DRAWINGS AND SPECIFICATIONS FOR COORDINATION. ELECTRICAL CONTRACTOR SHALL RELOCATE OR REMOVE ANY OR ALL EXISTING SERVICES, POLES, ETC., AS MAY BE REQUIRED TO ACCOMMODATE ANY NEW CONSTRUCTION, UNLESS OTHERWISE NOTED.

ALL WORK SHOWN ON THESE DOCUMENTS IS NEW AND BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. ALL EQUIPMENT AND MATERIALS SHALL BE UL LISTED AND LABELED FOR TYPE OF EQUIPMENT AND MATERIALS FOR WHICH LISTING AND LABELING IS AVAILABLE.

GENERAL CONDITIONS NOTE

ALL CONTRACTORS, BY MAKING THEIR BID, REPRESENT THAT THEY HAVE READ AND UNDERSTAND THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL REFER TO THE ENTIRE CONSTRUCTION DOCUMENT SET FOR GUIDANCE ON DIMENSIONS, HEIGHTS, DETAILING, ETC. AND INSTALL THEIR WORK SO AS NOT TO INTERFERE WITH THE INSTALLATION OF ANOTHER DISCIPLINE'S WORK OR THE GENERAL INTENT OF THE CONSTRUCTION DOCUMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE SPECIFICATIONS AND/ OR DRAWINGS, THE ARCHITECT SHALL DETERMINE WHICH INFORMATION **GOVERNS**

M/P/E TRADES NOTE: IN REFERRING TO THIS SHEET YOU ACKNOWLEDGE: 1.) REVIEWING THE ENTIRE DRAWING SET INCLUDING ALL 'S', 'C' & 'A' SERIES. 2.) COORDINATING WITH THE GENERAL TRADES CONTRACTOR OR C.M. FOR EXACT DETAILING, HEIGHTS, ETC. PRIOR TO

INSTALLING WORK.

FIRE ALARM DEVICES ARE SHOWN FOR QUANTITY AND GENERAL LOCATION, DEVICES MOUNTED ON CEILINGS AND/OR WALLS MAY REQUIRE UP TO A 24" LATERAL ADJUSTMENT TO AVOID INTERFERENCE WITH OTHER COMPONENTS (SPRINKLER HEADS, DIFFUSERS, LIGHT FIXTURES, DISPLAY WALLS, WHITE BOARDS, ETC.), ANY REQUIRED LATERAL ADJUSTMENT MUST BE BROUGHT TO THE ENGINEER'S ATTENTION AND BE DIRECTED BY THE ENGINEER.

GENERAL ELECTRICAL DEMOLITION NOTES

DASHED ELECTRICAL ITEMS WHICH INCLUDE BUT ARE NOT LIMITED TO: RECEPTACLES, SWITCHES, LIGHT FIXTURES, DISCONNECTS, MOTOR STARTERS, PANELS, OCCUPANCY SENSORS, SPEAKERS, FIRE ALARM DEVICES, AND DATA/VOICE OUTLETS INDICATE EXISTING ITEMS TO REMAIN. DASHED ELECTRICAL ITEMS WITH "R" SUBSCRIPT OR DEMO NOTE INDICATES EXISTING ELECTRICAL ITEMS TO BE REMOVED ALONG WITH ALL ASSOCIATED BACK BOXES, COVER PLATES, ASSOCIATED COMPONENTS, CONDUIT, CONDUCTORS, AND SUPPORTS BACK TO ORIGINATION, UNLESS OTHERWISE NOTED. EXISTING ELECTRICAL ITEMS NOT SLATED FOR REMOVAL, SHALL BE FULLY OPERATIONAL AT THE COMPLETION OF CONSTRUCTION. REROUTE AND/OR EXTEND CONDUIT AND CONDUCTORS AS REQUIRED.

EXISTING ELECTRICAL ITEMS INDICATED ON DRAWINGS ARE BELIEVED TO BE A REASONABLE REPRESENTATION OF ACTUAL BUILDING. FIELD VERIFY PRIOR TO BID FOR DETERMINATION OF EXACT QUANTITY AND LOCATION OF ELECTRICAL ITEMS THAT MAY NOT BE SHOWN. THESE DRAWINGS ARE INTENDED TO ONLY BE AN AID FOR BIDDING PURPOSES.

REMOVE ELECTRICAL ITEMS ALONG WITH CONDUIT AND CONDUCTORS FROM WALLS THAT ARE TO BE REMOVED.

REMOVE CONDUIT AND SURFACE RACEWAYS NO LONGER IN USE, CUT EMBEDDED CONDUIT FLUSH WITH EXISTING SURFACE AND FILL WITH NON-SHRINKING GROUT. WHERE CUTTING OF THE EXISTING BUILDING ROOF. FLOORS. WALLS AND/OR CEILINGS ARE REQUIRED TO COMPLETE

ELECTRICAL CONSTRUCTION, AND NO RESTORATION IS CALLED FOR BY OTHER CONSTRUCTION TRADES WITHIN DOCUMENTS. THE ELECTRICAL CONTRACTOR SHALL BEAR ENTIRE COST FOR RESTORATION TO MATCH ADJACENT FINISHES. WORK SHALL BE PERFORMED BY PROPER CORRESPONDING ON-SITE CONTRACTOR AND PAID FOR BY ELECTRICAL CONTRACTOR, REFER TO ENTIRE SET OF DRAWINGS AND SPECIFICATIONS FOR COORDINATION.

REMOVE ABANDONED JUNCTION/OUTLET BOXES IN WALLS, FLOORS, OR CEILINGS THAT ARE TO REMAIN. DISPOSE OF REMOVED ELECTRICAL COMPONENTS CONTAINING HAZARDOUS MATERIALS, PER EPA, LOCAL AND/OR STATE REQUIREMENTS.

OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL ITEMS REMOVED. DUE TO CONSTRUCTION PHASING, IT WILL BE NECESSARY TO REROUTE SOME EXISTING POWER FEEDERS AND BRANCH

CIRCUITS FOR POWER DISTRIBUTION SYSTEMS AND BRANCH CONDUIT AND CABLING FOR SPECIALTY SYSTEMS TO ALLOW FOR NEW CONSTRUCTION TO TAKE PLACE. IT WILL ALSO BE NECESSARY TO TEMPORARILY FEED NEW POWER DISTRIBUTION AND NEW SPECIALTY SYSTEMS FROM EXISTING, AND BACK-FEED EXISTING FROM NEW. SPECIALTY SYSTEMS INCLUDE BUT ARE NOT LIMITED TO FIRE ALARM SYSTEM, PA SYSTEM, CLOCK SYSTEM, ETC. PHASING SHALL BE COORDINATED WITH CONSTRUCTION MANAGER.

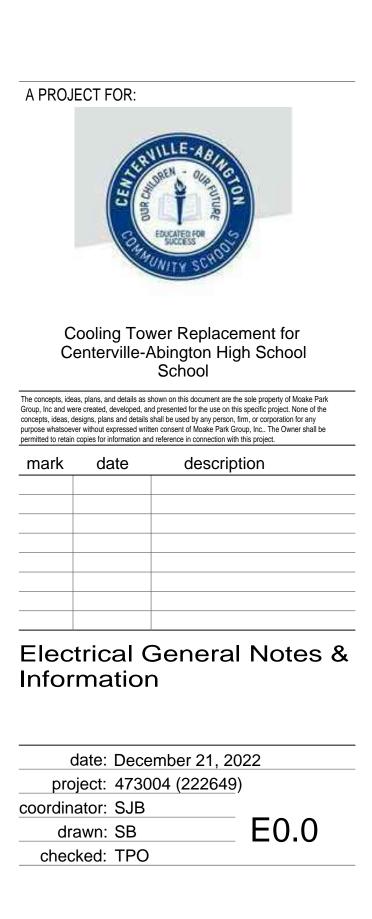
ANY EXISTING TO REMAIN RACEWAYS LOCATED ABOVE EXISTING CEILING SPACES, LOCATED IN EXISTING WALLS OR FLOORS WHICH ARE NOT DEPICTED ON DOCUMENTS, BUT ARE REQUIRED TO BE RELOCATED AS A PART OF THE OVERALL CONSTRUCTION, SHALL BE RELOCATED AS REQUIRED TO ACCOMMODATE OTHER TRADES.

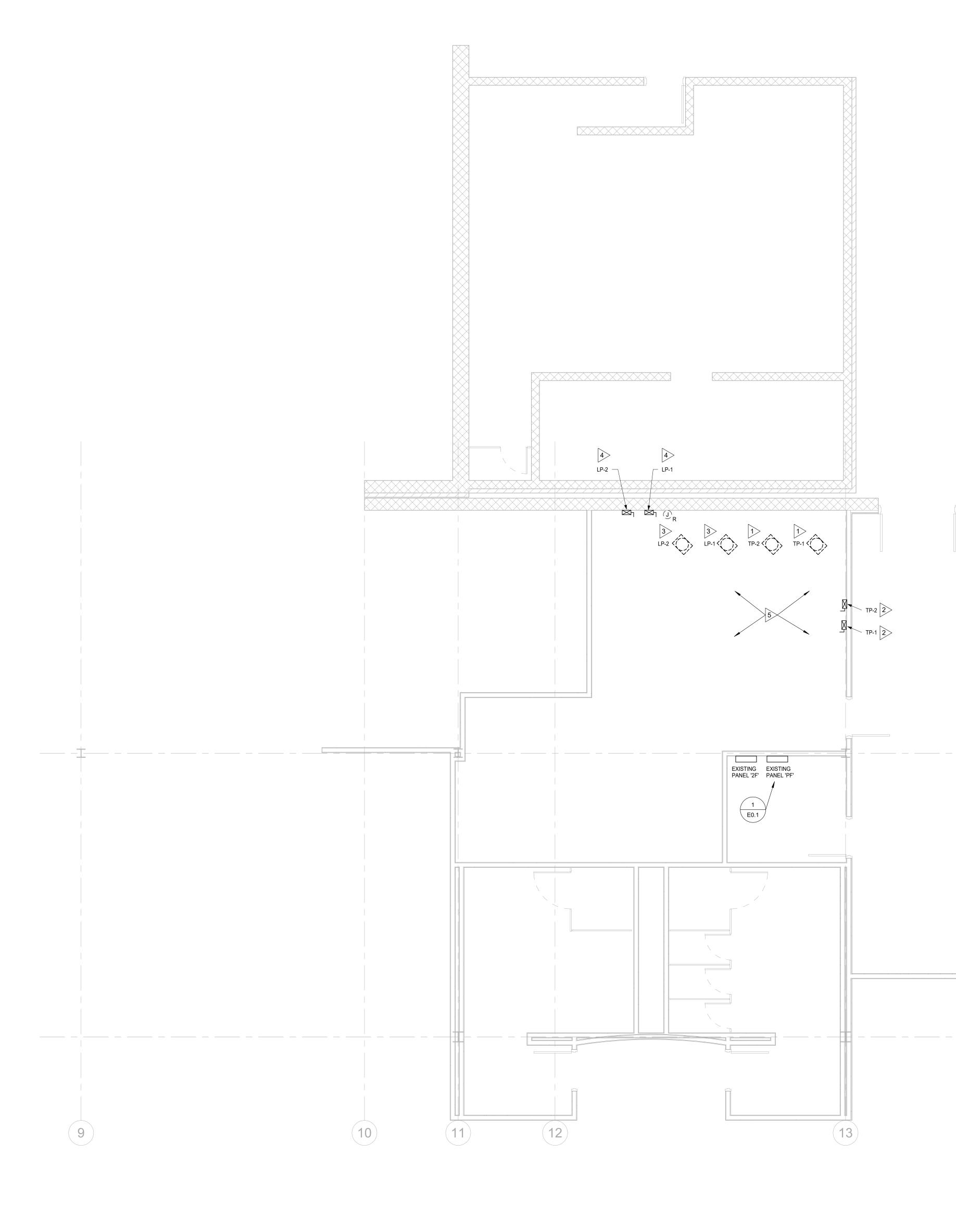


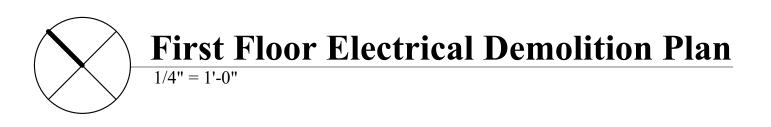


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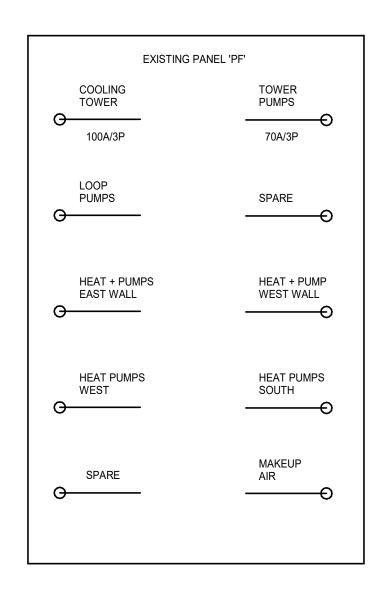




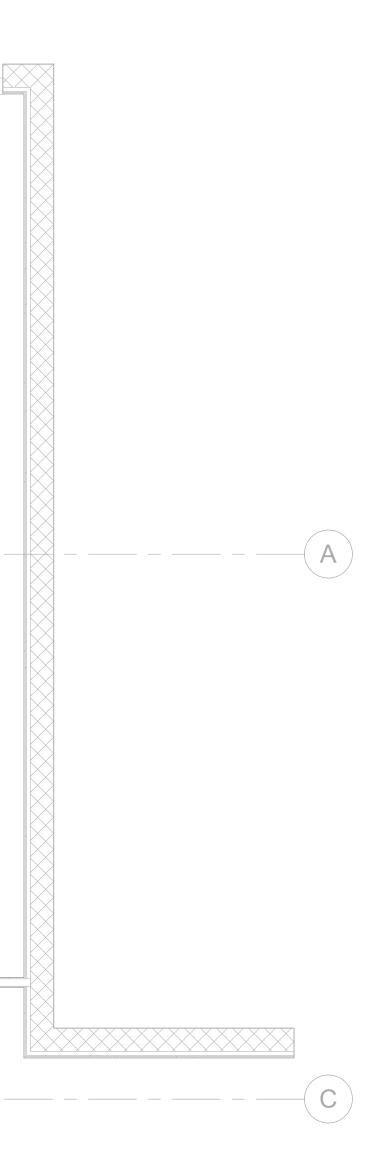


ELECTRICAL DEMOLITION PLAN NOTES

- EXISTING TP-1,2 PUMPS REMOVED BY OTHERS. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL CONDUIT AND CONDUCTORS BACK TO RESPECTIVE MOTOR STARTER.
- EXISTING TP-1,2 MOTOR STARTERS SHALL BE DISCONNECTED AND REMOVED. PREPARE EXISTING CONDUCTORS TO BE EXTENDED TO NEW PUMP VSD'S.
- ALTERNATE #2: EXISTING LP-1,2 PUMPS REMOVED BY OTHERS. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL CONDUIT AND CONDUCTORS BACK TO RESPECTIVE MOTOR STARTER.
- 4 ALTERNATE #2: EXISTING LP-1,2 MOTOR STARTERS SHALL BE DISCONNECTED AND REMOVED. PREPARE EXISTING CONDUCTORS TO BE EXTENDED TO NEW PUMP VSD'S.
- 5 EXISTING CONDUIT SUPPORTED ON CEILING FOR AII BRANCH CIRCUITS SHALL BE TEMPORARILY REMOVED FOR CEILING REINFORCEMENT. PREPARE AS REQUIRED FOR RE-INSTALLATION. COORDINATE ALL WORK WITH GENERAL CONTRACTOR. SEE STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.



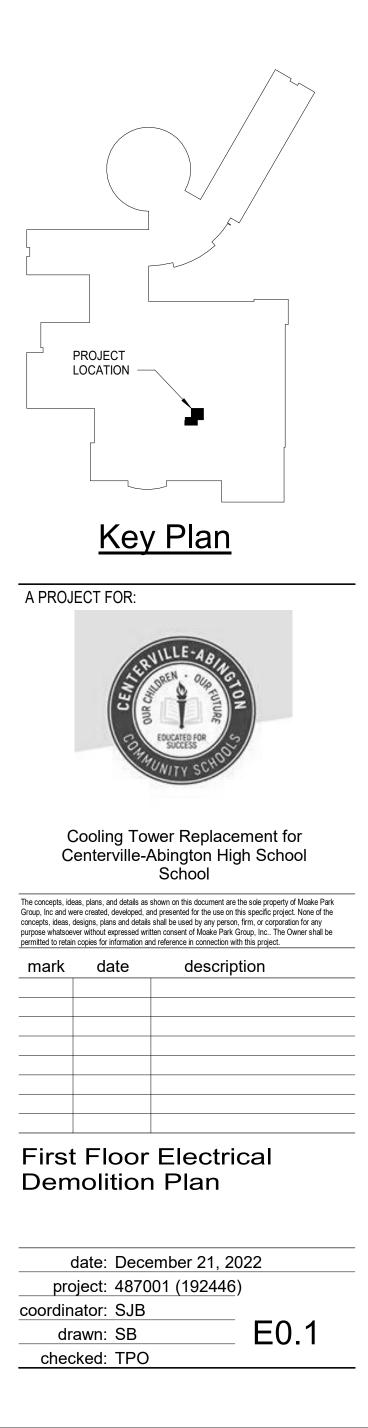


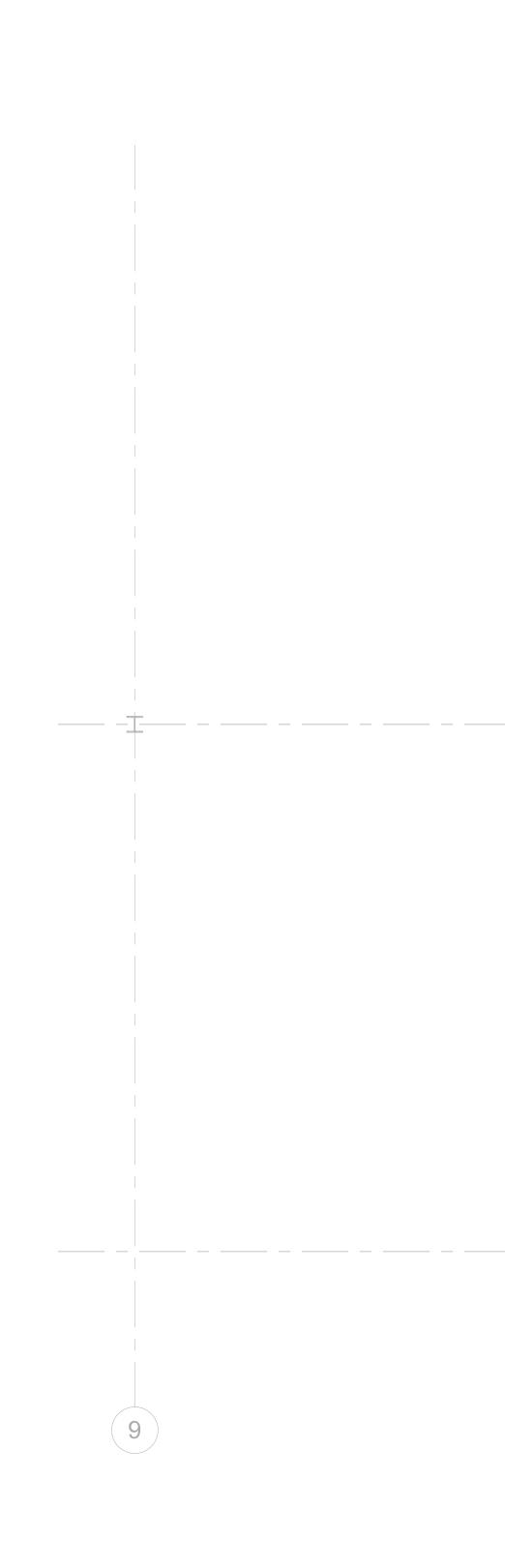


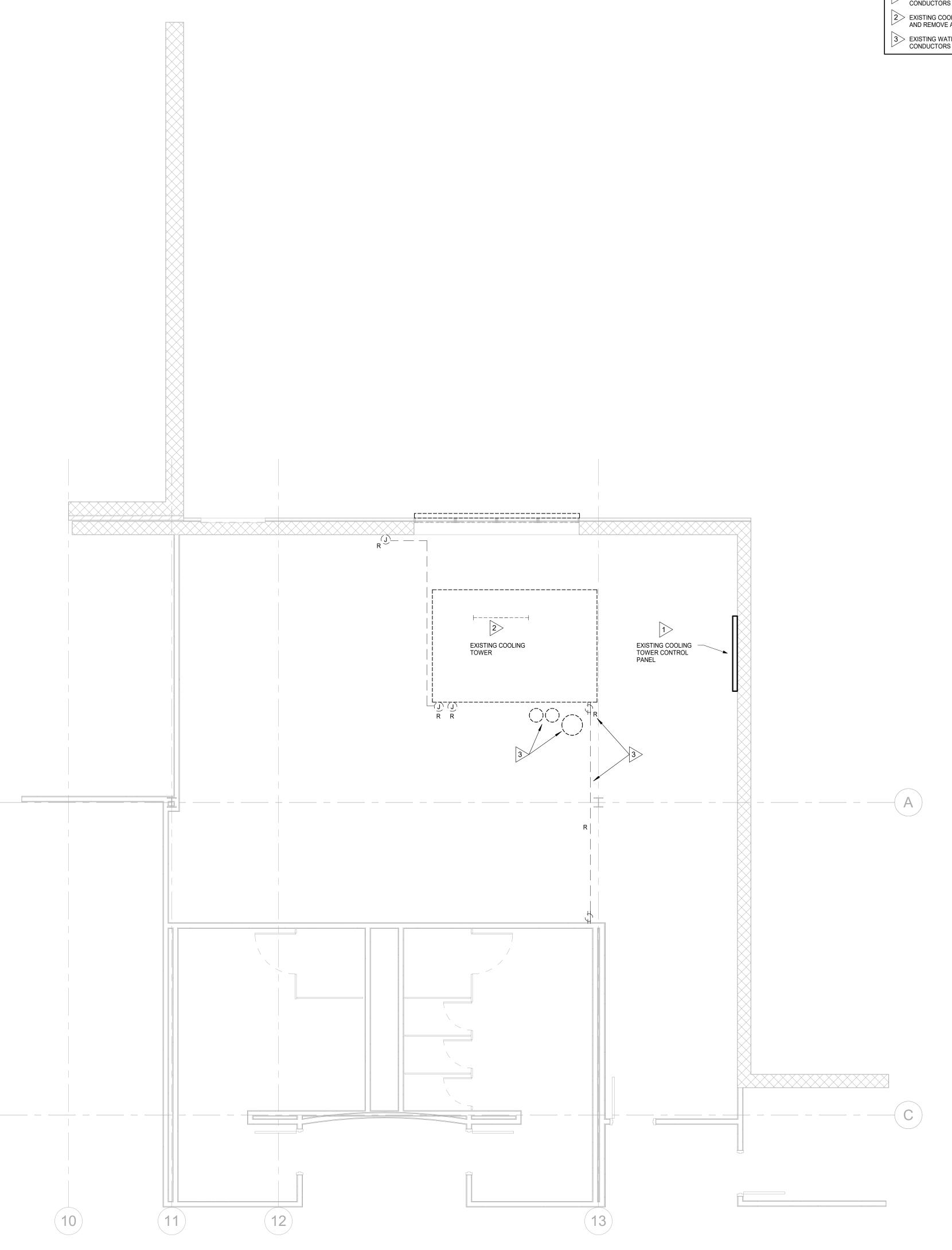
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Second Floor Electrical Demolition Plan

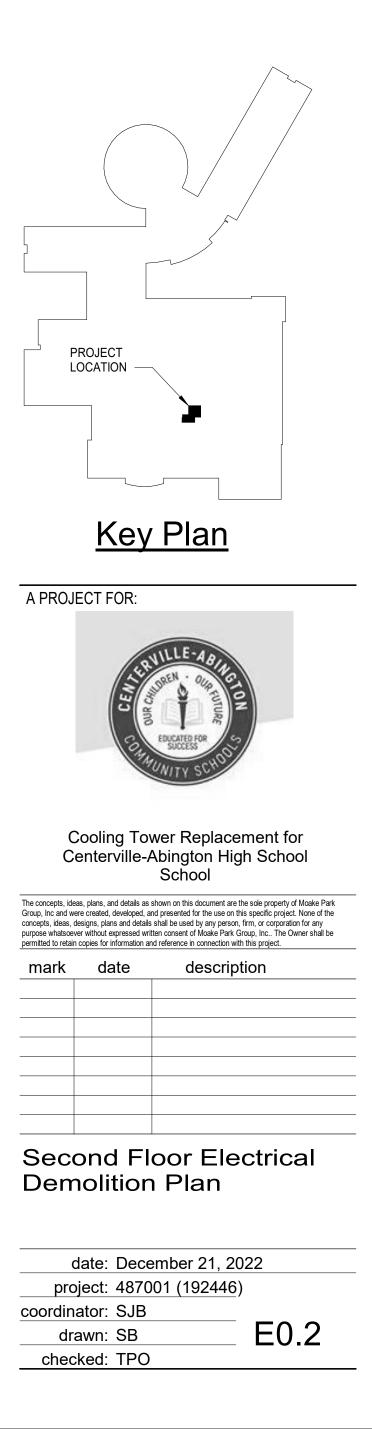
ELECTRICAL DEMOLITION PLAN NOTES

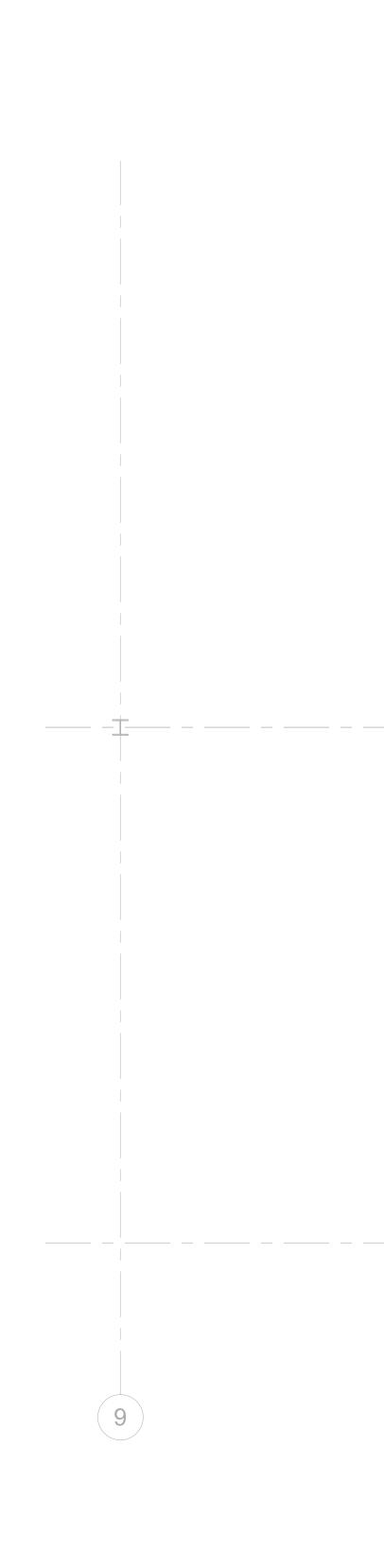
EXISTING COOLING TOWER CONTROL PANEL REMOVED BY OTHERS. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND PREPARE CONDUCTORS TO BE TERMINATED TO NEW COOLING TOWER CONTROL PANEL.

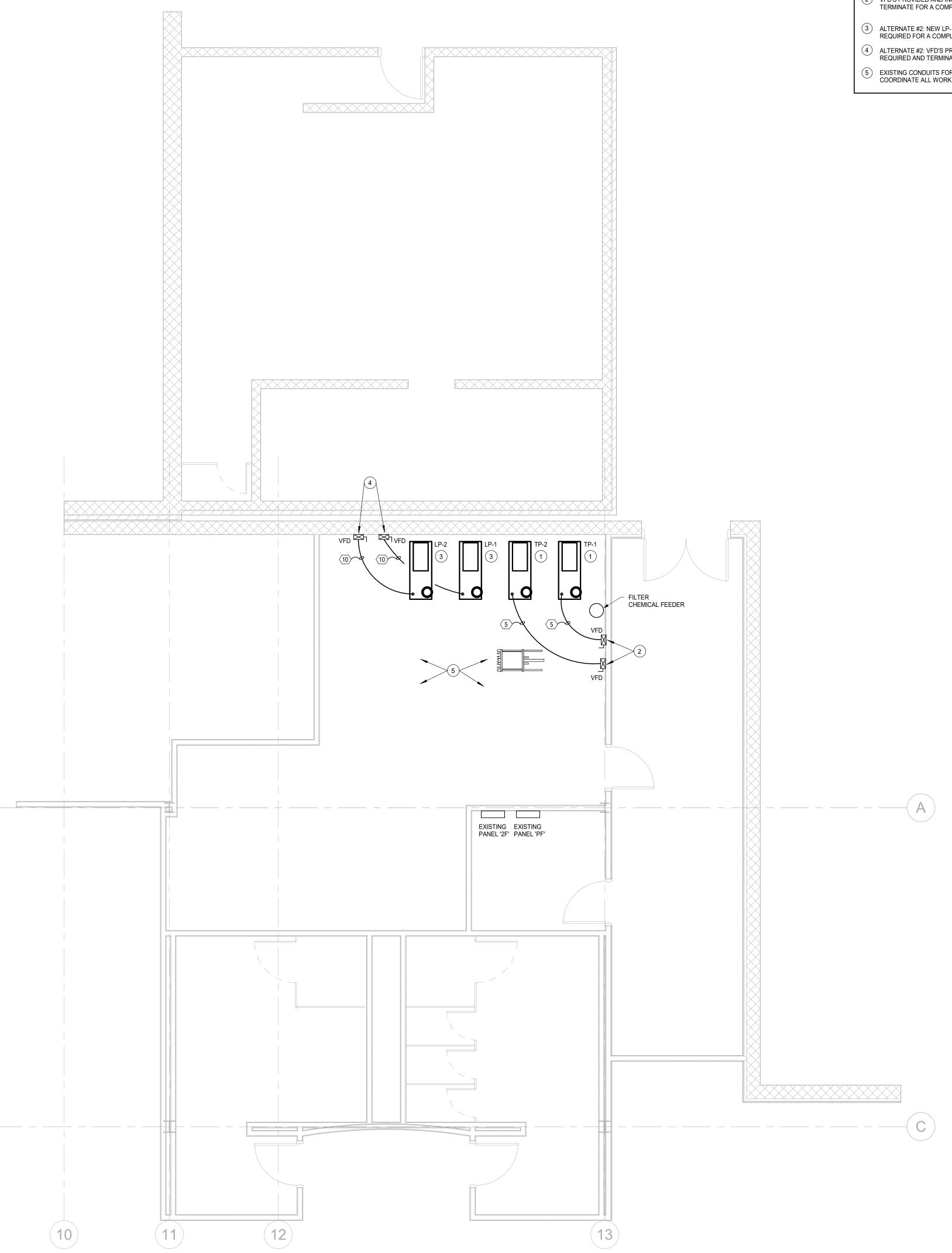
EXISTING COOLING TOWER REMOVED BY OTHERS. ELECTRICAL CONTRACTOR SHALL DISCONNECT ALL ASSOCIATED ELECTRICAL AND REMOVE ALL CONDUIT AND CONDUCTORS BACK TO ORIGINATION.
 EXISTING WATER SOFTENER REMOVED BY OTHERS. ELECTRICAL CONTRACTOR SHALL REMOVE RECEPTACLE AND CONDUIT AND CONDUCTORS BACK TO EXISTING RECEPTACLE TO REMAIN.

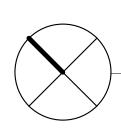
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ELECTRICAL PLAN NOTES

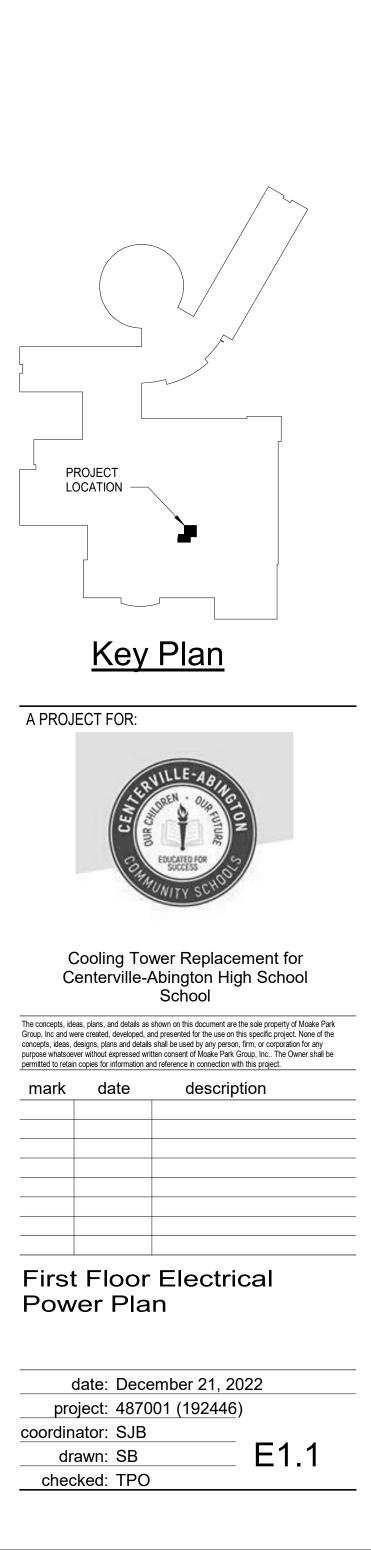
1 NEW TP-1,2 PUMPS PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR SHALL TERMINATE AS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM. COORDINATE ALL WORK WITH MECHANICAL CONTRACTOR.

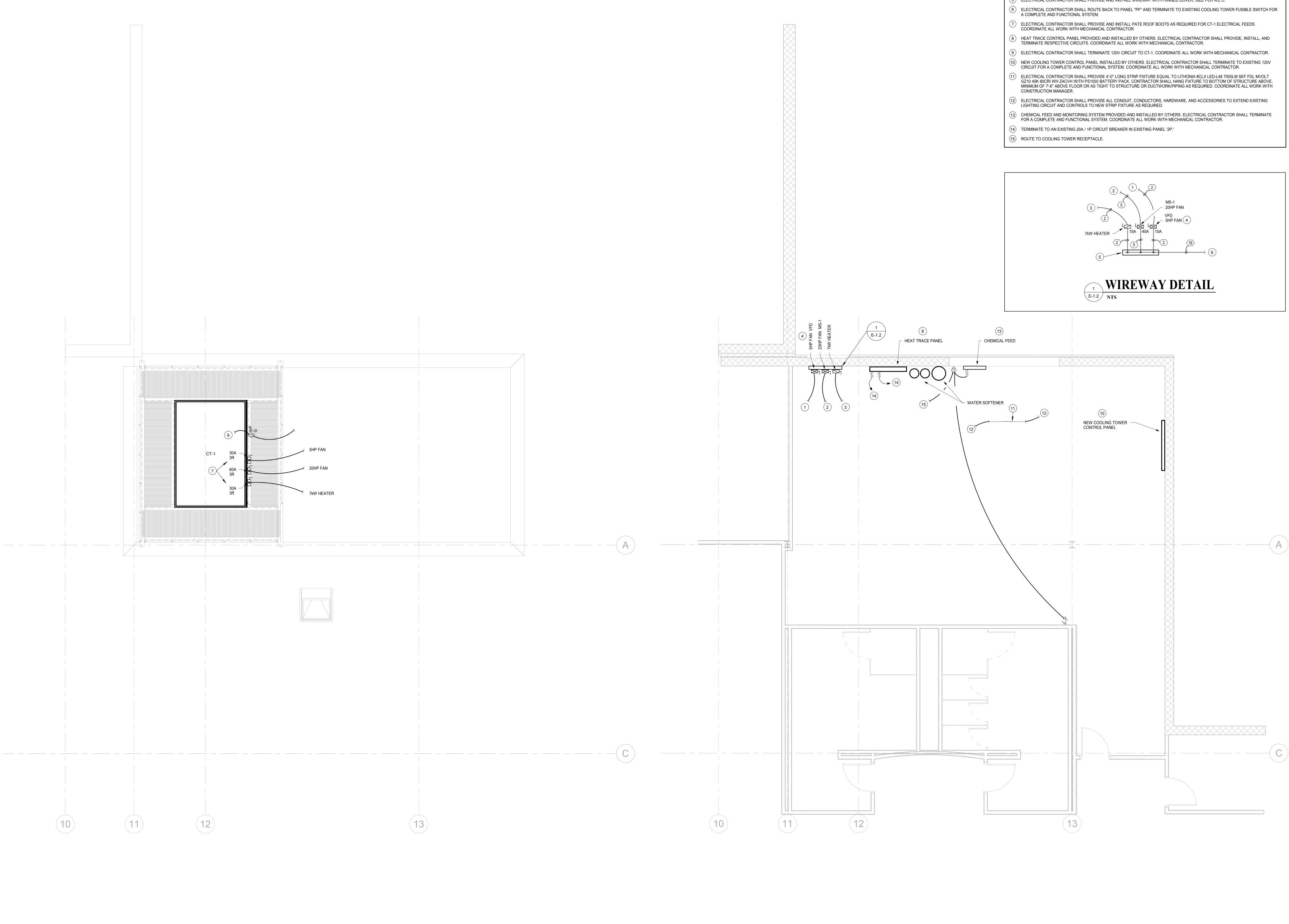
- 2 VFD'S PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR SHALL EXTEND EXISTING CIRCUITS AS REQUIRED AND TERMINATE FOR A COMPLETE AND FUNCTIONAL SYSTEM. COORDINATE ALL WORK WITH MECHANICAL CONTRACTOR.
- (3) ALTERNATE #2: NEW LP-1,2 PUMPS PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR SHALL TERMINATE AS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM. COORDINATE ALL WORK WITH MECHANICAL CONTRACTOR.

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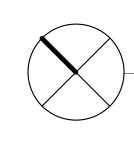
- 4 ALTERNATE #2: VFD'S PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR SHALL EXTEND EXISTING CIRCUITS AS REQUIRED AND TERMINATE FOR A COMPLETE AND FUNCTIONAL SYSTEM. COORDINATE ALL WORK WITH MECHANICAL CONTRACTOR.
- 5 EXISTING CONDUITS FOR ALL BRANCH CIRCUITS SHALL BE RE-INSTALLED TO CEILING FOR A COMPLETE AND FUNCTIONAL SYSTEM. COORDINATE ALL WORK WITH GENERAL CONTRACTOR.







E



ELECTRICAL PLAN NOTES

- 1) ELECTRICAL CONTRACTOR SHALL TERMINATE TO CT-1 THRU 30A-NFD AT UNIT FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- 2) ELECTRICAL CONTRACTOR SHALL TERMINATE TO CT-1 THRU 60A-NFD AT UNIT FOR A COMPLETE AND FUNCTIONAL SYSTEM. 3) ELECTRICAL CONTRACTOR SHALL TERMINATE TO CT-1 THRU 30A-NFD AT UNIT FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- 4 VFD FOR 5HP FAN PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR SHALL TERMINATE AS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- (5) ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL WIREWAY WITH HINGED COVER, SIZE PER N.E.C.

