## GENERAL PLUMBING NOTES GENERAL REQUIREMENTS: **COORDINATION:** BEFORE BEGINNING WORK, INVERT ELEVATIONS SHALL BE ESTABLISHED. P.C. PLUMBING CONTRACTOR IS TO FURNISH & PAY FOR ALL LABOR, MATERIAL IS TO ENSURE PROPER SLOPES OF ALL WASTE & STORM PIPING CAN BE MAINTAINED. CONTACT ENGINEER IMMEDIATELY IF PROBLEM/ISSUE IS EQUIPMENT, PERMITS, & FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK. DISCOVERED. ALL WORK IS TO BE PERFORMED IN ACCORDANCE W/ 2017 FLPC & ALL P.C. TO COORDINATE LOCATION OF ALL ROOF PENETRATIONS W/ OTHER APPLICABLE CODES. P.C. IS TO COORDINATE W/ G.C. IN REGARDS ROOFING CONTRACTOR & MECHANICAL CONTRACTOR. P.C. & M.C. TO TO PROJECT TIMELINE, WORK HOURS, AS WELL AS ANY BONDING OR COORDINATE TO ENSURE NO PLUMBING VENTS ARE LOCATED WITHIN 10' INSURANCE REQUIREMENTS. OF ANY OUTSIDE AIR INTAKES. ALL PLUMBING FIXTURES & PLUMBING SYSTEM EQUIPMENT SHALL BE P.C. TO COORDINATE W/ G.C. & ARCH PLANS TO ENSURE NECESSARY PROVIDED COMPLETE W/ ALL ACCESSORIES, HANGERS, VALVES, STOPS, BACKING/SUPPORTS ARE INSTALLED TO ALLOW INSTALLATION OF TAILPIECES, TRAPS, FAUCETS, STRAINERS, ETC. REGARDLESS OF PRESENCE PLUMBING FIXTURES. ON PLANS. SEE FIXTURE SCHEDULE. THE PLUMBING CONTRACTOR SHALL COORDINATE CLOSELY W/ ALL OTHER ALL EQUIPMENT, MATERIALS, & INSTALLATION SHALL BE GUARANTEED TO BE TRADES TO AVOID CONFLICT & ENSURE OTHER TRADES PROVIDE MEASURES FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL TO ACCOMMODATE PLUMBING WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ELECTRICAL CONNECTIONS, ETC.) ACCEPTANCE OF WORK OR IN ACCORDANCE W/ THE MANUFACTURER'S STANDARD GUARANTEE, IF LONGER. EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT. PIPING SHOULD BE COORDINATED W/ ALL STRUCTURAL FOOTINGS & FOUNDATIONS. PIPE SHOULD BE OFFSET TO AVOID CONTACT W/ FOOTINGS THESE DRAWINGS ARE DIAGRAMMATIC & SHOW GENERAL LOCATION & & FOUNDATION WALLS. IF PIPING MUST RUN UNDERNEATH A FOOTING OR ARRANGEMENT OF ALL MATERIALS & EQUIPMENT. THE DRAWINGS SHALL BE THROUGH A FOUNDATION WALL, THE PIPE MUST BE INSTALLED W/ A FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION & ALL OTHER WORK RELIEVING ARCH OR IN A PIPE SLEEVE. WILL PERMIT. P.C. TO REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF DO NOT SCALE DRAWINGS FOR MEASUREMENT. PLUMBING FIXTURES. INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF **EXECUTION**: PRODUCT & MANUFACTURER'S MODEL NUMBER. IF CONFLICT IS PRESENT P.C. TO FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING BETWEEN DESCRIPTION & MODEL NUMBER, EQUIPMENT DESCRIPTION SHALL PLUMBING EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS & TAKE PRECEDENT. IN CASE OF CONFLICT BETWEEN THE PLANS & NOTES/ CLEARANCES ARE MAINTAINED. IF CONFLICT EXISTS BETWEEN THESE PLANS SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE & MANUFACTURER'S INSTRUCTIONS, CONTACT ENGINEER. PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT. P.C. RESPONSIBLE FOR EXECUTING ALL CODE REQUIRED TESTS & INSPECTIONS, INCLUDING BUT NOT LIMITED TO, LEAK & PRESSURE TESTING BEFORE BID P.C. IS RESPONSIBLE FOR CLARIFYING W/ G.C. ANY OF WASTE, VENT, & WATER PIPING, & SANITIZING OF WATER PIPING. CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED. THE SUBMITTAL OF THE BID BY THE WATER SERVICE & BUILDING SEWER PIPING MUST BE SEPARATED PER 2017 CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR FLPC 603.2. UNDERSTANDS THOROUGHLY & COMPLETELY THE SCOPE OF THE WORK INVOLVED, & HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO ENSURE PIPING LOCATED ON EXTERIOR WALLS (OR OTHER WALLS EXPOSED CARRY OUT THIS SECTION OF WORK. TO FREEZING CONDITIONS) IS INSTALLED ON WARM-SIDE OF WALL INSULATION PER FLPC 305.4. AS SOON AS POSSIBLE (& NOT MORE THAN 30 DAYS) AFTER CONTRACT IS SIGNED, THE P.C. SHALL PROVIDE SUBMITTALS OF PLUMBING EQUIPMENT ALL WATER PIPING INSTALLED BELOW GRADE TO BE PROTECTED AGAINST HE/SHE INTENDS TO PURCHASE FOR REVIEW & COMMENT BY THE ENGINEER. FREEZING BY BURYING NOT LESS THAN 6" BELOW THE FROST LINE OR NOT ENGINEER IS TO APPROVE SUBMITTALS BEFORE EQUIPMENT IS ORDERED. LESS THAN 12" BELOW FINISHED GRADE, WHICHEVER IS GREATER PER FLPC ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT & MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO ANY NOTCHING, DRILLING, BORING, OR OTHER ALTERATION TO BUILDING BECOMING A PROPOSED CHANGE ORDER. STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD & NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE. . P.C. IS TO REVIEW COMPLETE DRAWING SET. P.C. IS RESPONSIBLE FOR WORK EXPLICITLY SHOWN & WORK IMPLIED. UNLESS OTHERWISE NOTED, SUPPORT ALL PIPING IN ACCORDANCE W/ 2017 FLPC. ANY SUSPENDED FINAL PLUMBING CONNECTION TO ALL EQUIPMENT, FIXTURES, ETC. IS THE MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO RESPONSIBILITY OF THE P.C.. NOT ATTACH ANYTHING TO THE ROOF DECK. DIVISION OF WORK: PROVIDE A U.L. LISTED ASSEMBLY FOR ALL PENETRATIONS THRU FIRE RATED WALLS, FLOORS, & CEILINGS. ALL ROOF PENETRATIONS, FLASHING, ETC. ARE TO BE PERFORMED BY ROOFING CONTRACTOR. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS, & CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER & IN ACCORDANCE W/ 2017 FLECC. ALL LOW VOLTAGE WIRING RELATED TO PLUMBING EQUIPMENT & SYSTEMS IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. ALL HIGH CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE W/ PLUMBING CODE REQUIREMENTS. PROVIDE CLEANOUTS AS PLANS INDICATED & AT VOLTAGE CONNECTIONS TO PLUMBING EQUIPMENT, INCLUDING DISCONNECTS, TO BE PROVIDED & INSTALLED BY E.C. THE BASE OF ALL WASTE STACKS, AT EVERY FOUR 45 DEGREE TURNS IN SERIES (W/ ONE 90° ELBOW COUNTING AS TWO 45° BENDS), AT EVERY 100 G.C. TO BE RESPONSIBLE FOR PROVIDING & INSTALLING ANY ACCESS FEET, & AT THE BASE OF ALL ROOF LEADERS. CLEANOUTS SHALL BE PLACED DOORS RELATED TO PLUMBING SYSTEM (W/ EXCEPTION OF CLEANOUT IN READILY ACCESSIBLE LOCATIONS. COVERS, BY P.C.). P.C. RESPONSIBLE FOR COMMUNICATING TO G.C. SIZE & LOCATION OF REQUIRED ACCESS DOOR(S). SUPPLY BRANCH LINES SERVING MORE THAN ONE (1) FIXTURE SHALL INCLUDE SHUT-OFF VALVE. LABEL VALVE & LOCATE AS CLOSE TO PLUMBING CONTRACTOR IS TO EMPLOY THE SERVICES OF THE G.C. FOR RISER/MAIN AS POSSIBLE. (FLPC 606.2.1) CUTTING & PATCHING OF WALLS, FLOORS, & CEILINGS RELATED TO THE INSTALLATION OF PLUMBING EQUIPMENT & SYSTEMS. 12. VALVES NOT DIRECTLY AT EQUIPMENT SHALL BE LABELED INDICATING THE FIXTURE OR AREA SERVED. (FLPC 606.4) G.C. TO BE RESPONSIBLE FOR PROVIDING & INSTALLING ANY WATER HEATER PLATFORMS, EITHER FLOOR/WALL MOUNTED OR SUSPENDED. P.C. PROVIDE SHUT-OFF VALVES ON THE FIXTURE SUPPLY TO EACH PLUMBING TO COMMUNICATE REQUIREMENTS TO G.C. FIXTURE, APPLIANCE, OR MECHANICAL EQUIPMENT. 4. WATER HEATER SHALL BE FILLED W/ WATER & PURGED AS SOON AS III. MATERIALS: INSTALLED OR IN NO EVENT LATER THAN GAS/ELECTRIC HOOK-UP. COPPER PIPING SHALL BE PROTECTED AGAINST CONTACT W/ MASONRY ALL MATERIALS SHALL BE NEW UNLESS OTHERWISE SHOWN OR SPECIFIED. OR DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, & CLIPS SHALL BE COPPER OR COPPER PLATED. WHERE COPPER PIPING IS CARRIED ALL MATERIALS INSTALLED IN RETURN PLENUM ARE TO BE PLENUM RATED. ON IRON TRAPEZE HANGERS W/ OTHER PIPING, SATISFACTORY & PERMANENT ELECTROLYTIC ISOLATION MATERIAL SHALL PROTECT THE PIPING MATERIALS & FITTINGS SHALL BE AS FOLLOWS: COPPER AGAINST CONTACT W/ OTHER METALS. WASTE & VENT (ABOVE & BELOW SLAB): PVC PIPE, PVC SOCKET FITTINGS, & SOLVENT-CEMENTED WHERE COPPER PIPING IS SLEEVED THROUGH MASONRY, SLEEVES SHALL BE FITTINGS. DOMESTIC WATER (BELOW SLAB): COPPER OR RED BRASS. WHERE COPPER MUST BE CONCEALED IN A MASONRY PARTITION OR AGAINST MASONRY, CONTACT SHALL BE TYPE 'K' COPPER. PREVENTED BY COATING THE COPPER HEAVILY W/ ASPHALTIC ENAMEL & PROVIDING 15# ASPHALT SATURATED FELT BETWEEN THE PIPE & MASONRY. CONTINUOUS PEX. DOMESTIC WATER (ABOVE SLAB): ALL PIPE INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOORS, TYPE 'L' COPPER W/ SWEATED SOCKET FITTINGS. WALLS, & PARTITIONS. PIPE INSULATION SHALL BE MITERED AT ELBOWS & THREADED FITTINGS MAY BE USED AT VALVES, FIXTURES, & TEES TO ENSURE COMPLETE COVERAGE OF PIPING. SIMILAR. VACUUM BREAKERS SHALL BE PROVIDED FOR ALL FIXTURES TO WHICH CPVC PIPING W/ SOLVENT-CEMENTED FITTINGS. HOSES MAY BE ATTACHED. VACUUM BREAKERS SHALL BE PERMANENTLY THREADED FITTINGS MAY BE USED AT VALVES, FIXTURES, & ATTACHED. SIMILAR. PROVIDE PLENUM WRAP IF USED IN RETURN PLENUM. THE PLUMBING CONTRACTOR SHALL PROVIDE WATER HAMMER PROTECTION ON ALL WATER DISTRIBUTION PIPING SERVING EQUIPMENT W/ PEX PIPING W/ FLARED OR MECHANICAL QUICK CLOSING VALVES (ICE MAKERS, DISHWASHERS, FLUSH VALVES, JOINTS/FITTINGS. DO NOT USE IN RETURN PLENUMS. DO WASHING MACHINES, WATER COOLERS, ETC.) SEE SHOCK ARRESTOR NOT USE IN EXPOSED AREAS. SCHEDULE. STORM PIPING (ABOVE----BELOW SLAB): PVC PIPE, PVC SOCKET FITTINGS, & SOLVENT-CEMENTED ACCESS DOORS TO BE PROVIDED FOR ALL VALVES & DEVICES REQUIRING ACCESS WHEN LOCATED IN WALLS OR ABOVE INACCESSIBLE CEILING CONSTRUCTION. ACCESS DOORS TO BE RATED WHERE INSTALLED IN RATED FOR AUTOMATIC-CIRCULATING HOT WATER SYSTEMS, PIPING SHALL BE ASSEMBLIES. INSULATED W/ 1" OF INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU IN/HR x FT2 x °F. THE FIRST 8' OF PIPING IN NON-P.C. IS TO ENSURE THAT THEIR INSTALLATION OF NEW CONDUITS, PIPES, CIRCULATING SYSTEMS SERVED BY EQUIPMENT W/OUT INTEGRAL HEAT DUCTWORK, & SIMILAR DOES NOT BLOCK ACCESS TO NEW OR EXISTING TRAPS SHALL BE INSULATED W/ 0.5" OF MATERIAL HAVING A CONDUCTIVITY AREA EQUIPMENT & THAT THE FORE MENTIONED DOES NOT INTERFERE W/ NOT EXCEEDING 0.27 BTU IN/HR x FT2 x °F. (2017 FLECC C404.4) THE REQUIRED SERVICE CLEARANCE OF NEW OR EXISTING EQUIPMENT. ALL CIRCULATING SERVICE HOT WATER PIPING SHALL BE INSULATED TO AT COORDINATE W/ OTHER TRADE CONTRACTORS & CONTACT ENGINEER IF LEAST R-2. CIRCULATING HOT WATER SYSTEMS SHALL INCLUDE AN UNCERTAINTY EXISTS REGARDING EQUIPMENT SERVICE CLEARANCE AUTOMATIC OR READILY ACCESSIBLE MANUAL SWITCH THAT CAN TURN REQUIREMENTS. OFF THE HOT WATER CIRCULATING PUMP WHEN THE SYSTEM IS NOT IN USE (2017 FLECC R403.5) 22. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL

					PL	UMBINC	FIXTUR	SPECIFIC			CON	NECT	ION	SCHEDI	JLE									
	MARK	FIXTURE	TYPE	MANUFACTURER	MODEL NO.	MATERIAL	STYLE	MANUFACT. MODEL NO.	SPOUT	ĺ	CENTERS	DR <i>A</i> TYPE	SIZE	SUPPLIES AND STOPS	WASTE	PIPE SI VENT		IW	MOUNTING	REMARKS	, PLLC.	•		
	P-1	WATER CLOSET	FLUSH TANK	PROFLO	PF5112HE	VITREOUS CHINA	STANDARD ELONGATED	-	-	-	-	-	-	BRASSCRAFT OCR1912DL	3 <sup>#</sup>	2"	ا ال	-	FLOOR	PROVIDE CLOSED FRONT SEAT WITH LID. RIM HEIGHT = 15"	GINEERING	ı		<i>!</i>
	P-1A	WATER CLOSET	FLUSH TANK	AMERICAN STANDARD	238AA.114	VITREOUS CHINA	ADA ELONGATED	-	-	-	-	-	-	BRASSCRAFT OCR1912DL	3"	2"	) <sub>2</sub> "	-	FLOOR	PROVIDE CLOSED FRONT SEAT WITH LID. RIM HEIGHT = 16.5"	MAPLE EN			-
	P-1B	WATER CLOSET	FLUSH TANK	KOHLER	K-5172	VITREOUS CHINA	ADA ELONGATED	-	-	-	-	-	-	BRASSCRAFT OCR1912DL	3"	2"	ا ال 2	-	FLOOR	PROVIDE OPEN FRONT SEAT WITH NO LID. RIM HEIGHT = 16.5"	ONSENT OF	ı		
	P-1C	WATER CLOSET	FLUSH TANK	AMERICAN STANDARD	270AA.101	VITREOUS CHINA	ADA ELONGATED	-	-	-	-	-	-	BRASSCRAFT OCR1912DL	3"	2"	ارا 2	-	FLOOR	PROVIDE OPEN FRONT SEAT WITH NO LID. RIM HEIGHT = 16.5"	OO AND OO	_		_┛
	P-2	LAVATORY	DROP IN	AMERICAN STANDARD	0476.028	VITREOUS CHINA	STANDARD COUNTER TOP	PFISTER G143-610K	CENTER	LEVER	4" 3-HOLE	POP-UP	1½"	BRASSCRAFT OCR1912A	2"	1½"	<u>у</u> "	y "	COUNTER	1.5 GPM.				orx
	P-2A	LAVATORY	DROP IN	AMERICAN STANDARD	0476.028	VITREOUS CHINA	ADA COUNTER TOP	PFISTER G143-610K	CENTER	LEVER	4" 3-HOLE	POP-UP	1½"	BRASSCRAFT OCR1912A	2"	1½"	ا ا 2	2"	COUNTER	1.5 GPM. BARRIER FREE.			Forks Road	E, P.A. d, Suite 100 d, NC 27609
	P-2B	LAVATORY	WALL MOUNT	LACAVA	4500	PORCELAIN	ADA	TOTO TEL5L115R	CENTER	AUTO	SINGLE HOLE	GRID	1½"	BRASSCRAFT OCR1912A	2 <sup>II</sup>	1½"	½" .	2"	COUNTER	HYDROPOWER BARRIER FREE. 0.20 GALLONS PER CYCLE.	office website  This docum	nent has be	www.plan	9) 846-8100 unworx.com
	P-2C	LAVATORY	VESSEL	SIGNATURE HARDWARE	SKU: 930337	MARBLE	ADA	VIGO VG03009	CENTER	AUTO	SINGLE HOLE	GRID	1½"	BRASSCRAFT OCR1912A	2"	1½"	<u>у</u> "	2"	COUNTER	W/ 0.5GPM AERATOR BARRIER FREE.	sealed by signature below. Pri	y Zack L. Tore on the dan nted copies	mlin, PE using te listed imn s of this doc	ng a digital mediately cument are
	P-2D	LAVATORY	DROP IN	AMERICAN STANDARD	0476.028	VITREOUS CHINA	ADA COUNTER TOP	CFG 40717	CENTER	LEVER	4" 3-HOLE	GRID	1½"	BRASSCRAFT OCR1912A	2"	1½"	<i>y</i> <sub>2</sub> "	y " 2	COUNTER	0.5 GPM. BARRIER FREE.	SHA authe	ntication co any electro	d and seale ode must be onic copies.	e verified on
	P-5	SHOWER/TUB	STANDARD	AQUATIC	2603SGM	APPLIED ACRYLIC	ONE-PIECE	PFISTER LJ89-030K	CENTER	LEVER	-	GRID	2"	-	2"	1½"	у II	2"	FLOOR	W/ TUB SPOUT. 1.8 GPM	UOHTHOU	AND THE LEGISLAND	TOMINING ENSK! W	
	P-5A	SHOWER/TUB	ADA	AQUATIC	2603SMTE	GELCOATED	ONE-PIECE	DELTA T17438	CENTER	LEVER	-	GRID	2"	-	2"	1½"	ا ا ا	2"	FLOOR	PROVIDE W/ GRAB BARS. W/ VALVE & SLIDE BAR PACKAGE. W/ REMOVABLE SEAT. 2.0 GPM.	THIRD PAR	7	• 7	
	P-5B	SHOWER HEAD	-	-	-	-	ADA	SYMMONS S-4702	-	LEVER	-	FLOOR	2"	-	2"	1½"	ا ا ا	y" 2	FLOOR	TILED SHOWER BY G.C. W/ HAND SHOWER & SLIDE BAR. COORD. SEAT & BARS W/ ARCH. 2.5GPM	VED TO ANY THIRD PA	THE LOND	AL ENGLY	
	P-6	SINK (33" x 22")	DROP-IN	ELKAY	DLR332210	STAINLESS STEEL	DOUBLE BOWL	PELICAN PL-8213	CENTER	LEVER	4" O.C. 1-HOLE	CRUMB CUP	1½"	BRASSCRAFT OCR1912A	2"	1½"	<i>y</i> ₁"	y" 2"	COUNTER	BOWL DEPTH = 10-1/8"  W/ PULL DOWN SPRAYER.  1.8 GPM	D BE ASSIGN			
	P-6A	SINK (33" x 22")	DROP-IN	ELKAY	LRAD332265	STAINLESS STEEL	ADA 2-BOWL	ELKAY LKHA2031	CENTER	LEVER	4" O.C. 1-HOLE	CRUMB CUP	1½"	BRASSCRAFT OCR1912A	2"	1½"	<u>у</u> "	y " 2	COUNTER	W/ OFFSET DRAIN, REAR CENTER. BOWL DEPTH = 6-1/2"	SE THEY TO	any		
	P-6B	SINK (36" x 25")	UNDER MOUNT	KOHLER	K-6536-3-0	STAINLESS STEEL	SINGLE BOWL	ELKAY K-7548-4-VS	CENTER	LEVER	4" O.C. 2-HOLE	CRUMB CUP	1½"	BRASSCRAFT OCR1912A	2"	1½"	<u>у</u> "	y,"	COUNTER	W/ PULL DOWN SPRAYER. 1.75 GPM  W/ OFFSET DRAIN, REAR CENTER.  BOWL DEPTH = 6-7/8"	/ER, NOR AI	mp?	Y.	
	P-6C	SINK (18" x 19")	DROP-IN	ELKAY	LRAD1918	STAINLESS STEEL	SINGLE BOWL	AMER. STD. 4101.301	CENTER	LEVER	4" O.C. 3-HOLE	CRUMB CUP	1½"	BRASSCRAFT OCR1912A	2"	1½"	<u>у</u> "	ار 2	COUNTER	W/ SPRAYER. 1.5 GPM  W/ OFFSET DRAIN, REAR CENTER. BOWL DEPTH = 4"	WHATSOE	$\mathbb{C}_0$	RID	
	P-6D	SINK (33" x 22")	DROP-IN	ELKAY	DLR332210	STAINLESS STEEL	DOUBLE BOWL	CFG 40513	CENTER	LEVER	4" O.C. 4-HOLE	CRUMB CUP	1½"	BRASSCRAFT OCR1912A	2"	1½"	<u>у</u> "	y "	COUNTER	W/ SPRAYER. 2.2 GPM  BOWL DEPTH = 10-1/8"  W/ SPRAYER. 1.5GPM	NE MANNER W	ment		
	P-7	WASHER BOX	SUPPLY BOX	OATEY	-	PVC	PLASTIC, RECESSED	-	-	-	-	-	-	-	2" V 3" H	1½"	ا ا ا	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	WALL	MATCH PIPING MATERIALS. W/ QTR TURN VALVE & SHOCK ARRESTORS.	OR OR	op	L, FI	
	P-8	VALVE BOX	SUPPLY BOX	OATEY	-	POLYSTYRENE	PLASTIC, RECESSED	-	-	-	-	-	-	-	-	-	ارا 2	_	WALL	W/ FACEPLATE. W/ TAIL PIECE.  MATCH PIPING MATERIALS.  W/ QTR TURN VALVE & SHOCK		evel	[KA]	SET
	P-9	GARBAGE DISPOSAL	UNDER SINK	INSINKERATOR	BADGER 1	-	-	-	-	-	-	-	1½"	-	2"	-	-	- 1	under sink	ARRESTOR. W/ FACEPLATE.  TO BE PROVIDED AT SINK, P-6 & P-6A	SID]	er D	$\frac{1}{2}$	
	P-10	WATER COOLER	HI-LO	ELKAY	LZWS-LRPBM28K	STAINLESS, VINYL	ADA	-	-	-	-	-	-	BRASSCRAFT G2CR19	1½"	1½"	<u>у</u> "	-	WALL	115V, 1.0 AMPS. HFC-134A. MOUNT AT ADA HEIGHT. W/ HANGER	RFS	Zimme	PE	RM
	P-10B	WATER COOLER	HI-LO	HALSEY TAYLOR	HVR-BL-WF LR	STAINLESS STEEL	EXTERIOR, ADA	-	-	-	-	-	-	COORD. W/ MFG.	1½"	1½"	ارا 2	-	WALL	MOUNT AT ADA HEIGHT. W/ HANGER BRACKET.	SU S	Σiπ	CA	PER
	P-11	URINAL	WALL HUNG	KOHLER	K-4904-ET	VITREOUS CHINA	ADA TOP-SPUD	KOHLER K-10668	-	-	-	-	-	-	2 <sup>II</sup>	1½"	3/11	_	WALL	SEE ARCH PLAN FOR MTG. HEIGHT. 0.125 GPF.	RE NOT TO		MZ	
	P-11B	URINAL	WALL HUNG	AMERICAN STANDARD	6590.001	VITREOUS CHINA	ADA TOP-SPUD	AMER. STD. 6045.101	-	-	-	-	-	-	2"	1½"	3/11	_	WALL	SEE ARCH PLAN FOR MTG. HEIGHT. 1.0 GPF.	SE PLANS A			
	P-12	mop sink	FLOOR MOUNT	TABCO	9-OP-40DF	STAINLESS, STEEL	DROP FRONT 25x21	TABCO K-240	CENTER	2	8" 2-HOLE	DOME	3"	-	3"	1½"	<i>y</i> <sub>2</sub> "	y,"	FLOOR	W/ WALL BRACKET. W/ MOP HANG. W/ HOSE & HOSE BRACKET.	PLANO. THE TOTAL T	ENGINEE	PLE RINFL, BLLC#: r 05 LIC.#: P-	
	FD-1	FLOOR DRAIN	FINISHED FLOOR	ZURN	FD1	PVC	ADJUSTABLE	-	-	-	-	-	-	-	SEE PLAN	-		_	FLOOR	W/ VACUUM BREAKER.  W/ DEEP SEAL TRAP.  W/ TRAP PRIMER.	Р:91	9-341-4247 JMBING MECH	F:919-890- ANICAL ELECTF	1-3797
	FD-2	FLOOR DRAIN	FINISHED FLOOR	ZURN	FD1	PVC	ADJUSTABLE	-	-	-	-	-	-	-	SEE PLAN	-		_	FLOOR	W/ DEEP SEAL TRAP.	RTY RIGHTS			
	AAV	AIR ADM. VALVE	THREADED	STUDOR	20301	ABS, PVC	MINI-VENT	-	-	-	-	-	-	-	-	SEE PLN		_	PIPE	W/ ACCESS COVER (IF REQ'D).	HER PROPE	YION		
	SD	SHOWER DRAIN	FINISHED FLOOR	ZURN	FD1	PVC	ADJUSTABLE	-	-	-	-	-	-	-	SEE PLAN	-		_	FLOOR	W/ DEEP SEAL TRAP. W/ STAINLESS STEEL STRAINER.	07.19.19	ESCRII		
	wco	WALL CLEANOUT	TEE	CHARLOTTE PIPE	PVC-445	PVC	FLUSH PLUG	-	-	-	-	-	-	-	SEE PLAN	-		_	WALL	W/ CLAMP COLLAR & WEEP HOLES. W/ ZURN CO-2530 WALL COVER. W/ PVC PLUG W/ THREADED TAP.	W COPYRIG	NITIALS	+++	
	GCO	GRADE CLEANOUT	ADJUSTABLE		CO-2450	PVC BODY, NICKEL CVR.	-	-	-	-	-	-	-	-	SEE PLAN	-		_	GRADE	W/ CONCRETE PAD.	OMMON LAV	IONS DATE E		
	FCO	FLOOR CLEANOUT	ADJUSTABLE		CO-2450	PVC BODY, NICKEL CVR.	FINISHED FLOOR	-	-	-	-	-	-	-	SEE PLAN	-		_	FLOOR		ISSUE	REVISI		
	HB-1	HOSE BIB	ANGLE	ZURN	Z1341-BFP	BRONZE	-	-	-	-	-	-	-	-	PLAN -	_	у <sub>,</sub> п	-	WALL	W/ VACUUM BREAKER.	σ <del></del>		LX-	1906
	HB-2	HOSE BIB	ANGLE	ZURN	Z1341-BFP	BRONZE	-	-	-	-	-	-	-	-	-	_	1. 11	_	WALL	W/ VACUUM BREAKER. LOOSE KEY TYPE.	DRAWN B CHECKEI SHEET TI	D BY:		JJL ZLT
	FPHB	HOSE BIB	STRAIGHT	ZURN	Z1346	BRONZE	FREEZE PROOF	-	-	-	-	-	-	-	-	_	le II	_	WALL	VERIFY WALL DEPTH. W/ VACUUM BREAKER.		<del>P</del> LUM	IBING ES & N	
	HD	HUB	FUNNEL	ZURN	Z326	CAST-IRON	THREADED	-	-	-	-	-	-	-	SEE	-		_	FLOOR	LOOSE KEY TYPE.  W/ DEEP SEAL TRAP.	SHEET NU			
	NOTES:	DRAIN 1.		E CONTINUED ON PO	0.02			ns ownership of all of	designs depicted	and implied h	erein.				PLAN						0 2019	P()	.01	
offs	et by verifie	d construction say	vings as a result	of planworx architectu	re, p.A. Design.			ot responsible for estir				on costs ass	ociated w	ith these plans.							1 -			_

EXCEEDS 80 PSI.

PROVIDE HANGERS & SUPPORTS APPROVED FOR USE BY 2017 FLPC.

WATER LINES.

ANY PLUMBING FIXTURES W/ A COMMON SHUT-OFF VALVE (I.E. PRE-RINSE,

KITCHEN SINK, MOP SINK) ARE TO INCLUDE A CHECK VALVE ON THE HOT & COLD WATER VALVES TO PREVENT INTERCONNECTION OF HOT & COLD

PLUMBING EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION

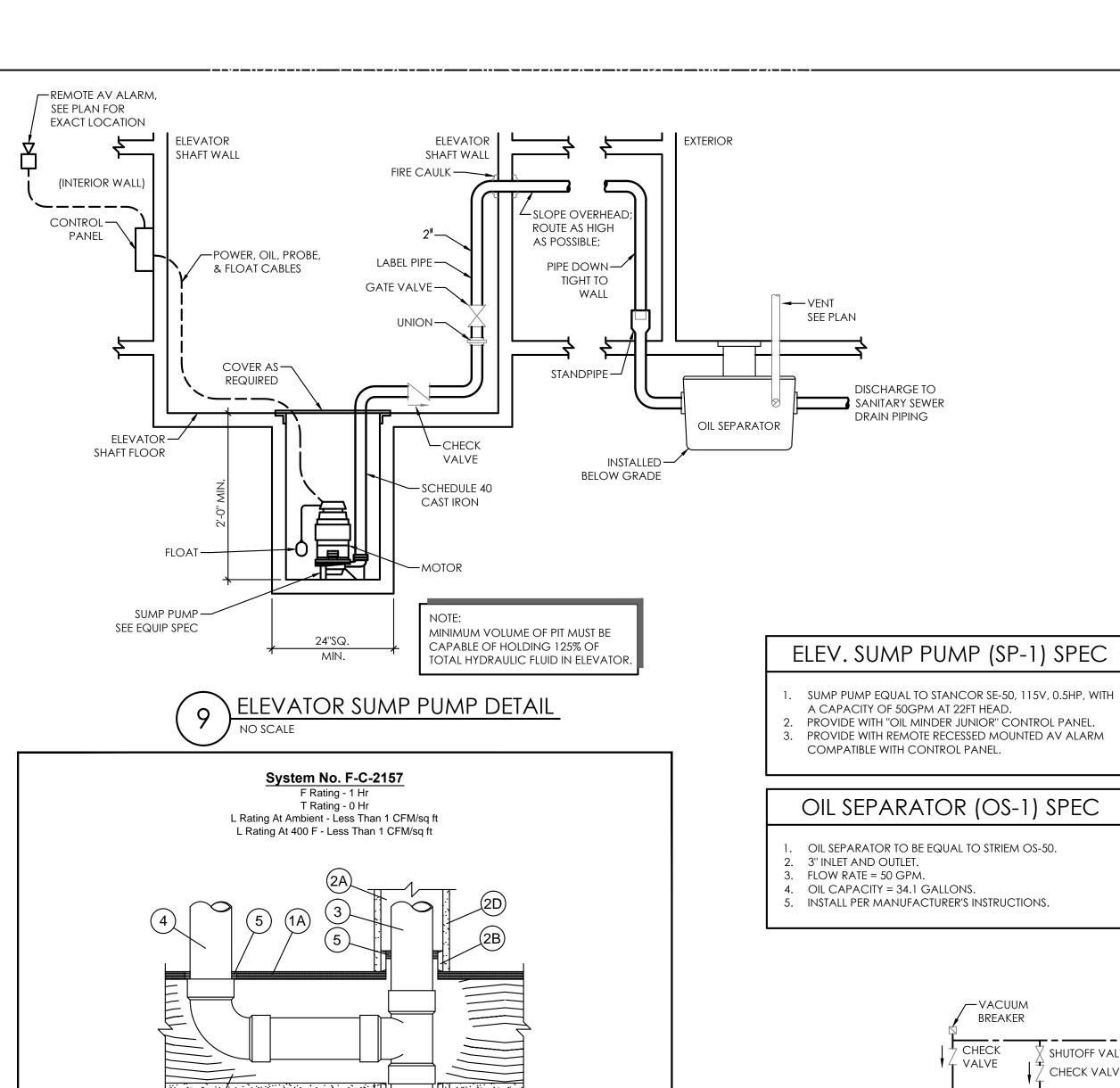
(PAINT, SPACKLE, ETC.). UPON COMPLETION OF WORK, THE PLUMBING

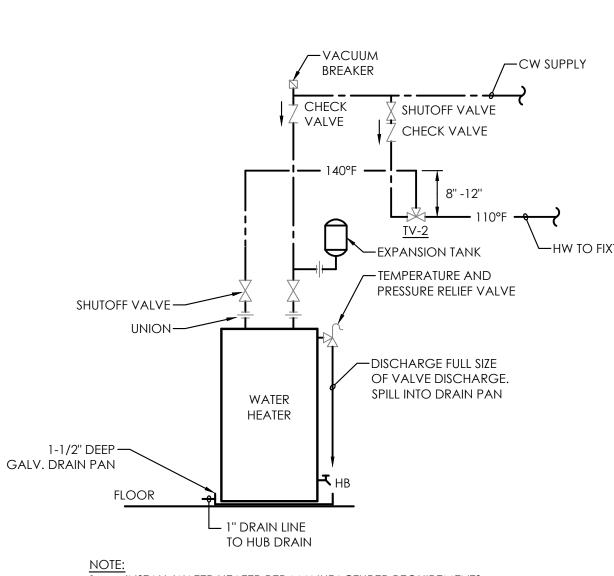
HIS SCOPE OF WORK & LEAVE ALL ITEMS BRIGHT & CLEAN.

3. NO INSULATION PERMITTED ON BACKFLOW PREVENTER ASSEMBLY.

24. PROVIDE PRESSURE REDUCING VALVE IF INCOMING WATER PRESSURE

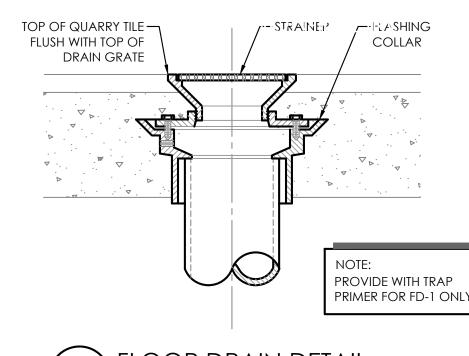
CONTRACTOR SHALL CLEAN, WASH, ETC. ALL ITEMS & EQUIPMENT WITHIN





INSTALL WATER HEATER PER MANUFACTURER REQUIREMENTS PROVIDE HEAT TRAP ON CW AND HW LINES PER ENERGY CODE ELEVATE DRAIN PAN AS NECESSARY TO ALLOW PROPER FLOW TO HUB DRAIN





FLOOR DRAIN DETAIL

PLUMBING FIXTURE SPECIFICATIONS AND CONNECTION SCHEDULE (CONTINUED) FAUCET/VALVE TYPE MODEL NO. STYLE MARK FIXTURE MANUFACTURER MATERIAL MOUNTING REMARKS AND STOPS SPOUT HANDLES CENTERS TYPE SIZE MODEL NO. YARD **GALVANIZED** MODEL 5800LF ENCASED SIMMONS GRADE COORD. W/ SITE CONDITIONS. **HYDRANT** / STRAINER. PROVIDE REQ'D **BACK FLOW** LEAD-FREE CLEARANCES. W/ TEST PORTS & ISO BFP-1 LF909QT WATTS ORIZONTAI **BRONZE PREVENTER** ALVES. DRAIN W/ AIR GAP. 38 GALLON, 4.5KW, 208V/1Ø. WATER GLASS ELECTRIC EN6 40 DOMBS LOWBOY PLATFORM 23 GPH @ 80°F RISE. **HEATER** WATER HEATER LINED Set to 140°f, W/ <u>TV-2</u>. See Detail. 5 GALLON, 4.5KW, 208V/1Ø. WATER GLASS 1GPH @ 90°F RISE. WH-2 ELECTRIC EN6 55 FORT **UPRIGHT FLOOR** HEATER **WATER HEATERS** LINED ET TO 140°F, W/ TV-2. SEE DETAIL. 30 GALLON, 4.5KW, 208V/1Ø. WATER STATE GLASS PCE 30 20LSA **UPRIGHT** 20GPH @ 80°F RISE. WH-3 ELECTRIC **HEATER** WATER HEATERS SET TO 140°F, W/ TV-2. SEE DETAIL. PLUMBING LEGEND

DOMESTIC COLD WATER PIPING

———— DOMESTIC HOT WATER PIPING

SD ——— STORM PIPING UNDERSLAB

WASTE (SANITARY SEWER)

PIPE UP/DOWN

WATER/WASTE STACK DESIGNATION

FLOOR DRAIN

CLEANOUT

---- VENT PIPING

(XXX)

ALL FIXTURE COLORS & FINISHES TO BE APPROVED BY OWNER & ARCHITECT BEFORE PURCHASING. PROVIDE P-TRAP AND SUPPLY LINE SAFETY COVERS FOR ALL ADA SINK AND LAVATORY INSTALLATIONS. WATER CLOSET HANDLES TO BE LOCATED ON "WIDE SIDE" OF STALL FOR ADA FIXTURES.

4.	SEE DETAIL SHEET FOR ADDIT	IONAL ITEMS TO BE PI	ROVIDED/INSTALLED W/ FIXTU	JRES LISTED ABOVE.
		SI	HOCK ARRESTO	OR SCHEDULE
		FIXTURE UNITS	unit size (conn. size)	MFG & MODEL (OR EQUAL)
		1-4	AA (1/2")	SIOUX CHIEF "MINI-RESTER"
		5-11	A (1/2")	SIOUX CHIEF "HYDRA-RESTER"
		12 - 32	B (3/4")	SIOUX CHIEF "HYDRA-RESTER"
		33-60	C (1")	SIOUX CHIEF "HYDRA-RESTER"

- LOCATE SHOCK ARRESTORS IN ACCESSIBLE LOCATION OR PROVIDE SHOCK ARRESTORS THAT ALLOW CONCEALMENT PER MANUFACTURER'S GUIDELINES.
- SEE PLAN, RISERS, AND SCHEDULES FOR ARRESTOR LOCATIONS. IF LOCATION NOT INDICATED, INSTALL IN ACCORDNCE WITH MANUFACTURER'S GUIDELINES. SHOCK ARRESTORS **NOT** REQUIRED ON PLASTIC PIPE PER 2018 NCPC 604.9.

	VALVE SC	HEDULE
TAG	DESCRIPTION	MFG & MODEL (OR EQUAL)
BV-1	FULL-PORT BALL VALVE	WATTS LFB6081
BV-2	BALANCING VALVE	BELL & GOSSETT CB (W/ TEST PORTS)
CV-1	DUAL CHECK VALVE	WATTS SD-2 (ASSE 1032; <1/2") WATTS 9D (ASSE 1012; 1/2" & 3/4")
CV-2	BRASS CHECK VALVE	WATTS LFWCV (1/2" TO 1")
PRV-1	PRESS. RED. VALVE	WATTS LF223-S (SET TO 50 PSI; ASSE 1003; 1/2" TO 2-1/2")
TV-1	IND. THERMO. MIX. VALVE	WATTS LFUSG-B (0.25 TO 2.5 GPM; 3/8") (SET TO 110°F DISCHARGE; ASSE 1070)
TV-2	THERMO. MIX. VALVE	Watts Lemmv (0.5 to 20 GPM; 1/2" to 1") (Set to 110°f discharge)

SEE PLAN FOR SIZE. VALVE SIZE TO EQUAL LINE SIZE. BALL VALVES TO INCLUDE REMOVABLE HANDLES.

PRIOR TO BID.

IF AVAILABLE, VALVES MAY BE THREADED OR SWEATED CONNECTIONS. USE EXTREME CARE AND LOW TEMP SOLDER TO PROTECT VALVE SEATS IF SWEATED CONNECTIONS

**UNIT SUB-METER** 

APARTMENT UNIT. VERIFY DETAILS WITH G.C. AND OWNER

Shower drain detail

- ADJUSTABLE HEAD ASSY.

VENEER

FINISHED FLOOR

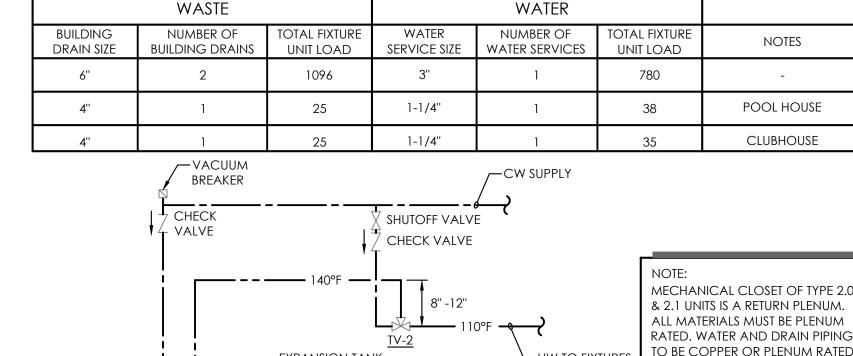
-ROUGH FLOOR

- METAL THREADED

GRADE

SLAB

1. P.C. TO PROVIDE 120V WATER SUBMETER AT EACH



PLUMBING FIXTURE REQUIREMENTS

TO BE COPPER OR PLENUM RATED **—**EXPANSION TANK CPVC; <u>NO PVC, NO PEX</u>. DRAIN PAN MUST BE METAL; NO PLASTIC -TEMPERATURE AND SIDE HUB DRAIN MUST BE METAL; NO PRESSURE RELIEF VALVE CONNECTIONS. -DISCHARGE FULL SIZE OF VALVE DISCHARGE SHUTOFF VALVE -SPILL INTO DRAIN PAN WATER HEATER 1-1/2" DEEP -DRAIN PAN COORDINATE INSTALLATION WITI FLOOR M.C. & AH ABOVE -1" DRAIN LINE TO HUB DRAIN INSTALL WATER HEATER PER MANUFACTURER REQUIREMENTS

ELEVATE DRAIN PAN AS NECESSARY TO ALLOW PROPER FLOW TO HUB DR -CONCRETE APRON THREADED--COVER PLATE WITH CLEANOUT PLUG SECURING SCREW (APPX. 18" AFF) TEST TEE — FINISHED WALL **CUT-OFF SECTIONS** EXTEND TEST TEE OPENING IF PLUG IS GREATER THAN GCO, YCO - EXTERIOR

PROVIDE HEAT TRAP ON CW AND HW LINES PER ENERGY CODE

8" FROM FINISHED WALL. WALL CLEANOUT DETAIL

AAV AIR ADMITTANCE VALVE

CHECK VALVE COLD WATER

FLOOR CLEAN OUT

GENERAL CONTRACTOR

FLOOR DRAIN

HOSE BIBB

HUB DRAIN

HOT WATER

SANITARY SEWER

WH WATER HEATER

TEMPERING VALVE

**AUTHORITY HAVING JURISDICTION** 

ELECTRICAL SUB-CONTRACTOR

MECHANICAL SUB-CONTRACTOR

PLUMBING SUB-CONTRACTOR

PRESSURE REDUCING VALVE

BALL OR BALANCING VALVE (SEE SCHED)

ABOVE FINISHED FLOOR

BELOW FINISHED FLOOR

BACK FLOW PREVENTER

ABOVE

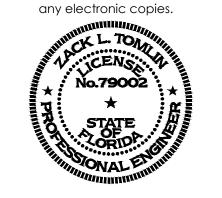
CW

ARCHITECTURE, P.A

Raleigh, NC 27609

(919) 846-8100 website www.planworx.com This document has been digitally signed ar sealed by Zack L. Tomlin, PE using a digita signature on the date listed immediately below. Printed copies of this document are

not considered signed and sealed and the SHA authentication code must be verified or any electronic copies.



company Development



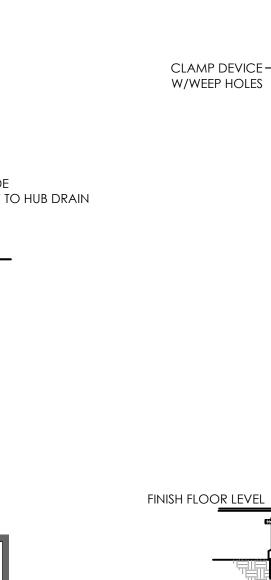
ENGINEERING, PLLC#: 3316 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797 PLUMBING MECHANICAL ELECTRICAL

PROJECT NO: **P**J

DRAWN BY:

CHECKED BY: SHEET TITLE: PLUMBING

**DETAILS** 



TOP SUITABLE FOR FINISHED FLOOR, TILE, CARPET, CONC., ETC FLOOR CLEANOUT DETAIL

EXTERIOR CLEANOUT DETAIL

Floor Assembly - The 1 hr fire rated wood truss or combination wood and steel truss Floor-Ceiling assembly shall be

Directory, as summarized below:

nonmetallic pipe (Items 3 and 4).

closed (process or supply) piping systems.

\*Bearing the UL Classification Mark

The following types and sizes of nonmetallic pipes may be used:

**Wood Members\*** with bridging as required and ends firestopped.

board chase wall and shall include the following construction features:

A. **Studs** - Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber studs.

D. **Gypsum Board** - Min 1/2 in. (13 mm) thick rated or nonrated gypsum board.

notch-out in sole plate to be 1/2 in. to 1 in. (13 to 25 mm) larger than outside diam of pipe.

1/2 in. (0 to max 13 mm). The following types and sizes of nonmetallic pipes may be used:

ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

use in closed (process or supply) or vented (drain, waste or vent) piping system.

use in closed (process or supply) or vented (drain, waste or vent) piping system.

surface of floor. Min 1/2 in. (13 mm) diam bead applied at the pipe/floor interface.

constructed of the materials and in the manner described in the individual L500 Series Design in the UL Fire Resistance

A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified

B. Joists - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural

C. Gypsum Board\* - Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick, attached as described in the individual Floor-Ceiling

2. **Chase Wall** - The through penetrant (Item No. 3) shall be routed through a single, double or staggered wood studs/gypsum

B. Sole Plate - Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates. Diam of opening or length of

C. **Top Plate** - The single or double top plate shall consist of one or two nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by

152 mm) lumber plates. Diam of opening or length of notch-out in top plate to be 1/2 in. to 1 in. (13 to 25 mm) larger than

Through Penetrant - One nonmetallic pipe to be installed within the firestop system. Pipe to be rigidly supported on both sides

A. Polyvinyl Chloride (PVC) Pipe - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for

B. Acrylonitrile Butadiene Styrene (ABS) Pipe - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core

C. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 3 in. (76 mm) diam (or smaller) SDR13.5 CPVC pipe for use in

Branch Piping - (Optional) - One nonmetallic pipe to be connected to through penetrant (Item 3) and installed within opening

in subfloor. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm).

A. Polyvinyl Chloride (PVC) Pipe - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for

B. Acrylonitrile Butadiene Styrene (ABS) Pipe - Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core

Fill, Void or Cavity Materials\* - Caulk or Sealant - Min 3/4 in. (19 mm) thickness of caulk applied within annular space around perimeter of through penetrant (Item 3), flush with top surface of floor or sole plate and flush with bottom surface of top plate.

Min 3/4 in. (19 mm) thickness of caulk applied within annular space around perimeter of branch piping (Item 4), flush with top

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SPECIFIED TECHNOLOGIES, INC. - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant or Type WF300 Firestop Caulk

of floor-ceiling assembly. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max

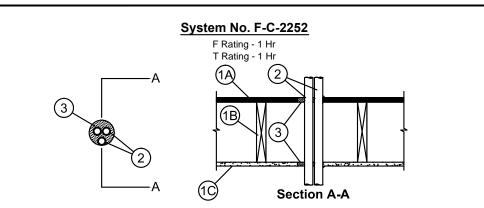
in the individual Floor-Ceiling Design. Diam of opening shall be 1/2 in. to 1 in. (13 to 25 mm) larger than the outside diam of

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All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

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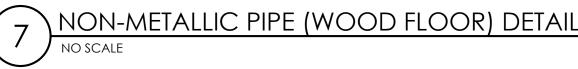


- Floor-Ceiling Assembly The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Designs in the UL Fire Resistance Directory, as summarized below:
- A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Max diam of opening is 3 in.
- B. Wood Joists Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural **Wood Members**\* with bridging as required and with ends firestopped.
- $C. \ \ \textbf{Gypsum Board}^{\star} \ \ Thickness, \ type, \ number \ of \ layers \ and \ fasteners \ as \ required \ in \ the \ individual \ Floor-Ceiling \ Design. \ Max$ diam of opening is 3 in. Chase Wall - (Optional, Not Shown) - The through penetrant (Item 2) may be routed through a 1 hr fire rated single
- double or staggered wood stud/gypsum board chase wall. Depth of chase wall stud cavity to be min 1/2 in. greater than diameter of opening cut in sole and top plates to accommodate the through penetrant (Item 2). The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
- A. **Studs** Nom 2 by 4 in., 2 by 6 in. or double nom 2 by 4 in. lumber studs.
- B. Sole Plate Nom 2 by 4 in., 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 3 in. C. Top Plate - The double top plate shall consist of two nom 2 by 4 in., two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 3 in.
- D. Gypsum Board\* Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition
- Through Penetrants One or more nonmetallic pipes, conduits or tubing to be installed either concentrically or eccentrically within the opening. Min space between pipes, conduits or tubes to be 0 in. Annular space between the pipes, conduits or tubing and the periphery of the opening shall be min 0 in. (point contact) to max 1 in. Penetrants to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of nonmetallic pipe, conduits or tubing may be used:
- A. Polyvinyl Chloride (PVC) Pipe Nom 1 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) piping systems. B. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 1 in. diam (or smaller) SDR11 CPVC pipe for use in closed (process
- or supply) piping systems. C. Rigid Nonmetallic Conduit (RNC)+ - Nom 1 in. diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70).
- D. Cross Linked Polyethylene (PEX) Tubing Nom 1 in. diam (or smaller) SDR9 PEX tubing for use in closed (process or supply) piping systems.
- E. Electrical Nonmetallic Tubing (ENT)+ Nom 1 in. diam (or smaller) PVC tubing installed in accordance with Article 331 of the National Electrical Code (NFPA 70)
- Fill, Void or Cavity Material\* Sealant Min 3/4 in. thickness of fill material applied within the annulus, flush with the top surface of the floor or chase wall sole plate. Min 5/8 in. thickness of fill material applied within the annulus, flush with bottom surface of gypsum board ceiling or chase wall top plate. Min 1/4 in. diam bead of fill material applied at point contact location on the top surface of floor or sole plate and at the penetrant/ceiling or penetrant/chase wall top plate interface. Specified Technologies Inc. - SpecSeal LCI Sealant \* Bearing the UL Classification Marking

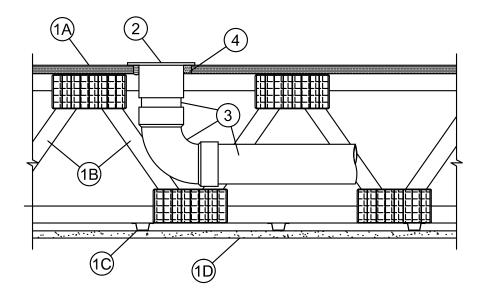


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System No. F-C-232 T Rating - 1 Hr



- . Floor-Ceiling Assembly The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as
- A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Max diam of opening is 5 in. (127 mm).
- B. Wood Joists Nom 2 by 10 in. (51 by 254 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped. As an alternate to lumber joists, nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists trusses or Structural Wood Members\* with bridging as required with ends
- C. Furring Channels (Not Shown) Resilient galv steel furring installed perpendicular to wood joists (Item 1B) between gypsum board (Item 1D) and wood joists as required in the individual Floor-Ceiling Design.
- D. Gypsum Board\* Nom 4 ft (1.22 mm) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists as specified in the individual Floor-Ceiling Design.
- Closet Flange Polyvinyl chloride (PVC) or acrylonitrile butadiene styrene (ABS) closet flange installed in hole-sawed opening in flooring system with flange secured to top of flooring with steel screws. Diam of circular opening through flooring (Item 1A) to be max 1/2 in. (13 mm) larger than outside diam of closet flange.
- 3. Drain Piping Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVC or ABS drain piping and fittings. Short length of pipe with
- 90 degree elbow fitting cemented into bottom socket of closet flange. Drain piping to soil stack cemented into elbow. 4. Fill, Void or Cavity Material\* - Sealant - Fill material forced into annulus between closet stub and periphery opening in flooring to max extent possible, flush with bottom surface of floor. Additional fill material to be installed such that a min 3/8 in. (10 mm)

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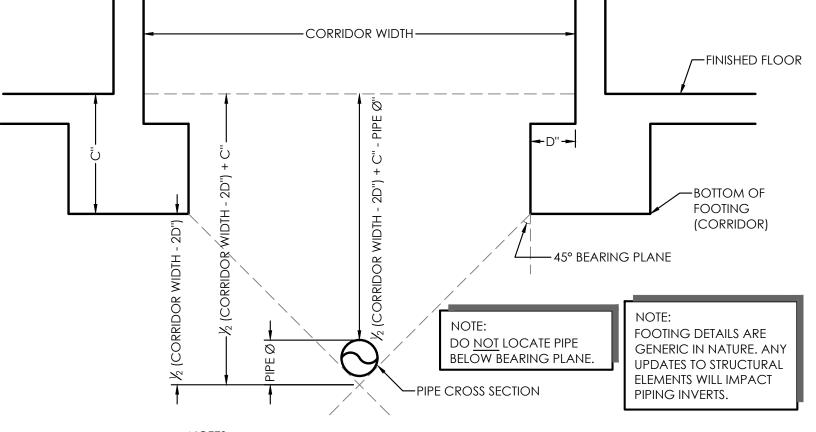
crown is formed around the closet stub on bottom surface of floor. SPECIFIED TECHNOLOGIES INC - Type WF300 Caulk

Classified by

Underwriters Laboratories, Inc.

to UL 1479 and CAN/ULC-S115

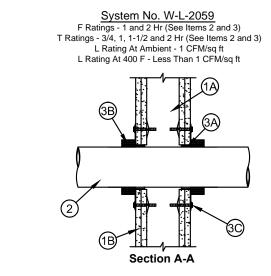
- Water Closet (Not Shown) Floor mounted vitreous china water closet.
- \*Bearing the UL Classification Mark

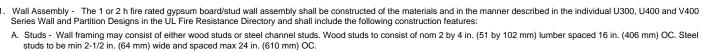


piping systems.

- SEE STRUCTURAL PLANS FOR ACTUAL DEPTH OF FOOTING, C".
- SEE STRUCTURAL PLANS FOR ACTUAL WIDTH OF FOOTING, TO CALCULATE D". MAXIMUM DEPTH OF INVERT EQUAL TO  $\frac{1}{2}$  x (CORRIDOR WIDTH" - (2D")) + C" - PIPE Ø" MAXIMUM DEPTH OF INVERT MEASURED TO TOP OF PIPE

## CORRIDOR INVERT DETAIL





- B. Gypsum Board\* 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm) 2. Through-Penetrants - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be max 1/4 in. (6 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
- A Polyvinyl Chloride (PVC) Pine Nom 4 in (102 mm) diam (or smaller) Schedule 40 or 80 solid or cellular core PVC pine for use in closed (process or supply) or vented (drain waste or vent) piping systems. When Schedule 80 PVC pipe is used, the F and T Ratings are 1 hr. When Scheduled 80 PVC pipe is used in closed (process or supply) piping systems, the F and T Ratings are equal to the assembly rating of the wall in which it is installed. B. Rigid Nonmetallic Conduit+ - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA
- No. 70). When Schedule 80 PVC conduit is used, the F and T Ratings are 1 hr.
- C. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems. D. Acrylonitrile Butadiene Styrene (ABS) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or foamed core ABS pipe for use in closed (process or supply) or vented E. Fire Retardant Polypropylene (FRPP) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent)
- F. Polyvinylidene Fluoride (PVDF) Pipe Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping G. Fiberglass Reinforced Pipe (FRP) Pipe - Nom 4 in. (102 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented (drain, waste or vent) piping systems. When FRP pipe is used, T Rating is 3/4 hr.
- H. High Density Polyethylene (HDPE) Pipe Nom 4 in. (102 mm) diam (or smaller) Schedule 40 HDPE pipe for use in closed (process or supply) piping systems. 3. Firestop System - The firestop system shall consist of the following: A. Fill, Void or Cavity Material\* - Sealant - Fill material forced into annular space to max extent possible. Caulk shall be installed flush with both surfaces of wall assembly.
- SPECIFIED TECHNOLOGIES INC SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant B. Fill, Void or Cavity Material - Wrap Strip - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.

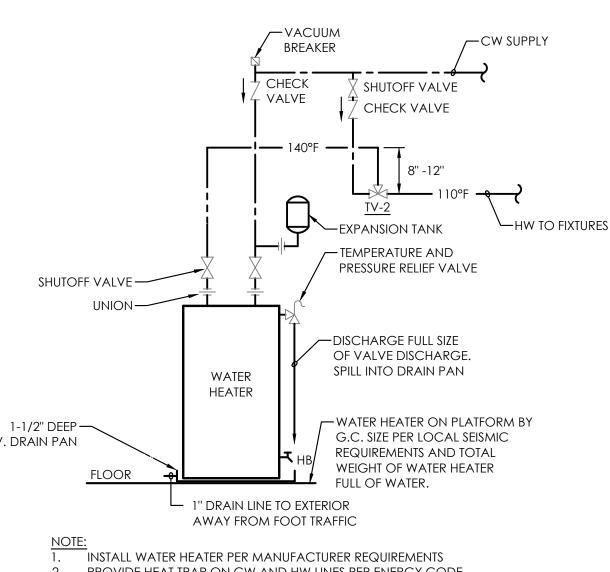
Fire Rating of Wall Hr	Max Diam of Throught Penetrant in. (mm)	No. of Wrap Strip Layers	F Rating Hr	T Rating Hr
1	1-1/2 (38)	1	1	1
2	1-1/2 (38)	1	2	1-1/2
1	2 (51)	1	1	1
2	2 (51)	1	2	1-1/2
1	3 (76)	2	1	1
2	3 (76)	2	2	2
1	4 (102)	3	1	1
2	4 (102)	3	2	2

Except as noted in Item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated

- SPECIFIED TECHNOLOGIES INC SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip C. Steel Collar - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/4 in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.
- Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Steel collars are installed on each side of wall.
- D. Firestop Device\* (Optional, Not Shown) As an alternate to Item 3B and 3C, galv steel collar lined with an intumescent material sized to fit the specific diam of the through-penetrant. Device shall be installed around through-penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to each surface of wall assembly by means of 1/8 in. (3 mm) diam by 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) diam steel
- SPECIFIED TECHNOLOGIES INC SpecSeal Firestop Collar, SpecSeal LCC Collar or SpecSeal SSC Collar . When SpecSeal LCC Collar or SpecSeal SSC Collar are used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam \*Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Specified Technologies Inc. 210 Evans Way Somerville, NJ 08876

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RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797

PLUMBING MECHANICAL ELECTRICAL

708 ST. MARYS ST

PROJECT NO: **P**T

PLUMBING

DETAILS

ZLT

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SHEET TITLE:

website

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Raleigh, NC 27609

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PROVIDE HEAT TRAP ON CW AND HW LINES PER ENERGY CODE ELEVATE DRAIN PAN AS NECESSARY TO ALLOW PROPER FLOW TO EXTERIOR

WATER HEATER DETAIL (WH-3)

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ANSI/UL1479 (ASTM E814)

F Ratings —1 and 2 Hr (See Items 1 and 3)

Rating at Ambient — Less Than 1 CFM/sq ft

Rating at 400 F — Less Than 1 CFM/sq ft

T Rating — 0 Hr

System No. W-L-1054

CAN/ULC S115

F Ratings — 1 and 2 Hr (See Items 1 and 3

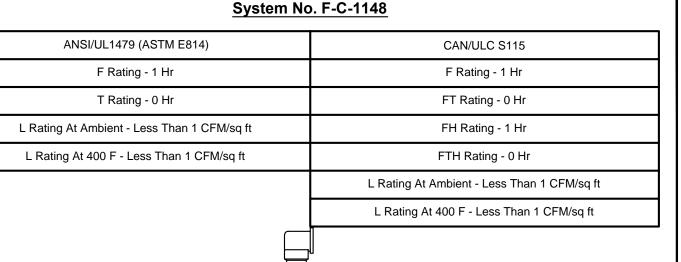
FH Ratings —1 and 2 Hr (See Items 1 and 3

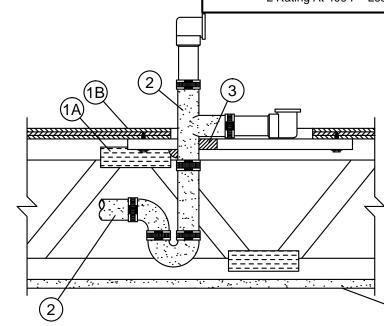
L Rating at Ambient — Less Than 1 CFM/sq f

L Rating at 400 F — Less Than 1 CFM/sq ft

FT Rating — 0 H

FTH Rating — 0 H





Floor-Ceiling Assembly - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:

A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Rectangular cutout in flooring to accommodate the bathtub drain piping (Item 2) to be max 8 by 12 in. (203 by 305 mm). Cutout to be patched on underside of subfloor using one layer of min 3/4 in. (19 mm) thick plywood or min 5/8 in. (16 mm) thick gypsum board (Item 1C) sized to lap min 2 in. (51 mm) beyond each edge of rectangular cutout. Patch split into two pieces at opening and hole-sawed for bathtub drain piping. Diam of opening hole sawed through patch to accommodate drain piping (Item 2) to be 1 in. (25 mm) larger than outside diam of drain piping and positioned such that the annular space between drain piping and periphery of opening is min 0 in. (point contact) to max 1 in. (25 mm). Two pieces positioned around drain piping, with cut edges tightly butted, and screw-attached to underside of subfloor with 1-1/4 in

(32 mm) long steel screws spaced max 6 in. (152 mm) OC. B. Wood Joists\* - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members\* with bridging as required and with ends firestopped.

C. Gypsum Board\* - Nom 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide as specified in the individual Floor-Ceiling Design. 2. Drain Piping - Max 1-1/2 in. (38 mm) diam cast iron pipe, P-trap, drain and tee connected together by means of stainless steel "No-Hub" connectors and provided with an acrylonitrile butadiene styrene (ABS), polyvinyl chloride (PVC) or brass bathtub waste/overflow fitting. Drain piping system to be reliably supported above ceiling. The annular space between drain piping and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm).

8. Fill, Void or Cavity Materials\* - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of plywood or gypsum board patch. A min 1/2 in. (13 mm) diameter bead of sealant applied at the pipe/plywood or pipe/gypsum board interface at point contact location on the bottom side of patch.

SPECIFIED TECHNOLOGIES INC - SpecSeal Series 100, 101, 102, 120, 129, or 105 Sealant, SpecSeal LCI Sealant, or Type WF Firestop Caulk

\*Bearing the UL Classification Mark



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Underwriters Laboratories, Inc. October 14, 2015 **Hilti Firestop Systems** 

C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealan

ations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.

Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

6 mm) clearance is present between the penetrating item and the framing on all four sides.

The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.

A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.

opening is 14-1/2 in. (368 mm) for wood stud walls.

metallic pipes, conduits or tubing may be used:



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Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series

A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall

be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6

in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to

B. Gypsum Board\* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of

Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max

2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of

E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.

B. Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact

NON METALIC (WOOD FLOOR) DETAIL

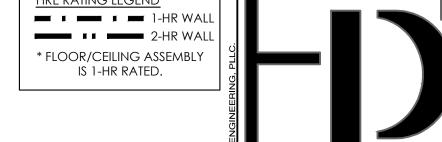
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FIRE RATING LEGEND 2-HR WAL \* FLOOR/CEILING ASSEMBLY



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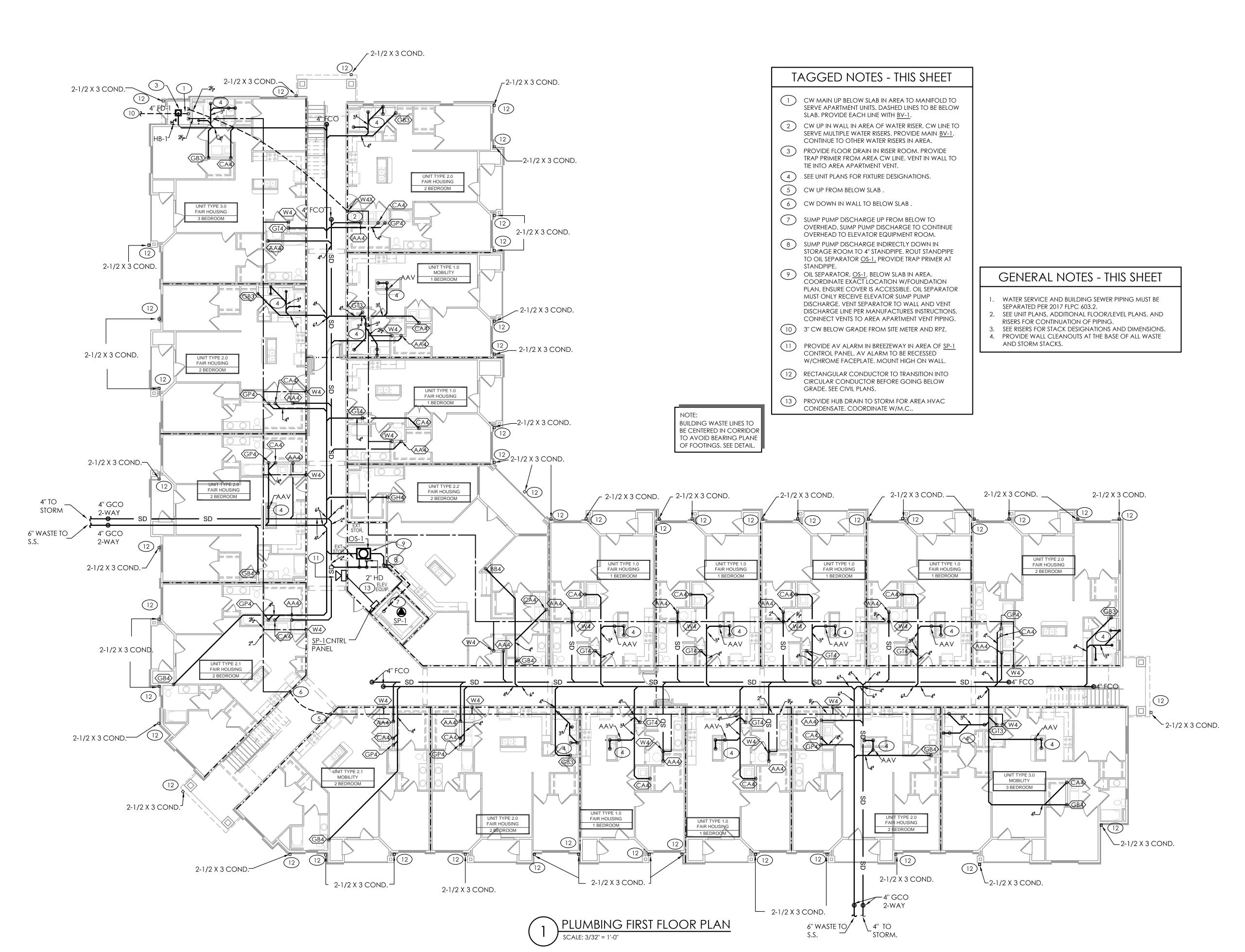
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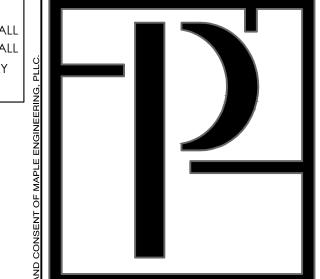
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> PLUMBING FIRST FLOOR PLAN



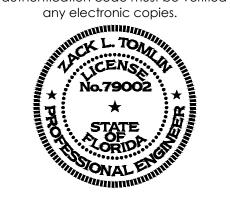
FIRE RATING LEGEND ■ • ■ 1-HR WAL 2-HR WAL \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.



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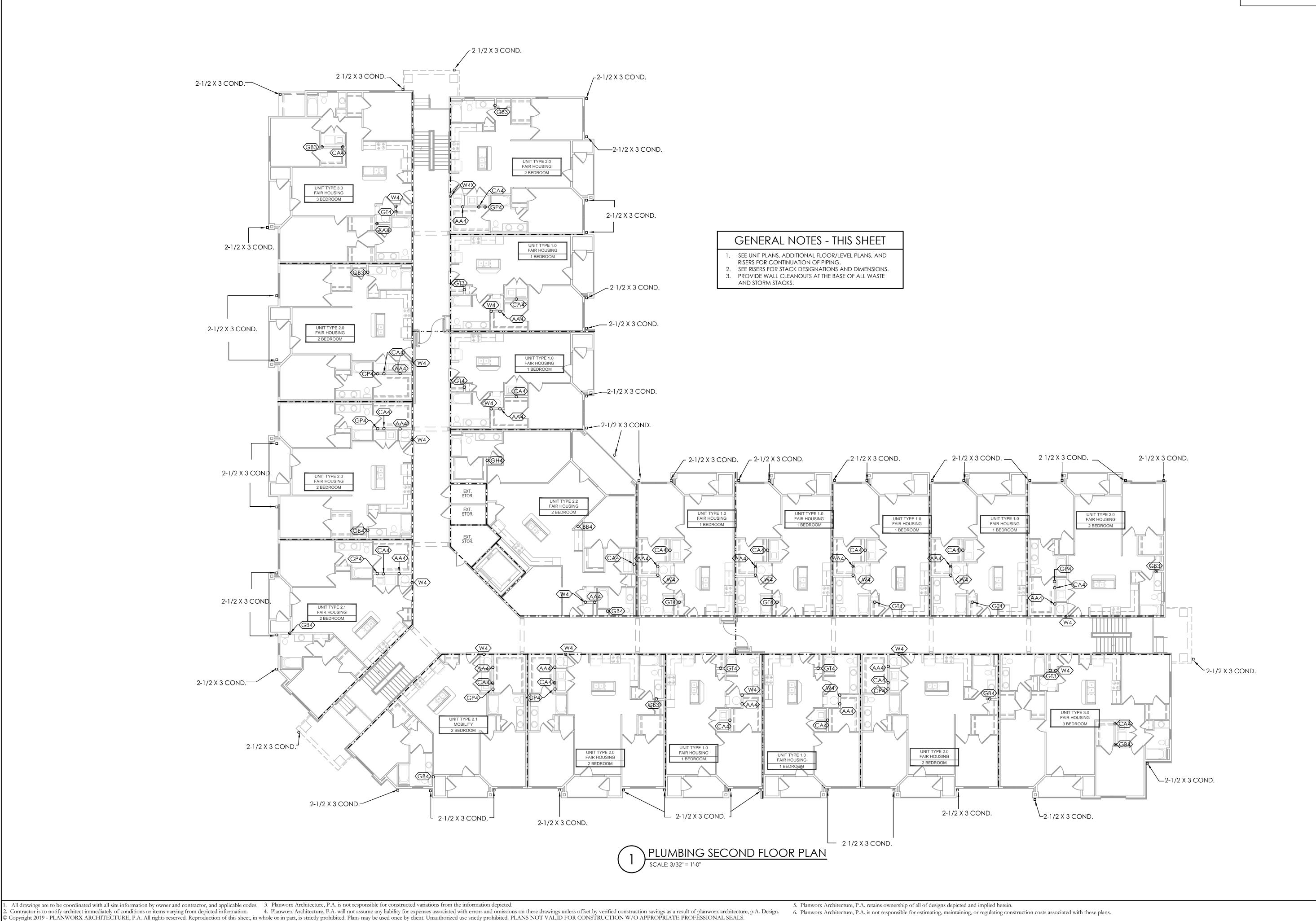
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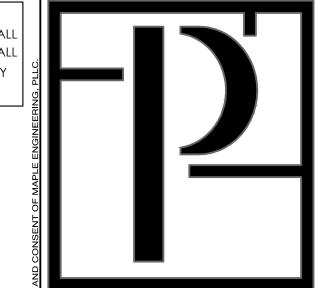
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PLUMBING SECOND FLOOR PLAN

SHEET NUMBER:



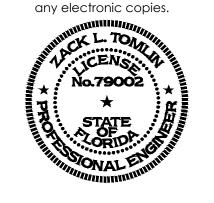
FIRE RATING LEGEND ■ • ■ 1-HR WAL 2-HR WAL \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.



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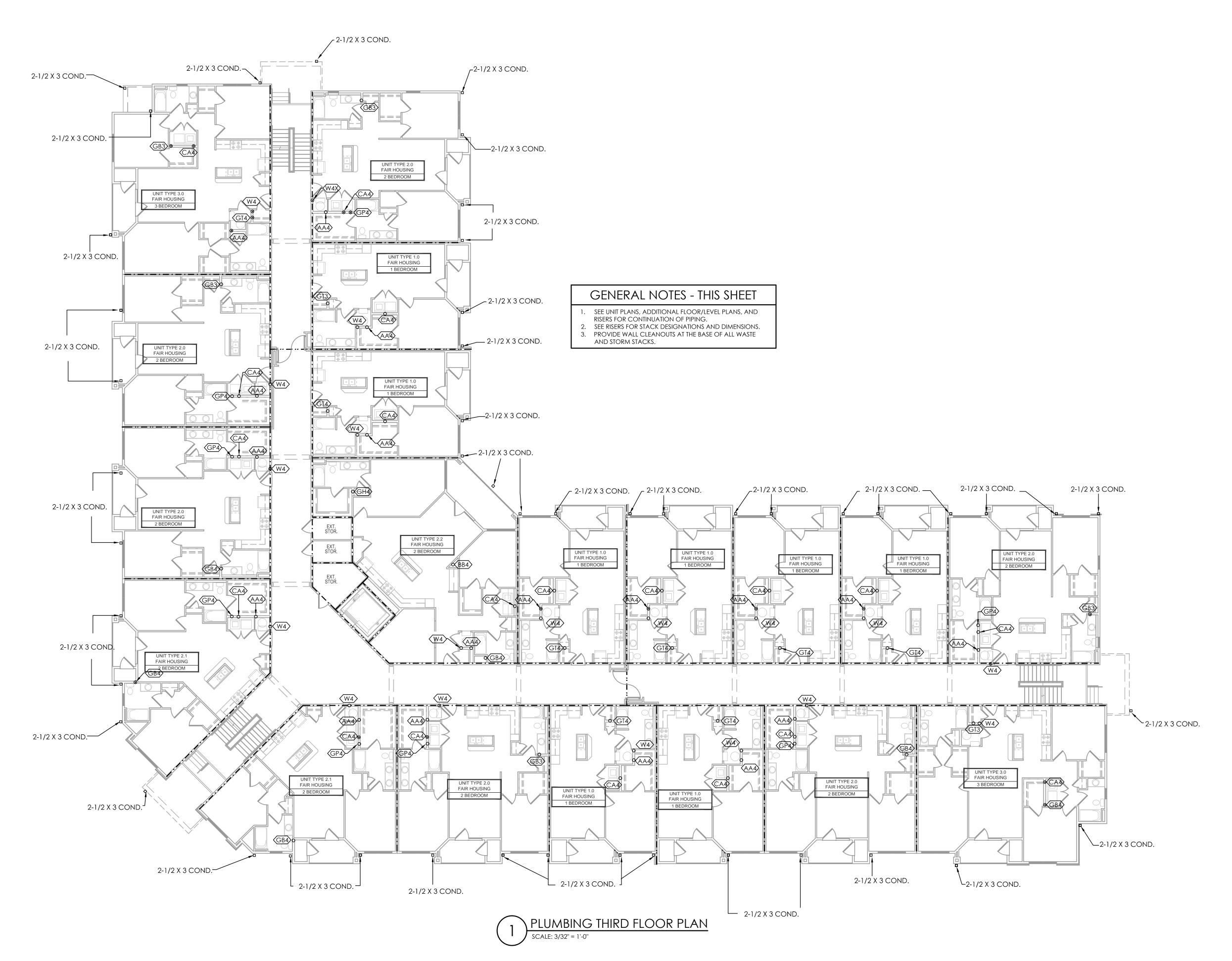
PROJECT NO: PLX-1900 DRAWN BY:

ZLT

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FLOOR PLAN

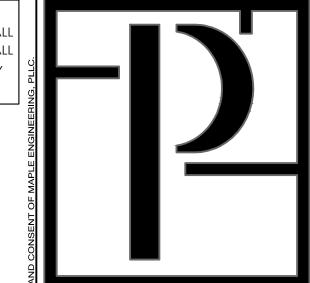
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FIRE RATING LEGEND \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.



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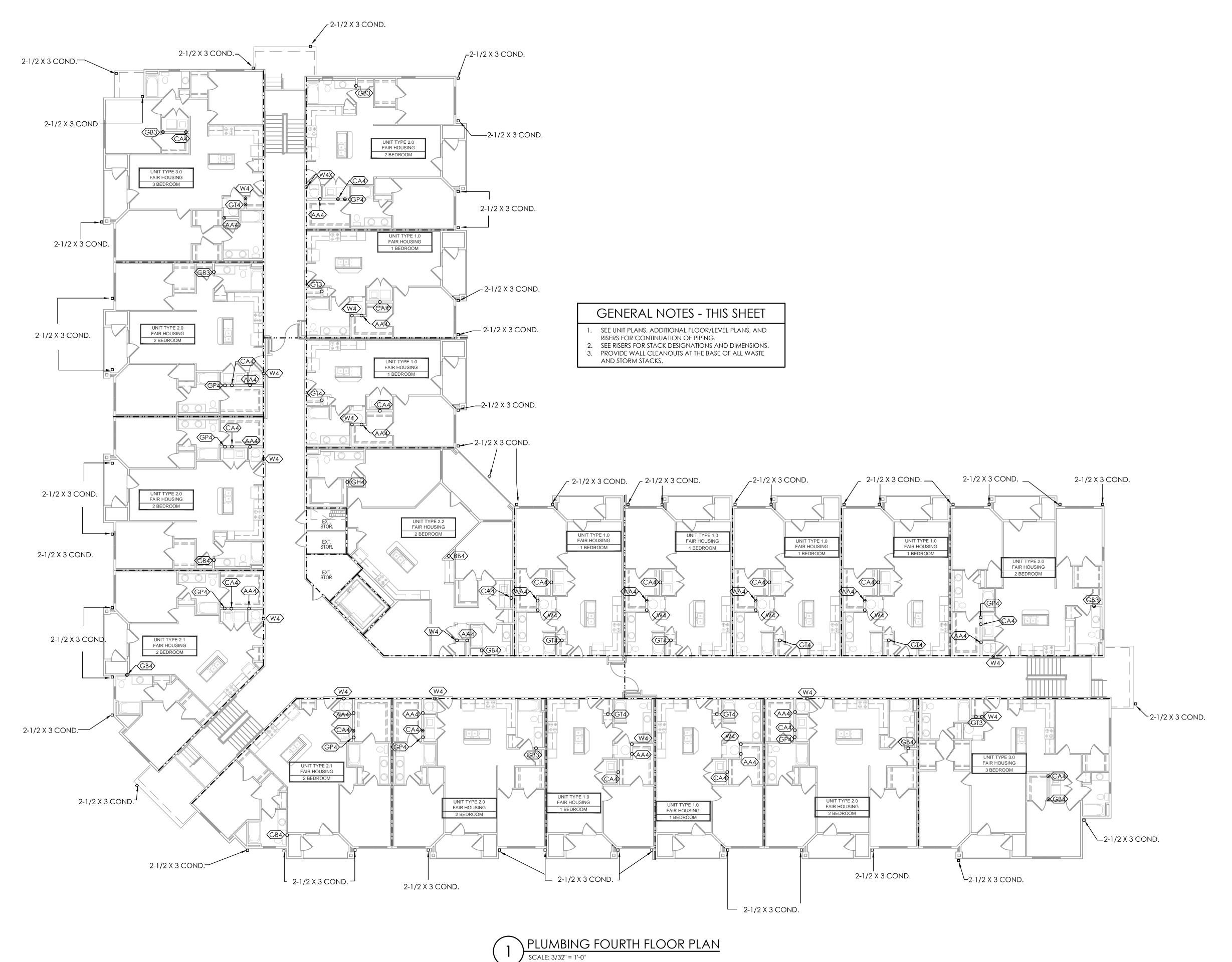
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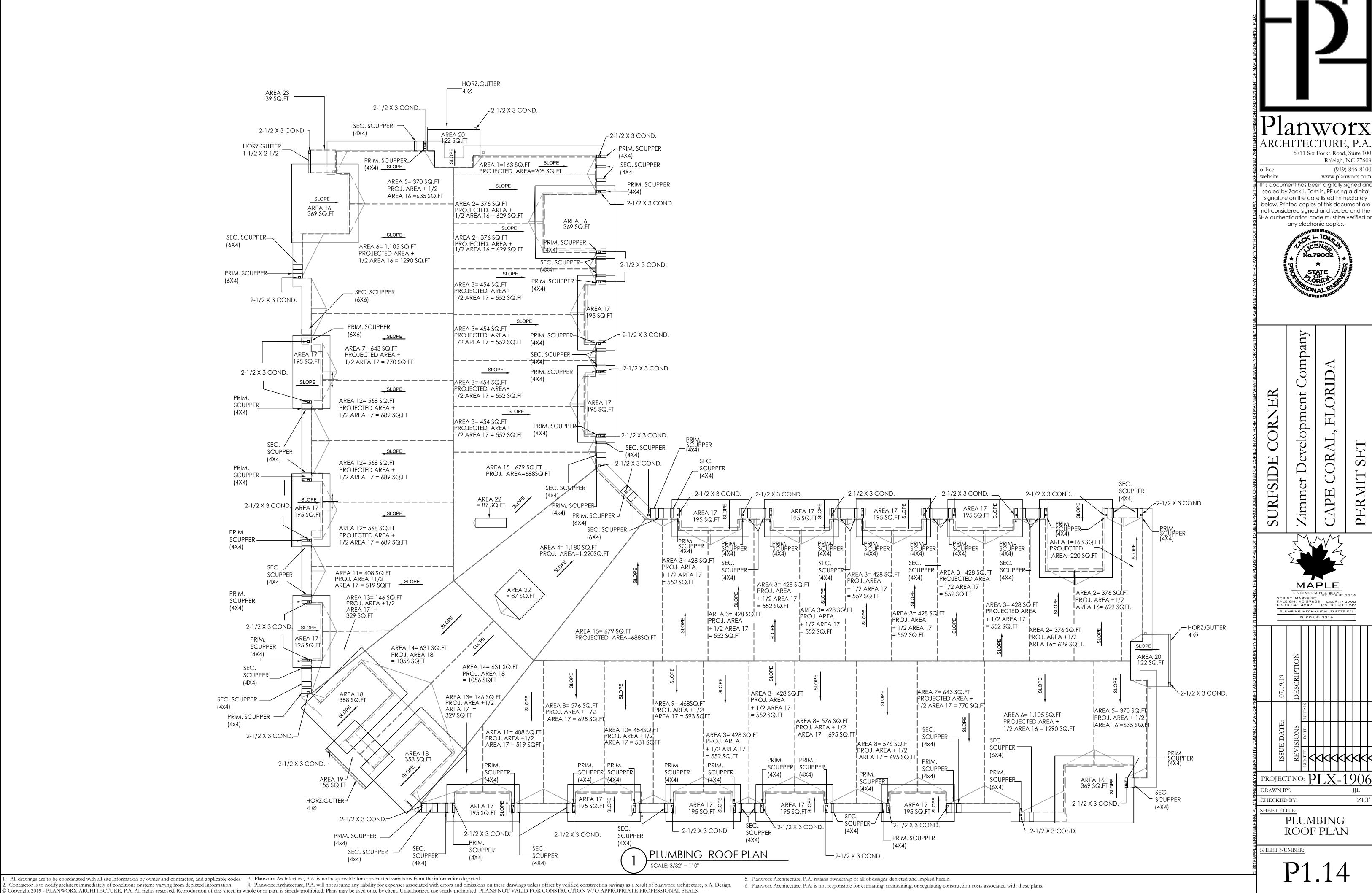
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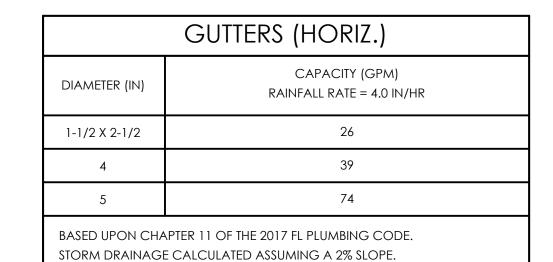
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PLUMBING FOURTH FLOOR PLAN

SHEET NUMBER:







RECTANO	GULAR CONDUCTORS (VERT.)
DIMENSIONS (IN)	CAPACITY (GPM) RAINFALL RATE = 4.5 IN/HR
2	30
2x2	30
1-1/2 x 2-1/2	30
2-1/2	54
2-1/2 x 2-1/2	54
2-1/2 x 3	92
BASED UPON CHA	APTER 11 OF THE 2017 FL PLUMBING CODE.

SCUPPER CALCs (AREA 10)

BASED ON 2017 FLPC SEC 1106

454

3.0

2.0

13.0

4.0

483

581

4.5

23

23

4 x 4

ROOF AREA (SQFT)

PARAPET 1 (OR SIMILAR) LENGTH (FT)

PARAPET 1 (OR SIMILAR) HEIGHT (FT)

PARAPET 2 (OR SIMILAR) LENGTH (FT)

PARAPET 2 (OR SIMILAR) HEIGHT (FT)

ROOF AREA + ½ VERT. AREAS (SQFT)

60 MIN. RAINFALL RATE (IN/HR)

60 MIN. RAINFALL RATE (GPM)

SCUPPER DIMENSIONS (WxH, IN)

REQ'D GPM PER SCUPPER

# OF SCUPPERS

SELECTED HEAD (IN)

PROJ AREA + UPPER ROOF AREA (SQFT)

SCUPPER CALCs (	AREA 12)	SCUPPER CALCs (	AREA 11)
BASED ON 2017 FLPC SEC	C 1106	BASED ON 2017 FLPC SEC	1106
ROOF AREA (SQFT)	568	ROOF AREA (SQFT)	408
PARAPET 1 (OR SIMILAR) LENGTH (FT)	9.0	PARAPET 1 (OR SIMILAR) LENGTH (FT)	3.0
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	2.0	PARAPET 1 (OR SIMILAR) HEIGHT (FT)	4.0
PARAPET 2 (OR SIMILAR) LENGTH (FT)	7.0	PARAPET 2 (OR SIMILAR) LENGTH (FT)	7.0
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	4.0	PARAPET 2 (OR SIMILAR) HEIGHT (FT)	2.0
ROOF AREA + ½ VERT. AREAS (SQFT)	591	ROOF AREA + ½ VERT. AREAS (SQFT)	421
ROJ AREA + UPPER ROOF AREA (SQFT)	689	PROJ AREA + UPPER ROOF AREA (SQFT)	519
60 MIN. RAINFALL RATE (IN/HR)	4.5	60 MIN. RAINFALL RATE (IN/HR)	4.5
60 MIN. RAINFALL RATE (GPM)	28	60 MIN. RAINFALL RATE (GPM)	20
# OF SCUPPERS	1	# OF SCUPPERS	1
REQ'D GPM PER SCUPPER	28	REQ'D GPM PER SCUPPER	20
SCUPPER DIMENSIONS (WxH, IN)	4 x 4	SCUPPER DIMENSIONS (WxH, IN)	4 x 4
SELECTED HEAD (IN)	2	SELECTED HEAD (IN)	2

NOV. 0017 FLDG 0FG 1107	D.40FD Q.40017 FLDQ 0FQ	1107
O ON 2017 FLPC SEC 1106	BASED ON 2017 FLPC SEC	1106
OOF AREA (SQFT) 568	ROOF AREA (SQFT)	408
MILAR) LENGTH (FT) 9.0	PARAPET 1 (OR SIMILAR) LENGTH (FT)	3.0
AILAR) HEIGHT (FT) 2.0	PARAPET 1 (OR SIMILAR) HEIGHT (FT)	4.0
NILAR) LENGTH (FT) 7.0	PARAPET 2 (OR SIMILAR) LENGTH (FT)	7.0
AILAR) HEIGHT (FT) 4.0	PARAPET 2 (OR SIMILAR) HEIGHT (FT)	2.0
ERT. AREAS (SQFT) 591	ROOF AREA + ½ VERT. AREAS (SQFT)	421
OOF AREA (SQFT) 689	PROJ AREA + UPPER ROOF AREA (SQFT)	519
IFALL RATE (IN/HR) 4.5	60 MIN. RAINFALL RATE (IN/HR)	4.5
NFALL RATE (GPM) 28	60 MIN. RAINFALL RATE (GPM)	20
# OF SCUPPERS 1	# OF SCUPPERS	1
GPM PER SCUPPER 28	REQ'D GPM PER SCUPPER	20
ENSIONS (WxH, IN) 4 x 4	SCUPPER DIMENSIONS (WxH, IN)	4 x 4
LECTED HEAD (IN) 2	SELECTED HEAD (IN)	2

SCUPPER CALCs	(AREA 6)	SCUPPER CALCs	(AREA 5)
BASED ON 2017 FLPC SEC	1106	BASED ON 2017 FLPC SEC	1106
roof area (SQFT)	1022	ROOF AREA (SQFT)	370
PARAPET 1 (OR SIMILAR) LENGTH (FT)	20.0	PARAPET 1 (OR SIMILAR) LENGTH (FT)	38.0
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	2.0	PARAPET 1 (OR SIMILAR) HEIGHT (FT)	2.0
PARAPET 2 (OR SIMILAR) LENGTH (FT)	21.0	PARAPET 2 (OR SIMILAR) LENGTH (FT)	14.0
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	6.0	PARAPET 2 (OR SIMILAR) HEIGHT (FT)	6.0
ROOF AREA + ½ VERT. AREAS (SQFT)	1105	ROOF AREA + ½ VERT. AREAS (SQFT)	450
DJ AREA + UPPER ROOF AREA (SQFT)	1290	PROJ AREA + UPPER ROOF AREA (SQFT)	635
60 MIN. RAINFALL RATE (IN/HR)	4.5	60 MIN. RAINFALL RATE (IN/HR)	4.5
60 MIN. RAINFALL RATE (GPM)	52	60 MIN. RAINFALL RATE (GPM)	21
# OF SCUPPERS	1	# OF SCUPPERS	1
REQ'D GPM PER SCUPPER	52	REQ'D GPM PER SCUPPER	21

		0001121(0)(200	() (()=) (
SCUPPER CALCS	(AREA 4)	BASED ON 2017 FLPC SEC	 C 1106
	,	ROOF AREA (SQFT)	428
BASED ON 2017 FLPC SEC	1106	PARAPET 1 (OR SIMILAR) LENGTH (FT)	2.0
ROOF AREA (SQFT)	1180	PARAPET 1 (OR SIMILAR) HEIGHT (FT)	4.0
PARAPET 1 (OR SIMILAR) LENGTH (FT)	18.0	Parapet 2 (Or Similar) length (ft)	8.0
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	4.0	PARAPET 2 (OR SIMILAR) HEIGHT (FT)	4.0
PARAPET 2 (OR SIMILAR) LENGTH (FT)	18.0	Parapet 3 (Or Similar) length (ft)	2.0
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	4.0	PARAPET 3 (OR SIMILAR) HEIGHT (FT)	6.0
ROOF AREA + ½ VERT. AREAS (SQFT)	1252	ROOF AREA + ½ VERT. AREAS (SQFT)	454
DJ AREA + UPPER ROOF AREA (SQFT)	1350	PROJ AREA + UPPER ROOF AREA (SQFT)	552
60 MIN. RAINFALL RATE (IN/HR)	4.5	60 MIN. RAINFALL RATE (IN/HR)	4.5
60 MIN. RAINFALL RATE (GPM)	59	60 MIN. RAINFALL RATE (GPM)	21
# OF SCUPPERS	1	# OF SCUPPERS	1
REQ'D GPM PER SCUPPER	59	REQ'D GPM PER SCUPPER	21
SCUPPER DIMENSIONS (WxH, IN)	6 x 4	SCUPPER DIMENSIONS (WxH, IN)	4 x 4
SELECTED HEAD (IN)	3	SELECTED HEAD (IN)	2

	SCUPPER CALCs	(AREA 3)
	BASED ON 2017 FLPC SEC	C 1106
	ROOF AREA (SQFT)	428
ı	PARAPET 1 (OR SIMILAR) LENGTH (FT)	2.0
	PARAPET 1 (OR SIMILAR) HEIGHT (FT)	4.0
ı	PARAPET 2 (OR SIMILAR) LENGTH (FT)	8.0
	PARAPET 2 (OR SIMILAR) HEIGHT (FT)	4.0
ı	PARAPET 3 (OR SIMILAR) LENGTH (FT)	2.0
	PARAPET 3 (OR SIMILAR) HEIGHT (FT)	6.0
	ROOF AREA + $\frac{1}{2}$ VERT. AREAS (SQFT)	454
PRC	DJ AREA + UPPER ROOF AREA (SQFT)	552
	60 MIN. RAINFALL RATE (IN/HR)	4.5
	60 MIN. RAINFALL RATE (GPM)	21
	# OF SCUPPERS	1
	REQ'D GPM PER SCUPPER	21
	SCUPPER DIMENSIONS (WxH, IN)	4 x 4
	SELECTED HEAD (IN)	2

SCUPPER CALCs (AREA 15)

BASED ON 2017 FLPC SEC 1106

# OF SCUPPERS

SELECTED HEAD (IN)

SCUPPER CALCs (AREA 9)

BASED ON 2017 FLPC SEC 1106

ROOF AREA (SQFT)

PARAPET 1 (OR SIMILAR) LENGTH (FT)

PARAPET 1 (OR SIMILAR) HEIGHT (FT)

PARAPET 2 (OR SIMILAR) LENGTH (FT)

PARAPET 2 (OR SIMILAR) HEIGHT (FT)

ROOF AREA + ½ VERT. AREAS (SQFT)

60 MIN. RAINFALL RATE (IN/HR)

60 MIN. RAINFALL RATE (GPM)

REQ'D GPM PER SCUPPER

SCUPPER DIMENSIONS (WxH, IN)

# OF SCUPPERS

SELECTED HEAD (IN)

PROJ AREA + UPPER ROOF AREA (SQFT)

679

20.0

4.0

20.0

4.0

759

4.5

35

35

3

468

5.0

2.0

11.0

4.0

495

592.5

4.5

23

23

4 x 4

ROOF AREA (SQFT)

PARAPET 1 (OR SIMILAR) LENGTH (FT)

PARAPET 1 (OR SIMILAR) HEIGHT (FT)

PARAPET 2 (OR SIMILAR) LENGTH (FT)

PARAPET 2 (OR SIMILAR) HEIGHT (FT)

ROOF AREA +  $\frac{1}{2}$  VERT. AREAS (SQFT)

60 MIN. RAINFALL RATE (IN/HR)

60 MIN. RAINFALL RATE (GPM)

SCUPPER DIMENSIONS (WxH, IN)

REQ'D GPM PER SCUPPER

SCUPPER CALCs	(AREA 2)
BASED ON 2017 FLPC SEC	C 1106
ROOF AREA (SQFT)	376
PARAPET 1 (OR SIMILAR) LENGTH (FT)	5.0
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	2.0
PARAPET 2 (OR SIMILAR) LENGTH (FT)	13.0
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	6.0
PARAPET 3 (OR SIMILAR) LENGTH (FT)	8.0
PARAPET 3 (OR SIMILAR) HEIGHT (FT)	6.0
ROOF AREA + ½ VERT. AREAS (SQFT)	444
ROJ AREA + UPPER ROOF AREA (SQFT)	629
60 MIN. RAINFALL RATE (IN/HR)	4.5
60 MIN. RAINFALL RATE (GPM)	21
# OF SCUPPERS	1
REQ'D GPM PER SCUPPER	21

SCUPPER CALCs (AREA 14)

BASED ON 2017 FLPC SEC 1106

# OF SCUPPERS

SELECTED HEAD (IN)

SCUPPER CALCs (AREA 8)

BASED ON 2018 FLPC SEC 1106

ROOF AREA (SQFT)

PARAPET 1 (OR SIMILAR) LENGTH (FT)

PARAPET 1 (OR SIMILAR) HEIGHT (FT)

PARAPET 2 (OR SIMILAR) LENGTH (FT)

PARAPET 2 (OR SIMILAR) HEIGHT (FT)

ROOF AREA + ½ VERT. AREAS (SQFT)

60 MIN. RAINFALL RATE (IN/HR)

60 MIN. RAINFALL RATE (GPM)

SCUPPER DIMENSIONS (WxH, IN)

REQ'D GPM PER SCUPPER

# OF SCUPPERS

SELECTED HEAD (IN)

PROJ AREA + UPPER ROOF AREA (SQFT)

631

19.0

6.0

10.0

2.0

698

1056

4.5

33

33

4 x 4

576

8.0

2.0

7.0

4.0

598

695

4.5

28

28

4 x 4

4 x 4

ROOF AREA (SQFT)

PARAPET 1 (OR SIMILAR) LENGTH (FT)

PARAPET 1 (OR SIMILAR) HEIGHT (FT)

PARAPET 2 (OR SIMILAR) LENGTH (FT)

PARAPET 2 (OR SIMILAR) HEIGHT (FT)

ROOF AREA + ½ VERT. AREAS (SQFT)

60 MIN. RAINFALL RATE (IN/HR)

60 MIN. RAINFALL RATE (GPM)

SCUPPER DIMENSIONS (WxH, IN)

REQ'D GPM PER SCUPPER

'ROJ AREA + UPPER ROOF AREA (SQFT)

4.5	60 MIN. RAINFALL RATE (IN/HR)	
11	60 MIN. RAINFALL RATE (GPM)	
1	# OF SCUPPERS	
11	REQ'D GPM PER SCUPPER	
4 x 4	SCUPPER DIMENSIONS (WxH, IN)	
2	SELECTED HEAD (IN)	
(AREA 7)	SCUPPER CALCs	
1106	BASED ON 2017 FLPC SEC	
643	ROOF AREA (SQFT)	
10.0	Parapet 1 (Or Similar) length (ft)	
2.0	PARAPET 1 (OR SIMILAR) HEIGHT (FT)	
10.0	Parapet 2 (Or Similar) length (ft)	
4.0		
1.0	PARAPET 2 (OR SIMILAR) HEIGHT (FT)	
673	PARAPET 2 (OR SIMILAR) HEIGHT (FT)  ROOF AREA + $\frac{1}{2}$ VERT. AREAS (SQFT)	

SCUPPER CALCs (AREA 13)

BASED ON 2017 FLPC SEC 1106 ROOF AREA (SQFT)

PARAPET 1 (OR SIMILAR) LENGTH (FT)

PARAPET 1 (OR SIMILAR) HEIGHT (FT)

Parapet 2 (Or Similar) Length (ft)

PARAPET 2 (OR SIMILAR) HEIGHT (FT)

PARAPET 3 (OR SIMILAR) LENGTH (FT)

PARAPET 3 (OR SIMILAR) HEIGHT (FT)

ROOF AREA + 1/2 VERT. AREAS (SQFT)

PROJ AREA + UPPER ROOF AREA (SQFT)

146

25.0

6.0

10.0

2.0

10.5

4.0

SCUPPER CALCs	(AREA 7)
BASED ON 2017 FLPC SEC	C 1106
ROOF AREA (SQFT)	643
PARAPET 1 (OR SIMILAR) LENGTH (FT)	10.0
Parapet 1 (Or Similar) height (ft)	2.0
PARAPET 2 (OR SIMILAR) LENGTH (FT)	10.0
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	4.0
ROOF AREA + ½ VERT. AREAS (SQFT)	673
PROJ AREA + UPPER ROOF AREA (SQFT)	770
60 MIN. RAINFALL RATE (IN/HR)	4.5
60 MIN. RAINFALL RATE (GPM)	31
# OF SCUPPERS	1
REQ'D GPM PER SCUPPER	31
SCUPPER DIMENSIONS (WxH, IN)	4 × 4
SELECTED HEAD (IN)	3

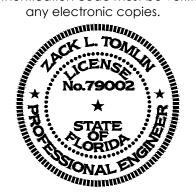
SCUPPER CALCs	(AREA 1)
BASED ON 2018 FLPC SEC	C 1106
ROOF AREA (SQFT)	163
PARAPET 1 (OR SIMILAR) LENGTH (FT)	32.0
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	2.0
PARAPET 2 (OR SIMILAR) LENGTH (FT)	4.6
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	2.0
PARAPET 3 (OR SIMILAR) LENGTH (FT)	5.0
Parapet 3 (Or Similar) height (ft)	2.0
PARAPET 4 (OR SIMILAR) LENGTH (FT)	3.0
PARAPET 4 (OR SIMILAR) HEIGHT (FT)	2.0
ROOF AREA + $\frac{1}{2}$ VERT. AREAS (SQFT)	208
60 MIN. RAINFALL RATE (IN/HR)	4.5
60 MIN. RAINFALL RATE (GPM)	10
# OF SCUPPERS	1
req'd gpm per scupper	10
SCUPPER DIMENSIONS (WxH, IN)	4 x 4
SELECTED HEAD (IN)	2

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Company Development RAI

708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797

PLUMBING MECHANICAL ELECTRICAL

PROJECT NO: PIX-190DRAWN BY: CHECKED BY: ZLT

SHEET TITLE: PLUMBING ROOF CALCS

SHEET NUMBER:

SCUPPER DIMENSIONS (WxH, IN)

SELECTED HEAD (IN)

4 x 4

SCUPPER DIMENSIONS (WxH, IN)

SELECTED HEAD (IN)

SCUPPER DIMENSIONS (WxH, IN)

SELECTED HEAD (IN)

WATER HEATER IS TO BE NO MORE THAN 32" TALL IN UNITS WITH STACKED WATER HEATERS AND AIR HANDLERS IN THE SAME MECHANICAL CLOSET.

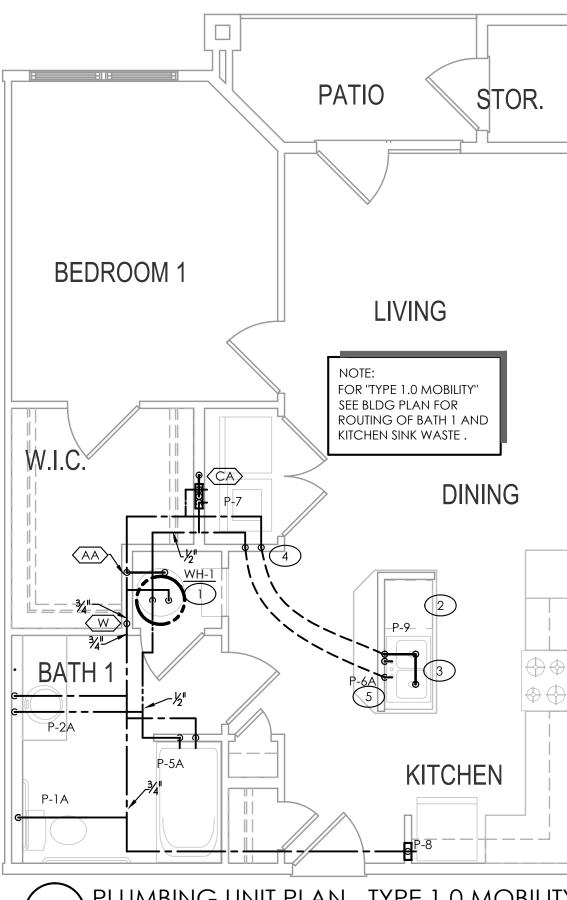
MECHANICAL CLOSET OF TYPE 2.0 & 2.1 UNITS IS A RETURN PLENUM. ALL MATERIALS MUST BE PLENUM RATED. WATER AND DRAIN PIPING TO BE COPPER OR PLENUM RATED CPVC; NO PVC, NO PEX. DRAIN PAN MUST BE METAL; <u>NO PLASTIC</u>. HUB DRAIN MUST BE METAL; <u>NO</u>

## TAGGED NOTES - THIS SHEET

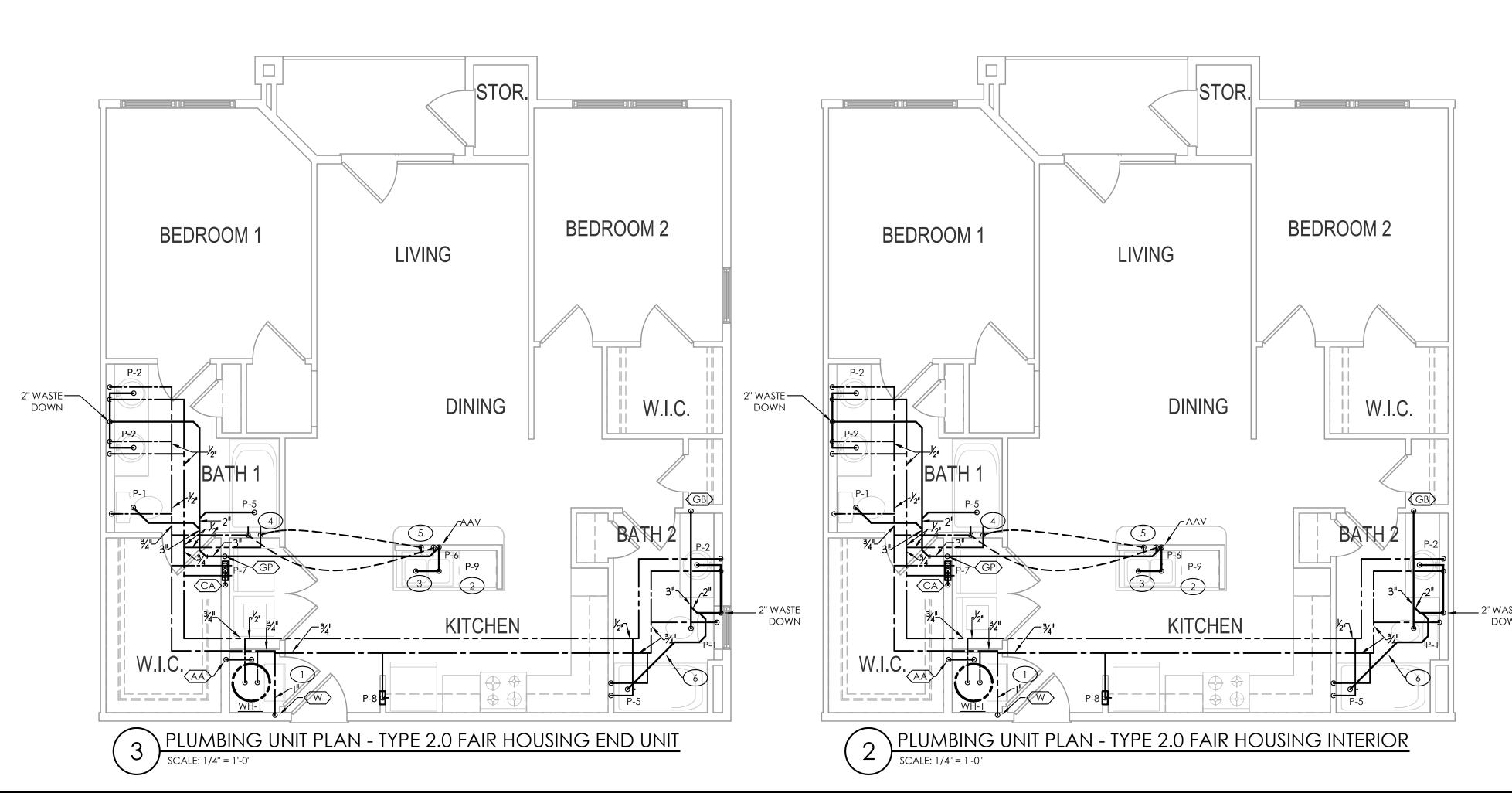
- 1 WATER HEATER BELOW HVAC UNIT IN CLOSET. DRAIN TO AREA HUB DRAIN. SEE DETAIL. COORDINATE EXACT LOCATION WITH M.C. AND AREA MECHANICAL EQUIPMENT. COORDINATE EXACT HUB DRAIN LOCATION WITH WATER HEATER DRAIN PAN; MUST BE VISIBLE AND ACCESSIBLE.
- (2) PROVIDE DISHWASHER CONNECTIONS.
- 3 PROVIDE GARBAGE DISPOSAL CONNECTION. ENSURE KNEE CLEARANCES ARE MAINTAINED IN ADA UNITS. (4) HW/CW DOWN IN WALL TO BELOW FLOOR.
- 5 HW/CW UP FROM BELOW FLOOR TO KITCHEN SINK.
- (6) P.C. TO ENSURE THAT DISTANCE FROM TRAP TO VENT DOES NOT EXCEED 8FT.
- (7) NOT USED.

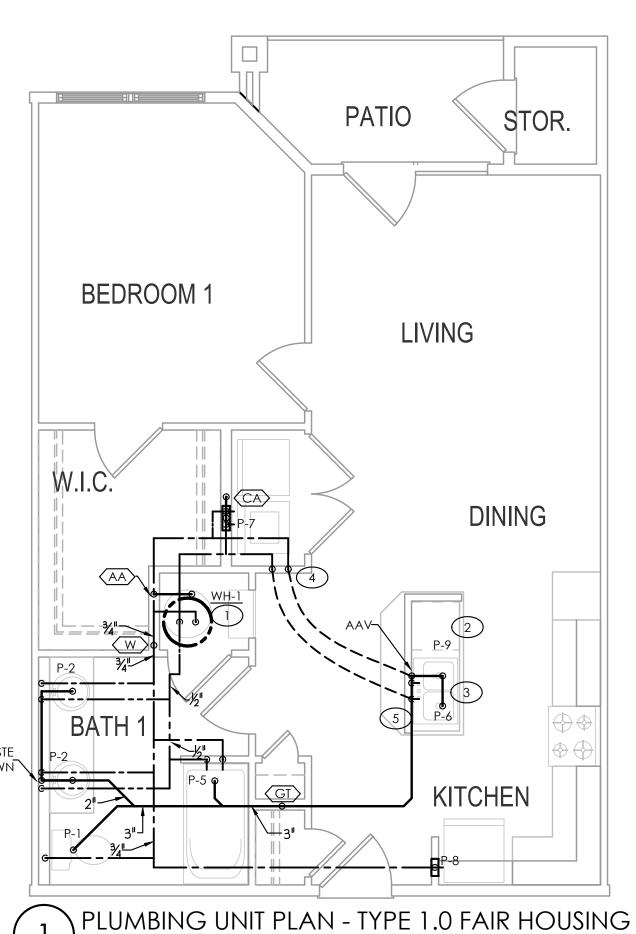
## GENERAL NOTES - THIS SHEET

- . SEE OVERALL BUILDING PLANS FOR ROUTING OF MAIN WATER AND SEWER PIPING.
- 2. SEE BUILDING PLANS AND RISER SHEETS FOR CONTINUATIONS OF RISER TAGS AND ADDITIONAL INFORMATION.
- 3. SEE RISERS FOR STACK DESIGNATIONS AND DIMENSIONS. 4. WATER PIPING IS <u>NOT</u> TO BE SHARED BETWEEN UNITS.
- 5. SEE BUILDING PLANS FOR RATED WALL AND FLOOR INFORMATION. 6. P.C. TO ENSURE SHUT-OFF VALVES IN MECHANICAL CLOSETS
- WILL BE ACCESSIBLE ONCE AIR HANDLER IS INSTALLED. 7. P.C. TO ENSURE WASTE/VENT/WATER STACK LOCATIONS DO
- NOT INTERFERE WITH MECHANICAL DUCTWORK. 8. MECHANICAL CLOSET HUB DRAIN TO RUN TO STORM SEWER NO P-TRAP REQUIRED.



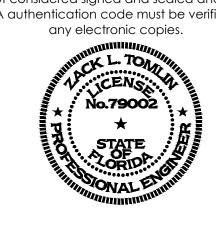
PLUMBING UNIT PLAN - TYPE 1.0 MOBILITY



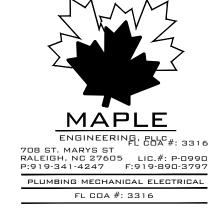


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Company Zimmer Development CORNER



PERMIT

PROJECT NO: PLX-190DRAWN BY: CHECKED BY: ZLTSHEET TITLE:

UNIT PLANS SHEET NUMBER:

PLUMBING

NOTE:
WATER HEATER IS TO BE NO
MORE THAN 32" TALL IN
UNITS WITH STACKED
WATER HEATERS AND AIR
HANDLERS IN THE SAME
MECHANICAL CLOSET.

NOTE:
MECHANICAL CLOSET OF TYPE 2.0
& 2.1 UNITS IS A RETURN PLENUM.
ALL MATERIALS MUST BE PLENUM
RATED. WATER AND DRAIN PIPING
TO BE COPPER OR PLENUM RATED
CPVC; NO PVC, NO PEX. DRAIN
PAN MUST BE METAL; NO PLASTIC.
HUB DRAIN MUST BE METAL; NO
PLASTIC.

## TAGGED NOTES - THIS SHEET

- WATER HEATER BELOW HVAC UNIT IN CLOSET. DRAIN TO AREA HUB DRAIN. SEE DETAIL. COORDINATE EXACT LOCATION WITH M.C. AND AREA MECHANICAL EQUIPMENT. COORDINATE EXACT HUB DRAIN LOCATION WITH WATER HEATER DRAIN PAN; MUST BE VISIBLE AND ACCESSIBLE.
- 2 PROVIDE DISHWASHER CONNECTIONS.
- 3 PROVIDE GARBAGE DISPOSAL CONNECTION. ENSURE KNEE CLEARANCES ARE MAINTAINED IN ADA UNITS.
- HW/CW DOWN IN WALL TO BELOW FLOOR.
- 5 HW/CW UP FROM BELOW FLOOR TO KITCHEN SINK.
- 6 P.C. TO ENSURE THAT DISTANCE FROM TRAP TO VENT DOES NOT EXCEED 8FT.
- 7 NOT USED.

## GENERAL NOTES - THIS SHEET

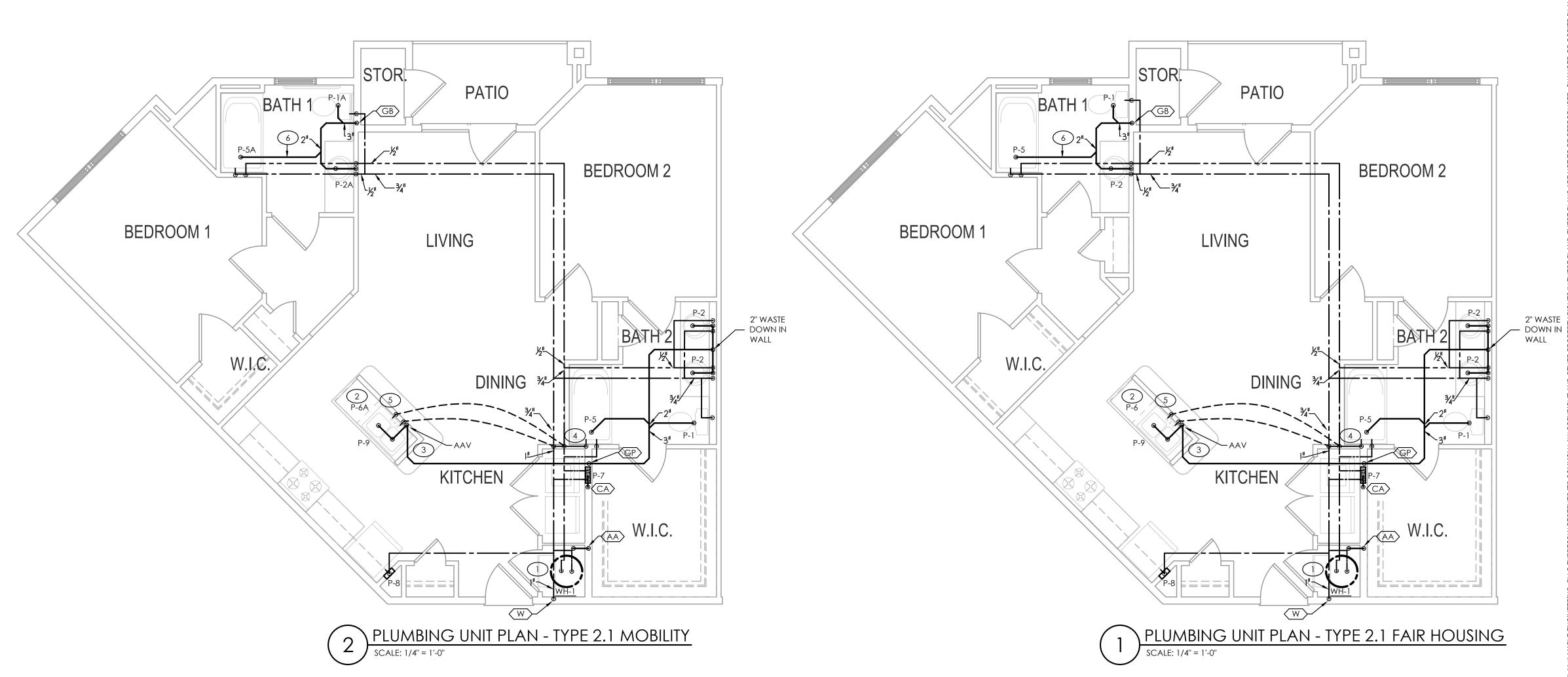
- SEE OVERALL BUILDING PLANS FOR ROUTING OF MAIN WATER AND SEWER PIPING.
- 2. SEE BUILDING PLANS AND RISER SHEETS FOR
- CONTINUATIONS OF RISER TAGS AND ADDITIONAL INFORMATION.

NO P-TRAP REQUIRED.

- SEE RISERS FOR STACK DESIGNATIONS AND DIMENSIONS.
   WATER PIPING IS <u>NOT</u> TO BE SHARED BETWEEN UNITS.
- 5. SEE BUILDING PLANS FOR RATED WALL AND FLOOR INFORMATION.
- INFORMATION.

  6. P.C. TO ENSURE SHUT-OFF VALVES IN MECHANICAL CLOSETS
- WILL BE ACCESSIBLE ONCE AIR HANDLER IS INSTALLED.
  7. P.C. TO ENSURE WASTE/VENT/WATER STACK LOCATIONS DO
- NOT INTERFERE WITH MECHANICAL DUCTWORK.

  8. MECHANICAL CLOSET HUB DRAIN TO RUN TO STORM SEWER



Zimmer Development Company

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Zimmer Develo
CAPE CORAL



DRAWN BY:
CHECKED BY:
SHEET TITLE:

PLUMBING UNIT PLANS

P1.31

NOTE:
WATER HEATER IS TO BE NO
MORE THAN 32" TALL IN
UNITS WITH STACKED
WATER HEATERS AND AIR
HANDLERS IN THE SAME
MECHANICAL CLOSET.

## TAGGED NOTES - THIS SHEET

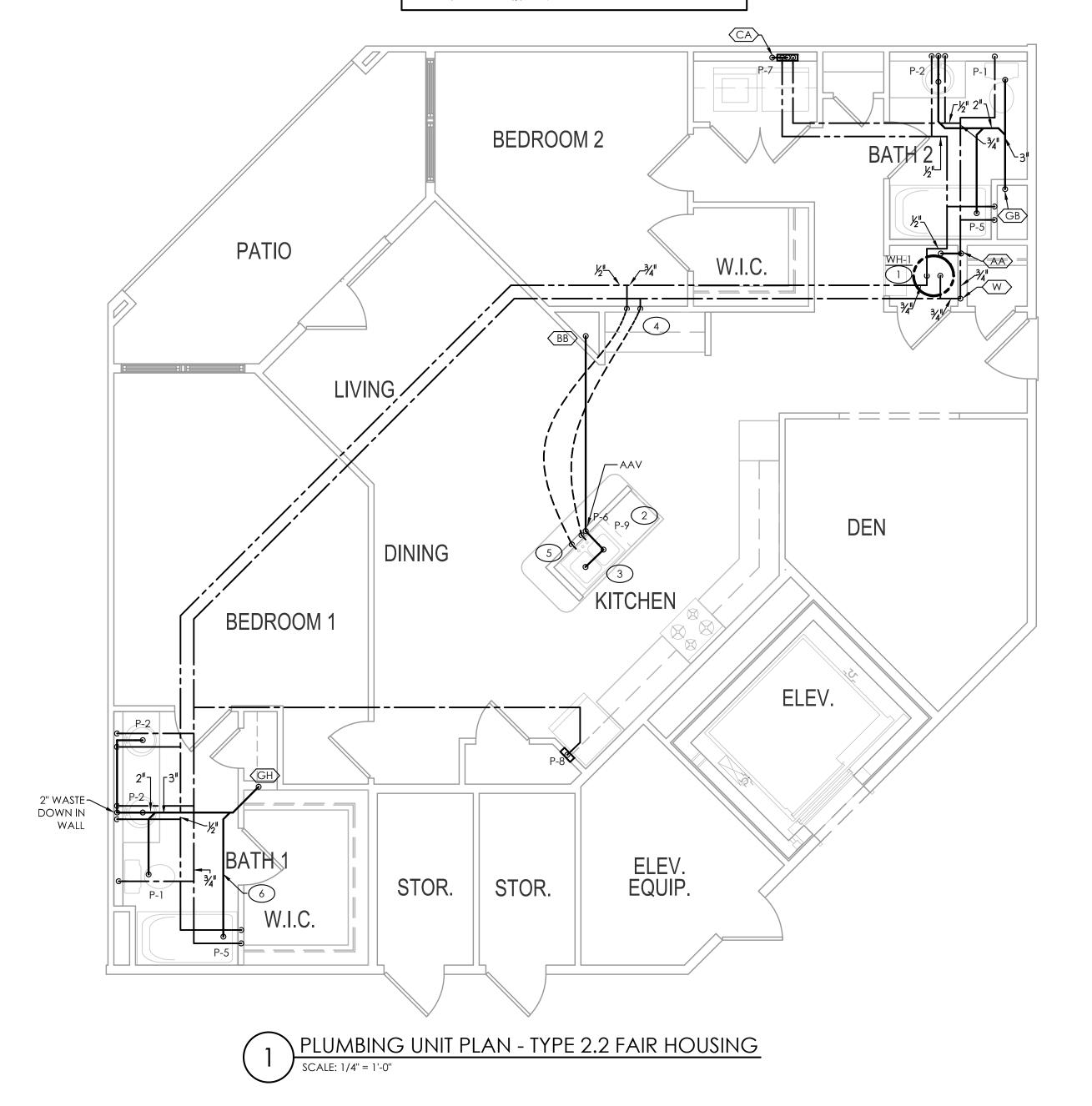
- WATER HEATER BELOW HVAC UNIT IN CLOSET. DRAIN TO AREA HUB DRAIN. SEE DETAIL. COORDINATE EXACT LOCATION WITH M.C. AND AREA MECHANICAL EQUIPMENT. COORDINATE EXACT HUB DRAIN LOCATION WITH WATER HEATER DRAIN PAN; MUST BE VISIBLE AND ACCESSIBLE.
- 2 PROVIDE DISHWASHER CONNECTIONS.
- 3 PROVIDE GARBAGE DISPOSAL CONNECTION. ENSURE
- KNEE CLEARANCES ARE MAINTAINED IN ADA UNITS.

  4 HW/CW DOWN IN WALL TO BELOW FLOOR.
- 5 HW/CW UP FROM BELOW FLOOR TO KITCHEN SINK.
- 6 P.C. TO ENSURE THAT DISTANCE FROM TRAP TO VENT DOES NOT EXCEED 8FT.
- 7 NOT USED.

## GENERAL NOTES - THIS SHEET

- SEE OVERALL BUILDING PLANS FOR ROUTING OF MAIN WATER AND SEWER PIPING.
- 2. SEE BUILDING PLANS AND RISER SHEETS FOR
- CONTINUATIONS OF RISER TAGS AND ADDITIONAL INFORMATION.
- SEE RISERS FOR STACK DESIGNATIONS AND DIMENSIONS.
   WATER PIPING IS <u>NOT</u> TO BE SHARED BETWEEN UNITS.
- 5. SEE BUILDING PLANS FOR RATED WALL AND FLOOR INFORMATION.
- 6. P.C. TO ENSURE SHUT-OFF VALVES IN MECHANICAL CLOSETS WILL BE ACCESSIBLE ONCE AIR HANDLER IS INSTALLED.
- 7. P.C. TO ENSURE WASTE/VENT/WATER STACK LOCATIONS DO
- NOT INTERFERE WITH MECHANICAL DUCTWORK.

  8. MECHANICAL CLOSET HUB DRAIN TO RUN TO STORM SEWER NO P-TRAP REQUIRED.



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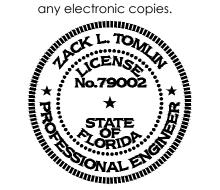
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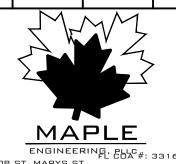
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CAPE CORAL, FLORIDA



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708 ST. MARYS ST
RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL
FL COA #: 3316

PROJECT NO: PLX\_1

DRAWN BY:

CHECKED BY:

SHEET TITLE:

PLUMBING UNIT PLANS

SHEET NUMBER

P1.32

WATER HEATER IS TO BE NO MORE THAN 32" TALL IN UNITS WITH STACKED WATER HEATERS AND AIR HANDLERS IN THE SAME MECHANICAL CLOSET.

## TAGGED NOTES - THIS SHEET

- 1 WATER HEATER BELOW HVAC UNIT IN CLOSET, DRAIN TO AREA HUB DRAIN. SEE DETAIL. COORDINATE EXACT LOCATION WITH M.C. AND AREA MECHANICAL EQUIPMENT. COORDINATE EXACT HUB DRAIN LOCATION WITH WATER HEATER DRAIN PAN; MUST BE VISIBLE AND ACCESSIBLE.
- 2 PROVIDE DISHWASHER CONNECTIONS.

4 HW/CW DOWN IN WALL TO BELOW FLOOR.

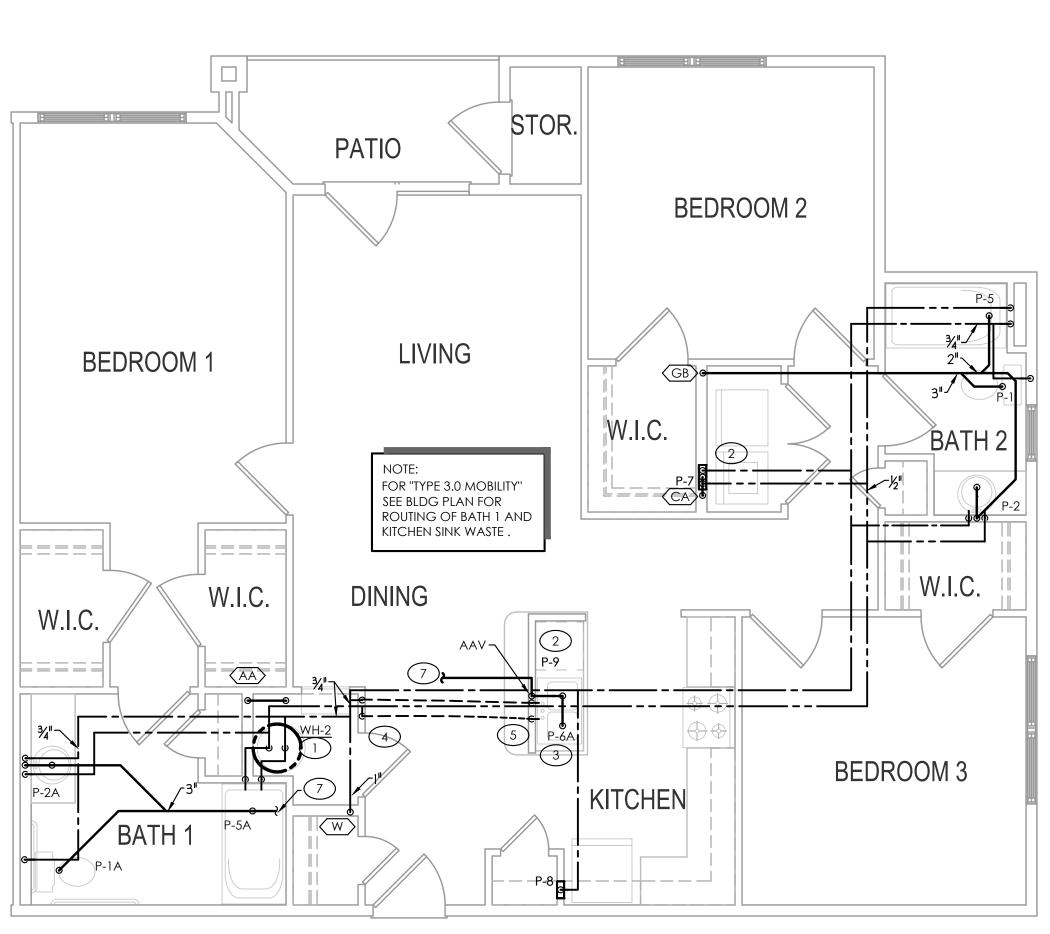
- 3 PROVIDE GARBAGE DISPOSAL CONNECTION. ENSURE KNEE CLEARANCES ARE MAINTAINED IN ADA UNITS.
- 5 HW/CW UP FROM BELOW FLOOR TO KITCHEN SINK.
- 6 NOT USED.
- 7 SEE BUILDING PLAN FOR COMPLETE ROUTING AND CONTINUATION OF WASTE.

## GENERAL NOTES - THIS SHEET

1. SEE OVERALL BUILDING PLANS FOR ROUTING OF MAIN WATER AND SEWER PIPING.

NO P-TRAP REQUIRED.

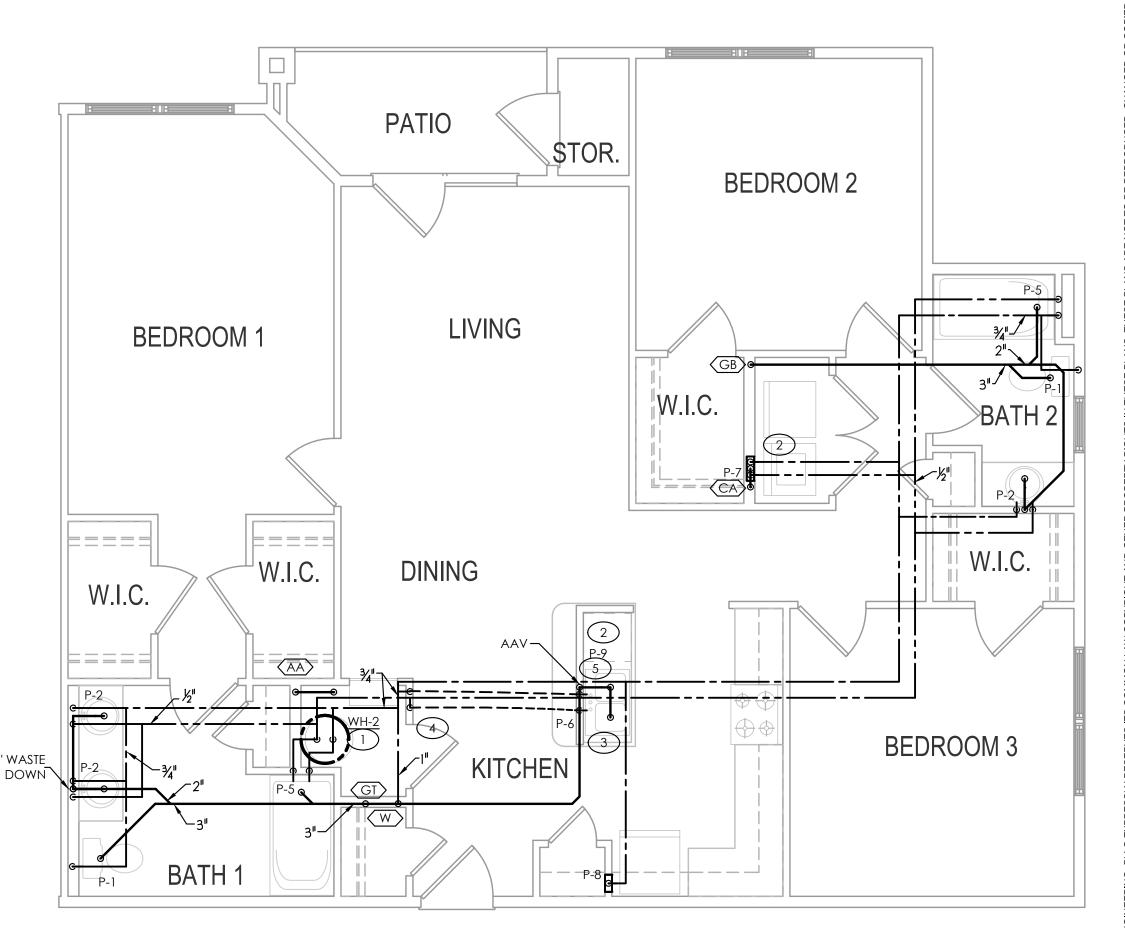
- 2. SEE BUILDING PLANS AND RISER SHEETS FOR CONTINUATIONS OF RISER TAGS AND ADDITIONAL INFORMATION.
- 3. SEE RISERS FOR STACK DESIGNATIONS AND DIMENSIONS.
- 4. WATER PIPING IS NOT TO BE SHARED BETWEEN UNITS. 5. SEE BUILDING PLANS FOR RATED WALL AND FLOOR INFORMATION.
- 6. P.C. TO ENSURE SHUT-OFF VALVES IN MECHANICAL CLOSETS WILL BE ACCESSIBLE ONCE AIR HANDLER IS INSTALLED.
- 7. P.C. TO ENSURE WASTE/VENT/WATER STACK LOCATIONS DO NOT INTERFERE WITH MECHANICAL DUCTWORK. 8. MECHANICAL CLOSET HUB DRAIN TO RUN TO STORM SEWER



PLUMBING UNIT PLAN - TYPE 3.0 MOBILITY

All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.



PLUMBING UNIT PLAN - TYPE 3.0 FAIR HOUSING

5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein. 2. Contractor is to notify architect immediately of conditions or items varying from depicted information.

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PROJECT NO: PLX-1900

PLUMBING UNIT PLANS

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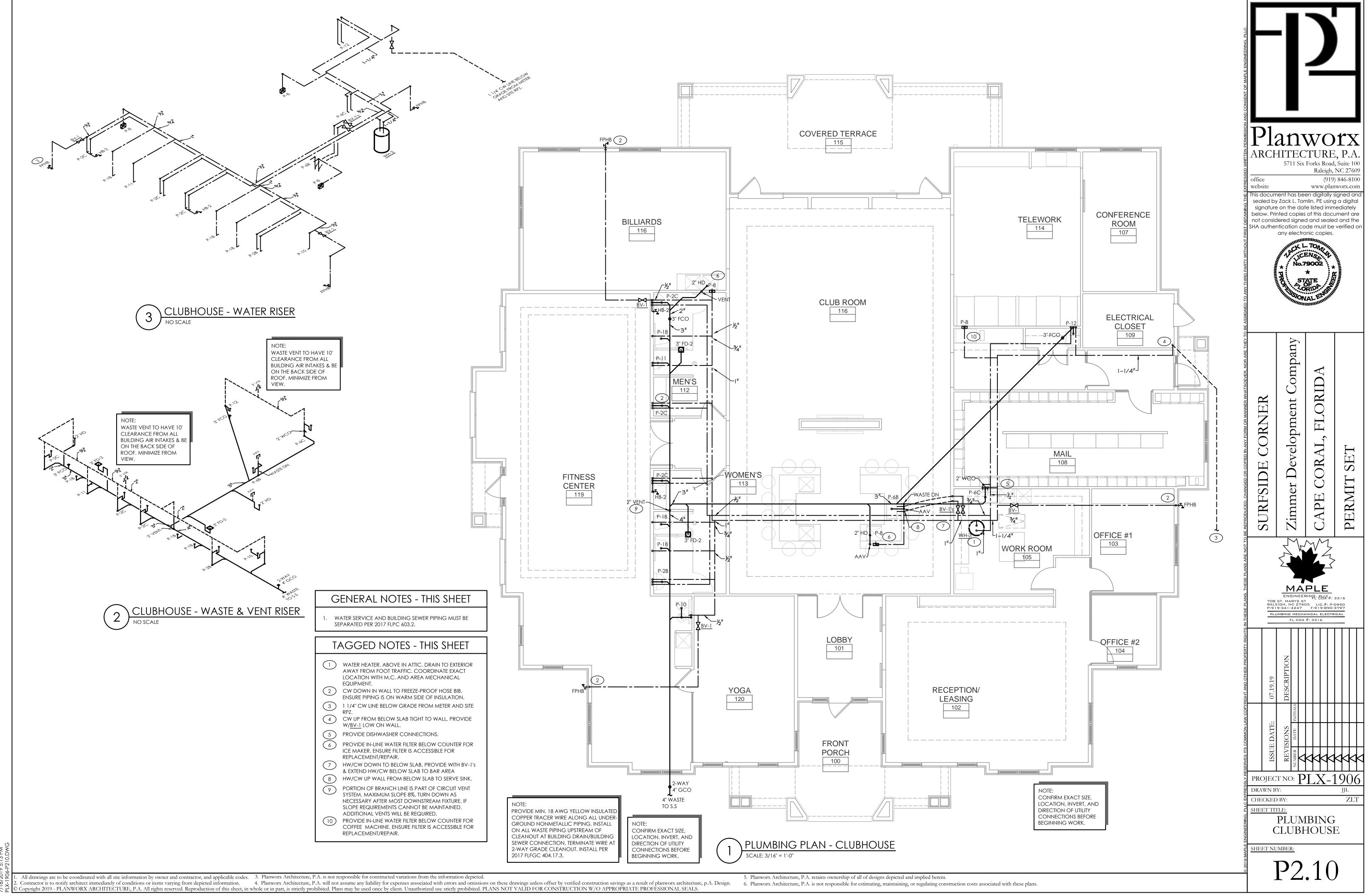
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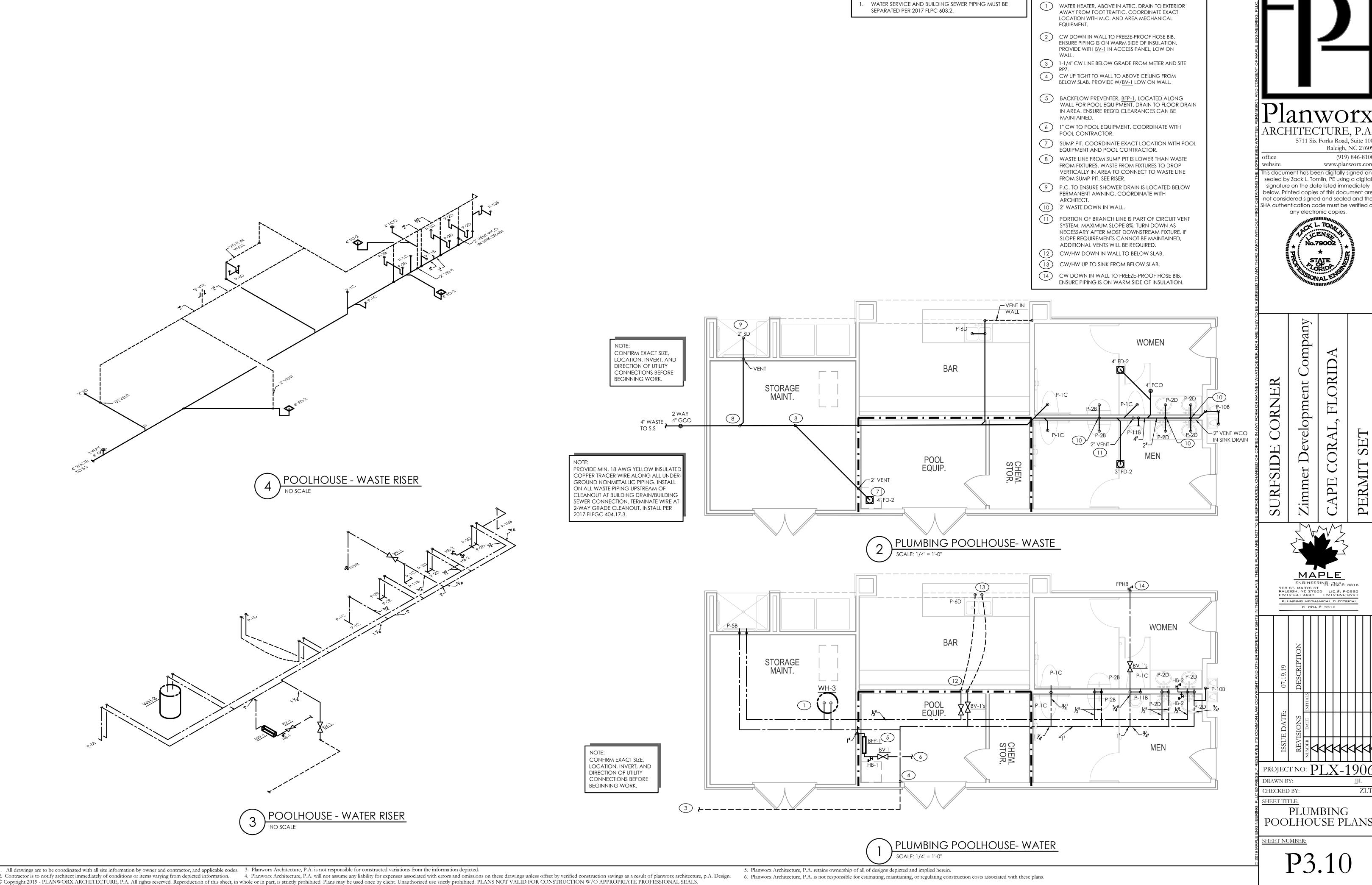
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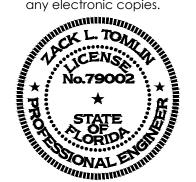




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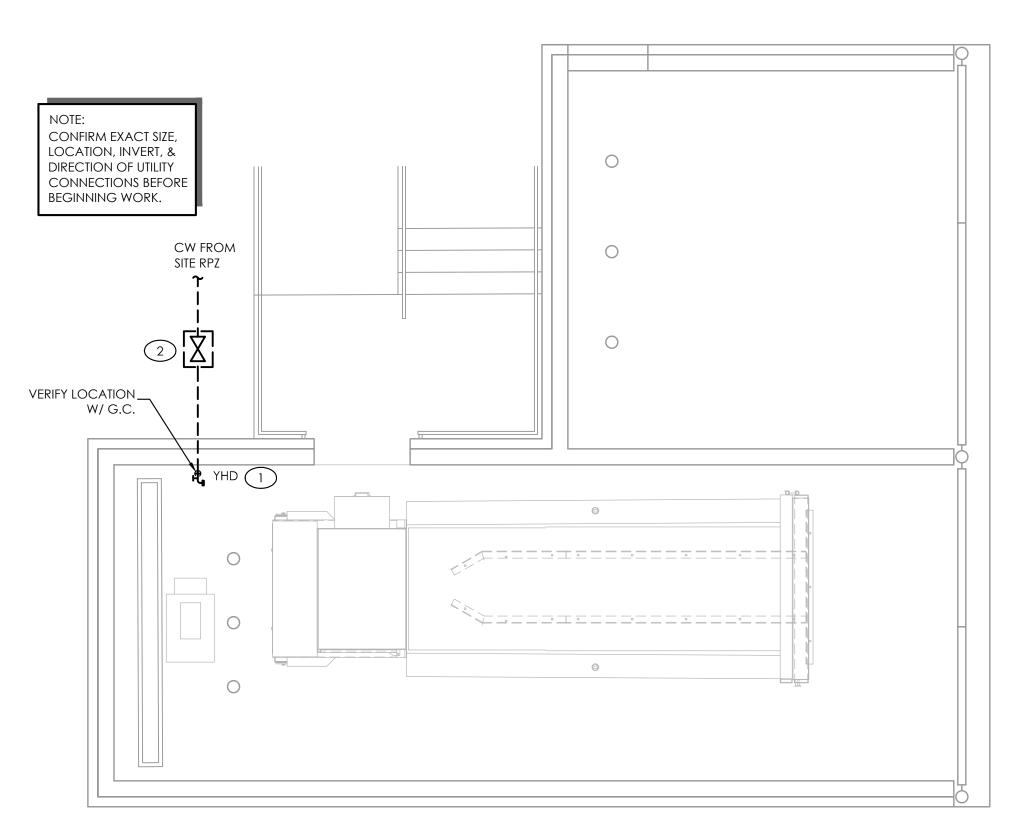
POOLHOUSE PLANS

GENERAL NOTES - THIS SHEET

TAGGED NOTES - THIS SHEET

## TAGGED NOTES - THIS SHEET

- 1 YARD HYDRANT W/ INTEGRAL BACKFLOW PROTECTION.
- 2 PROVIDE VALVE BOX & SHUTOFF UPSTREAM OF YARD HYDRANT IN GROUND.



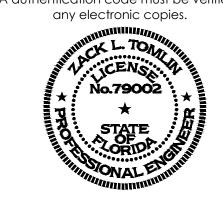
PLUMBING PLAN - TRASH COMPACTOR

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

ARCHITECTURE, P.A.

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Zimmer Development Company CORNER

**MAPLE** 

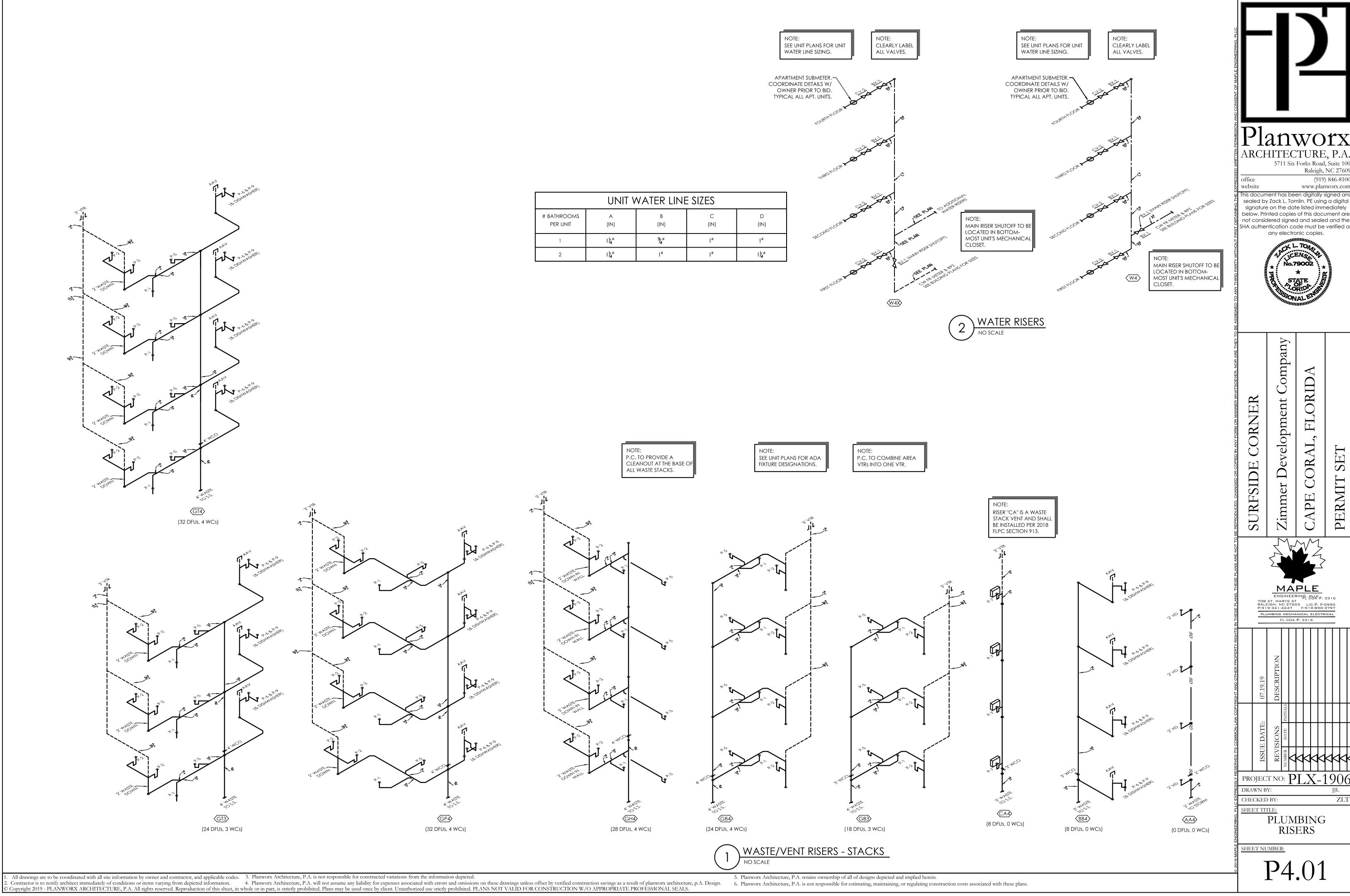
ENGINEERING, PLLC#: 3316
708 ST. MARYS ST
RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL
FL COA #: 3316

PROJECT NO: PLX-1906DRAWN BY: ZLT

CHECKED BY:

SHEET TITLE: PLUMBING COMPACTOR PLANS

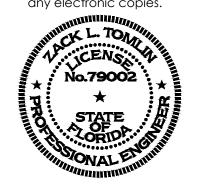
SHEET NUMBER:



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## GENERAL HVAC NOTES

## GENERAL REQUIREMENTS:

- MECHANICAL CONTRACTOR IS TO FURNISH AND PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, PERMITS & FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK.
- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH FL MECHANICAL CODES AND ALL OTHER APPLICABLE CODES. MC IS TO COORDINATE W/ G.C. IN REGARDS TO PROJECT TIMELINE, WORK HOURS, AS WELL AS ANY BONDING OR INSURANCE
- ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, SUPPORTS, CONTROLS, ETC FOR A FULLY FUNCTIONING SYSTEM REGARDLESS
- ALL EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD GUARANTEE, IF LONGER. ALL COMPRESSORS ARE TO INCLUDE FIVE (5) YEAR WARRANTY. EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT.
- THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL
- . DO NOT SCALE DRAWINGS FOR MEASUREMENT.
- ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS.
- INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT AND MANUFACTURER'S MODEL #. IF CONFLICT IS PRESENT BETWEEN DESCRIPTION AND MODEL #, EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN CASE OF CONFLICT BETWEEN THE PLANS AND NOTES/SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT.
- BEFORE BID MC IS RESPONSIBLE FOR CLARIFYING W/ G.C. ANY CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, AND HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY OUT THIS SECTION OF WORK.
- AS SOON AS POSSIBLE (AND NOT MORE THAN 30 DAYS) AFTER CONTRACT IS SIGNED, THE MC SHALL PROVIDE SUBMITTALS OF MECHANICAL EQUIPMENT HE/SHE INTENDS TO PURCHASE FOR REVIEW AND COMMENT BY THE ENGINEER. ENGINEER IS TO APPROVE SUBMITTALS BEFORE EQUIPMENT IS ORDERED.
- ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
- 2. UPON COMPLETION OF WORK M.C. IS TO PROVIDE OWNER W/ COMPLETE BOUND SET OF ALL EQUIPMENT OPERATION & MAINTENANCE MANUALS. PACKAGE IS ALSO TO INCLUDE AND WARRANTY & GUARANTEE INFORMATION.
- B. M.C. IS TO PROVIDE TRAINING TO OWNER OR OWNER'S REPRESENTATIVE IN REGARDS TO OPERATION, FUNCTION, AND MAINTENANCE OF ALL MECHANICAL EQUIPMENT, CONTROLS, ETC.
- 14. M.C. IS TO REVIEW COMPLETE DRAWING SET. M.C. IS RESPONSIBLE FOR WORK

## DIVISION OF WORK:

- ALL ROOF WORK INCLUDING PENETRATIONS, OPENINGS, FLASHING, CURB INSTALLS, ETC ARE TO BE PERFORMED BY ROOFING CONTRACTOR. M.C. RESPONSIBLE FOR PROVIDING ANY ROOF CURBS, EQUIPMENT RAILS, VENTS, ETC AND COMMUNICATING ALL REQ'S WITH G.C. & ROOFING CONTRACTOR.
- ALL LOW VOLTAGE WIRING RELATED TO MECHANICAL EQUIPMENT AND SYSTEMS IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR (ANY LOW VOLTAGE FIRE ALARM WIRING TO BE BY E.C.). ALL HIGH VOLTAGE CONNECTIONS TO MECHANICAL EQUIPMENT, TO BE PROVIDED AND INSTALLED BY E.C. (SEE EQUIPMENT SCHEDULE FOR DISCONNECT RESPONSIBILITY).
- G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS DOORS (WALL FLOOR, CEILING) RELATED TO MECHANICAL SYSTEM, M.C. RESPONSIBLE FOR COMMUNICATING TO G.C. SIZE AND LOCATION OF REQ'D ACCESS DOOR(S).
- MECHANICAL CONTRACTOR IS TO EMPLOY THE SERVICES OF THE G.C. FOR CUTTING AND PATCHING OF WALLS, FLOORS & CEILINGS RELATED TO THE INSTALLATION OF MECHANICAL EQUIPMENT & SYSTEMS.
- G.C. RESPONSIBLE FOR PAINTING OF ANY EXPOSED DUCT, PIPING, GRILLES, ETC. M.C. RESPONSIBLE FOR CLEANING AND PREPARING ITEMS FOR PAINT, COORDINATE W/G.C
- G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS PLATFORMS, GUARD RAILS, LADDERS, CONCRETE PADS. M.C. TO COMMUNICATE REQ'S TO G.C.
- G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY WALL LOUVERS BRICK VENTS OR SIMILAR. M.C. TO PROVIDE AND INSTALL ANY WALL CAPS.

## COORDINATION:

- THE MECHANICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL OTHER TRADES TO AVOID CONFLICT AND ENSURE OTHER TRADES PROVIDE MEASURES TO ACCOMMODATE MECHANICAL WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ELECTRICAL CONNECTIONS, ETC).
- MECHANICAL CONTRACTOR SHALL VERIFY LOCATION OF ALL PENETRATIONS FOR RELIEF HOODS, OUTSIDE AIR HOODS, LOUVERS, AND WALL CAPS WITH ARCHITECT & OWNER PRIOR TO INSTALLATION.
- M.C. TO COORDINATE LOCATION OF ALL ROOF PENETRATIONS W/ ROOFING CONTRACTOR. P.C. & M.C. TO COORDINATE TO ENSURE NO PLUMBING VENTS OR ANY OTHER SOURCES OF BUILDING EXHAUST ARE LOCATED WITHIN 10' OF ANY OUTSIDE AIR

## MATERIALS:

- ALL MATERIALS SHALL BE NEW UNLESS OTHERWISE SHOWN OR SPECIFIED.
- . ALL MATERIALS INSTALLED IN RETURN PLENUM ARE TO BE PLENUM RATED.
- PROVIDE HANGERS & SUPPORTS APPROVED FOR USE BY 2017 FL MECHANICAL CODE.
- ALL MAIN DUCTWORK (SUPPLY, RETURN, EXHAUST, OUTSIDE AIR) SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS.
- RUNOUTS FROM MAIN/BRANCH DUCTS MAY BE FLEXIBLE DUCT CONFORMING TO THE REQUIREMENTS OF UL 181 FOR CLASS 1.
- 5.1. FLEXIBLE AIR DUCTS SHALL NOT BE LIMITED IN LENGTH.

ACOUSTICAL DUCT LINER.

- 5.2. FLEXIBLE AIR CONNECTORS SHALL BE LIMITED TO 14' IN LENGTH. FLEXIBLE AIR CONNECTORS SHALL NOT PASS THROUGH ANY WALL, FLOOR OR CEILING.
- ALL SUPPLY AND RETURN DUCTWORK AND PLENUMS SHALL BE INSULATED. INSULATION OF DUCTWORK IN UNCONDITIONED SPACE SHALL BE MINIMUM R-6 PER 2017 FLECC. INSULATION OF DUCTWORK OUTSIDE BUILDING THERMAL ENVELOPE (I.E. ROOF, ATTIC, CRAWLSPACE) SPACE SHALL BE MINIMUM R-8 PER FLECC.
- CONCEALED SHEET METAL SUPPLY & RETURN DUCT MAY BE EXTERNALLY INSULATED WITH MINERAL FIBER BOARD OR BLANKET OR MAY BE INTERNALLY INSULATED WITH
- OUTSIDE AIR DUCTWORK SHALL BE WRAPPED WITH 1" FIBERGLASS DUCT WRAP WITH
- ALL MAIN DUCTWORK (INCLUDING EXHAUST) TO BE SEALED ACCORDING TO FLECC AND AT A MINIMUM INCLUDE SEALING OF ALL DUCT SEAMS W/ NON-HARDENING MASTIC. SEALING BY TAPE ALONE NOT ALLOWED.
- ). DUCTWORK ELBOWS SHALL BE FULL RADIUS OR MITERED WITH TURNING VANES.
- CONDENSATE DRAIN PIPING AND FITTINGS NOT IN A RETURN PLENUM SHALL BE SCHEDULE 40 PVC. DRAINS FROM AIR HANDLING UNITS SHALL BE TRAPPED (2" MINIMUM). TRAPS ON INTERIOR OF BUILDINGS TO BE INSULATED. PIPING IN RETURN PLENUM TO BE COPPER OR PLENUM RATED CPVC.
- 12. ALL DAMPERS TO INCLUDE SET SCREW OR SIMILAR FEATURE FOR LOCKING IN POSITION.
- B. ALL REFRIGERANT LINE MATERIAL AS PER MFG'S REQUIREMENTS. SIZE PER MFG INSTRUCTIONS. SUCTION LINE INSULATION TO BE MINIMUM 1-1/2" THICK W/ THERMAL Conductivity (k) less than or equal to 0.27 per flecc commercial PROVISIONS. SUCTION LINE INSULATION TO BE HAVE MINIMUM R-VALUE OF 3.0 W/ NO LIMITATION ON THICKNESS OR CONDUCTIVITY PER FLECC RESIDENTIAL PROVISIONS.
- INSULATION SHALL HAVE TAPED OR SEALED SEAMS. ALL FIRE, SMOKE AND RADIATION DAMPERS TO BE U.L. LISTED AND APPROVED FOR CORRECT PRESSURE CLASS, APPLICATION (STATIC, DYNAMIC), ORIENTATION (HORIZONTAL/VERTICAL), AND INSTALLATION (WALL, FLOOR CEILING U.L. ASSEMBLY). TO INCLUDE 165° FUSIBLE LINK UNLESS OTHERWISE NOTED.
- ALL FIRE SEALANTS TO BE U.L. LISTED AND APPROVED FOR USE W/ APPROPRIATE U.L. PENETRATION DETAIL.
- ALL PROGRAMMABLE THERMOSTATS TO INCLUDE BATTERY BACK-UP AND HAVE CAPABILITY TO SETBACK TO 55°F (HEATING) & 85°F (COOLING). AUTO-CHANGEOVER THERMOSTATS TO HAVE A MIN. 5°F DEADBAND.

LOCATION

STOR./MAINT.

1. INTERNAL THERMOSTAT. SET TO 60° F. 4. UNIT DISCONNECT.

UH-3

2. SURFACE MOUNT.

3. MOUNT HEATER @ 12" A.F.F.

WITH THE EXCEPTION OF THE DRYER FLEX CONNECTION ALL DRYER EXHAUST DUCT SHALL BE 4Ø RIGID SHEET METAL, 26 GAUGE OR THICKER. JOIN DUCTS WITH HIGH TEMP & WATER RESISTANCE UL-181 APPROVED FOIL TAPE OR BLIND POP-RIVETS.

## **EXECUTION:**

ATTIC/ROOF FRAMING.

**UNIT HEATER SCHEDULE** 

ELECTRICAL DATA

OUTPUT

(BTUH)

N/A

(BTUH)

N/A

5. U.L. LISTED.

- M.C. TO FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING MECHANICAL EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED. IF CONFLICT EXISTS BETWEEN THESE PLANS AND MFG INSTRUCTIONS
- ALL PENETRATIONS THROUGH EXTERIOR WALLS & ROOF SHALL BE FLASHED & COUNTER-FLASHED IN A WATERPROOF MANNER.
- SEAL ALL PENETRATIONS OF RATED WALLS, CEILING, FLOORS IN ACCORDANCE W/ APPROPRIATE U.L. PENETRATION DETAIL.
- INSTALL ALL CONTROL DEVICES, INCLUDING THERMOSTATS AND SWITCHES, 4'-0" ABOVE FINISHED FLOOR.
- ALL REFRIGERANT PIPING SHALL BE INSTALLED PER MFG'S INSTRUCTIONS IN REGARDS TO SUPPORTS, BENDS, FITTINGS, OIL TRAPS, ETC. NAIL (SHIELDING) PLATES ARE TO BE PROVIDED AT ANY POINT REFRIGERANT PIPING PASSES THROUGH WALL, FLOOR OR
- PENETRATIONS OF NON-RATED WALLS, PARTITIONS AND FLOOR OF COMBUSTIBLE CONSTRUCTION SHALL BE FIRESTOPPED WITH MATERIALS EQUIVALENT TO TWO INCHES OF WOOD. FIRESTOPPING SHALL COMPLY WITH ASTM E-814.
- ANY NOTCHING, DRILLING, BORING OR OTHER ALTERATION TO BUILDING STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD AND NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE.
- SUPPORT ALL DUCTWORK AND PIPING IN ACCORDANCE W/ 2017 FL MECHANICAL CODE. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING
- PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS AND CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER AND IN ACCORDANCE W/ 2017 FLECC. ALL PENETRATIONS OF WALLS, FLOORS & CEILINGS IN RETURN OR EXHAUST PLENUMS SHALL BE SEALED IN AN

STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK.

- DUCT ACCESS DOORS TO BE PROVIDED AT ALL FIRE, RADIATION & SMOKE DAMPERS, SMOKE DETECTORS, CLEANOUTS AND ANY OTHER CODE REQUIRED LOCATIONS.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL MECHANICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.). UPON COMPLETION OF WORK THE MECHANICAL CONTRACTOR SHALL CLEAN, WASH, ETC ALL ITEMS AND EQUIPMENT WITHIN HIS SCOPE OF WORK AND LEAVE ALL ITEMS BRIGHT AND CLEAN.
- M.C. IS TO ENSURE THAT THEIR INSTALLATION OF NEW CONDUITS, PIPES, DUCTWORK, AND SIMILAR DOES NOT BLOCK ACCESS TO NEW OR EXISTING AREA EQUIPMENT AND THAT THE FORE MENTIONED DOES NOT INTERFERE WITH THE REQUIRED SERVICE CLEARANCE OF NEW OR EXISTING EQUIPMENT. COORDINATE WITH OTHER TRADE CONTRACTORS AND CONTACT ENGINEER IF UNCERTAINTY EXISTS REGARDING EQUIPMENT SERVICE CLEARANCE REQUIREMENTS.
- MALE END OF ALL OVERLAPPING DRYER DUCT JOINTS ARE TO BE DIRECTED AWAY FROM DRYER. HORIZONTAL DUCT SECTIONS ARE TO HAVE THE LONGITUDINAL (LONG WAYS) SEAM FACING UP. IF POP-RIVETS ARE USED DUCT JOINTS ARE TO BE SEALED WITH NON-HARDENING MASTIC OR SIMILAR.
- ALL EXTERIOR EQUIPMENT, DEVICES AND MATERIALS SHALL BE INSTALLED, BRACED TO WITHSTAND A 160 MPH WIND.

MANUFACTURER & MODEL NO.

MARKEL, E3323TD-RP

**NOTES** 

1,2,3,4,5

						FAN SC	CHEDULE				
UNIT NO.	SERVICE	AREA SERVED	CFM	S.P.	RPM	TYPE & ARRANGEMENT	MIN. MOTOR HP & VOLTAGE	MANUFACTURER & MODEL NO.	DRIVE	CONTROL SCHEME	NOTES
EF-1	EXHAUST	UNITS	110	0.35"	MFG	CEILING, CENTRIFUGAL	14.2 WATTS 120V/1Ø	broan Xb110	DIRECT	А	1,2,3,4,6
EF-2	EXHAUST	MEN'S 112	150	0.30"	MFG	CEILING, CENTRIFUGAL	113 WATTS 120V/1Ø	GREENHECK SPA-190	DIRECT	D	1,2,3,4
EF-3	EXHAUST	WOMEN'S 113	150	0.30"	MFG	CEILING, CENTRIFUGAL	113 WATTS 120V/1Ø	GREENHECK SPA-190	DIRECT	D	1,2,3,4
EF-4	EXHAUST	PH WOMEN	225	0.35"	MFG	CEILING, CENTRIFUGAL	81 WATTS 120V/1Ø	GREENHECK SPA-290	DIRECT	D	1,2,3,4
EF-5	EXHAUST	PH MEN	225	0.35"	MFG	CEILING, CENTRIFUGAL	81 WATTS 120V/1Ø	GREENHECK SPA-290	DIRECT	D	1,2,3,4
EF-6	EXHAUST	POOL EQUIP.	200	0.35"	MFG	CEILING, CENTRIFUGAL	83 WATTS 120V/1Ø	GREENHECK SPA-250	DIRECT	E	1,3,4,6,7,8
EF-7	EXHAUST	CHEM. STORAGE	75	0.35"	MFG	CEILING, CENTRIFUGAL	49 WATTS 120V/1Ø	GREENHECK SPA-110	DIRECT	E	1,3,4,6,7,8
EF-8	EXHAUST	units	110	0.35"	MFG	CEILING, CENTRIFUGAL	14.2 WATTS 120V/1Ø	broan xb110	DIRECT	В	1,2,3,4,5,6
EF-9	EXHAUST	UNITS	110	0.35"	MFG	CEILING, CENTRIFUGAL	14.2 WATTS 120V/1Ø	broan Xb110	DIRECT	С	1,2,3,4,5,6

- 2. BACKDRAFT DAMPER
- 3. COLOR BY ARCHITECT
- 4. INTEGRAL DISCONNECT SWITCH EXHAUST FAN TO BE CONTROLLED W/ AIRCYCLER SE1 (OR EQUAL) TIMER SWITCH. SWITCH TO BE PROVIDED BY M.C. AND
- INSTALLED BY E.C.. SEE CONTROL OPTIONS FOR TIMER AND DELAY SETTINGS. 6. W/ RADIATION DAMPER
- CORROSION RESISTANT 8. EXHAUST LOCATION CANNOT BE ON POOLSIDE OF ROOF

## **CONTROL OPTIONS:**

- A. CONTROL W/SWITCH B. CONTROL W/ TIMER SWITCH (VENTILATION: 19 MINUTES/HR,
- C. CONTROL W/ TIMER SWITCH

DELAY 10 MINUTES. 35 AVG

- (VENTILATION: 28 MINUTES/HR, DELAY 10 MINUTES. 51 AVG CFM/HR)
- D. CONTROL W/ ROOM LIGHTS E. CONTINUOUS OPERATION
- DIFFUSER SCHEDULE MODULE FRAME NECK MANUFACTURER YMBOL MATERIAL SERVICE FINISH NOTES SIZE SIZE TYPE & MODEL NO. STEEL **AS NOTED** N/A **AS NOTED SURFACE** SUPPLY NOTE 2 HART & COOLEY 682 2-WAY AS NOTED | SURFACE | N/A STEEL NOTE 2 HART & COOLEY 672 N/A LOUVERED NO TRANSFER STEEL AS NOTED N/A **AS NOTED** SURFACE DBL. DEFL. YES SUPPLY NOTE 2 TITUS 300RS AS NOTED AS NOTED SURFACE LOUVERED NO STEEL N/A RETURN NOTE 2 TITUS 350RL 1,2,3
- GENERAL MC RESPONSIBLE FOR VERIFYING QTY, COLOR & FRAME TYPE OF DIFFUSERS/GRILLES BEFORE ORDERING. PROVIDE SQR TO RND TRANSTIONS & PLENUMS AS NECESSARY.

1. DIFFUSER DESIGNATIONS ON PLANS AS FOLLOWS:

DIFFUSER OR

NECK SIZE. ——

VERTICAL BLADE SPREAD

(WHERE APPLICABLE)

**DIFFUSER TYPE** 

AS NOTED ABOVE

- 2. FINISH TO MATCH / BE ABLE MATCH CEILING OR WALL OR DOOR.
- 3. FACTORY INSULATION BACKING ON GRILLES EXPOSED TO NON-CONDITIONED AREAS. ALTERNATELY, FIELD SUPPLY AND INSTALL.
- MECHANICAL LEGEND - 18x14 <del>-</del> RECTANGULAR DUCT ROUND METAL DUCT **ROUND METAL DUCT** FLEX/RIGID ROUND DUCT ELBOW WITH TURNING VANES VOLUME DAMPER SUPPLY TAP WITH VOLUME DAMPER SUPPLY TAP SUPPLY DIFFUSER/GRILLE OR RISER RETURN REGISTER/GRILLE OR RISER SIDEWALL DIFFUSER/GRILLE CEILING EXHAUST FAN DUCT SMOKE DETECTOR AUDIO/VISUAL ALARM (W/ REMOTE TEST KEY SWITCH) 1" DOOR UNDER CUT LOUVERED DOOR (SEE ARCHITECTURAL DRAWINGS) U.L. CEILING RADIATION DAMPER

ENERGY REQU MECHANICAL SYSTEM		EMS AND	EQUIPMEN	1T									
METHOD OF COMPLIANCE													
PRESCRIPTIVE X	ENERGY COST BUD	GET											
THERMAL ZONE			2A										
EXTERIOR DESIGN CONDITIC WINTER DRY BULB SUMMER DRY BULB	PNS	34 94	34 94	34 94									
INTERIOR DESIGN CONDITIC WINTER DRY BULB SUMMER DRY BULB RELATIVE HUMIDITY	NS	70 76 50%		70 76 50%									
BUILDING HEATING LOAD (I	MBH)	621.8	CLUB HOUSE 1 60.2	30.3									
BUILDING COOLING LOAD	(MBH)	1290.2	137.6	44.2									
MECHANICAL SPACING COUNITARY  DESCRIPTION OF HEATING EFFICH COOLING EFFICH HEAT OUTPUT OF COOLING OUTPUT OF TOTAL BOILER COULLER	F UNIT ENCY CIENCY F UNIT PUT OF UNIT		SEE SO SEE SO SEE SO	CHEDULES CHEDULES CHEDULES CHEDULES CHEDULES									
LIST EQUIPMENT EFFICIENCIE	S		SEE SO	CHEDULES									
COMPLIES WITH THE M	IOWLEDGE AND BELIEF MECHANICAL SYSTEMS, E F.L.S. ENERGY CODE.	SERVICE SYS											
TITLE: MECHANICA	L ENGINEER		A FOLIANIIO AL EN OINIEED										

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PROJECT NO: **P**J DRAWN BY:

CHECKED BY: HEET TITLE:

MECHANICAL SCHEDULES & NOTES

ZLT

SHEET NUMBER:

ATTIC ACCESS

## **Ventilation Calculations** Calc's Based on the 2017 FLMC Chapter 4

AH/RTU:	AH-5	Spaces:	Fitness	Yoga						
Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)	# People	CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff*	Req'd CFM
CH Fitness Center 119	873	10	8.73	0.06	20	52	175	227	1.0	227
CH Yoga 120	177	40	7.08	0.06	20	11	142	152	1.0	152
*Ceiling or Floor Supply Cool Air (Space w	ill be unoccu	pied or only parti	ally occupi	ed when in	heating) (2017 F	FLMC 403.3.1	.1.1.2)	Total I	Req'd CFM	379
								Sup	plied CFM	380

١.	AH/RTU:	AH-6	Spaces:	Club Ro	om						
	Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)		CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff*	Req'd CFM
П	CH Clubroom 116	1268	30	38.04	0.06	7.5	76	285	361	1.0	361
[	*Ceiling or Floor Supply Cool Air (Space w	ill be unoccu	pied or only parti	ally occupi	ed when in	heating) (2017 F	LMC 403.3.1	.1.1.2)	Total I	Req'd CFM	361
									Sup	plied CFM	365

AH/RTU:				rk/Confer						
Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)	# People	CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff*	Req'd CFM
CH Telework 114	251	5	1.255	0.06	5	15	6	21	1.0	21
CH Conference Room 107	88	50	4.4	0.06	5	5	22	27	1.0	27
CH Mail 108	168	0	0	0.12	0	20	0	20	1.0	20
Corridor	50	0	0	0.06	0	3	0	3	1.0	3
*Ceiling or Floor Supply Cool Air (Space w	ill be unoccu	pied or only parti	ally occupi	ed when in	heating) (2017 F	LMC 403.3.1	.1.1.2)	Total F	Req'd CFM	72
								Sup	plied CFM	75

Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)	# People	CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff*	Req'd CFM
CH Lobby 101	72	10	1	0.06	5	4	5	9	1.0	9
CH Reception/Leasing 102	427	30	12.81	0.06	5	26	64	90	1.0	90
CH Office 1 103	73	5	1	0.06	5	4	5	9	1.0	9
CH Office 2 104	26	5	1	0.06	5	2	5	7	1.0	7
CH Workroom 105	118	5	1	0.06	5	7	5	12	1.0	12
*Ceiling or Floor Supply Cool Air (Sp	ace will be unoccu	pied or only parti	ally occupi	ed when in	heating) (2017 F	LMC 403.3.1	.1.1.2)	Total F	Req'd CFM	127
								Sup	plied CFM	130

AH/RTU			Billiards							
Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)	# People	CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff*	Req'd CFM
CH Billiards 116	343	20	6.86	0.18	7.5	62	51	113	1.0	113
*Ceiling or Floor Supply Cool Air (Space	will be unoccu	pied or only part	ially occupi	ed when in	heating) (2017 F	LMC 403.3.1	.1.1.2)	Total F	Req'd CFM	113
Supplied CFM 1										

GRAVITY VENTILATOR SCHEDULE												
UNIT DESIG.  LOCATION  SERVICE  INLET FREE AREA(SQFT)  AREA(SQFT)  MANUFACTURER NOTES												
GV-1	1 CH MEN'S INTAKE 12 0.82 GREENHECK GRSI-12 1,2											
GV-2	CH MAIL ROOF	INTAKE	12	0.82	GREENHECK GRSI-12	1,2						

- 1. FURNISH W/ MFG INSULATED SLOPED ROOF CURB.
- 2. W/SCREEN.

									SPLIT	SYSTE	M AC	unit s	CHEDI	JLE							
						AIR HANI	DLING UNIT [	DATA								CON	NDENSING I	JNIT			
				FAN [	DATA		C00	LING	HEAT	AUX.	ELE	CTRICAL DA	ΛTA		GENERA	L DATA		ELE	CTRICAL DA	ATA	
UNIT TAG	AREA SERVED	MANUF. MODEL	FAN CFM	ESP (" OF WG)	MOTOR (HP)	OA (CFM)	total (mbh)	SENS. (MBH)	TOTAL (MBH)	HEAT (KW@208)	VOLTAGE (V/PH)	MCA (A)	MOCP (A)	UNIT TAG	MANUF. MODEL	TONNAGE	EFF. (SEER)	VOLTAGE (V/PH)	MCA (A)	MOCP (A)	NOTES
AH-1	APT UNITS	GOODMAN AWUT31	600	0.50	1/2	NOTE 12	17.2	13.6	17.2	3.60	208V/1Ø	26.8	30	HP-1	GOODMAN GSZ14018	1.5	14.0	208V/1Ø	12.2	20	1,2,3,4,8,9,10,11,12,13,14,15
AH-2	APT UNITS	GOODMAN AWUT31	600	0.50	1/2	NOTE 12	17.2	13.6	17.2	3.60	208V/1Ø	26.8	30	HP-2	GOODMAN GSZ14018	1.5	14.0	208V/1Ø	12.2	20	1,2,3,4,8,9,10,11,12,13,15
AH-3	APT UNITS	GOODMAN AWUT31	800	0.50	1/2	NOTE 12	22.8	18.2	23.2	6.00	208V/1Ø	38.1	40	HP-3	GOODMAN GSZ14024	2.0	14.0	208V/1Ø	14.6	25	1,2,3,4,8,9,10,11,12,13,14,15
AH-5	FITNESS	TRANE GAM5B0C60	2000	0.60	1.0	380	60.0	48.0	60.0	10.80	208V/3Ø	46.0	50	HP-5	TRANE 4TWA4060	5.0	14.0	208V/3Ø	21.0	35	1,2,3,5,6,9,10,11,13,15
AH-6	CLUB RM	TRANE GAM5B0C60	2000	0.50	1.0	365	60.0	48.0	60.0	10.80	208V/3Ø	46.0	50	HP-6	TRANE 4TWA4060	5.0	14.0	208V/3Ø	21.0	35	1,2,3,5,6,9,10,11,13,15
AH-7	mail/work	TRANE GAM5B0B30	1000	0.55	1/3	75	30.0	24.0	30.0	7.20	208V/3Ø	28.0	30	HP-7	TRANE 4TWA4030	2.5	14.0	208V/1Ø	17.0	25	1,2,3,5,6,9,10,11,13,15
AH-8	OFFICES	TRANE GAM5B0B36	1200	0.50	1/2	130	36.0	28.8	36.0	7.20	208V/3Ø	30.0	30	HP-8	TRANE 4TWA4036	3.0	14.0	208V/3Ø	13.0	20	1,2,3,5,6,9,10,11,13,15
AH-9	BILLIARDS	TRANE GAM5B0A24	800	0.45	1/3	115	24.0	19.2	24.0	5.76	208V/1Ø	38.0	40	HP-9	TRANE 4TWR4024	2.0	14.0	208V/1Ø	14.0	25	1,2,3,5,6,9,10,11,13,15

- 1. COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH AHRI STANDARD 210/240 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67°F WET BULB ENTERING AIR TEMP., AND AIR QUANTITY LISTED BY MFG. UNITS ABOVE 5 TONS ARE RATED IN ACCORDANCE WITH AHRI STANDARD 340/360.
- 2. REFRIG. PIPING TO BE SIZED PER TOTAL INSTALL. EQUIV. LENGTH. LONG-LINE APP.TO BE PROVIDED WHENEVER MFG. RECOMM. LENGTHS ARE EXCEEDED, INCL. LIQ. LINE SOLENOID VALVES, ACCUMULATOR, ETC. MAX T.E.L. IS PER MFG.
- 3. PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR AIR HANDLING UNIT.
- 4. PROVIDE 2 SETS OF NEW FILTERS FOR EACH UNIT. PROVIDE ONE AT INSTALLATION AND AT TURNOVER TO OWNER.
- 5. PROVIDE 3 SETS OF NEW FILTERS FOR EACH UNIT. PROVIDE ONE AT INSTALLATION, ONE PRIOR TO AIR BALANCE AND ONE AT TURNOVER TO OWNER.
- 6. PROVIDE HONEYWELL TH8321 SERIES 7 DAY PROGRAMMABLE THERMOSTAT W/ MANUAL OVERRIDE.

- 7. NOT USED.
- 8. PROVIDE MFG'S 7 DAY PROGRAMMABLE THERMOSTAT. 9. OUTDOOR UNITS SHALL HAVE A MINIMUM 14.0 SEER RATING.
- 10. PROVIDE BI-FLOW TXV FOR HEAT PUMP OPERATION.
- 11. OUTDOOR THERMOSTAT TO LOCK-OUT ELECTRIC HEAT WHEN TEMPERATURE IS 40°F OR HIGHER. PROVIDE UNIT WITH EMERGENCY HEAT OVERRIDE OPTION.
- 12. OUTSIDE AIR CFM'S AS INDICATED ON PLAN SPECIFIC VENTILATION CALCULATIONS. OUTSIDE AIR PROVIDED BY UNIT
- 13. CYCLE PROTECTOR AND TIME DELAY RELAY (IF AVAILABLE).
- 14. PROVIDE MFG'S WALL PANEL.
- 15. PROVIDE HEAT PUMP W/ OPTIONAL "SEA COAST" CORROSION RESISTANCE KIT.

	MINI-SPLIT HEAT PUMP/AC SCHEDULE																			
	AIR HANDLING UNIT DATA  HEAT PUMP/CONDENSING UNIT																			
				FAN [	DATA		COC	LING	HEAT	ELE	CTRICAL DA	ATA		GENER/	AL DATA		ELE	CTRICAL DA	ATA	
UNIT TAG	AREA SERVED	MANUF. MODEL	FAN CFM	ESP (" OF WG)	motor (watts)	OA (CFM)	TOTAL (MBH)	SENS. (MBH)	TOTAL (MBH)	VOLTAGE (V/PH)	MCA (A)	MOCP (A)	UNIT TAG	MANUF. MODEL	TONNAGE	EFF. (SEER)	VOLTAGE (V/PH)	MCA (A)	MOCP (A)	NOTES
AH-10	ELEV. EQUIP.	MITSUBISHI PKA-A24KA4	775	N/A	56	N/A	24.0	18.5	26.0	208/1Ø	1.0	NOTE 2	HP-10	MITSUBISHI PUZ-A24N	2.0	17.0	208V/1Ø	18.0	30.0	1,2,3,4,5,6,7
AH-11	TELECOM	HAIER AW09TE	300	N/A	30	N/A	9.0	7.92	10.0	120V/1Ø	1.0	NOTE 2	HP-11	HAIER 1U09TE	0.75	16.0	120V/1Ø	18.0	20.0	1,2,3,4,5,6,7
AH-12A	MENS	mitsubishi msz-gl18na	417	N/A	30	N/A	14.0	11.2	14.0	208V/1Ø	1.0	NOTE 2	HP-12	MITSUBISHI	3.0	19.2	208V/1Ø	22.1	25	1,2,3,4,5,6,8
AH-12B	WOMENS	mitsubishi msz-gl18na	417	N/A	30	N/A	14.0	11.2	14.0	208V/1Ø	1.0	NOTE 2	111-12	MXZ-4C36	5.0	17.2	2007/190	22,1	20	1,2,0,7,0,0,0
AH-13	CLUBHOUSE ELEC. CLOSET	HAIER AW09TE	300	N/A	30	N/A	9.0	7.92	10.0	120V/1Ø	1.0	NOTE 2	HP-13	HAIER 1U09TE	0.75	16.0	120V/1Ø	18.0	20.0	1,2,3,4,5,6

- 1. COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH AHRI STANDARD 210/240 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67°F WET BULB ENTERING AIR TEMP., AND AIR QUANTITY LISTED BY MFG. UNITS ABOVE 5 TONS ARE RATED IN ACCORDANCE WITH AHRI STANDARD 340/360.
- 2. INDOOR UNIT POWERED VIA WIRING FROM OUTDOOR UNIT. SEE MFG'S INSTRUCTIONS.
- 3. REFRIG. PIPING TO BE SIZED PER TOTAL INSTALL. EQUIV. LENGTH. LONG-LINE APP.TO BE PROVIDED WHENEVER MFG. RECOMM. LENGTHS ARE EXCEEDED, INCL. LIQ. LINE SOLENOID VALVES, ACCUMULATOR, ETC. MAX T.E.L. IS PER MFG.
- 4. PROVIDE 2 SETS OF NEW FILTERS FOR EACH UNIT. PROVIDE ONE AT INSTALLATION AND AT TURNOVER TO OWNER.
- 5. PROVIDE W/ MFG'S WIRELESS REMOTE CONTROLLER KIT.
- 6. OUTDOOR UNITS SHALL HAVE A MINIMUM 14.0 SEER RATING.
- 7. CONDENSATE TO BE ROUTED TO AREA HUB DRAIN. SEE SHEET M1.10.
- 8. (1) EXTERIOR MULTI-ZONE HEAT PUMP TO BE TIED TO MULTIPLE INDOOR AIR HANDLERS. PROVIDE W/ ALL REQUIRED ACCESSORIES FOR MULTI-ZONE INSTALLATION. EACH AIR HANDLER TO HAVE INDIVIDUAL TEMPERATURE CONTROL.

ARCHITECTURE, P.A

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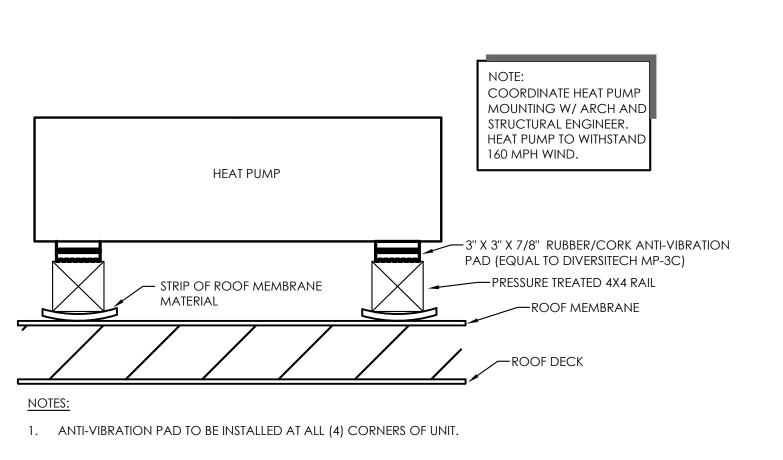
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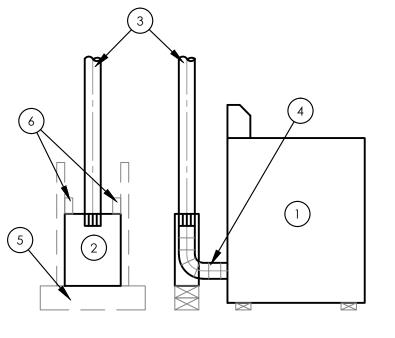
MECHANICAL

SCHEDULE & NOTES

CHECKED BY: SHEET TITLE:



ROOF HEAT PUMP DETAIL



HANGER-- EXHAUST DUCT CEILING — -SEAL GAP BETWEEN EXHAUST GRILLE — FAN HOUSING & CEILING PROVIDE CEILING RADIATION -DAMPER WHERE REQUIRED DAMPER INTEGRAL WITH FAN (BY FAN MFG.)

IF FAN IS EQUIPPED W/ INTERNAL BDD ENSURE BDD IS NOT

- 2. ENSURE NO PORTION OF TAPE, SEALING, ETC EXTENDS PAST EDGE OF EXHAUST GRILLE.
- 3. INSTALLATION IN HARD-CEILING SIMILAR. FAN TO BE FASTENED TO RAFTER/JOIST. SEE MFG INSTRUCTIONS

# XHAUST FAN (CEILING) DETAIL

- BUILDING PAPER IN FRONT OF



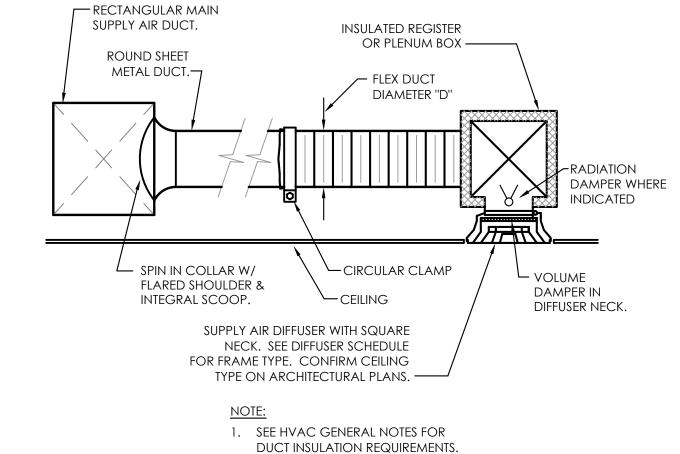
2. RECESSED METAL BOX (18"x14"x5-1/2")

5. ONE 2x6 BLOCK ON BOTTOM PLATE

1. RESIDENTIAL DRYER

3. 4" DRYER VENT

4. DRYER FLEX HOSE



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**DETAILS** 

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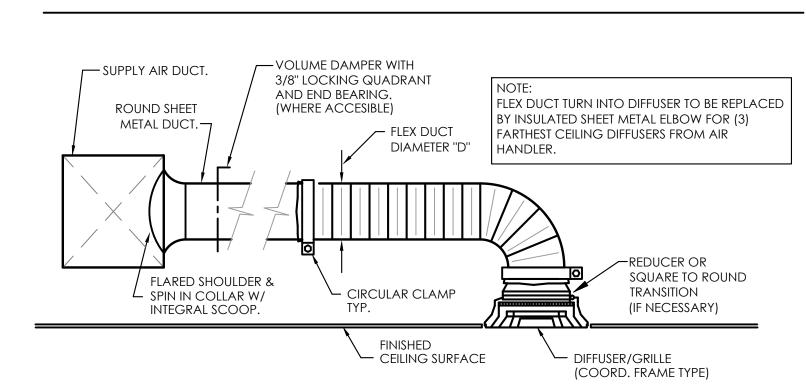
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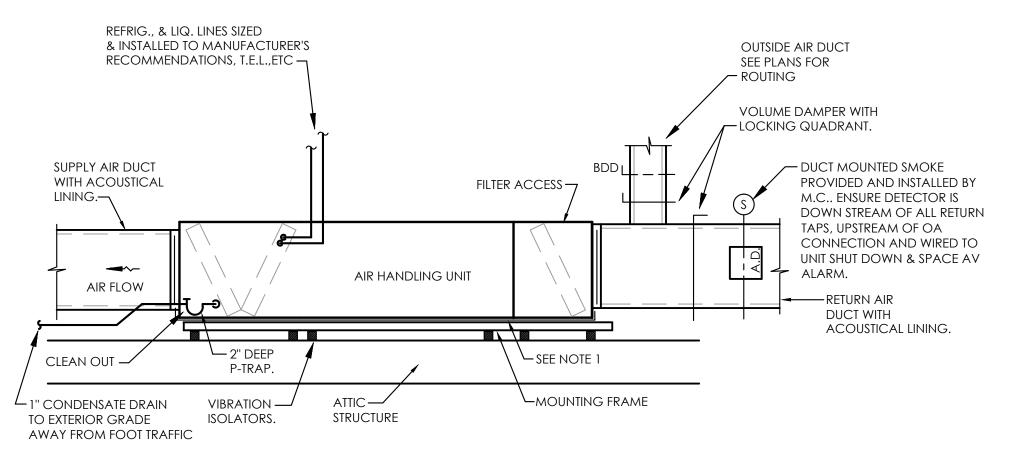
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SUPPLY AIR DIFFUSER DETAIL (APARTMENT UNITS)



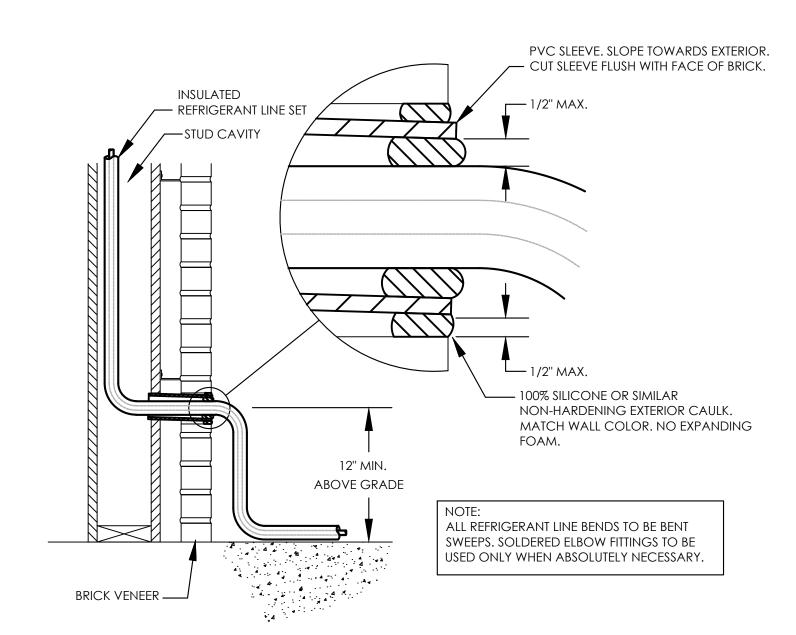
PROVIDE INSULATED REGISTER BOOT/PLENUM BOX IF NECESSARY. 2. RETURN APPLICATION IS SIMILAR. ALL ELBOWS IN RETURN APPLICATION TO BE INSULATED SHEET METAL (NO FLEX ELBOWS).



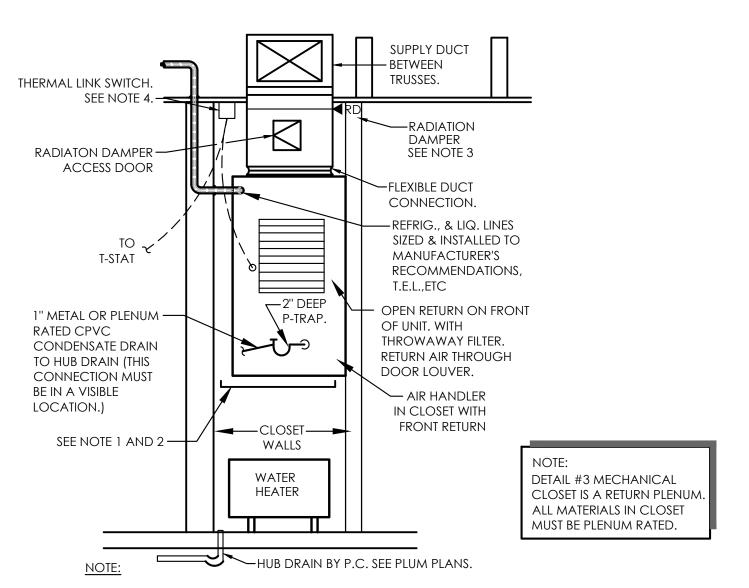


1. 1-1/2" DEEP AUXILIARY DRAIN PAN WITH MICROFLOAT SWITCH. INTERLOCK FLOAT SWITCH WITH AIR HANDLER. INSTALL FLOAT SWITCH IN

AIR HANDLING UNIT DETAIL (AH-5, AH-6, AH-7, AH-8, AH-9)

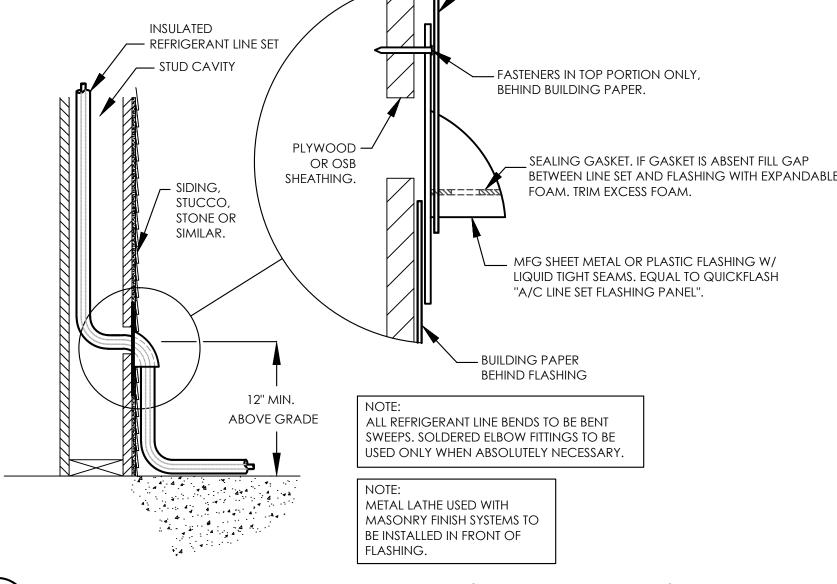


HVAC LINE SET PENETRATION DETAIL (MASONRY)

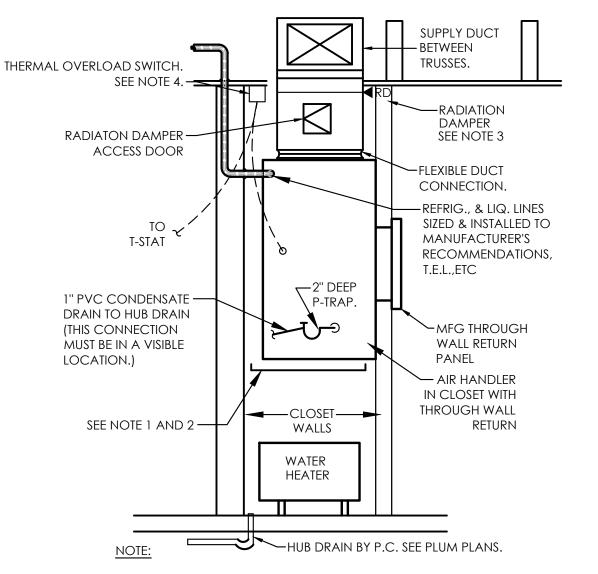


- AUXILIARY DRAIN PAN WITH MICROFLOAT SWITCH. INTERLOCK FLOAT SWITCH WITH AIR HANDLER. MAY BE INTEGRAL TO AIR HANDLER.
- COORDINATE INSTALLATION WITH P.C. AND WATER HEATER BELOW AH.
- 3. RADIATION DAMPER TO BE CURTAIN STYLE, METAL-FAB MCCD CURTAIN STYLE.
- INSTALL IN VERTICAL SECTION OF SUPPLY DUCT PRIOR TO 90° ELBOW. THERMAL LINK TO BE SET TO 165°F. M.C. TO PROVIDE OVERLOAD SWITCH AT CEILING EQUAL TO GLOVE TECHNOLOGIES 327155. SET TO 155°F. WIRE AH CONTROLS VIA SWITCH. AH TO SHUT DOWN UPON SWITCH OPENING.

WALL HUNG AIR HANDLER DETAIL (AH-2)



HVAC LINE SET PENETRATION DETAIL (NON-MASONRY)



AUXILIARY DRAIN PAN WITH MICROFLOAT SWITCH, INTERLOCK FLOAT SWITCH WITH AIR HANDLER. MAY BE INTEGRAL TO AIR HANDLER.

COORDINATE INSTALLATION WITH P.C..

RADIATION DAMPER TO BE CURTAIN STYLE, METAL-FAB MCCD CURTAIN STYLE. INSTALL IN VERTICAL SECTION OF SUPPLY DUCT PRIOR TO 90° ELBOW. 4. M.C. TO PROVIDE OVERLOAD SWITCH AT CEILING EQUAL TO GLOVE TECHNOLOGIES 327155. SET TO 155°F. WIRE AH CONTROLS VIA SWITCH. AH TO SHUT DOWN UPON

SWITCH OPENING. WALL HUNG AIR HANDLER DETAIL (AH-1 & AH-3) NO SCALE

5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.

All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

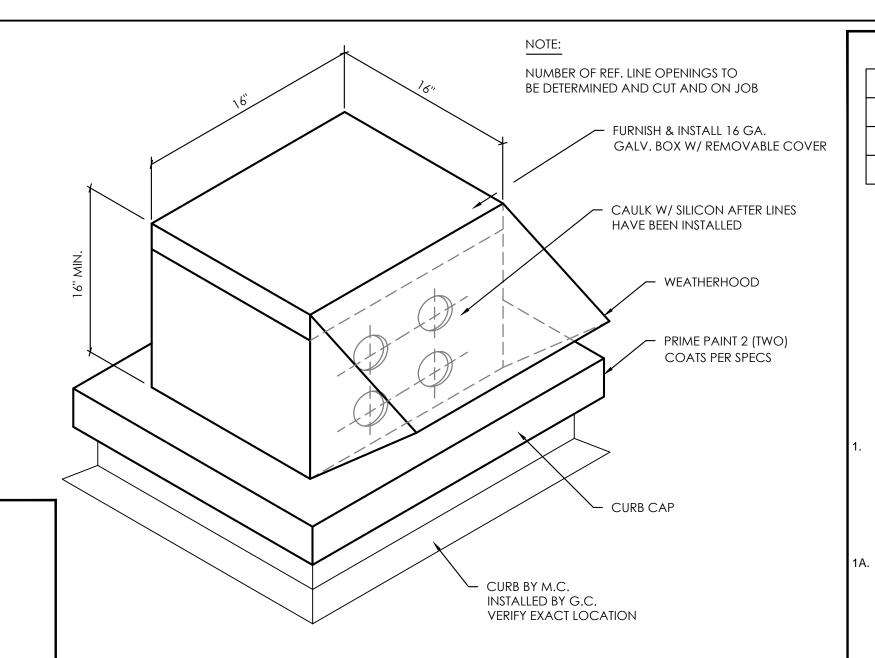
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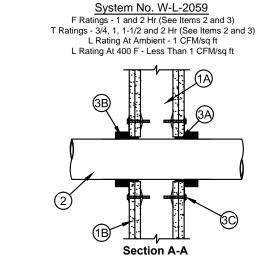
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PROJECT NO: **P**J DRAWN BY:

ONE CORNER OF PAN AND TILT PAN TO THAT CORNER.



# REFRIGERANT BOX DETAIL (ROOF)



- Wall Assembly The 1 or 2 h fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
- B. Gypsum Board\* 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm) Fhrough-Penetrants - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be max 1/4 in. (6 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used
- A. Polyvinyl Chloride (PVC) Pipe Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. When Schedule 80 PVC pipe is used, the F and T Ratings are 1 hr. When Scheduled 80 PVC pipe is used in closed (process or supply) piping systems, the F and T Ratings are equal to the assembly rating of the wall in which it is installed
- B. Rigid Nonmetallic Conduit+ Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70). When Schedule 80 PVC conduit is used, the F and T Ratings are 1 hr. C. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
- D. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or foamed core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system: E. Fire Retardant Polypropylene (FRPP) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent)
- F. Polyvinylidene Fluoride (PVDF) Pipe Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping G. Fiberglass Reinforced Pipe (FRP) Pipe - Nom 4 in. (102 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented
- (drain, waste or vent) piping systems. When FRP pipe is used, T Rating is 3/4 hr. H. High Density Polyethylene (HDPE) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 HDPE pipe for use in closed (process or supply) piping systems.
- Firestop System The firestop system shall consist of the following: A. Fill, Void or Cavity Material\* - Sealant - Fill material forced into annular space to max extent possible. Caulk shall be installed flush with both surfaces of wall assembly. SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant
- B. Fill, Void or Cavity Material Wrap Strip Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.

Fire Rating of Wall Hr	Max Diam of Throught Penetrant in. (mm)	No. of Wrap Strip Layers	F Rating Hr	T Rating Hr
1	1-1/2 (38)	1	1	1
2	1-1/2 (38)	1	2	1-1/2
1	2 (51)	1	1	1
2	2 (51)	1	2	1-1/2
1	3 (76)	2	1	1
2	3 (76)	2	2	2
1	4 (102)	3	1	1
2	4 (102)	3	2	2

Except as noted in Item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated

SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip C. Steel Collar - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/4 in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.

Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molling bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Steel

D. Firestop Device\* - (Optional, Not Shown) - As an alternate to Item 3B and 3C, galv steel collar lined with an intumescent material sized to fit the specific diam of the through-penetrant. Device shall be installed around through-penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to each surface of wall assembly by means of 1/8 in. (3 mm) diam by 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) diam steel

SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Collar, SpecSeal LCC Collar or SpecSeal SSC Collar . When SpecSeal LCC Collar or SpecSeal SSC Collar are used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam

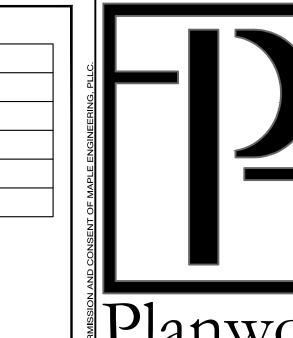
Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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# HVAC LINE SET (GYPSUM WALL) DETAIL



ARCHITECTURE, P.A 5711 Six Forks Road, Suite 100

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Floor - Ceiling Assembly - The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Designs in the UL Fire Resistance Directory, as summarized below: website A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the his document has been digitally signed and

CAN/ULC S115

F Rating - 1 Hr

FT Ratings - 1 Hr

FH Rating - 1 Hr

FTH Ratings - 1 Hr

L Rating At Ambient - Less Than 1 CFM/sq ft

B. Wood Joists - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural **Wood Members\*** with bridging as required and with ends firestopped. C. Gypsum Board\* - Thickness, type, number of layers and fasteners as required in the individual Floor-Ceiling Design. Diam of

. Chase Wall - (Optional, Not Shown) - The through penetrant (Item 2) may be routed through a 1 hr fire rated single, double or staggered wood stud/gypsum board chase wall. Depth of chase wall stud cavity to be min 1/2 in. (13 mm) greater than diameter of opening cut in top plates to accommodate the through penetrant (Item 2). The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

System No. F-C-7060

ANSI/UL1479 (ASTM E814)

F Rating - 1 Hr

T Ratings - 1 Hr

L Rating At Ambient - Less Than 1 CFM/sq ft

opening is to be max 1-1/2 in. (38 mm) larger than diam of steel duct.

individual Floor-Ceiling Design

A. Studs - Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs. B. Sole Plate - Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm)or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly

C. Top Plate - The double top plate shall consist of two nom 2 by 4 in (51 by 102 mm)., two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening is to be max 1-1/2 in. (38 mm) larger than diam of steel duct. As an alternate, the opening may be square-cut with a max dimension 1-1/2 in. (38 mm) greater than the diam of the pipe Plates may be discontinuous over opening, terminating at two opposing edges of opening. Max length of discontinuity is 7-1/2 in.

D. Steel Plate - When lumber plates are discontinuous, nom 1-1/2 in. (38 mm) wide No. 20 gauge (or heavier) galv steel plates shall be installed to connect discontinuous lumber plates and to provide a form for the fill material. Steel plates sized to lap 2 in. (51 mm) onto each discontinuous lumber plate and secured to lumber plates with steel screws or nails. E. Gypsum Board\* - Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition Design.

Steel Duct - One nom 6 in. (152 mm) diam (or smaller) No. 30 GA (or heavier) galvanized steel duct to be installed either concentrically or eccentrically within the opening. Annular space to be min 0 in. (point contact) to max 1-1/2 in. (38 mm). Steel duct to be rigidly supported on both sides of floor-ceiling assembly. Fill, Void or Cavity Material\* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with bottom

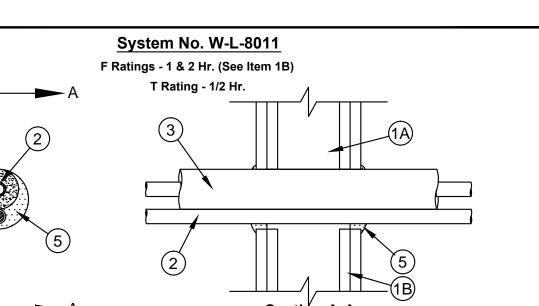
surface of ceiling or top plate. Min 1/4 in. (6 mm) diam bead of fill material applied at point contact location at the penetrant/ceiling or chase wall top plate interface. SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant, SpecSeal LC150 Sealant or Type WF300 Caulk

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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(800)992-1180 • (908)526-8000 • FAX (908)231-8415 • E-Mail:techserv@stifirestop.com • Website:www.stifirestop.com DRYER DUCT PENETRATION (WOOD FLOOR/CEILING) DETAIL



Wall Assembly - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the

A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. O.C. with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. O.C. B. Gypsum Board\* - 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers,

fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 3-1/2 in.

(point contact) to max 1/2 in. Pipes or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. Through Penetrant - A max of two pipes or tubing to be installed within the opening. Of the two pipes, or tubing, only one of the pipes or tubing shall have a nom diam greater than 1/2 in. The annular space between pipes or tubing and periphery of opening shall be min 0 in.

metallic pipes or tubing may be used:

A. Steel Pipe - Nom 1 in. diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe - Nom 1 in. diam (or smaller) cast or ductile iron pipe.

C. **Copper Tubing -** Nom 1 in. diam (or smaller) Type L (or heavier) copper tubing. D. Copper Pipe - Nom 1 in. diam (or smaller) Regular (or heavier) copper pipe.

Tube Insulation - Plastics+ - Nom 3/4 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The tube insulation may be installed on a max of one pipe or tubing. The annular space between penetrating item and periphery of opening shall be min 1/2 into max 3/4 in. The space between pipes or tubing shall be 0 in. (point contact)

See Plastics+ (QMFZ2) category in the Recognized Component Directory for names for manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used. Cables - One 4 pair No. 18 AWG (or smaller) thermostat cable with polyvinyl chloride (PVC) insulation and jacket materials. Cable to be spaced a min 0 in. (point contact) to max 1/2 in. from the other penetrants. The space between the cable and the periphery of the opening shall be a min 0 in. (point contact) to max 1/2 in. Cable to be rigidly supported on both sides of wall assembly.

Fill, Void or Cavity Material\* - Sealant - Min 5/8 in.thickness of fill material applied within annulus, flush with both surfaces of wall. Additional fill material to be to be forced into intersties within groups of penetrating items to max extent possible and installed such that a min 1/4 in. thick crown is formed around the penetrating items and lapping 1/4 in. beyond the periphery of the opening.

SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

+Bearing the UL Recognized Component Mark

\*Bearing the UL Classification Mark

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PROJECT NO: DI

DRAWN BY:

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HEET TITLE:

MECHANICAL

DETAILS

ZLT

(800)992-1180 • (908)526-8000 • FAX (908)231-8415 • E-Mail:techserv@stifirestop.com • Website:www.stifirestop.com AC LINE SET (WOOD FLOOR/CEILING) UL DETAIL

System No. F-C-8036

1. Floor-Ceiling Assembly - The 1 hr fire rated wood joist, wood truss or combination wood and steel truss

Series Design in the UL Fire Resistance Directory and shall include the following construction features:

trusses or Structural Wood Members\* with bridging as required and with ends firestopped. C. Furring Channels - (Not Shown) - Resilient galv steel furring channels installed perpendicular to wood

joists (Item 1B) as required in the individual Floor-Ceiling Design.

or grouped penetrants. Max diam of ceiling opening is 3 in. (76 mm).

opening is 3 in. (76 mm).

following construction features:

Wall and Partition Design

rigidly supported on both sides of the floor-ceiling assembly:

types and sizes of nonmetallic pipes may be used:

UL94 Flammability Classification of 94-5VA may be used.

SPECIFIED TECHNOLOGIES INC - Type WF300 Caulk

+Bearing the UL Recognized Component Mark

Certification (such as Canada), respectively.

A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping

Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the individual L500

Mixture\* as specified in the individual Floor-Ceiling Design. Diam of floor opening to be min 1/2 in. (13 mm)

to max 1 in. (25 mm) larger than outside diameter of individual or grouped penetrants. Max diam of floor

B. **Joists -** Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, wood

D. Gypsum Board\* - Nom 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Diam of opening in ceiling to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than outside diameter of individua

2. Chase Wall - (Optional) - The through penetrant (Item 3) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum board chase wall constructed of the materials and in the manner specified in the

individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the

B. Sole Plate - Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly

butted. Diam of opening in sole plate to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than outside

C. Top Plate - The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2

D. **Gypsum Board\* -** Thickness, type, number of layers and fasteners shall be as specified in the individual

Through Penetrants - Pipes, conduits, tubing and cables to be bundled and centered in the opening. The space

A. Metallic Pipes - A max of two metallic pipes, conduits or tubing, (one 3/4 in. or 19 mm diam and one 1/2 in.

B. Nonmetallic Pipes - A max of one nonmetallic pipe to be installed within the firestop system. The following

B1. Polyvinyl Chloride - (PVC) Pipe - Nom 1/2 in. (13 mm) diam (or smaller) Schedule 40 solid core PVC pipe

B2. Chlorinated Polyvinyl Chloride (PVC) Pipe - Nom 1/2 in. (13 mm) diam (or smaller) SDR13.5 CPVC pipe

C. Cables - A max of two 4/C No. 18 AWG (or smaller) thermostat cables with PVC insulation and PVC/nylon

D. **Tube Insulation - Plastic+ -** Nom 1/2 in. (13 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC)

See Plastics+ (QMFZ2) category in the Plastics Recognized Components Directory for names of

4. Fill, Void or Cavity Material\* - Caulk - Min 3/4 in. (19 mm) thickness of fill material applied within annulus on top

wall assembly or gypsum board ceiling. Fill material forced into grouped penetrant interstices to max extent

surface of floor. Min 5/8 in. (16 mm) thickness of fill material applied within annulus on lower top plate of chase

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flexible foam furnished in the form of tubing. Tube insulation to be installed on a max of one metallic pipe or

manufacturers. Any recognized component tube insulation meeting the above specifications and having a

or 13 mm diam) to be installed within the firestop system. The following types and sizes of metallic pipes,

between penetrants and edge of opening shall be min 1/4 in. (6 mm) to max 3/4 in. (19 mm). Penetrants to be

by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening in top plate to be min 1/2 in. (13 mm)

to max 1 in. (25 mm) larger than outside diameter of individual or grouped penetrants. Max diam of opening

A. Studs - Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

diameter of individual or grouped penetrants. Max diam of opening is 3 in. (76 mm).

A1. Steel Pipe - Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

A2. Conduit - Nom 3/4 in. (19 mm) diam (or smaller) steel electrical metallic tubing or steel conduit.

A3. Copper Tubing - Nom 3/4 in. (19 mm) diam (or smaller) Type L (or heavier) copper tubing.

A4. Copper Pipe - Nom 3/4 in. (19 mm) diam (or smaller) Regular (or heavier) copper pipe.

for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

NON-METALLIC PIPE (GYPSUM WALL) DETAIL

All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

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\* FLOOR/CEILING ASSEMBLY IS 1-HR RATED. UNIT TYPE 2.0 FAIR HOUSING 2 BEDROOM UNIT TYPE 3.0 FAIR HOUSING 3 BEDROOM UNIT TYPE 1.0 FAIR HOUSING 1 BEDROOM FIRST, SECOND, THIRD, AND FOURTH FLOORS NO COMMON AREA HAVE SIMILAR UNIT MECHANICAL WORK ON SECOND AND THIRD LAYOUTS. SEE ARCH FLOORS. TAGGED NOTES - THIS SHEET UNIT TYPE 2.0 FAIR HOUSING 2 BEDROOM <u>UH-3</u> 1 SURFACE MOUNTED UNIT HEATER. COORDINATE LOCATION W/ G.C. AND AREA EQUIPMENT. UNIT TYPE 1.0 FAIR HOUSING MINI-SPLIT AIR HANDLER TO BE INSTALLED HIGH ON WALL. COORDINATE EXACT INSTALLATION LOCATION W/ G.C. AND EQUIPMENT. ROUTE CONDENSATE TO AREA HUB DRAIN, COORDINATE W/ P.C.. MECHANICAL FOURTH FLOOR STORAGE ROOM PLAN UNIT TYPE 2.2 FAIR HOUSING UNIT TYPE 2.0 FAIR HOUSING 2 BEDROOM UNIT TYPE 2.0 FAIR HOUSING UNIT TYPE 1.0 FAIR HOUSING 1 BEDROOM UNIT TYPE 1.0 FAIR HOUSING 1 BEDROOM FAIR HOUSING 3 BEDROOM 2 BEDROOM MECHANICAL FIRST FLOOR PLAN 1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

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FIRE RATING LEGEND

■ ■ ■ 1-HR WAL ■ 2-HR WAL

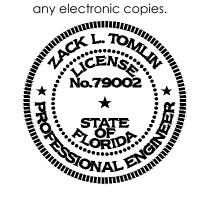
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ARCHITECTURE, P.A.

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RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL

ISSUE DATE: 07.19.19

REVISIONS DESCRIPTION

NUMBER DATE INITIALS

A CONTRIBUTION

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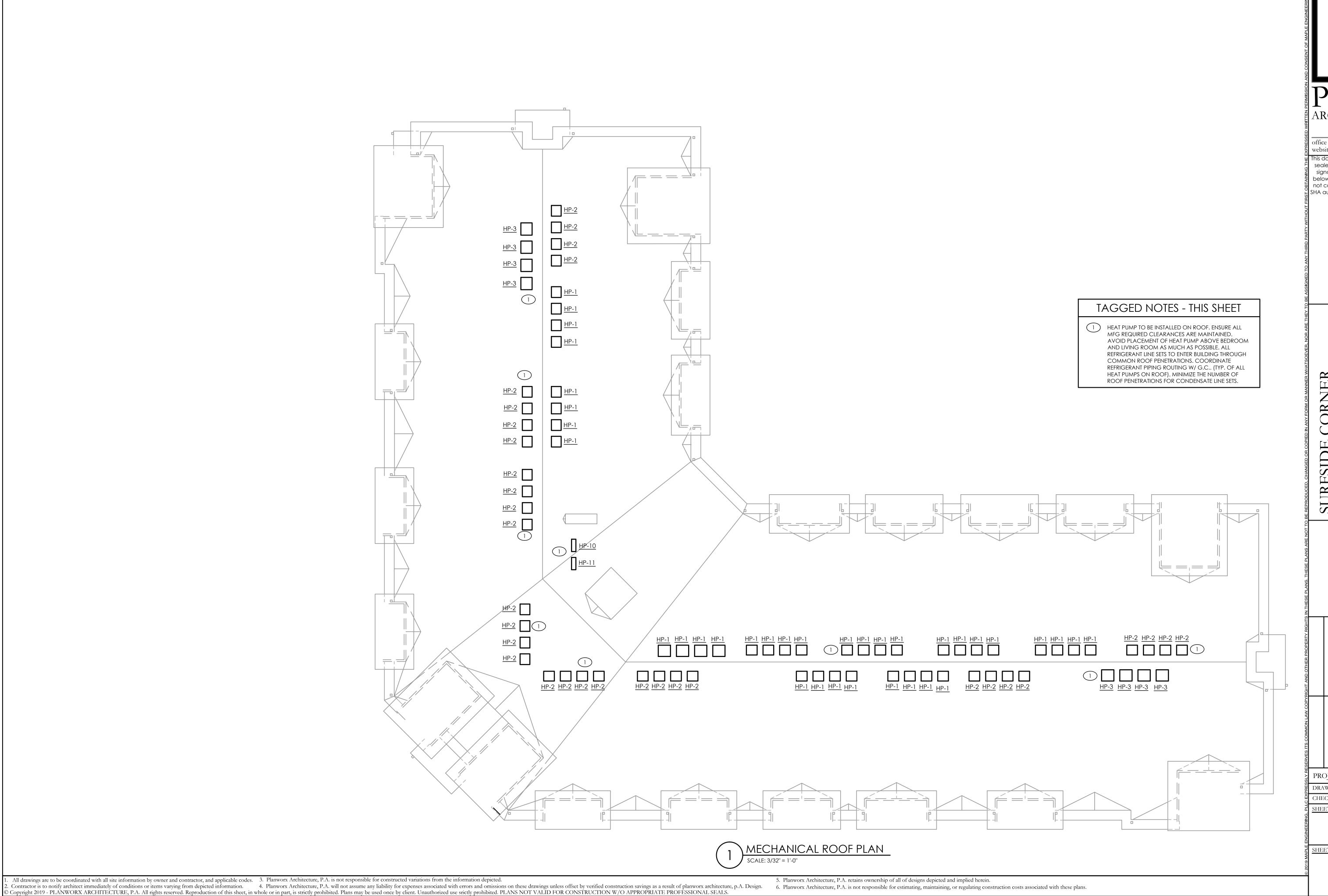
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PROJECT NO: PLX-1906
DRAWN BY: RMH
CHECKED BY: ZLT

MECHANICAL
BUILDING PLAN

SHEET NUMBER:

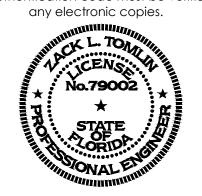
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PLUMBING MECHANICAL ELECTRICAL
FL COA #: 3316

	07.19.19	DESCRIPTION									
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DRAWN BY: DPA ZLT

CHECKED BY: SHEET TITLE:

MECHANICAL ROOF PLAN

SHEET NUMBER:

MECHANICAL VENTILATION CALCULATIONS						
ROOM	LIVING AREA (SQFT)	AVG. CEILING HEIGHT (FT)	LIVING AREA VOLUME (CU. FT)	# OF BEDROOMS	# OF OCCUPANTS	REQUIRED OUTSIDE AIR (CFM)
TYPE 1.0 FAIR HOUSING	657	9	5913	1	2	34
TYPE 2.0 FAIR HOUSING	965	9	8685	2	3	51

MECHANICAL VENTILATION CALCULATIONS (CONT.)							
APARTMENT UNIT	EXHAUST FAN	EXHAUST FAN CFM	AUTOMATIC OPERATION TIME PER HOUR (MINUTES)	PROVIDED VENTILATION (CFM)			
TYPE 1.0 FAIR HOUSING	EF-8	110	19	35			
TYPE 2.0 FAIR HOUSING	EF-9	110	28	51			

2017 FLMC SEC 504.8

"UNIT TYPE 2.0 FAIR HOUSING LAUNDRY": (1) 90° BEND = 5' + 9' (V) + 28' (H) = 42' > 35'

- 1. INSTALLED DRYER MUST BE RATED BY MFG FOR VENT LENGTH OF 42' OR GREATER WHEN INSTALLED W/ (1) 4Ø 90° ELBOW(S).
- 2. PROVIDE A PERMANENT PLACARD WITHIN 6' OF THE DRYER EXHAUST CONNECTION STATING EQUIVALENT LENGTH OF EXHAUST VENT. (2017 FLMC 504.8.5)
- 3. DRYER VENT DUCT EXCEEDS 35 EQUIVALENT FEÉT. M.C. IS TO PROVIDE FIELD INSPECTOR WITH INSTALLATION INSTRUCTIONS FOR MAKE AND MODEL OF DRYER TO BE INSTALLED. IF DRYER DUCT IS TO BE CONCEALED, FIELD INSPECTOR IS TO INSPECT DUCT BEFORE BEING
- ENCLOSED IN STRUCTURE. (2017 FLMC 504.8.4.2)
  4. PROVIDE SHIELD PLATES ON THE FACE OF ALL FRAMING MEMBERS WHERE THERE IS LESS THAN 1-1/4" OF MATERIAL BETWEEN DRYER DUCT AND FACE OF FRAMING MEMBER. SHIELD PLATES ARE TO BE OF STEEL AND HAVE A MINIMUM THICKNESS OF 0.062 INCHES AND EXTEND A MINIMUM OF 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES. (2017 FLMC 504.7)

## DRYER VENT LENGTH

2017 FLMC SEC 504.8 "UNIT TYPE 1.0 FAIR HOUSING LAUNDRY":

(1) 90° BEND = 5' + 9' (V) + 18' (H) = 32' < 35'

- INSTALLED DRYER MUST BE RATED BY MFG FOR VENT LENGTH OF 32' OR GREATER WHEN INSTALLED W/ (1) 4Ø 90° ELBOW(S).
   PROVIDE SHIELD PLATES ON THE FACE OF ALL FRAMING
- MEMBERS WHERE THERE IS LESS THAN 1-1/4" OF MATERIAL BETWEEN DRYER DUCT AND FACE OF FRAMING MEMBER. SHIELD PLATES ARE TO BE OF STEEL AND HAVE A MINIMUM THICKNESS OF 0.062 INCHES AND EXTEND A MINIMUM OF 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES. (201FLMC 504.7)

## TAGGED NOTES - THIS SHEET

- DRYER VENT TO WALL CAP W/ BDD (NO SCREEN).
  CAULK BEHIND AND AROUND CAP WITH 100%
  SILICONE. MAINTAIN 10' CLEARANCE FROM ALL
  BUILDING AIR INTAKES.
- 2 BATHROOM EXHAUST TO WALL CAP W/ BDD AND INSECT SCREEN. CAULK BEHIND AND AROUND CAP WITH 100% SILICONE. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.
- 3 4Ø DRYER VENT UP WALL. PROVIDE RECESSED DRYER BOX. SEE DETAIL REGARDING FIRE STOPPING OF DRYER VENT DUCTS.
- PROVIDE TRANSFER GRILLE CENTERED OVER LAUNDRY CLOSET DOOR, GRILLE TO HAVE MINIMUM FREE AREA OF 100 SQIN, TURN BLADES TO FACE UP
- OF 100 SQIN. TURN BLADES TO FACE UP.

  AIR HANDLER TO BE INSTALLED ON WALL IN CLOSET.
  SUPPLY TO DISCHARGE FROM TOP OF UNIT AND TO
  ABOVE CEILING. RETURN THROUGH FRONT OF UNIT.
  PROVIDE WITH FILTER. SEE DETAIL.
- 6 PROVIDE DOOR WITH LOUVER. LOUVER MINIMUM FREE AREA TO BE 480 SQIN. COORDINATE LOUVER SELECTION W/ ARCHITECT.

- 7 U.L. LISTED RE-CIRCULATING EXHAUST HOOD BY G.C..
- AIR HANDLER TO BE INSTALLED ON WALL IN CLOSET.
  SUPPLY TO DISCHARGE FROM TOP OF UNIT AND TO
  ABOVE CEILING. PROVIDE AIR HANDLER W/ MFG'S WALL
  PANEL FOR RETURN AIR AND AIR HANDLER ACCESS. SEE
  DETAIL.
- 9 PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 75 SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR UNDERCUT.
- PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 100 SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR UNDERCUT.
- UNITS TYPE 1.0 ADJACENT TO UNITS TYPE 2.2 TO HAVE BATHROOM AND/OR DRYER EXHAUST DUCT SERVING UNIT TYPE 2.2 ROUTED ABOVE CEILING IN AREA SHOWN BY DASHED LINE. SEE SHEET M132 FOR UNIT TYPE 2.2 DUCT ROUTING DETAILS.

## GENERAL NOTES - THIS SHEET

- DUCTWORK ROUTING TO BE COORDINATED WITH STRUCTURE AND TRUSS SPACING.
- SEE BLDG ROOF PLAN ON SHEET M1.20 FOR CONDENSING UNIT LOCATIONS.
   NO FLEXIBLE DUCTWORK TO BE USED FOR EXHAUST
- APPLICATIONS. RIGID METAL DUCTWORK ONLY.

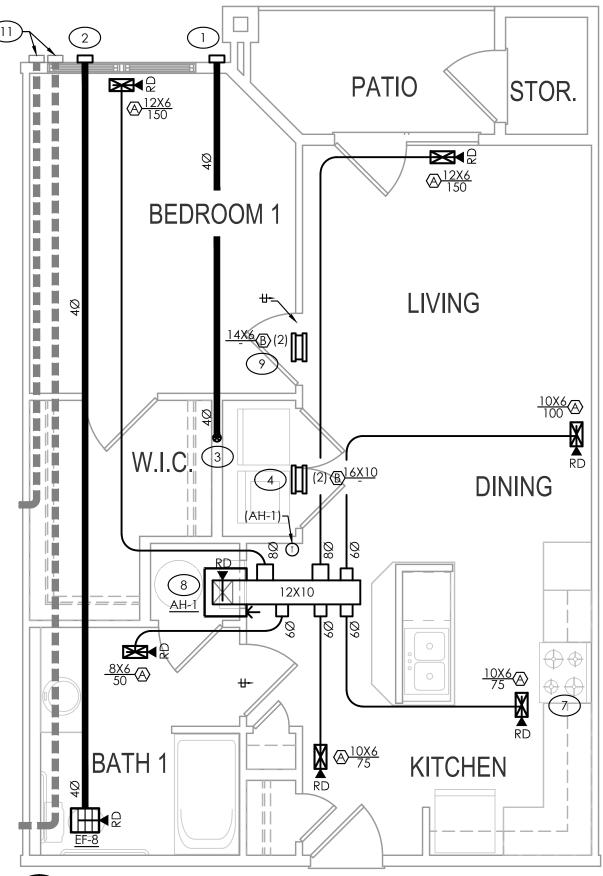
  4. AIR HANDLERS STACKED ABOVE WATER HEATERS. SEE DETAIL
- AND COORDINATE WITH P.C..
  5. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND
- FLOOR/CEILING RATINGS.

  6. MECHANICAL CLOSETS AND THEIR CONTENTS MUST BE
- PLENUM RATED IN UNIT TYPE 2.0.
  7. M.C. TO COORDINATE DUCT LOCATIONS WITH P.C. AND
- AREA PLUMBING STACKS AND OVERHEAD WASTE AND VENT PIPING.

  8. M.C. TO COORDINATE WITH E.C. AND AREA PANEL FEEDER
- LOCATIONS.

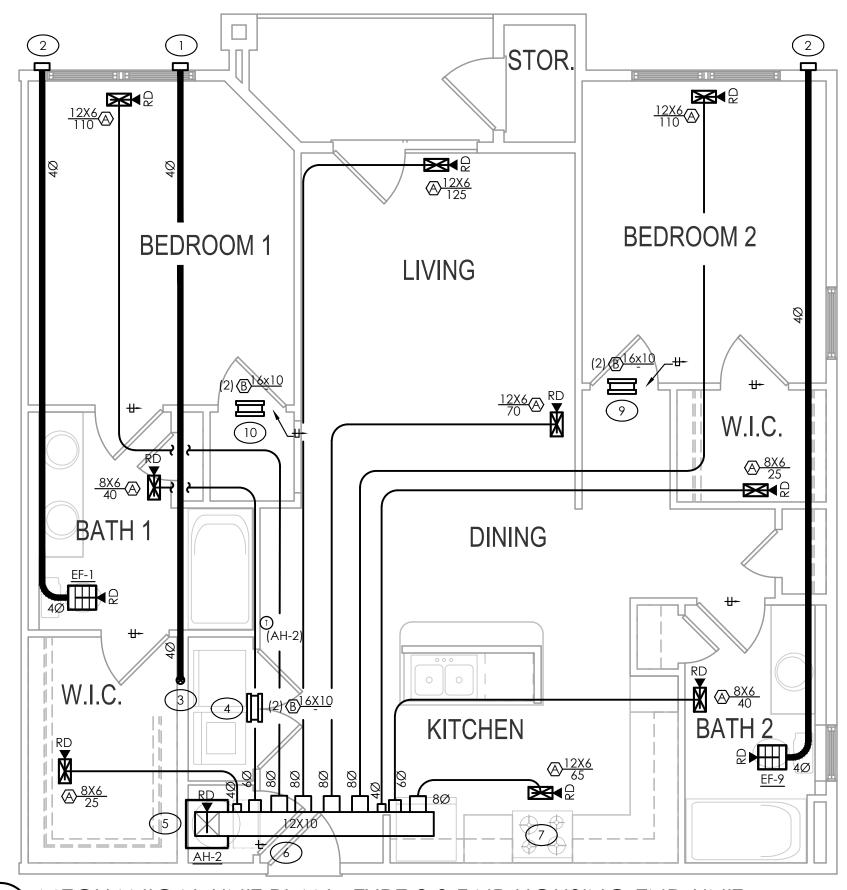
  9. M.C. TO COORDINATE WITH FIRE SPRINKLER CONTRACTOR
- AND AREA SPRINKLER PIPING.

  10. SEE DETAILS REGARDING FIRE STOPPING OF DRYER EXHAUST DUCTS.



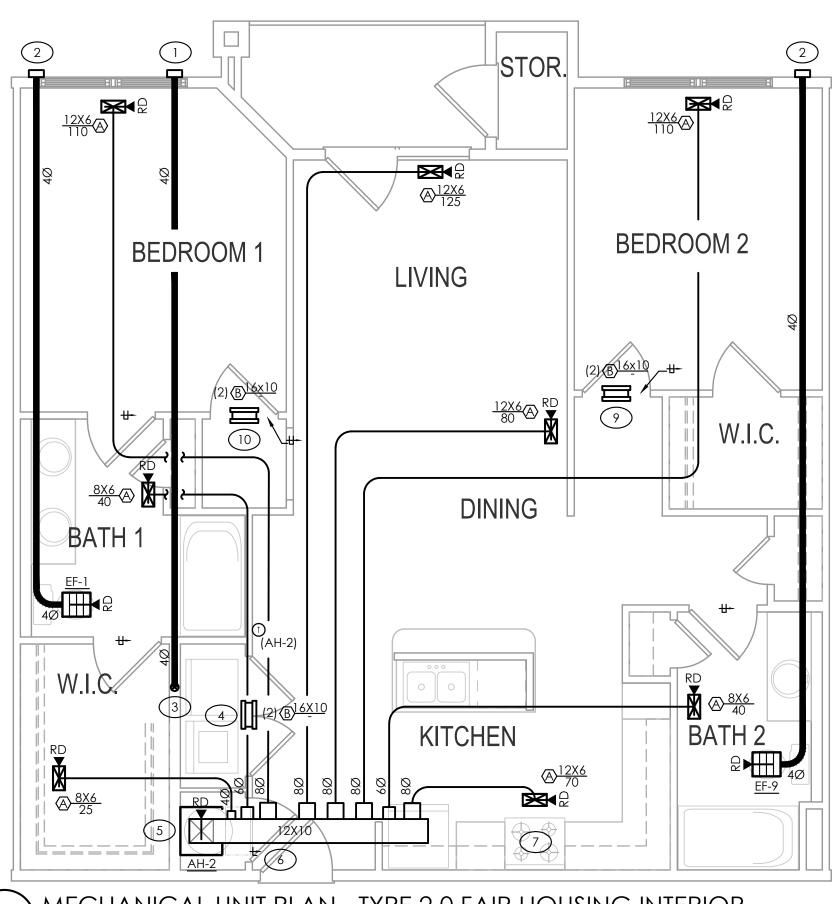
MECHANICAL UNIT PLAN - TYPE 1.0 MOBILITY

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



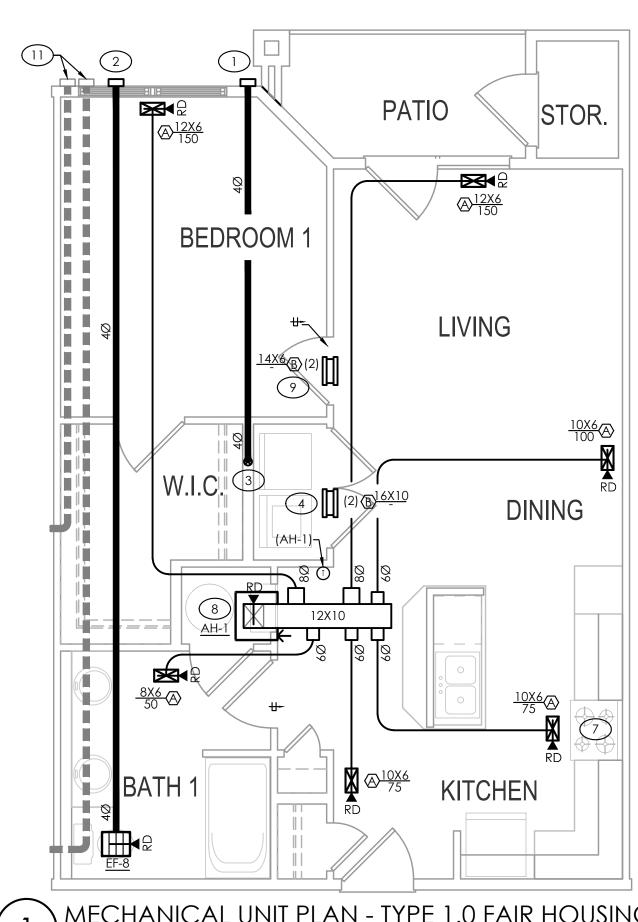
MECHANICAL UNIT PLAN - TYPE 2.0 FAIR HOUSING END UNIT

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



MECHANICAL UNIT PLAN - TYPE 2.0 FAIR HOUSING INTERIOR

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



MECHANICAL UNIT PLAN - TYPE 1.0 FAIR HOUSING

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

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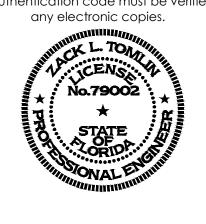
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MECHANICAL UNIT PLANS

SHEET NUMBER:

M1.30

MECHANICAL VENTILATION CALCULATIONS								
ROOM	LIVING AREA (SQFT)	AVG. CEILING HEIGHT (FT)	LIVING AREA VOLUME (CU. FT)	# OF BEDROOMS	# OF OCCUPANTS	REQUIRED OUTSIDE AIR (CFM)		
TYPE 2.1 FAIR HOUSING	977	9	8793	2	3	51		

MEC	MECHANICAL VENTILATION CALCULATIONS (CONT.)							
APARTMENT UNIT	APARTMENT UNIT EXHAUST FAN EXHAUST FAN CFM AUTOMATIC OPERATION TIME PROVIDED VENTILATION (CFM)							
TYPE 2.1 FAIR HOUSING	EF-9	110	28	51				

2017 FLMC SEC 504.8

"UNIT TYPE 2.1 LAUNDRY":  $\overline{(2)}$  90° BEND = 10' + 9' (V) + 28' (H) = 47' > 35'

INSTALLED DRYER MUST BE RATED BY MFG FOR VENT LENGTH OF 47' OR GREATER WHEN INSTALLED W/ (2) 4Ø 90° ELBOW(S). PROVIDE A PERMANENT PLACARD WITHIN 6' OF THE

DRYER EXHAUST CONNECTION STATING EQUIVALENT LENGTH OF EXHAUST VENT. (2017 FLMC 504.8.5) DRYER VENT DUCT EXCEEDS 35 EQUIVALENT FEET. M.C. IS TO PROVIDE FIELD INSPECTOR WITH INSTALLATION INSTRUCTIONS FOR MAKE AND MODEL OF DRYER TO BE INSTALLED. IF DRYER DUCT IS TO BE CONCEALED, FIELD INSPECTOR IS TO INSPECT DUCT BEFORE BEING ENCLOSED IN STRUCTURE. (2017 FLMC 504.8.4.2)

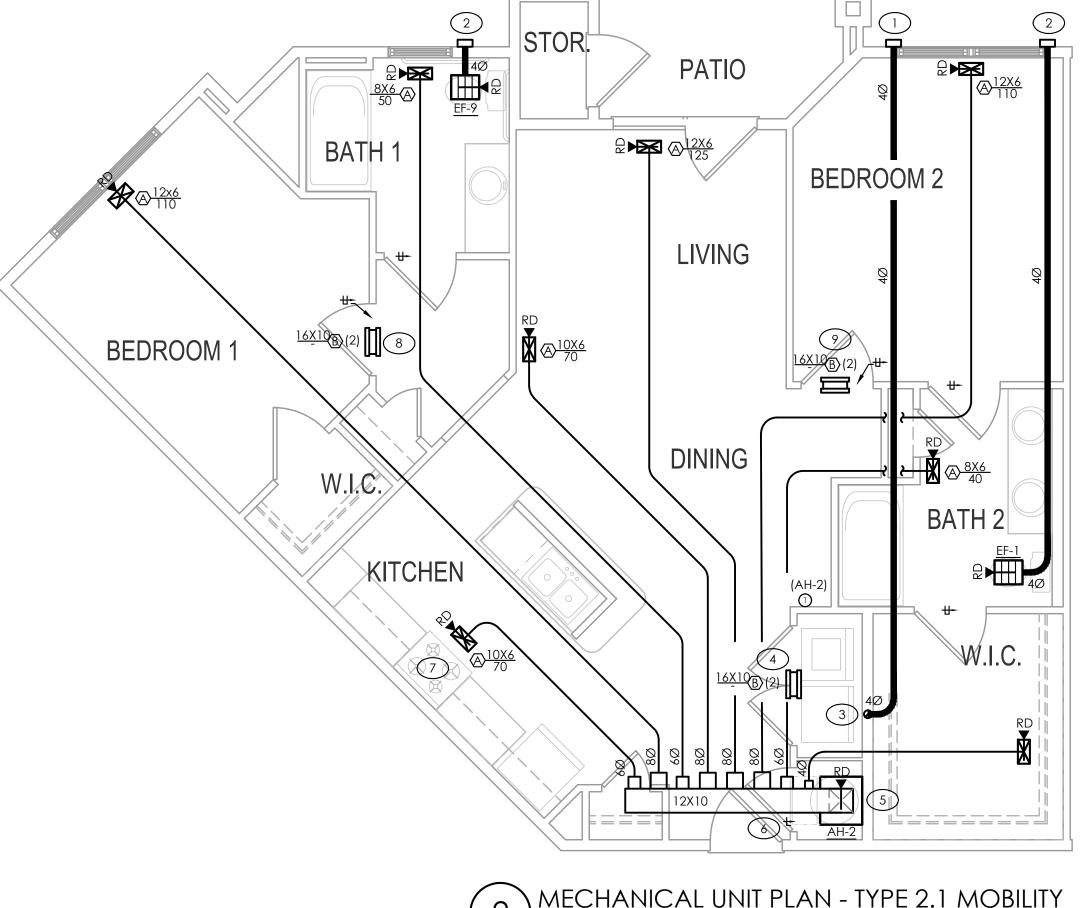
PROVIDE SHIELD PLATES ON THE FACE OF ALL FRAMING MEMBERS WHERE THERE IS LESS THAN 1-1/4" OF MATERIAL BETWEEN DRYER DUCT AND FACE OF FRAMING MEMBER. SHIELD PLATES ARE TO BE OF STEEL AND HAVE A MINIMUM THICKNESS OF 0.062 INCHES AND EXTEND A MINIMUM OF 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES. (2017 FLMC 504.7)

## TAGGED NOTES - THIS SHEET

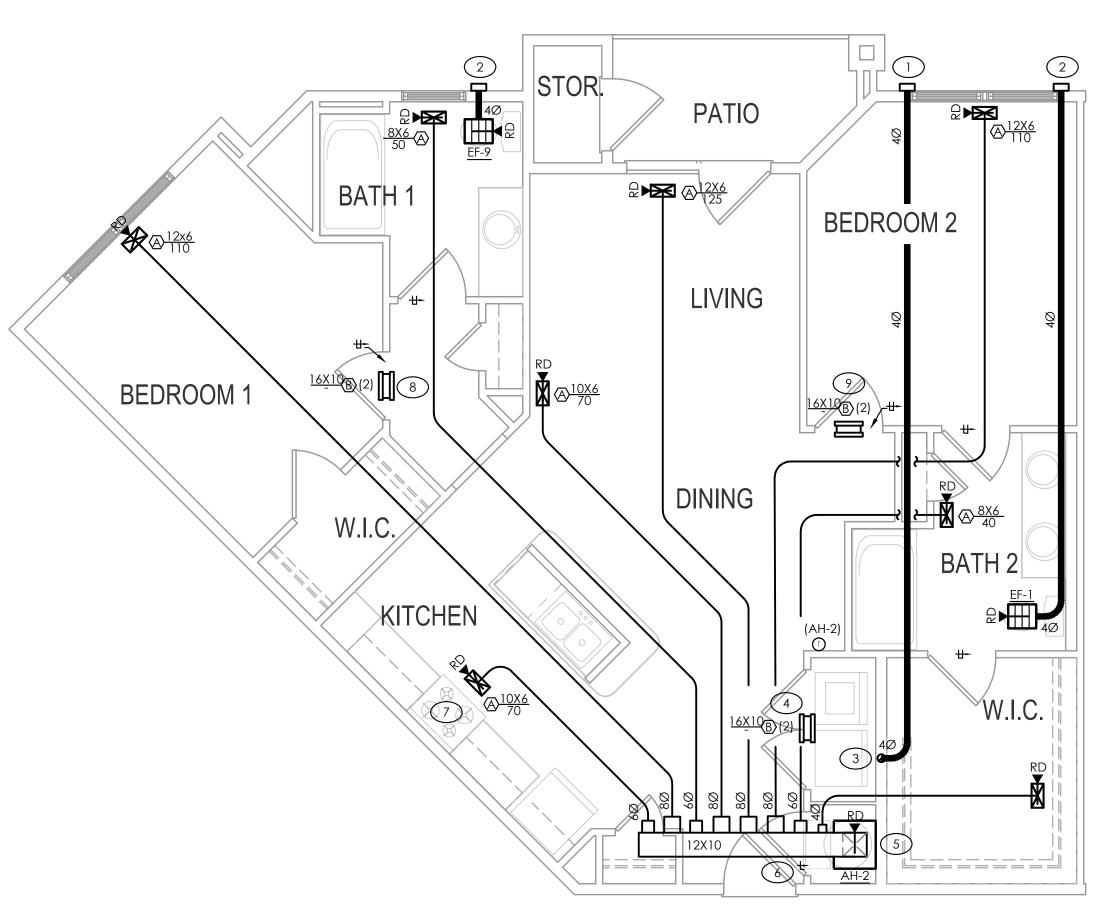
- DRYER VENT TO WALL CAP W/BDD (NO SCREEN). CAULK BEHIND AND AROUND CAP WITH 100% SILICONE. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.
- BATHROOM EXHAUST TO WALL CAP W/ BDD AND INSECT SCREEN. CAULK BEHIND AND AROUND CAP WITH 100% SILICONE, MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.
  - 4Ø DRYER VENT UP WALL. PROVIDE RECESSED DRYER BOX. SEE DETAIL REGARDING FIRE STOPPING OF DRYER VENT DUCTS.
- PROVIDE TRANSFER GRILLE CENTERED OVER LAUNDRY CLOSET DOOR. GRILLE TO HAVE MINIMUM FREE AREA
- OF 100 SQIN. TURN BLADES TO FACE UP. AIR HANDLER TO BE INSTALLED ON WALL IN CLOSET. SUPPLY TO DISCHARGE FROM TOP OF UNIT AND TO ABOVE CEILING. RETURN THROUGH FRONT OF UNIT.
- PROVIDE DOOR WITH LOUVER. LOUVER MINIMUM FREE AREA TO BE 480 SQIN. COORDINATE LOUVER SELECTION W/ ARCHITECT.
- (7) U.L. LISTED RE-CIRCULATING EXHAUST HOOD BY G.C..
- 8 PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 75 SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR UNDERCUT.
- PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 100 SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR UNDERCUT.

## GENERAL NOTES - THIS SHEET

- DUCTWORK ROUTING TO BE COORDINATED WITH
- STRUCTURE AND TRUSS SPACING. . SEE BLDG PLAN FOR HEAT PUMP LOCATIONS.
- B. NO FLEXIBLE DUCTWORK TO BE USED FOR EXHAUST APPLICATIONS. RIGID METAL DUCTWORK ONLY. 4. AIR HANDLERS STACKED ABOVE WATER HEATER. SEE DETAIL
- AND COORDINATE WITH P.C.. 5. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND
- FLOOR/CEILING RATINGS. 6. MECHANICAL CLOSETS AND THEIR CONTENTS MUST BE
- PLENUM RATED. M.C. TO COORDINATE DUCT LOCATIONS WITH P.C. AND AREA PLUMBING STACKS AND OVERHEAD WASTE AND
- VENT PIPING. 8. M.C. TO COORDINATE WITH E.C. AND AREA PANEL FEEDER LOCATIONS.
- 9. M.C. TO COORDINATE WITH FIRE SPRINKLER CONTRACTOR AND AREA SPRINKLER PIPING.
- 10. SEE DETAILS REGARDING FIRE STOPPING OF DRYER EXHAUST DUCTS.



MECHANICAL UNIT PLAN - TYPE 2.1 MOBILITY



MECHANICAL UNIT PLAN - TYPE 2.1 FAIR HOUSING

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PROJECT NO: PLX-190DRAWN BY: CHECKED BY: ZLT

SHEET TITLE: MECHANICAL UNIT PLANS

SHEET NUMBER:

M1.31

	MECHANICAL VENTILATION CALCULATIONS						
ROOM	ROOM LIVING AREA (SQFT) AVG. CEILING HEIGHT (FT) LIVING AREA VOLUME (CU. FT) # OF BEDROOMS # OF OCCUPANTS REQUIRED OUTSIDE AIR (CFM)						
TYPE 2.2 FAIR HOUSING         1305         9         11745         2         3         69							

MEC	MECHANICAL VENTILATION CALCULATIONS (CONT.)							
APARTMENT UNIT	EXHAUST FAN	EXHAUST FAN CFM	AUTOMATIC OPERATION TIME PER HOUR (MINUTES)	PROVIDED VENTILATION (CFM)				
TYPE 2.2 FAIR HOUSING	EF-8	110	19	35				
TYPE 2.2 FAIR HOUSING	EF-8	110	19	35				
			TOTAL OUTSIDE AIR	70				

2017 FLMC SEC 504.8

UNIT TYPE 2.2 LAUNDRY": (2)  $90^{\circ}$  BEND = 10' + 9' (V) + 20' (H) = 39' > 35'

- INSTALLED DRYER MUST BE RATED BY MFG FOR VENT LENGTH OF 39' OR GREATER WHEN INSTALLED W/ (2) 4Ø 90° ELBOW(S).
- PROVIDE A PERMANENT PLACARD WITHIN 6' OF THE DRYER EXHAUST CONNECTION STATING EQUIVALENT LENGTH OF EXHAUST VENT. (2017 FLMC 504.8.5)
- DRYER VENT DUCT EXCEEDS 35 EQUIVALENT FEET. M.C. IS TO PROVIDE FIELD INSPECTOR WITH INSTALLATION INSTRUCTIONS FOR MAKE AND MODEL OF DRYER TO BE INSTALLED. IF DRYER DUCT IS TO BE CONCEALED, FIELD INSPECTOR IS TO INSPECT DUCT BEFORE BEING ENCLOSED IN STRUCTURE. (2017 FLMC 504.8.4.2)

BEDROOM

PROVIDE SHIELD PLATES ON THE FACE OF ALL FRAMING MEMBERS WHERE THERE IS LESS THAN 1-1/4" OF MATERIAL BETWEEN DRYER DUCT AND FACE OF FRAMING MEMBER. SHIELD PLATES ARE TO BE OF STEEL AND HAVE A MINIMUM THICKNESS OF 0.062 INCHES AND EXTEND A MINIMUM OF 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES. (2017 FLMC 504.7)

## TAGGED NOTES - THIS SHEET

- 1 DRYER VENT ABOVE CEILING IN ADJACENT UNIT TYPE 1.0 TO WALL CAP W/BDD (NO SCREEN). CAULK BEHIND AND AROUND CAP WITH 100% SILICONE. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR
- INTAKES. BATHROOM EXHAUST ABOVE CEILING IN ADJACENT UNIT TYPE 1.0 TO WALL CAP W/ BDD AND INSECT SCREEN. CAULK BEHIND AND AROUND CAP WITH 100% SILICONE. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.
- 4Ø DRYER VENT UP WALL. PROVIDE RECESSED DRYER BOX. SEE DETAIL REGARDING FIRE STOPPING OF DRYER VENT DUCTS.
- (4) PROVIDE TRANSFER GRILLE CENTERED OVER LAUNDRY CLOSET DOOR. GRILLE TO HAVE MINIMUM FREE AREA OF 100 SQIN. TURN BLADES TO FACE UP.
- AIR HANDLER TO BE INSTALLED ON WALL IN CLOSET. SUPPLY TO DISCHARGE FROM TOP OF UNIT AND TO ABOVE CEILING. PROVIDE AIR HANDLER W/ MFG'S WALL PANEL FOR RETURN AIR AND AIR HANDLER ACCESS. SEE DETAIL.
- (6) U.L. LISTED RE-CIRCULATING EXHAUST HOOD BY G.C..
- 7 PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 75 SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR UNDERCUT. 8 PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM

DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 100

SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR

## GENERAL NOTES - THIS SHEET

- DUCTWORK ROUTING TO BE COORDINATED WITH STRUCTURE AND TRUSS SPACING.
- . SEE BLDG PLAN FOR HEAT PUMP LOCATIONS. 3. NO FLEXIBLE DUCTWORK TO BE USED FOR EXHAUST
- APPLICATIONS. RIGID METAL DUCTWORK ONLY. 4. AIR HANDLERS STACKED ABOVE WATER HEATERS. SEE DETAIL AND COORDINATE WITH P.C..
- 5. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND FLOOR/CEILING RATINGS.
- S. M.C. TO COORDINATE DUCT LOCATIONS WITH P.C. AND AREA PLUMBING STACKS AND OVERHEAD WASTE AND VENT PIPING.
- . M.C. TO COORDINATE WITH E.C. AND AREA PANEL FEEDER LOCATIONS. 8. M.C. TO COORDINATE WITH FIRE SPRINKLER CONTRACTOR
- AND AREA SPRINKLER PIPING. 9. SEE DETAILS REGARDING FIRE STOPPING OF DRYER EXHAUST DUCTS.

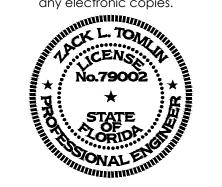


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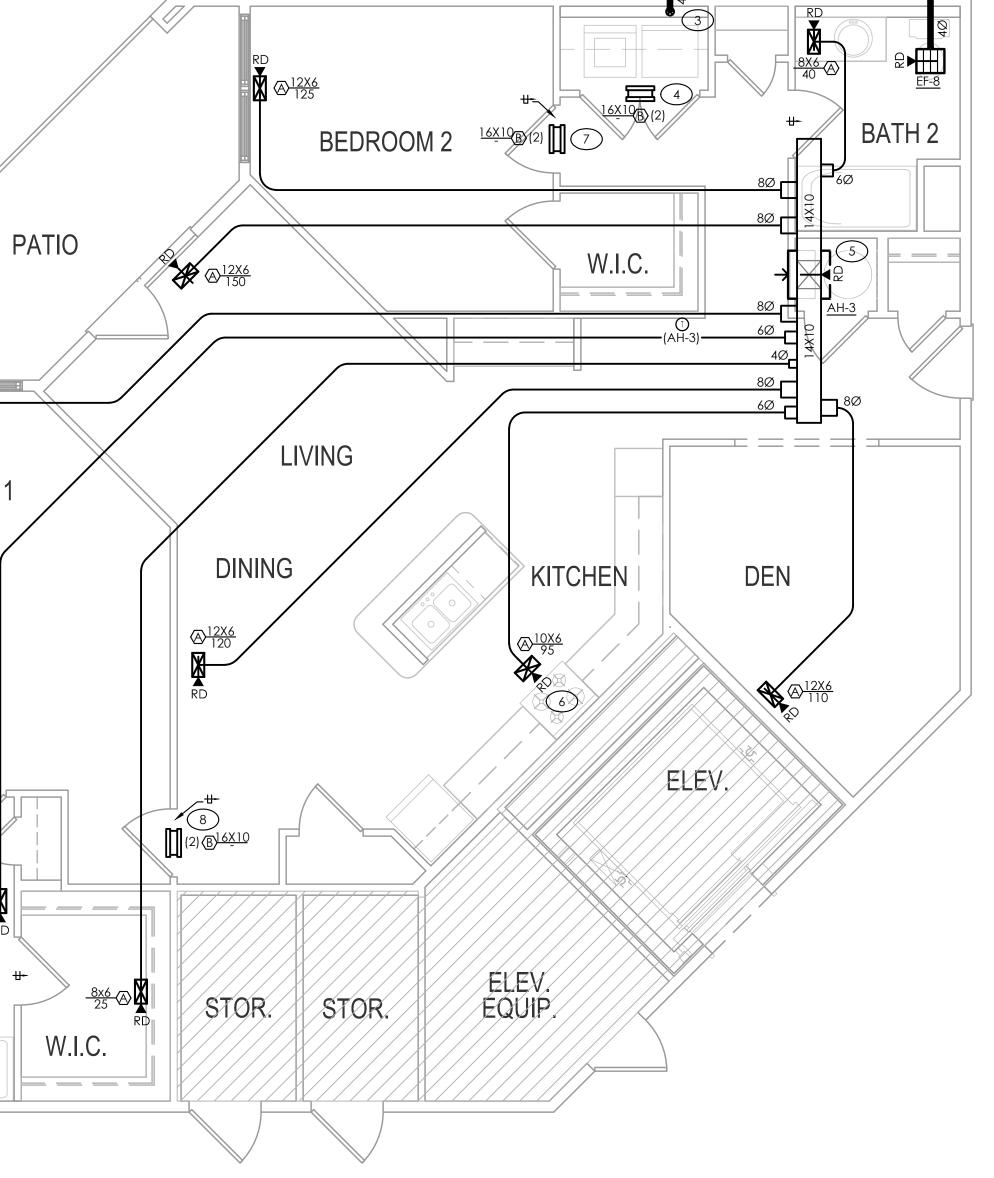
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PROJECT NO: PLX-190

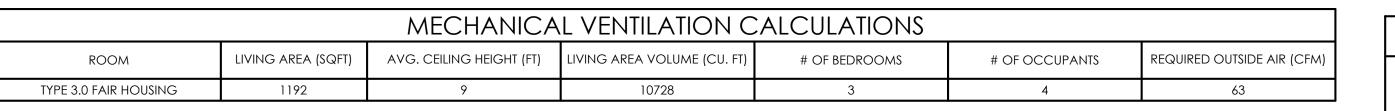
MECHANICAL UNIT PLANS

M1.32

DRAWN BY: CHECKED BY: SHEET TITLE:



MECHANICAL UNIT PLAN - TYPE 2.2 FAIR HOUSING



MECHA	ANICAL VEN	TILATION CA	LCULATIONS (CC	ONT.)
APARTMENT UNIT	EXHAUST FAN	EXHAUST FAN CFM	AUTOMATIC OPERATION TIME PER HOUR (MINUTES)	PROVIDED VENTILATION (CFM)
TYPE 3.0 FAIR HOUSING	EF-8	110	19	35
TYPE 3.0 FAIR HOUSING	EF-8	110	19	35
			TOTAL OUTSIDE AIR	70

2017 FLMC SEC 504.8 "UNIT TYPE 3.0 LAUNDRY": (1) 90° BEND = 5' + 9' (V) + 14' (H) = 28' < 35'

INSTALLED DRYER MUST BE RATED BY MFG FOR VENT LENGTH OF 28' OR GREATER WHEN INSTALLED W/ (1) 4Ø 90° ELBOW(S).

PROVIDE SHIELD PLATES ON THE FACE OF ALL FRAMING MEMBERS WHERE THERE IS LESS THAN 1-1/4" OF MATERIAL BETWEEN DRYER DUCT AND FACE OF FRAMING MEMBER. SHIELD PLATES ARE TO BE OF STEEL AND HAVE A MINIMUM THICKNESS OF 0.062 INCHES AND EXTEND A MINIMUM OF 2 INCHES ABOVE SOLE PLATES AND BELOW TOP PLATES. (2017 FLMC 504.7)

## TAGGED NOTES - THIS SHEET

- 1 DRYER VENT TO WALL CAP W/ BDD (NO SCREEN). CAULK BEHIND AND AROUND CAP WITH 100% SILICONE. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.
- 2 BATHROOM EXHAUST TO WALL CAP W/ BDD AND INSECT SCREEN. CAULK BEHIND AND AROUND CAP WITH 100% SILICONE. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.
- 3 4Ø DRYER VENT UP WALL. PROVIDE RECESSED DRYER BOX. SEE DETAIL REGARDING FIRE STOPPING OF DRYER VENT DUCTS.
- 4 PROVIDE TRANSFER GRILLE CENTERED OVER LAUNDRY CLOSET DOOR. GRILLE TO HAVE MINIMUM FREE AREA OF 100 SQIN. TURN BLADES TO FACE UP. AIR HANDLER TO BE INSTALLED ON WALL IN CLOSET. SUPPLY TO DISCHARGE FROM TOP OF UNIT AND TO ABOVE CEILING. PROVIDE AIR HANDLER W/ MFG'S
- ACCESS. SEE DETAIL. 6 U.L. LISTED RE-CIRCULATING EXHAUST HOOD BY G.C..

WALL PANEL FOR RETURN AIR AND AIR HANDLER

- 7 PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 135 SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR UNDERCUT.
- (8) PROVIDE TRANSFER GRILLE CENTERED OVER BEDROOM DOOR. GRILLE TO HAVE MINIMUM GRILLE AREA OF 110 SQIN. TURN BLADES TO FACE UP. PROVIDE 1" DOOR UNDERCUT.

## GENERAL NOTES - THIS SHEET

- DUCTWORK ROUTING TO BE COORDINATED WITH
- STRUCTURE AND TRUSS SPACING. SEE BLDG PLAN FOR HEAT PUMP LOCATIONS. NO FLEXIBLE DUCTWORK TO BE USED FOR EXHAUST
- APPLICATIONS. RIGID METAL DUCTWORK ONLY. 4. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND FLOOR/CEILING RATINGS. M.C. TO COORDINATE DUCT LOCATIONS WITH P.C. AND
- AREA PLUMBING STACKS AND OVERHEAD WASTE AND VENT PIPING. M.C. TO COORDINATE WITH E.C. AND AREA PANEL FEEDER
- LOCATIONS. M.C. TO COORDINATE WITH FIRE SPRINKLER CONTRACTOR
- AND AREA SPRINKLER PIPING. SEE DETAILS REGARDING FIRE STOPPING OF DRYER EXHAUST DUCTS AND BATHROOM EXHAUST DUCTWORK.

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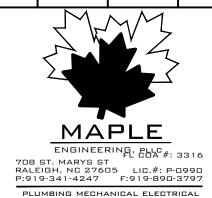
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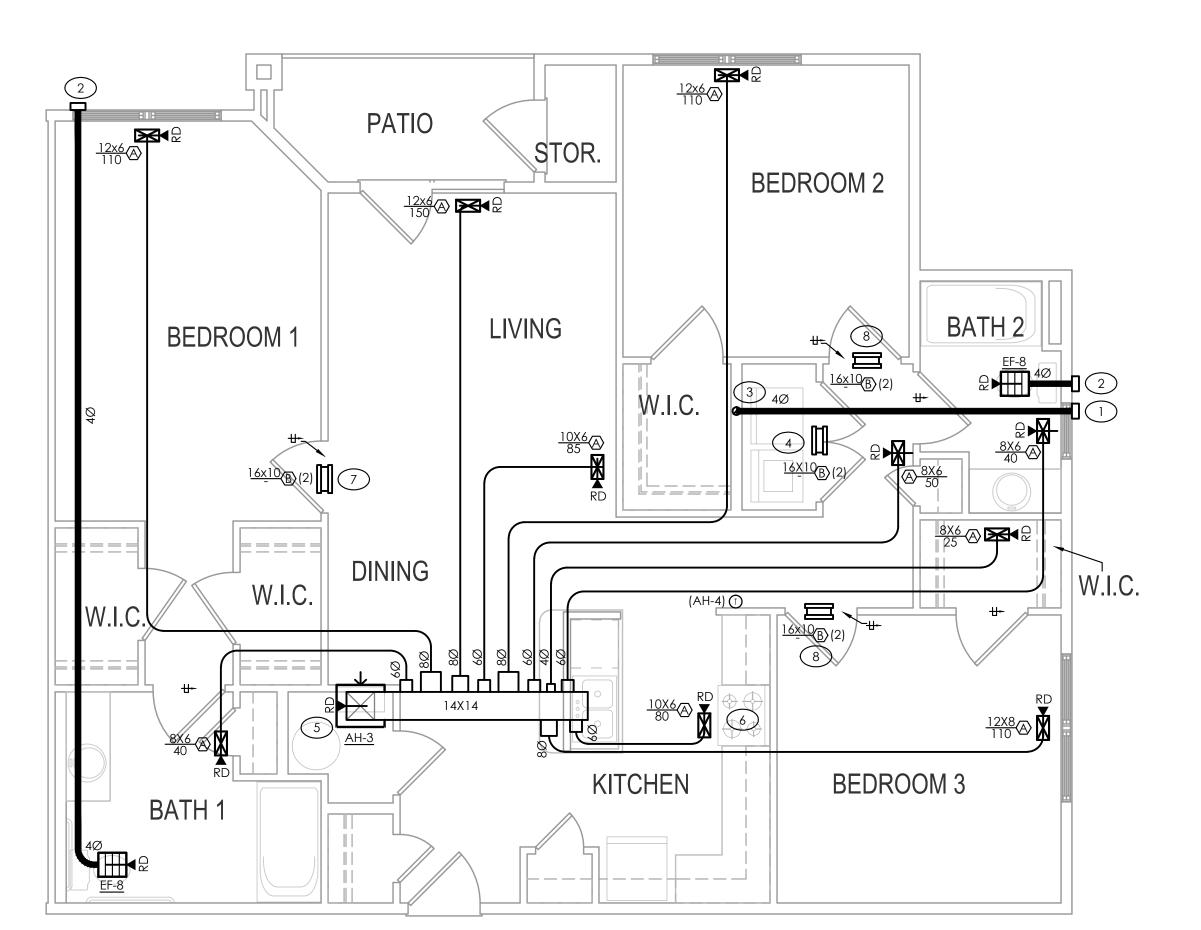
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SHEET TITLE: MECHANICAL UNIT PLANS

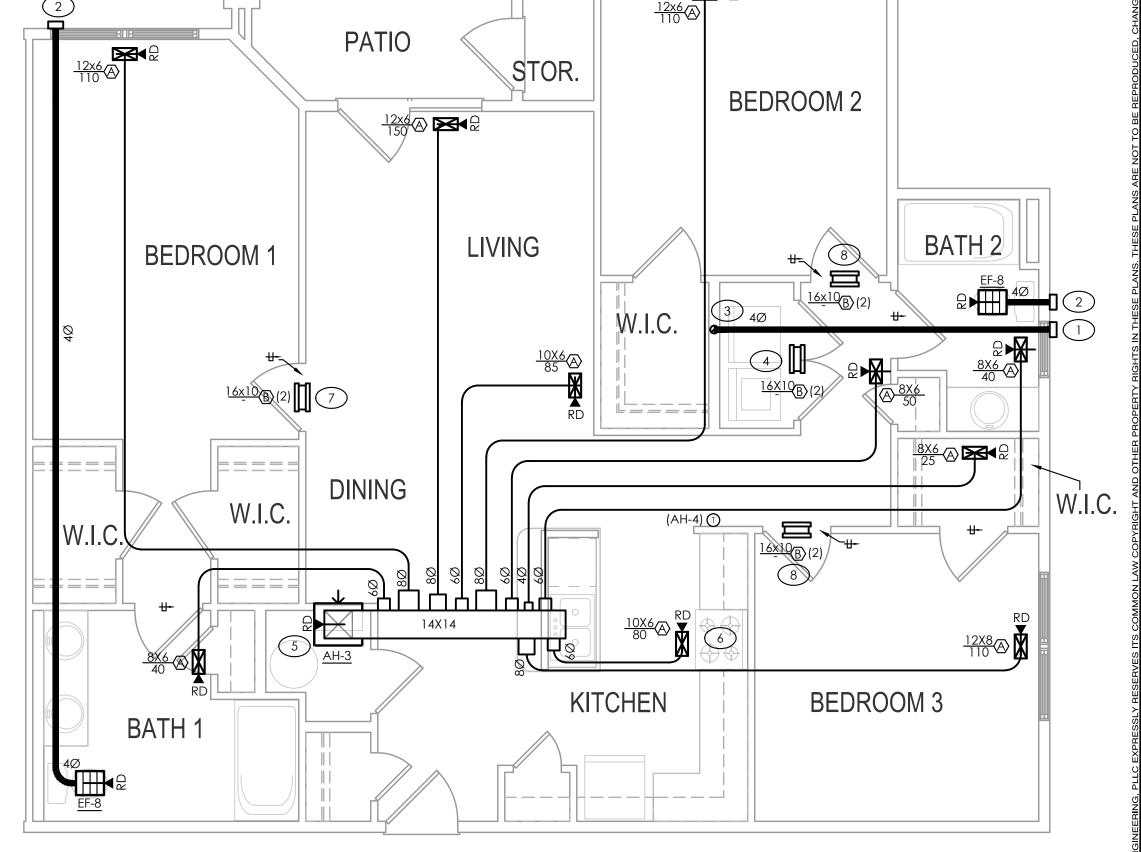
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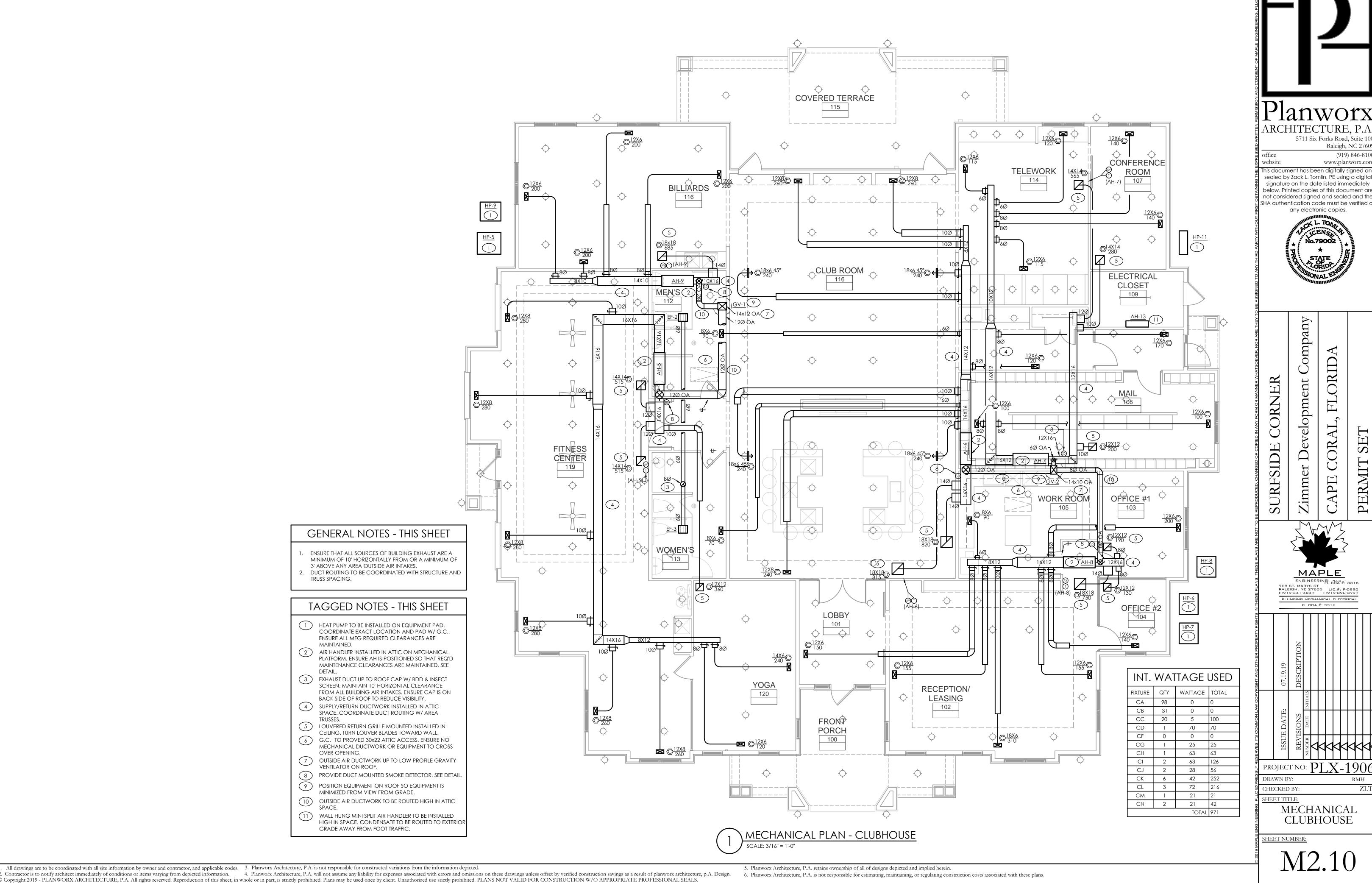
M1.33



MECHANICAL UNIT PLAN - TYPE 3.0 MOBILITY SCALE: 1/4" = 1'-0"



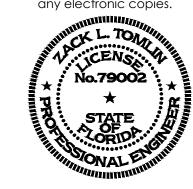
MECHANICAL UNIT PLAN - TYPE 3.0 FAIR HOUSING



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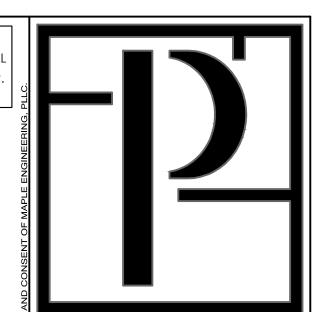


MAPLE ENGINEERING, PLLC#: 3316 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797 PLUMBING MECHANICAL ELECTRICAL

PROJECT NO: PLX-190

ZLTMECHANICAL

FIRE RATING LEGEND ■ • ■ 1-HR WAL \* CEILING ABOVE POOL EQUIP. & CHEM. STOR. IS 1-HR RATED



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ENGINEERING, PLLC#: 3316 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797 PLUMBING MECHANICAL ELECTRICAL FL COA #: 3316

PROJECT NO: PLX-1900 DRAWN BY:

CHECKED BY:

SHEET TITLE: MECHANICAL POOLHOUSE PLANS

ZLT

SHEET NUMBER:

## TAGGED NOTES - THIS SHEET

- 1 SURFACE MOUNTED UNIT HEATER. COORDINATE LOCATION W/ G.C. AND AREA EQUIPMENT.
- 2) MINI-SPLIT AIR HANDLER TO BE INSTALLED HIGH ON WALL. COORDINATE EXACT INSTALLATION LOCATION W/ G.C. AND EQUIPMENT. CONDENSATE TO BE ROUTED TO GRADE/GRASSY AREA AWAY FROM FOOT TRAFFIC. COORDINATE CONDENSATE ROUTING W/
- 3 EXHAUST DUCT UP TO MFG ROOF CAP W/ INSECT SCREEN AND BDD. ENSURE 10' HORIZONTAL OR 3' VERTICAL CLEARANCE IS MAINTAINED FROM ALL
- SOURCES OF BUILDING AIR INTAKES. ENSURE EXHAUST CAP IS NOT ON POOL SIDE OF ROOF. DOOR WITH WEATHERPROOF LOUVER AND INSECT SCREEN BY G.C.. LOUVER TO HAVE MINIMUM FREE
- AREA OF 120 SQIN. 5 DOOR WITH WEATHERPROOF LOUVER AND INSECT SCREEN BY G.C.. EACH LOUVER TO HAVE MINIMUM
- FREE AREA OF 72 SQIN. 6 HEAT PUMP TO BE INSTALLED AT GRADE. COORDINATE MOUNTING PAD REQUIREMENTS W/ G.C.. ENSURE ALL MFG MAINTENANCE CLEARANCES ARE MAINTAINED.

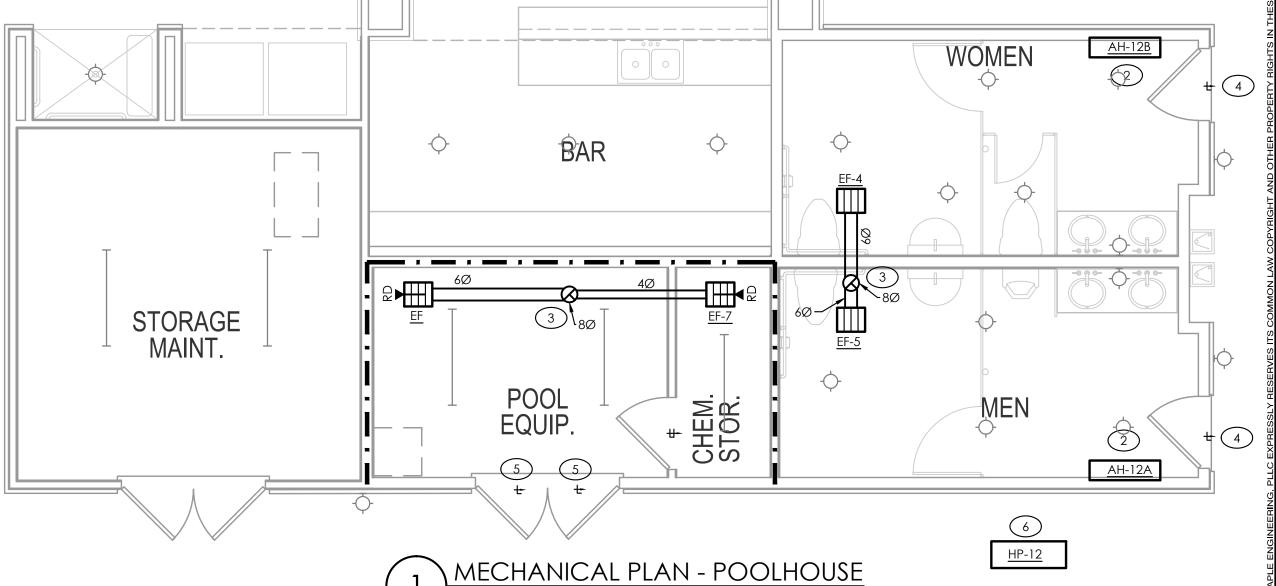
## **VENTILATION CALC'S**

## CHEMICAL STORAGE:

35 SQFT x 9' HIGH CEILING = 315 CU. FT @ 10 ACH = 53 CFM \*75 CFM PROVIDED

## PUMP ROOM:

\*200 CFM PROVIDED



111 SQFT x 9' HIGH CEILING = 999 CU. FT @ 10 ACH = 167 CFM

## ELECTRICAL SYMBOL LEGEND GENERAL ELECTRICAL NOTES LIGHTING FIXTURE SCHEDULE LAMP DATA CATALOG METAL CONDUIT COUPLINGS TO BE COMPRESSION TYPE OR THREADED WHEN . GENERAL REQUIREMENTS: MOUNTING DESCRIPTION MANUF. CIRCUIT CONDUCTORS CONCEALED IN FLOOR, WALL OR CEILING. NUMBER ACCESSIBLE TO BUILDING OCCUPANTS. METAL COUNDUIT COUPLINGS MAY BE TYPE TYPF ELECTRICAL CONTRACTOR IS TO FURNISH AND PAY FOR ALL LABOR, MATERIAL SET-SCREW TYPE WHEN CONCEALED IN BUILDING STRUCTURE OR LOCATED MORE EQUIPMENT, PERMITS & FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL EXTERIOR RATED LED CEILING DOME LIGHT. SELECTED BY THAN 10' AFF. PLASTIC CONDUIT COUPLINGS TO BE SOCKET GLUED TYPE. ARROWHEAD INDICATES HOMERUN TO PANEL NOTED. OTHERS. PROVIDED & INSTALLED BY E.C., INCLUDE SYSTEMS IN THIS SECTION OF WORK. DRIVER 15W SURFACE LED \$100/FIXTURE MAT'L ALLOW IN BID. 3000K. 1000 LUMENS. FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH NEC AND ALL OTHER INDICATES HOT LEG OF CIRCUIT TO BE CARRIED OVER TO NEXT DEVICE. SEE PLANS FOR WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, 4" ROUND LED DOWNLIGHT. 750 LUMENS. 93+CRI. APPLICABLE CODES. EC IS TO COORDINATE W/ G.C. IN REGARDS TO PROJECT CONTROL SCHEME. UNLESS NOTED OTHERWISE. DMF DRD2 LED DRIVER **RECESSED** 2700K. 0-10V DIM TO 10% SMOOTH STYLE. WHITE TIMELINE, WORK HOURS, AS WELL AS ANY BONDING OR INSURANCE REQUIREMENTS. FINISH. IC RATED. DRDH NEW CONST. HOUSING. JUNCTION BOX CEILING MOUNTED. ALL TERMINALS/LUGS SHALL BE 60/75° RATED. ALL TERMINALS, SPLICING ALL ELECTRICAL & LIGHTING EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL 4" ROUND LED DOWNLIGHT. 1000 LUMENS. 90+CRI CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) ACCESSORIES, HANGERS, SUPPORTS, CONTROLS, ETC FOR A FULLY FUNCTIONING 2700K. SPOT OPTIC. 0-10V DIM TO 10% SMOOTH DMF DRD3 LED DRIVER **RECESSED** JUNCTION BOX FLOOR MOUNTED. OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED. SYSTEM REGARDLESS OF PRESENCE ON PLANS. STYLE. WHITE FINISH. IC RATED. DRDH NEW HOUSING RECEPTACLES IN COMMERCIAL AREAS SHALL BE 20 AMP COMMERCIAL 2" ROUND LED DOWNLIGHT. 300 LUMENS. 90+CRI. JUNCTION BOX WALL MOUNTED AT HEIGHT INDICATED ON DRAWINGS. ALL EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE GUARANTEED TO BE FREE OF SPECIFICATION GRADE EQUAL TO HUBBELL SERIES. GROUND FAULT RECEPTACLES MG1LG2 JUNO DRIVER RECESSED 2700K. NARROW FLOOD DIST. DIMMABLE. WHITE DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN SHALL BE EQUAL TO COOPER VGF SERIES. IN RESIDENTIAL UNITS ALL RECEPTACLES ACCORDANCE WITH THE MANUFACTURER'S STANDARD GUARANTEE, IF LONGER. INISH, IC RATED. SINGLE POLE SWITCH, 20A, 120/277 VOLT, 48" A.F.F. TO CENTER. ON 20 AMP CIRCUITS SHALL BE 20 AMP. ALL 15A/20A 120V RECEPTACLES IN EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT. "3" INDICATES 3-WAY SWITCH. RESIDENTIAL UNITS SHALL BE TAMPER PROOF, EQUAL TO COOPER TR SERIES. DECORATIVE CHANDELIER, PROVIDE W/ 100W "4" INDICATES 4-WAY SWITCH SHADES OF LIGHT CH19021 120 SUSPENDED THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND EQUIV A 19 MED BASE LED BULBS. 2700K. DIMMABLE "D" INDICATES DIMMER SWITCH OF TYPE TO SUIT LOAD. LIGHTING SWITCHES IN COMMERCIAL AREAS SHALL BE 20 AMP COMMERCIAL ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE "M" INDICATES 120V, 20A MOTOR RATED TOGGLE SWITCH. SPECIFICATION GRADE EQUAL TO HUBBELL SERIES. LIGHT SWITCHES IN RESIDENTIAL FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL "DP" INDICATES DOUBLE POLE UNITS SHALL BE 15 AMP. CONFIRM SWITCH STYLE WITH OWNER PRIOR TO BID. MINKA AIRE F853-BN/MM SURFACE 60" CEILING FAN. BRUSHED NICKEL FINISH. 120 14. ALL EXTERIOR FIXTURES AND DEVICES SHALL BE RATED FOR OPERATION AT 0° F AND INDICATES FLUORESCENT FIXTURES DUAL SWITCHED, INBOARD/OUTBOARD SWITCHED DO NOT SCALE DRAWINGS FOR MEASUREMENT DECORATIVE CHANDELIER. PROVIDE W/ 25W EQUIV SHALL BE DAMP OR WET LABELED AS REQUIRED. CURREY & COMPAN 9000-0227 SUSPENDED 120 GLOBE E12 BASE LED BULBS. 2700K. DIMMABLE INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT AND ANY RECESSED LIGHT FIXTURES INSTALLED IN INSULATED CEILINGS OR WALLS TO BE GRAY FINISH. MANUFACTURER'S MODEL #. IF CONFLICT IS PRESENT BETWEEN DESCRIPTION AND SINGLE RECEPTACLE, 20 AMP, 120 VOLT, 18" A.F.F. TO CENTER. "IC RATED" AND MEET REQUIREMENTS OF ASTME 283 AND 2017 FLORIDA BUILDING MODEL #, EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN CASE OF CONFLICT DECORATIVE CHANDELIER. PROVIDE W/ 60W EQUIV ENERGY CONSERVATION CODE SEC. 502.4.8. BETWEEN THE PLANS AND NOTES/SPECIFICATIONS OR CONFLICT BETWEEN TROY LIGHTING SIERRA F6097 120 SUSPENDED CANDELABRA E12 BASE LED BULBS. 2700K. DUPLEX RECEPTACLE, 20 AMP (15 AMP RESIDENTIAL, UON), 120 VOLT, 18" A.F.F. TO CENTER. website INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE DIMMABLE, DISTRESSED BRONZE FINISH, "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER TYPE. 16. ALL EXTERIOR EQUIPMENT, DEVICES, AND MATERIALS SHALL BE RATED FOR USE IN A MOST RESTRICTIVE SHALL TAKE PRECEDENT. This document has been digitally signed and DECORATIVE CHANDELIER. PROVIDE W/ 60W EQUIV 160 MPH WIND ZONE. "WP" INDICATES WEATHERPROOF. JAMES CHANDELIER sealed by Zack L. Tomlin, PE using a digital ARTERIORS 120 SUSPENDED CANDELABRA E12 BASE LED BULBS. 2700K. "EWC" INDICATES RECEPTACLE INSIDE ENCLOSURE OF ELECTRIC WATER COOLER PROVIDE BEFORE BID EC IS RESPONSIBLE FOR CLARIFYING W/ G.C. ANY CONFUSION IN REGARDS signature on the date listed immediately DIMMABLE. ANTIQUE NICKEL FINISH. GFI BREAKER FOR CIRCUIT. TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED. THE below. Printed copies of this document are "ASW" INDICATES ABOVE SHOW WINDOW, PER NEC SHOW WINDOW REQ'S. SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE DECORATIVE CHANDELIER. PROVIDE W/ 60W EQUIV **CRAFTED GLASSWARE** not considered signed and sealed and the THE ELECTRICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL OTHER CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE CANDELABRA E12 BASE LED BULBS. 2700K. SHADES OF LIGHT SUSPENDED 120 CH15131 PN WORK INVOLVED, AND HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY TRADES TO AVOID CONFLICT AND ENSURE OTHER TRADES PROVIDE MEASURES TO SHA authentication code must be verified or QUADRUPLEX RECEPTACLE, AS ABOVE, 18" A.F.F. DIMMABLE, POLISHED NICKEL FINISH. ACCOMMODATE ELECTRICAL WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OUT THIS SECTION OF WORK. DECORATIVE CHANDELIER. PROVIDE W/ 60W EQUIV WINTER DUPLEX RECEPTACLE, AS ABOVE, SPLIT WIRED, TOP HALF SWITCHED, 18" A.F.F. CURREY & COMPAN 120 SUSPENDED CANDELABRA E12 BASE LED BULBS. 2700K. AS SOON AS POSSIBLE (AND NOT MORE THAN 30 DAYS) AFTER CONTRACT IS SIGNED, 9000-0299 DIMMABLE, GRAY FINISH. THE EC SHALL PROVIDE SUBMITTALS OF EQUIPMENT HE/SHE INTENDS TO PURCHASE FOR E.C. TO COORDINATE ELEVATION OF WALL MOUNTED LIGHTS (INTERIOR & EXTERIOR) DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE W/ ARCHITECT/ARCH PLANS. REVIEW AND COMMENT BY THE ENGINEER. ENGINEER IS TO APPROVE SUBMITTALS DECORATIVE CHANDELIER. PROVIDE W/ 40W EQUIV **TYRELL** BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED. BEFORE EQUIPMENT IS ORDERED. **HUDSON VALLEY** SUSPENDED CANDELABRA E12 BASE LED BULBS. 2700K. 120 8933-PN E.C. TO COORDINATE W/ P.C. & M.C. REGARDING POWER AND FIRE ALARM DIMMABLE. POLISHED NICKEL FINISH. DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND MUST BE CONNECTIONS TO MECHANICAL AND PLUMBING EQUIPMENT. ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED, WITH GFI PROTECTION. HALO MEDIUM DECORATIVE CHANDELIER. PROVIDE W/ 60W EQUIV CIRCA LIGHTING SUSPENDED 120 E.C. TO VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF PROPOSED CHANGE ORDER. BBL 5090BSL A 19 MED BASE LED BULBS. 2700K. DIMMABLE. INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO RECESSED FLUSH FLOOR DUPLEX RECEPTACLE WITH BRASS COVERPLATE. COORDINATE E.C. IS TO REVIEW COMPLETE DRAWING SET. E.C. IS RESPONSIBLE FOR WORK EXPLICITLY PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED. EXACT FINISH WITH ARCHITECT AND OWNER. DECORATIVE PENDANT. PROVIDE W/ 60W EQUIV GLASS FLOAT PENDANT SHOWN AND WORK IMPLIED. UNLESS OTHERWISE NOTED FINAL ELECTRICAL A19 MED BASE LED BULBS. 2700K. DIMMABLE. REGINA ANDREW 120 SUSPENDED CONNECTION TO ALL EQUIPMENT, FURNITURE (I.E. CUBICLES, WORKSTATIONS, ETC) IS E.C. TO VERIFY DEVICE PLATE COLOR AND MATERIAL WITH ARCHITECT PRIOR TO 16-1029AM ANTIQUE MERCURY FINISH. 208V RECEPTACLE, SEE PLANS FOR NEMA CONFIGURATION. THE RESPONSIBILITY OF THE E.C.. DECORATIVE CHANDELIER. PROVIDE W/ 60W EQUIV **BOTANICA 5 LIGHT** TELEPHONE/DATA OUTLET, 18" A.F.F. TO CENTER OR ALIGN MOUNTING HEIGHT WITH **KICHLER** 120 SUSPENDED CANDELABRA E12 BASE LED BULBS. 2700K. 44260AVI ADJACENT DEVICE, UNLESS OTHERWISE NOTED. COORDINATE EXACT DEVICE TYPE AND DIMMABLE, ANTIQUE FINISH ALL ROOF WORK INCLUDING PENETRATIONS, OPENINGS, FLASHING, CURB INSTALLS, ETG E.C. TO FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING ELECTRICAL REQUIRED FACEPLATE W/ OWNER/TENANT. ARE TO BE PERFORMED BY ROOFING CONTRACTOR. E.C. RESPONSIBLE FOR PROVIDING EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE DECORATIVE CHANDELIER. PROVIDE W/ 60W EQUIV MOLTEN SPIDER ANY ROOF CURBS, EQUIPMENT RAILS, VENTS, ETC AND COMMUNICATING ALL REQ'S MAINTAINED. IF CONFLICT EXISTS BETWEEN THESE PLANS AND MFG INSTRUCTIONS **REGINA ANDREW** 120 SUSPENDED CANDELABRA E12 BASE LED BULBS. 2700K. 16-1112PN HEAVY DUTY FUSIBLE/NON-FUSIBLE DISCONNECT SWITCH, NUMBERS INDICATE FRAME SIZE, WITH G.C. & ROOFING CONTRACTOR. DIMMABLE, ANTIQUE FINISH. NUMBER OF POLES AND FUSING. PROVIDE NEMA 1 ENCLOSURE INSIDE. PROVIDE NEMA 3 **TERSUS** ALL LOW VOLTAGE WIRING RELATED TO MECHANICAL EQUIPMENT AND SYSTEMS IS THE A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN DECORATIVE LED SCONCE. 2700K. 90+CRI. 1100 ENCLOSURE FOR ALL SWITCHES LOCATED OUTSIDE. CERNO DRIVER 03-136-W-CM-001-27-P1; LED WALL ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS. RESPONSIBILITY OF THE MECHANICAL CONTRACTOR (ANY LOW VOLTAGE FIRE ALARM "FPN" INDICATES FUSE PER EQUIPMENT NAMEPLATE LUMENS. 0-10V DIMMING TO 10%. WOOD FINISH. CM-024WIRING TO BE BY E.C.). ALL HIGH VOLTAGE CONNECTIONS TO MECHANICAL "NF" INDICATES NON-FUSED EQUIPMENT, TO BE PROVIDED AND INSTALLED BY E.C. (SEE EQUIPMENT SCHEDULE FOR PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS. 6" ROUND BAFFLE LED DOWNLIGHT. 900 LUMENS. 80 "MS" INDICATES MOTOR STARTER OF TYPE TO SUIT LOAD. DISCONNECT RESPONSIBILITY) LITHONIA 6BP LED DRIVER **RECESSED** CRI. 3000K COLOR TEMP. FINISH BY ARCH. IC RATED. PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE DAMP LOCATION. W /L7XLED T24 HOUSING. G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS DOORS (WALL LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS. PROVIDE DECORATIVE LED SCONCE. 2-LIGHT UP/DOWN. 700 208Y/120V PANEL, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS. FLOOR, CEILING) RELATED TO ELECTRICAL SYSTEM. E.C. RESPONSIBLE FOR ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT LUMENS, 3000K COLOR TEMP, 90CRI, EXTERIOR NUVO 62 1145 LED DRIVER WALL COMMUNICATING TO G.C. SIZE AND LOCATION OF REQ'D ACCESS DOOR(S). SWITCHES, WHITE LETTERS ON BLACK BACKGROUND. FAN. PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL RATED. BRONZE FINISH ELECTRICAL CONTRACTOR IS TO EMPLOY THE SERVICES OF THE G.C. FOR CUTTING AND ALL PENETRATIONS THROUGH EXTERIOR WALLS & ROOF SHALL BE FLASHED & CONTRACTOR. PROVIDE DISCONNECTING MEANS AS REQUIRED. LED TAPE LIGHT. 470 LUMENS/FT. 2700K COLOR COUNTER-FLASHED IN A WATERPROOF MANNER PATCHING OF WALLS, FLOORS & CEILINGS RELATED TO THE INSTALLATION OF SURFACE FIRE FLEX LEDS UB AS LED DRIVER TEMPERATURE. 80+ CRI. PROVIDE W/ DIMMABLE ELECTRICAL EQUIPMENT & SYSTEMS. RECESSED MOUNTED 2x4 FLUORESCENT TROFFER, SEE FIXTURE SCHEDULE FOR DETAILS. REMOTE DRIVER. SEE ARCH PLAN FOR RUN LENGTH. SEAL ALL PENETRATIONS OF SMOKE PARTITIONS OR FIRE RATED WALLS, CEILING, ED TAPE LIGHT. 135 LUMENS/FT. DAMP LOCATION FLOORS IN ACCORDANCE W/ APPROPRIATE U.L. PENETRATION DETAIL AND SC G.C. RESPONSIBLE FOR PAINTING OF ANY EXPOSED CONDUIT, WIRE, BOXES ETC. E.C. WAC LIGHTING LED-T24 DRIVER SURFACE LISTED. 2700K COLOR TEMPERATURE. PROVIDE WITH RESPONSIBLE FOR CLEANING AND PREPARING ITEMS FOR PAINT, COORDINATE W/ G.C TRACK LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS. REMOTE DIMMING DRIVER PENETRATIONS OF NON-RATED WALLS, PARTITIONS AND FLOOR OF COMBUSTIBLE G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS PLATFORMS. SURFACE MOUNTED FLUORESCENT STRIP, SEE FIXTURE SCHEDULE FOR DETAILS QUAD LARGE LED SCONCE DECORATIVE LED SCONCE. 2700K. 90CRI. 700 CONSTRUCTION SHALL BE FIRESTOPPED WITH MATERIALS EQUIVALENT TO TWO GUARD RAILS, LADDERS, CONCRETE PADS. E.C. TO COMMUNICATE REQ'S TO G.C. DRIVER NCHES OF WOOD. FIRESTOPPING SHALL COMPLY WITH ASTM E-814. MENS. DIMMABLE, STEEL FINISH E.C. TO COORDINATE W/ G.C. PRIOR TO BID REGARDING HIRING OF FIRE ALARM, WALL MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS. ANY NOTCHING, DRILLING, BORING OR OTHER ALTERATION TO BUILDING LED WALL PACK. WET LOC. & COLD TEMP RATED. DATA/TELE & SECURITY SUB-CONTRACTORS (IF APPLICABLE). WSQ-LED-P4-SR4-STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD AND NOT LITHONIA LED DRIVER 20' MOUNT 5,991 LUMENS. 3000K TEMP. SR4 DISTRIBUTION. FULL SURFACE, RECESSED OR GROUND MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR 30K-MVOLT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE. HEIGHT CUT-OFF II. MATERIALS: ALL MATERIAL, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE NEW UNLESS LINEAR LED FIXTURE W/POLY CARB GASKETED LENS. SUPPORT ALL CONDUIT AND EQUIPMENT IN ACCORDANCE W/ NEC. ANY OTHERWISE NOTED AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S DRIVER LITHONIA VAP LED WALL ALUMINUM HOUSING. 6000 LUMENS. 3000K COLOR ELECTRIC UTILITY METER LOCATION. SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. LABORATORIES, INC., AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION. **EMPERATURE** DO NOT ATTACH ANYTHING TO THE ROOF DECK. CABLE TV OUTLET, 18" A.F.F. TO CENTER, UNLESS OTHERWISE NOTED. EXTERIOR RATED LED WALL SCONCE. SELECTED BY PROVIDE HANGERS & SUPPORTS APPROVED FOR USE BY NEC. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS AND CEILINGS SHALL BE SEALED IN OTHERS. PROVIDED & INSTALLED BY E.C., INCLUDE LED DRIVER WALL STAND ALONE 120 VOLT SMOKE DETECTOR WITH BATTERY BACK-UP AND SILENCE SWITCH. TO AN AIR TIGHT MANNER AND IN ACCORDANCE W/ 2017 FLORIDA BUILDING ENERGY \$125/FIXTURE MAT'L ALLOWANCE IN BID. 3000K. ALL FIRE SEALANTS TO BE U.L. LISTED AND APPROVED FOR USE W/ APPROPRIATE U.L. BE INTERCONNECTED TO OTHER DETECTORS IN UNIT. DEVICE TO BE INSTALLED PER UL 217. CONSERVATION CODE C402.5.1.1 & R402.4.2 PENETRATION DETAIL. 6" ROUND BAFFLE LED DOWNLIGHT. 900 LUMENS. 80 LITHONIA 6BP LED DRIVER RECESSED CRI. 3000K COLOR TEMP. FINISH BY ARCH. IC RATED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL **ELECTRICAL ABBREVIATIONS** ELECTRICAL BOXES IN RATED WALLS MUST BE METAL OR LISTED FOR USE IN RATED WALLS DAMP LOCATION. W /L7XLED T24 HOUSING. ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, ONLY SINGLE AND DOUBLE GANG BOXES ARE TO BE USED IN RATED WALLS. LARGER SPACKLE, ETC.). UPON COMPLETION OF WORK THE ELECTRICAL CONTRACTOR 6" ROUND BAFFLE LED DOWNLIGHT. 900 LUMENS. 80 BOXES ARE NOT ALLOWED AS THEY EXCEED THE 16 SQUARE INCH MAXIMUM BOX SHALL CLEAN, WASH, ETC ALL ITEMS AND EQUIPMENT WITHIN HIS SCOPE OF WORK CRI. 3000K COLOR TEMP. FINISH BY ARCH. IC RATED. LITHONIA 6BP LED DRIVER RECESSED OPENING ALLOWED IN RATED WALLS PER NEC 300.21. DIMENSION INDICATES HEIGHT ABOVE FINISHED FLOOR AT WHICH CENTER OF AND LEAVE ALL ITEMS BRIGHT AND CLEAN. WET LOCATION, W /L7XLED T24 HOUSING. DEVICE IS TO BE MOUNTED. CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS.MINIMUM SIZE 4' SURFACE MOUNTED LED WRAPAROUND LIGHT. UNLESS OTHERWISE INDICATED THE ELECTRICAL CONTRACTOR AT HIS/HER SHALL BE #12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE #8 AWG WITH ACRYLIC LENS. 3000 LUMENS. 3000K COLOR LITHONIA LBL4 LED DRIVER SURFACE DISCRETION MAY COMBINE MULTIPLE CIRCUITS INTO A SINGLE CONDUIT AND ABOVE FINISHED FLOOR. AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER MAY BE DE-RATE WIRE, COMBINING AND DE-RATING IS TO BE DONE IN STRICT SOLID OR STRANDED, UNLESS OTHERWISE NOTED. CONDUCTOR INSULATION SHALL BE ACCORDANCE W/ NEC. ED WALL SCONCE, SELECTED BY OTHERS, PROVIDED & TYPE THHN UNLESS OTHERWISE NOTED. ALL EXTERIOR CABLE OR OTHER WIRE EXPOSED ABOVE FINISHED GRADE. AFG LED DRIVER WALL INSTALLED BY E.C.. INCLUDE \$75/FIXTURE MAT'L TO SUNLIGHT SHALL BE RATED FOR EXTERIOR USE & SUNLIGHT RESISTANT. DEVICES INCLUDING GFCI PROTECTION MUST HAVE THEIR TESTING MEANS READILY LLOWANCE IN BID. 3000K, DAMP LOCATION. E.C. ELECTRICAL CONTRACTOR. ACCESSIBLE. PROVIDE REMOTE TESTING MEANS OR GFCI BREAKER FOR GFCI ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL LED WALL PACK. WET LOC. & COLD TEMP RATED. RECEPTACLES AND SIMILAR DEVICES WHICH ARE NOT READILY ACCESSIBLE (I.E. WSQ-LED-P3-SR4-CONDUIT, OR EMT, EXCEPT AS ALLOWED BELOW. EMT SHALL NOT BE USED IN OR UNDER LED DRIVER BEHIND EQUIPMENT, AT CEILING, ETC). (NEC 210.8). LITHONIA LED 3.5' MOUNT 4,486 LUMENS. 3000K TEMP. SR4 DISTRIBUTION. FULL FUSE PER EQUIPMENT NAMEPLATE REQUIREMENTS. FPN CONCRETE SLABS, OR IN MASONRY WALLS. USE SCHEDULE 40 PVC OUTDOORS WHERE 30K-MVOLT HEIGHT CUT-OFF NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. PVC NOT TO BE USED IN 14. COORDINATE WITH THE CABLE TV AND TELEPHONE UTILITIES FOR SERVICE ENTRANCE GENERAL CONTRACTOR. PATIENT CARE AREAS. MINIMUM CONDUIT SIZE TO BE 1/2". TYPE MC AND AC CABLE 4' LED VAPOR PROOF GASKETED SURFACE MOUNT AND CABLING REQUIREMENTS PRIOR TO ANY PURCHASING. INSTALLATION MUST MAY BE USED WHERE PERMISSIBLE BY NEC. FLEXIBLE CONDUIT SHALL BE USED FOR KASON 1810LX6000 LED DRIVER SURFACE COMPLY WITH THEIR RESPECTIVE REGULATIONS AND REQUIREMENTS. FIXTURE. -40°F AND WET LOCATION RATED. CONNECTIONS TO VIBRATING EQUIPMENT AND LUMINAIRES, BUT SHALL NOT EXCEED 6 MECHANICAL CONTRACTOR IN LENGTH. TYPE NM CABLE MAY BE USED IN APPLICATIONS & BUILDING CONSTRUCTION 15. ALL EXIT & EMERGENCY LIGHTS ARE TO BE CIRCUITED TO UN-SWITCHED LEG OF CEILING FAN W/ LIGHT KIT. PROVIDE W/ 100W EQUIV TYPES PERMISSIBLE BY NEC (NEC 334). PLUMBING CONTRACTOR. P.C. LOCAL NORMALLY ON LIGHTING CIRCUIT. CRAFTMADE C201BN/WHT 120 SURFACE 100W A 19 MED BASE LED BULB, 3000K. IN ASSEMBLY OCCUPANCIES OF OVER 100 PEOPLE WIRING MATERIALS AND METHODS INDICATES DEVICE TO HAVE WEATHERPROOF COVER. RECEPTACLE, LIGHT SWITCHES AND OTHER CONTROL DEVICES ARE TO BE INSTALLED 6" LED DOWNLIGHT. 3000K COLOR TEMP. 1000 SHALL COMPLY WITH NEC SEC 518 AND THE WIRING METHOD/MATERIAL ITSELF SHALL IN ACCORDANCE W/ ANSI A117.1 AND ADA REQ'S CONCERNING HEIGHT AND LUMENS. PROVIDED & INSTALLED BY E.C.. INCLUDE QUALIFY AS AN EQUIPMENT GROUNDING CONDUCTOR IN ACCORDANCE WITH NEC DRI¥ER SURFACE ACCESSIBILITY. FHA REQ'S TO BE FOLLOWED FOR MULTI-FAMILY AND RESIDENTIAL UON UNLESS OTHERWISE NOTED. 250.118 OR SHALL CONTAIN AN INSULATED EQUIPMENT GROUNDING CONDUCTOR \$50/FIXTURE MAT'L ALLOWANCE IN BID. 3000K. SIZED IN ACCORDANCE WITH NEC TABLE 250.122. NO NM CABLE ALLOWED. FIRE ALARM CONTROL PANEL. CEILING DOME LIGHT. PROVIDE W/ 100W EQUIV A19 7. E.C. IS TO CONFIRM EXACT ELECTRICAL NAMEPLATE DATA OF ALL PLUMBING, SUNSET F7630-53 120 SURFACE 18W MED BASE LED BULB. 3000K. MECHANICAL AND ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, MCA, SPRINKLER MONITORING PANEL. MOCP, VOLTAGE & PHASE BEFORE BEGINNING WORK. **VOLTAGE DROP SCHEDULE** MILLENNIUM DECORATIVE PENDANT LIGHT. PROVIDE W/ 100W 1701-SN 120 SUSPENDED NIGHT LIGHT, LIGHT NOT SWITCHED. 18. ALL WORK IN/THROUGH REQUIRED FIRE RATED WALLS, BARRIERS, AND PARTITIONS LIGHTING EQUIV A19 MED BASE LED BULB. 3000K. DIMMABLE SHALL COMPLY WITH 2017 FLBC/IBC SEC 713. OPENINGS FOR INSTALLATION OF WEATHER PROOF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS DECORATIVE VANITY. SELECTED BY OTHERS. 120V BRANCH CIRCUITS UP TO 8 AMPS (1 KVA) REQUIRED BY U.L. AND 2017 FLBC/IBC SEC 713. 120 WALL PROVIDED & INSTALLED BY E.C., INCLUDE 18W RUN DISTANCE (FT) WIRE SIZE (COPPER AWG) \$75/FIXTURE MAT'L ALLOWANCE IN BID. 3000K BACK-TO-BACK BOXES IN 1 OR 2 HOUR RATED WALLS WITHIN 24" OF EACH OTHER 1' TO 120' #12 SHALL BE PROTECTED BY (1) OF THE FOLLOWING, OR EQUAL: METACAULK BOX 6" LED DOWNLIGHT. 3000K COLOR TEMP. 900 #10 121' TO 190' **SURFACE** TOPAZ SDL6 15 930 D DRIVER GUARD (METAL BOXES ONLY), METACAULK COVER GUARD, OR METACAULK PUTTY 191' TO 300' #8 E.C. TO CONFIRM ALL LIGHTING SCHEDULE 301' TO 470' PROJECT NO: PIX-190 EXTERIOR RATED WALL BRACKET LIGHT. PROVIDE W/ 20. ALL EXTERIOR EQUIPMENT, DEVICES AND MATERIALS SHALL BE INSTALLED, BRACED FIXTURE SELECTIONS CONTINUED ON SHEET CRAFTMADE Z190-05 120 WALL 60W EQUIV A19 MED BASE LED BULB, 3000K. 120V BRANCH CIRCUITS 9 AMPS TO 14 AMPS (1 - 1.7 KVA) TO WITHSTAND A 160 MPH ZONE. W/OWNER PRIOR TO E002. DRAWN BY: PURCHASE. **RUN DISTANCE (FT)** WIRE SIZE (COPPER AWG) 21. E.C. TO UPSIZE ANY BRANCH CIRCUIT RUNS EXCEEDING 65 OR 120 FEET DEPENDING CEILING DOME LIGHT. PROVIDE W/ A19 MED BASE **SURFACE** CAMEO 612WH 120 CHECKED BY: 1' TO 65' #12 ON LOAD. SEE VOLTAGE DROP SCHEDULE TABLE. ED BULB. 3000K. #10 66' TO 110' HEET TITLE: 22. BUILDING SYSTEMS TO BE COMMISSIONED IN ACCORDANCE WITH 2017 FL ECC 3-LIGHT CHANDELIER. PROVIDE W/ 60W EQUIV A19 MILLENNIUM 111' TO 170' #8 SECTION C408. 793-SN 120 SUSPENDED MED BASE LED BULBS. 3000K COLOR TEMP. LIGHTING 171' TO 270' #6 SCHEDULES & NOTES 4' LED STRIP. 3000 LUMENS. W/ FROSTED DIFFUSER. LITHONIA ZL1N LED DRIVER **SURFACE** WIRE SIZES INDICATED IN GENERAL NOTES AND CONNECTIONS 3500K COLOR TEMP, COLD TEMP RATED. SHEET NUMBER: SCHEDULES ARE MINIMUM WIRE SIZES. CONTRACTOR SHALL INCANDESCENT LAMP HOLDER W/ 100 W UPSIZE WIRES BASED ON LOAD AND LENGTH OF RUN AS 13W LED SURFACE EQUIVALENT LED A19 BULB. PROVIDE "JELLY JAR"

120

INDICATED IN SCHEDULE ABOVE.

All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

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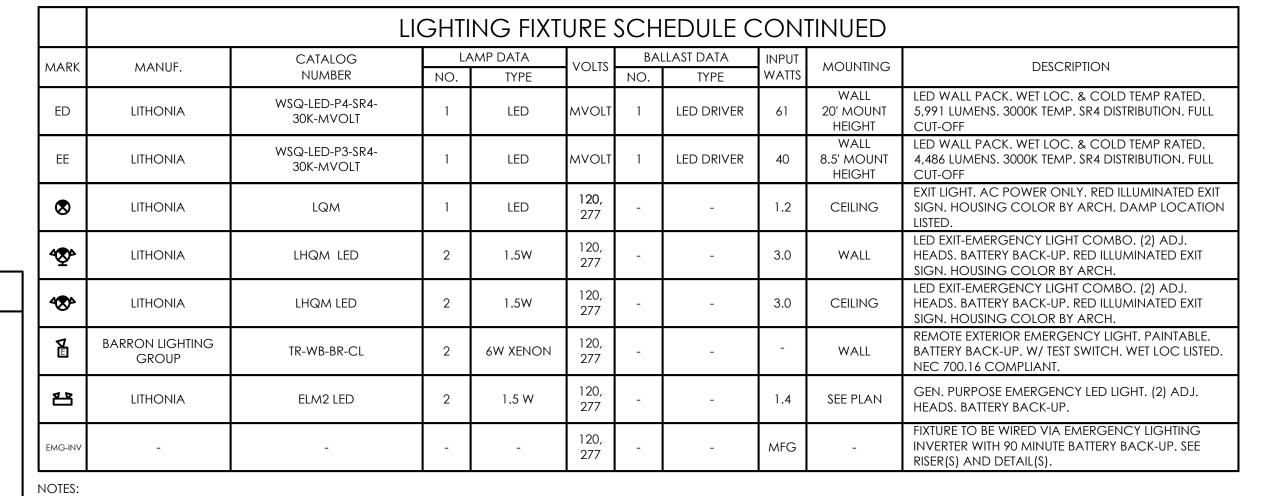
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. UNLESS OTHERWISE NOTED COLOR & FINISH OF FIXTURE HOUSING, BAFFLE, OR SIMILAR EXPOSED ELEMENTS TO BE BY ARCHITECT.

2. EXIT AND EMERGENCY LIGHTING FIXTURES SHALL BE CIRCUITED TO AN UNSWITCHED LEG OF A NORMALLY ON LOCAL LIGHTING CIRCUIT (UNLESS NOTED OTHERWISE),INCLUDE 90 MINUTE BATTERY BACKUP & TESTING MEANS UNLESS OTHERWISE NOTED.

FIXTURES WIRED VIA EMERGENCY LIGHTING INVERTER WHERE "EMG-INV" IS SHOWN.

ALL LAMPS OF A SINGLE FIXTURE TYPE INSTALLED IN EACH AREA/ROOM/SPACE ARE TO BE OF SAME TEMPERATURE/COLOR.

SEE E5.01 FOR SITE LIGHTING.

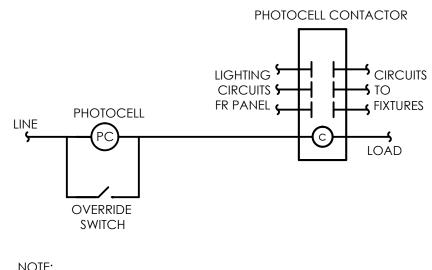
SEE BUILDING RISER FOR NVERTER SIZES. SEE **BUILDING PLANS FOR** INVERTER LOCATIONS. **ELECTRIC** PANEL

1. BUILDING PHOTOCELL ON NORTH SIDE OF BUILDING. (2) EMERGENCY CIRCUITS

- MAY NOT SHARE SINGLE PHOTOCELL. 2. PORTION OF CIRCUIT TO BE WIRED VIA SWITCHED EMERGENCY LIGHTING INVERTER. SEE PLAN FOR SIZE AND LOCATION OF INVERTER. CIRCUIT
- DESIGNATION INDICATED ON BUILDING PLANS. 3. EXIT SIGNS.
- 5. "H-1" OR "S-1" HOT LEG TO INVERTER FOR MONITORING.



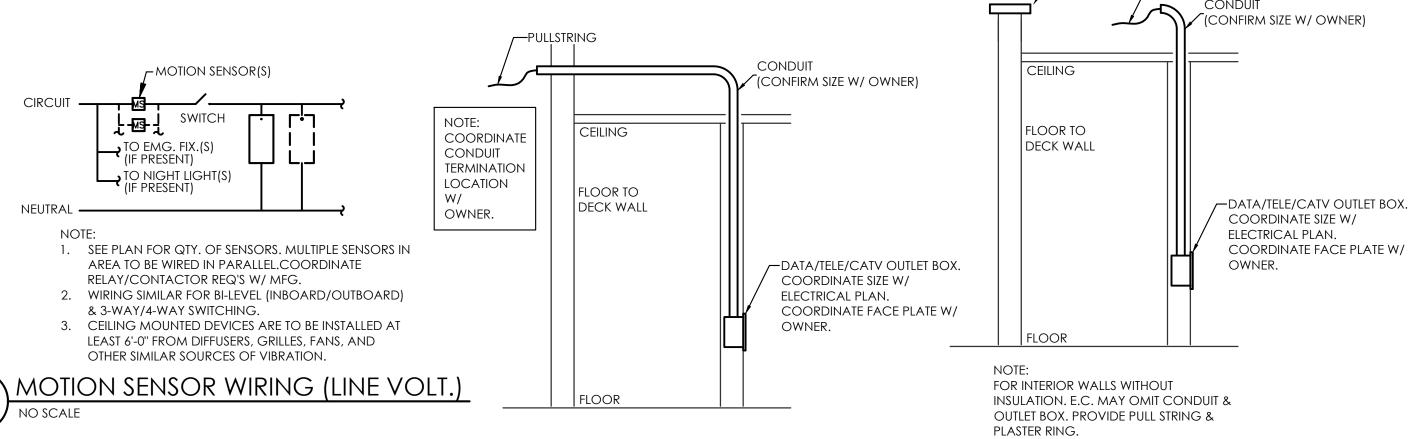
ROOF DECK/FLOOR ABOVE



M8

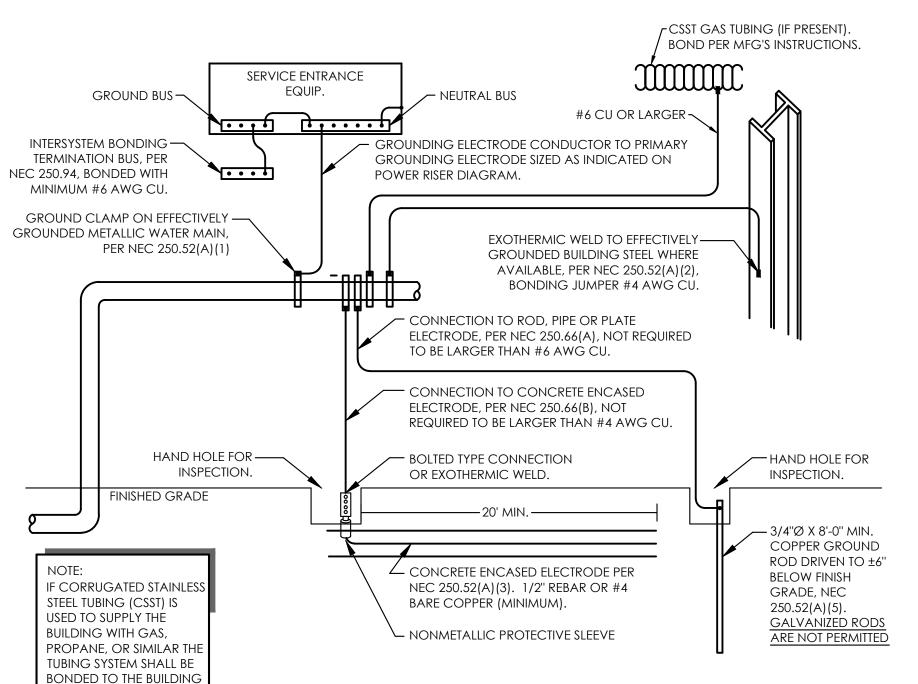
- 1. E.C. TO COORDINATE # OF CIRCUITS CONTROLLED AND NATURE OF LOADS W/ CONTACTOR MFG.
- 2. OVERRIDE SWITCH TO BE LOCATED AT LIGHTING CONTACTOR & CLEARLY 3. LOCATE CONTACTOR AT PANEL SERVED. CLEARLY LABEL
- 4. PHOTOCELL TO BE LOCATED ON NORTH SIDE OF BUILDING. LABEL CONTACTOR W/ PHOTOCELL LOCATION.





\ DATA/TELE/CATV OUTLET (HARD CEIL)

-1/2" CONDUIT SLEEVE



GROUNDING ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH NEC

INDICATED ON POWER RISER DIAGRAM. ALL METHODS OF CREATING THE

SECTION 250. ALL GROUNDING ELECTRODE CONDUCTORS SIZED AS

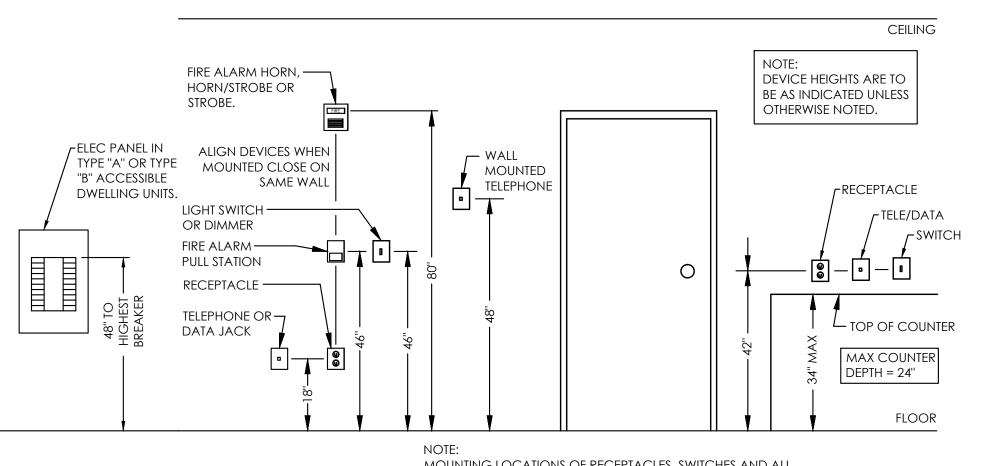
GROUNDING SYSTEM MAY NOT BE REQUIRED OR AVAILABLE.

GROUNDING DETAIL

————CONDUIT ►INSTALL PER NEC MOUNT NOTIFICATION \_DEVICES ON MOUNT ON APPROVED BOXES SUPPLY DIFFUSER APPROVED BOX SMOKE/HEAT OR RETURN/EXHAUST OPENING **−**6" MIN. DETECTOR -NOTE 2,3 CEILING O'-4" MIN. → 3'-0" MIN. → GRAPHIC SMOKE/HEAT ANNUNCIATOR DETECTOR — NOTE 1,2,3 HINGED PULL STATION SIDE — 5'-0" МАХ. — NFPA 72 & ADA DEVICES (3'-6" MIN. INSTALLATION REQ'S 4'-0" MAX.) **FLOOR DEVICE DETAIL NOTES:** 

- 1. PLACE SMOKE/HEAT DETECTOR AT HIGHEST POINT IN VAULTED CEILINGS
- PLACE SMOKE/HEAT DETECTOR NO LESS THAN 3FT FROM BATHROOM/SHOWER ROOM DOORS (2017 FLBC 907.2.11.4) PLACE PHOTOELECTRIC SMOKE/HEAT ALARMS NO LESS THAN 6FT FROM PERMANENTLY INSTALLED COOKING APPLIANCES (2017 FLBC 907.2.11.3.3). PLACE IONIZATION SMOKE/HEAT DETECTORS WITH AN ALARM-SILENCING SWITCH NO LESS THAN 10FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE (2017 FLBC 907.2.11.3.2). PLACE IONIZATION SMOKE/HEAT DETECTORS WITHOUT AN ALARM-SILENCING SWITCH NO LESS THAN 20FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE (2017 FLBC 907.2.11.3.1).

FIRE ALARM AND SIMILAR DEVICE LOCATIONS



MOUNTING LOCATIONS OF RECEPTACLES, SWITCHES AND ALL OTHER CONTROL DEVICES SHALL BE IN ACCORDANCE WITH

TYPICAL DEVICE MOUNTING HEIGHTS

ANSI A117.1 AND ADA REQUIREMENTS (FHA REQ'S FOR MULTI-FAMILY AND RESIDENTIAL PROJECTS)

ARCHITECTURE, P.A Raleigh, NC 27609 website www.planworx.com This document has been digitally signed and sealed by Zack L. Tomlin, PE using a digital signature on the date listed immediately below. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified or any electronic copies. company elopment Dev

(919) 846-8100

PERMIT

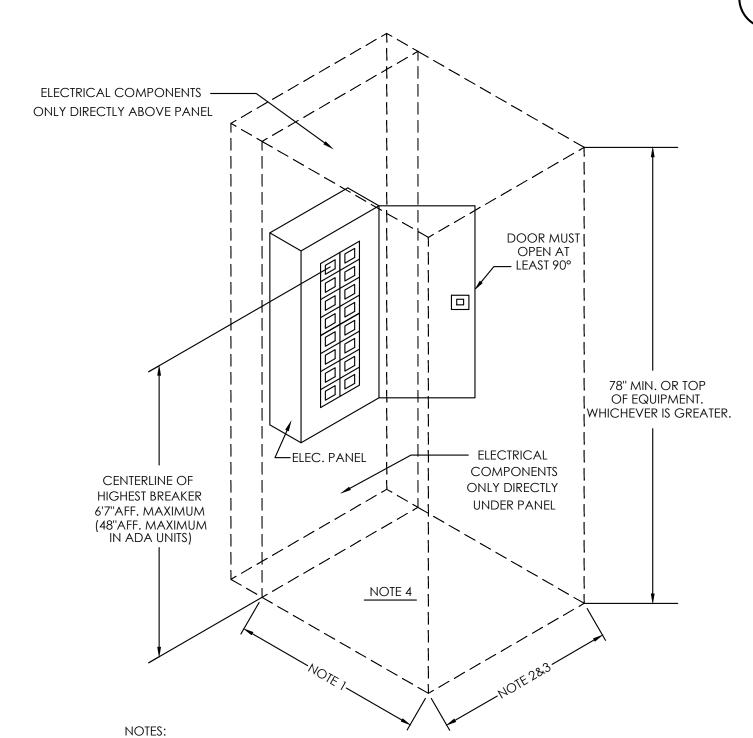
ENGINEERING, PLLC#: 3316 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797

PLUMBING MECHANICAL ELECTRICAL

PROJECT NO: **P** DRAWN BY: CHECKED BY: ZLT

SHEET TITLE:

ELECTRICAL **DETAILS** 



MOTION SENSOR LEGEND

ON/OFF. LINE VOLTAGE.

LINE VOLTAGE.

WALL SWITCH DUAL TECH. (INFRARED AND ULTRASONIC) OCCUPANCY SENSOR EQUAL TO

SENSOR SWITCH MODEL WSX PDT. 120/277V. TIME DELAYS 15 MINUTES FOR ON/OFF. LINE

CORNER MOUNTED DUAL TECH. (INFRARED AND ULTRASONIC) OCCUPANCY SENSOR

EQUAL TO SENSOR SWITCH MODEL WVR PDT 16. 120/277V. TIME DELAYS 20 MINUTES FOR

CEILING MOUNTED DUAL TECH. (INFRARED AND ULTRASONIC) OCCUPANCY SENSOR EQUAL

THE CONTRACTOR IS TO PROVIDE AND INSTALL ALL RELAYS, CONTROLS, SWITCHES, ETC FOR

A FULLY FUNCTIONING SYSTEM REGARDLESS OF PRESENCE OR ABSENCE ON PLANS.

TO SENSOR SWITCH MODEL CMR PDT 10. 120/277V. TIME DELAYS 20 MINUTES FOR ON/OFF.

1. FROM FACE OF PANEL: 42" MIN FOR 480/277V AND 240/120V 3Ø HIGH LEG DELTA SYSTEMS. 36" MIN FOR 208/120V AND 240/120V SYSTEMS.

2. THE WIDTH OF THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT SHALL BE THE WIDTH OF THE EQUIPMENT OR 30", WHICHEVER IS GREATER. 3. WORKING SPACE DOES NOT HAVE TO BE CENTERED ON PANEL BUT MUST EXTEND TO/PAST EACH

EDGE OF PANEL 4. OTHER AREA PANELS MAY SHARE CLEARANCE SPACE.

ELECTRICAL PANEL MOUNTING DETAIL NO SCALE

All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted. Contractor is to notify architecture, P.A. will not assume any liability for expenses associated with errors and omissions on these drawings unless offset by verified construction costs associated with these plans.

4. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans. Copyright 2019 - PLANWORX ARCHITECTURE, P.A. All rights reserved. Reproduction of this sheet, in whole or in part, is strictly prohibited. PLANS NOT VALID FOR CONSTRUCTION W/O APPROPRIATE PROFESSIONAL SEALS.

**GROUNDING SYSTEM AT** 

BUILDING. USE #6 COPPE

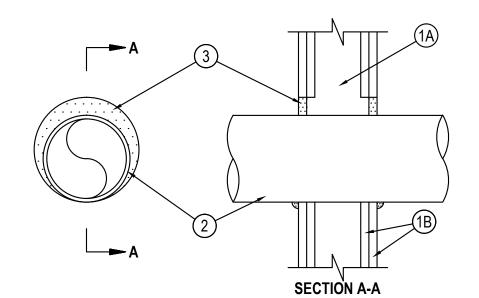
THE POINT WHICH THE

PIPING ENTERS THE

OR LARGER.

## System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft



. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in (64 mm) wide and spaced max 24 in (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in, (102 to 152 mm) wider and 4 to 6 in, (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in, (51 to

76 mm) clearance is present between the penetrating item and the framing on all four sides. 3. Gypsum Board\* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.

. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe

B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe. C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.

Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.

8. Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.

Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

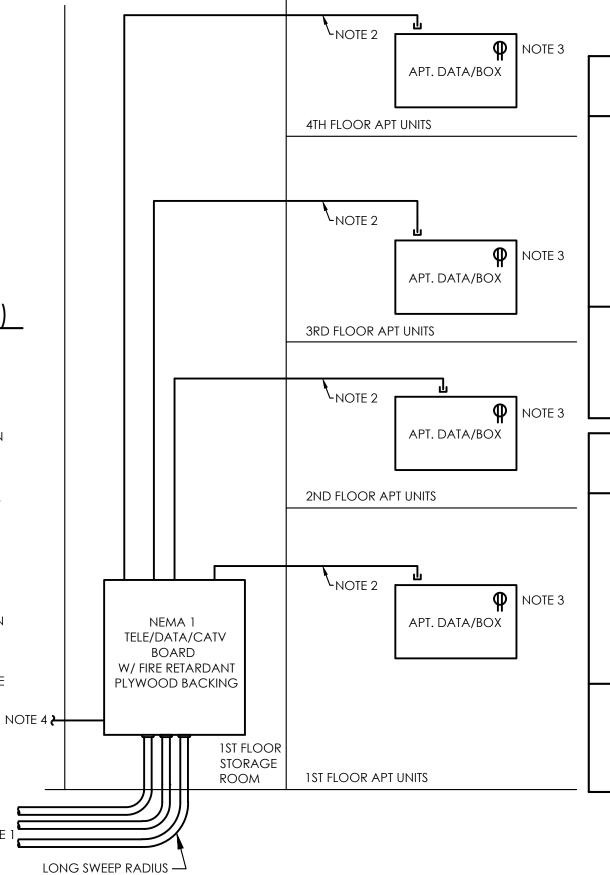


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## [ELE/DATA/CATV RISER (TYP.

## TELE/DATA/CATV RISER NOTES

- PROVIDE THREE 4" CONDUITS PROVIDED UNDER SLAB/GROUND TO PROPERTY LINE W/ PULL STRING. CLEARLY LABEL AND COORDINATE EXACT TERMINATION LOCATION AND DETAILS WITH OWNER AND TELEPHONE
- PROVIDE 1" CONDUIT W/ PULL STRING TO ALL APT UNITS. CLEARLY LABEL. SEE PLANS FOR LOCATIONS.
- PROVIDE 120V RECEPTACLE FOR TELEPHONE AND OTHER COMMUNICATION EQUIPMENT (SEE POWER PLANS).
- PROVIDE #6 CU GROUNDING/BONDING CONDUCTOR IN 3/4" CONDUIT TO INTERSYSTEM BONDING TERMINATION (IBT) AT BUILDING ELECTRICAL SERVICE. BOND CONDUIT/CONDUCTOR AT EACH END OF CONDUIT IF METAL RACEWAY IS USED. INSTALL PER NEC 250.94 & NEC 800.100. CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK.



## LIGHTING SYSTEMS: CLUBHOUSE

## FECC SECTION C405 & C406

LIGHTING POWER DENSITY CALCULATION COMPLIANCE **DESIGNER STATEMENT:** TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES

INTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.4.2. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

INTERIOR WATTAGE SPECIFIED VS. ALLOWED <u>2266</u> VS. <u>5572</u> EXTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.5.1. SEE LIGHTING

330 VS. 600 NA VS. NA TRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED NONTRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED

ADDITIONAL PRESCRIPTIVE COMPLIANCE

NOT APPLICABLE (RENOVATION PROJECT) C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT C406.3 REDUCED LIGHTING POWER DENSITY C406.4 ENHANCED DIGITAL LIGHTING CONTROLS

FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

C406.5 ON-SITE RENEWABLE ENERGY C406.6 DEDICATED OUTDOOR AIR SYSTEM C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

TITLE:

## LIGHTING SYSTEMS: APARTMENT BUILDINGS FECC SECTION C405 & C406

## **DESIGNER STATEMENT:** LIGHTING POWER DENSITY CALCULATION COMPLIANCE

\_\_\_\_

INTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.4.2. SEE LIGHTING

FIXTURE SCHEDULE FOR FIXTURE INFORMATION. INTERIOR WATTAGE SPECIFIED VS. ALLOWED

<u>325</u> VS. <u>448</u> EXTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.5.1. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

1128 <sub>VS.</sub> 3227 TRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED NA VS. NA NONTRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED

ADDITIONAL PRESCRIPTIVE COMPLIANCE

NOT APPLICABLE (RENOVATION PROJECT) C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT C406.3 REDUCED LIGHTING POWER DENSITY C406.4 ENHANCED DIGITAL LIGHTING CONTROLS

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE LIGHTING SYSTEMS REQUIREMENTS OF THE FLORIDA ENERGY CONSERVATION CODE, SECTION C405 & C406 AND ANY LOCAL AMENDMENTS THEREOF

WITH THE LIGHTING SYSTEMS REQUIREMENTS OF THE FLORIDA ENERGY CONSERVATION

CODE, SECTION C405 & C406 AND ANY LOCAL AMENDMENTS THEREOF.

ELECTRICAL ENGINEER

TITLE:

C406.5 ON-SITE RENEWABLE ENERGY

C406.6 DEDICATED OUTDOOR AIR SYSTEM C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

# Hilti Firestop Systems

METALLIC PIPE (GYPSUM WALL) DETAIL

BUILDING SYSTEMS COMMISSIONING

## GENERAL REQUIREMENTS:

BUILDING SYSTEMS TO BE COMMISSIONED IN ACCORDANCE WITH 2017 FL ECC SECTION C408. DOCUMENTS CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET DOCUMENTED PERFORMANCE CRITERIA ARE TO BE PROVIDED TO THE BUILDING

OWNER WITHIN 90 DAYS FROM THE DATE OF RECEIPT OF THE CERTIFICATE OF

## COMMISSIONING SCOPE

THE FOLLOWING MARKED SYSTEMS WILL BE COMMISSIONED IN THIS PROJECT:

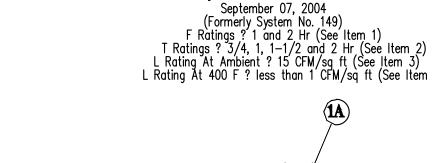
SYSTEM	EQUIPMENT			
ECTRICAL	OCCUPANCY SENSOR CONTROLS			
	TIME-SWITCH CONTROLS			
	DAYLIGHT RESPONSIVE CONTROLS			

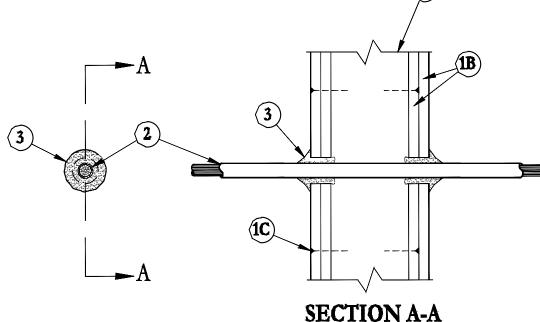
## COMMISSIONING PROCEDURE:

- OCCUPANCY SENSORS:
- 1.1. CERTIFY THAT THE SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH
- MANUFACTURER RECOMMENDATIONS 1.2. FOR EACH SENSOR TO BE TESTED, VERIFY THE FOLLOWING:
- 1.2.1. STATUS INDICATOR (AS APPLICABLE) OPERATES CORRECTLY. 1.2.2. THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
- FOR AUTO-ON OCCUPANCY SENSORS, THE LIGHTS DO TURN ON TO THE PERMITTED LEVEL WHEN SOMEONE ENTERS THE SPACE.

## **AUTOMATIC TIME SWITCHES:**

- 2.1. CONFIRM THAT THE AUTOMATIC TIME SWITCH CONTROL IS PROGRAMMED WITH APPROPRIATE WEEKDAY, WEEKEND, AND HOLIDAY (AS APPLICABLE) SCHEDULES. 2.2. DOCUMENT FOR THE AGENCY AUTOMATIC TIME SWITCH PROGRAMMING INCLUDING WEEKDAY, WEEKEND, HOLIDAY SCHEDULES AS WELL AS ALL SET-UP AND
- PREFERENCE PROGRAM SETTINGS. 2.3. VERIFY THE CORRECT TIME AND DATE IS PROPERLY SET IN THE TIME SWITCH. 2.4. VERIFY THAT ANY BATTERY BACK-UP (AS APPLICABLE) IS INSTALLED AND ENERGIZED.
- 2.5. VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NO MORE THAN 2 HOURS. 2.6. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING: 2.6.1. ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
- 2.6.2. VERIFY THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED. 2.7. SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
- 2.7.1. ALL NON-EXEMPT LIGHTING TURNS OFF. 2.7.2. MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUT OFF OCCURS.
- DAYLIGHT CONTROLS 3.1. ALL CONTROL DEVICES (PHOTOCONTROLS) HAVE BEEN PROPERLY LOCATED, FIELD-CALIBRATED AND SET FOR APPROPRIATE SET POINTS AND THRESHOLD LIGHT
- 3.2. DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO APPROPRIATE LIGHT LEVELS IN RESPONSE TO AVAILABLE DAYLIGHT. THE LOCATION WHERE CALIBRATION ADJUSTMENTS ARE MADE IS READILY ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL



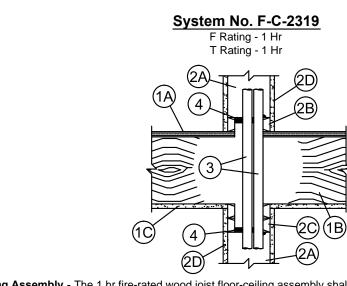


Wall Assembly — The 1 or 2 hr fire—rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the

- A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels
- B. GypsumBoard\* Nom 1/2 or 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers and sheet orientation shall be as specified in the individual Wall or Partition Design. Diam of circular through opening to be 3/8 in. to 5/8 in. larger than outside diam of cable or cable bundle.
- . Fasteners When wood stud framing is employed gypsum wallboard layers attached to studs with cement coated nails as specified in the individual Wall or Partition Design. When steel channel stud framing is employed, gypsum wallboard attached to studs with Type S self-drilling, self-tapping bugle-head steel screws as specified in the individual Wall or Partition Design.
- The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed Cables — Individual cable or max 1 in. diam cable bundle installed in through opening with an annular space of min 0 in. (point contact) to max 3/4 in. Cable to be rigidly supported on both sides of wall assembly. The following types and sizes of cables may be used: Max 150 pair No. 24 AWG copper conductor telephone cable with polyvinyl chloride (PVC) insulation and jacket materials.
- When max 25 pair telephone cable is used, T Rating is 2 hr. When 50 to 150 pair telephone cable is used in 1 hr fire rated wall T Rating is 3/4 hr. When 50 to 150 pair telephone cable is used in 2 hr fire rated wall, T Rating is 1 hr. B. Max No. 10 AWG multiple copper conductor Type NM ("Romex") non metallic sheathed cable with PVC insulation and jacket materials. When Type NM cable is used, max T Rating is 1-1/2 hr.
- Multiple fiber optical communication cable jacketed with PVC and having a max outside diam of 5/8 in. When fiber optic cable is
- ). Max 12 AWG multi conductor (max seven conductors) power/control cable with cross—linked polyethylene (XLPE) insulation and XLPE or PVC jacket materials. When multi conductor power/control cable is used, max T Rating is 2 hr. E. Max four conductor with ground No. 2 AWG (or smaller) aluminum SER cables with polyvinyl chloride insulation and
- Fill. Void or Cavity Materials\* Caulk, Sealant or Putty Caulk or putty fill material installed to completely fill annular space between cable and gypsum wallboard on both sides of wall and with a min 1/4 in. diam bead of caulk or putty applied to perimeter of cable(s) at its egress from each side of the wall. 3M COMPANY - MP+ Stix putty, CP 25WB+ caulk, FB-3000 WT sealant or Cable Wrap putty (Note: L Ratings apply only when CP 25WB+ caulk or FB-3000 WT is used.)

\*Bearing the UL Classification Mark This material was extracted and drawn by 3M Fire Protection Products from the 2007 edition of the UL Fire Resistance Directory.

Choose option for FAX ON DEMAND 379 W-L-3001 1 of 1 www.3m.com/firestop



Floor-Ceiling Assembly - The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Designs in the UL Fire Resistance Directory, as summarized below: A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Diam of floor opening to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than

outside diameter of individual or grouped penetrants. Max diam of opening is 3 in. (76 mm) B. Wood Joists - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members**\* with bridging as required and with ends firestopped.

C. Gypsum Board\* - Thickness, type, number of layers and fasteners as required in the individual Floor-Ceiling Design. 2. Chase Wall - The through penetrant (Item 3) shall be routed through a 1 hr fire rated single, double or staggered wood stud/gypsum board chase wall. Depth of chase wall stud cavity to be min 1/2 in. (13 mm) greater than diameter of opening cut in sole and top plates to accommodate the through penetrant (Item 2). The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs - Nom 2 by 4 in.(51 by 102 mm), 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs. B. Sole Plate - Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm)or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening in sole plate to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than outside diameter of individual or grouped penetrants. Max diam of opening is 3 in. (76 mm).

C. Top Plate - The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm), two nom 2 by 6 in. (51 by 152 mm)or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening in top plate to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than outside diameter of individual or grouped penetrants. Max diam of opening is 3 in. (76

D. Gypsum Board\* - Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition

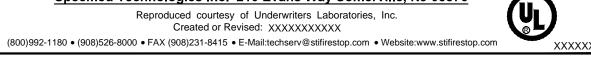
Through Penetrants - One or more nonmetallic pipes, conduits or tubing to be installed either concentrically or eccentrically within the opening. Min space between pipes, conduits or tubes to be 0 in. Annular space between the pipes, conduits or tubing and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1 in. (25 mm). Penetrants to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of nonmetallic pipe, conduits or tubing may be

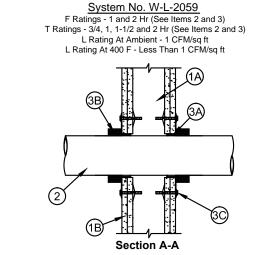
A. Cross Linked Polyethylene (PEX) Tubing - Nom 1 in. (25 mm) diam (or smaller) SDR9 PEX tubing for use in closed (process or supply) piping systems. B. Electrical Nonmetallic Tubing (ENT)+ - Nom 2 in. (51 mm) diam (or smaller) PVC tubing installed in accordance with

Article 331 of the National Electrical Code (NFPA 70). Fill, Void or Cavity Material\* - Sealant - Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with the top surface of the floor or chase wall sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with bottom surface of chase wall top plate. Min 3/8 in. (10 mm) diam bead of fill material applied at point contact location on the top surface of floor or sole plate and at the penetrant/chase wall top plate interface. SPECIFIED TECHNOLOGIES INC - Type WF300 Caulk

\*Bearing the UL Classification Mark

Specified Technologies Inc. 210 Evans Way Somerville, NJ 08876 Reproduced courtesy of Underwriters Laboratories, Inc. Created or Revised: XXXXXXXXXXX





Wall Assembly - The 1 or 2 h fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features

A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. B. Gypsum Board\* - 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory, Max diam of opening is 5 in, (127 mm).

. Through-Penetrants - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be max 1/4 in. (6 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used: A. Polyvinyl Chloride (PVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain,

waste or vent) piping systems. When Schedule 80 PVC pipe is used, the F and T Ratings are 1 hr. When Scheduled 80 PVC pipe is used in closed (process or supply) piping systems, the F and T Ratings are equal to the assembly rating of the wall in which it is installed. B. Rigid Nonmetallic Conduit+ - Nom 4 in (102 mm) diam (or smaller) Schedule 40 or 80 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NEPA

No. 70). When Schedule 80 PVC conduit is used, the F and T Ratings are 1 hr. C. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems. D. Acrylonitrile Butadiene Styrene (ABS) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or foamed core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems

E. Fire Retardant Polypropylene (FRPP) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. F. Polyvinylidene Fluoride (PVDF) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping

G. Fiberglass Reinforced Pipe (FRP) Pipe - Nom 4 in. (102 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented (drain, waste or vent) piping systems. When FRP pipe is used, T Rating is 3/4 hr. H. High Density Polyethylene (HDPE) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 HDPE pipe for use in closed (process or supply) piping systems.

3. Firestop System - The firestop system shall consist of the following: A. Fill, Void or Cavity Material\* - Sealant - Fill material forced into annular space to max extent possible. Caulk shall be installed flush with both surfaces of wall assembly.

SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant B. Fill, Void or Cavity Material - Wrap Strip - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.

Fire Rating of Wall Hr	Max Diam of Throught Penetrant in. (mm)	No. of Wrap Strip Layers	F Rating Hr	T Rating Hr
1	1-1/2 (38)	1	1	1
2	1-1/2 (38)	1	2	1-1/2
1	2 (51)	1	1	1
2	2 (51)	1	2	1-1/2
1	3 (76)	2	1	1
2	3 (76)	2	2	2
1	4 (102)	3	1	1
	4 (402)	3	2	2

Except as noted in Item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated

SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip C. Steel Collar - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm)

deep with 1 in, (25 mm) wide by 2 in, (51 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in, (19 mm) wide tapering down to 1/4 in, (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/ in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.

Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Stee D. Firestop Device\* - (Optional, Not Shown) - As an alternate to Item 3B and 3C, galv steel collar lined with an intumescent material sized to fit the specific diam of the

through-penetrant. Device shall be installed around through-penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement each surface of wall assembly by means of 1/8 in. (3 mm) diam by 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) diam steel SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Collar, SpecSeal LCC Collar or SpecSeal SSC Collar . When SpecSeal LCC Collar or SpecSeal SSC Collar are used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam

\*Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively. Specified Technologies Inc. 210 Evans Way Somerville, NJ 08876



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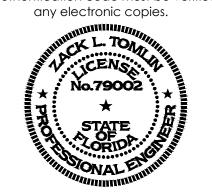
Created or Revised: November 27, 2012



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MAPL ENGINEERING, PLLC FL COA#: 3316 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797 PLUMBING MECHANICAL ELECTRICAL

PROJECT NO:

DRAWN BY: CHECKED BY ZLT

HEET TITLE: ELECTRICAL **DETAILS** 

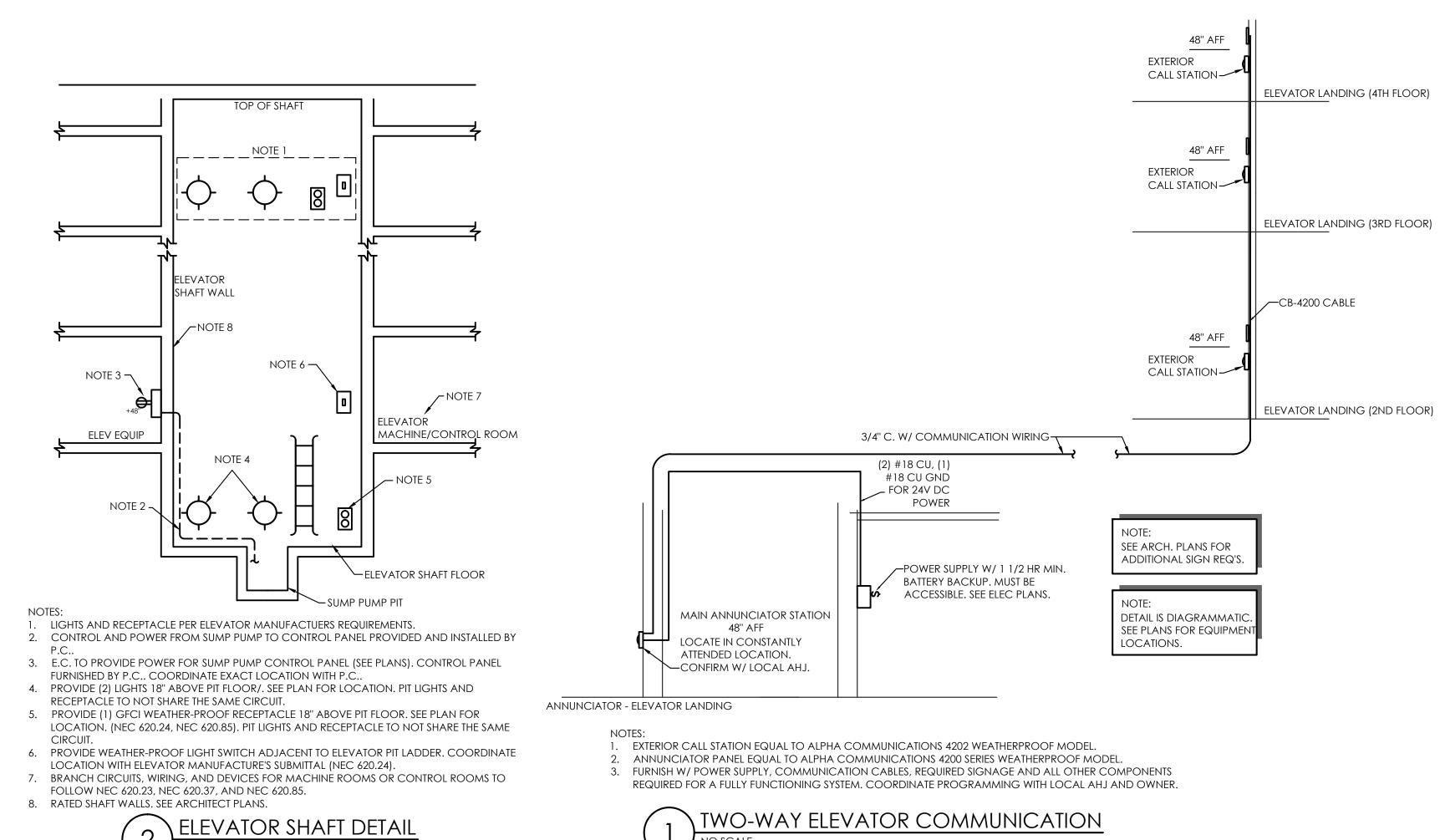
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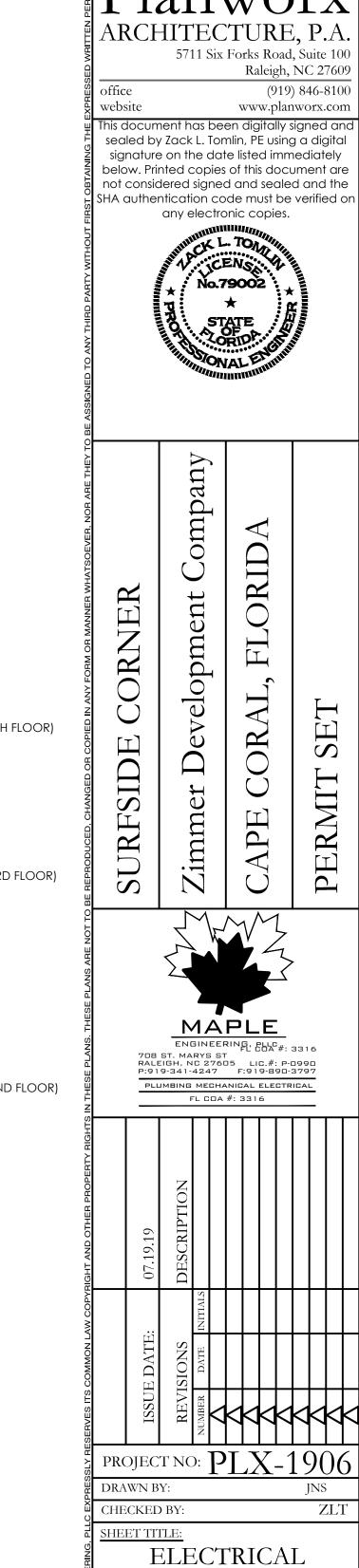
NON METALLIC CABLE (GYPSUM WALL) DETAIL

Product Support Line 800-328-1687

FLOOR/CIELING DETAIL

3M Fire Protection Products





**DETAILS** 

18/2019 5:07 PM

1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

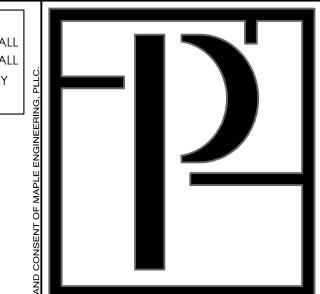
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PROJECT NO: PLX-190

ZLT

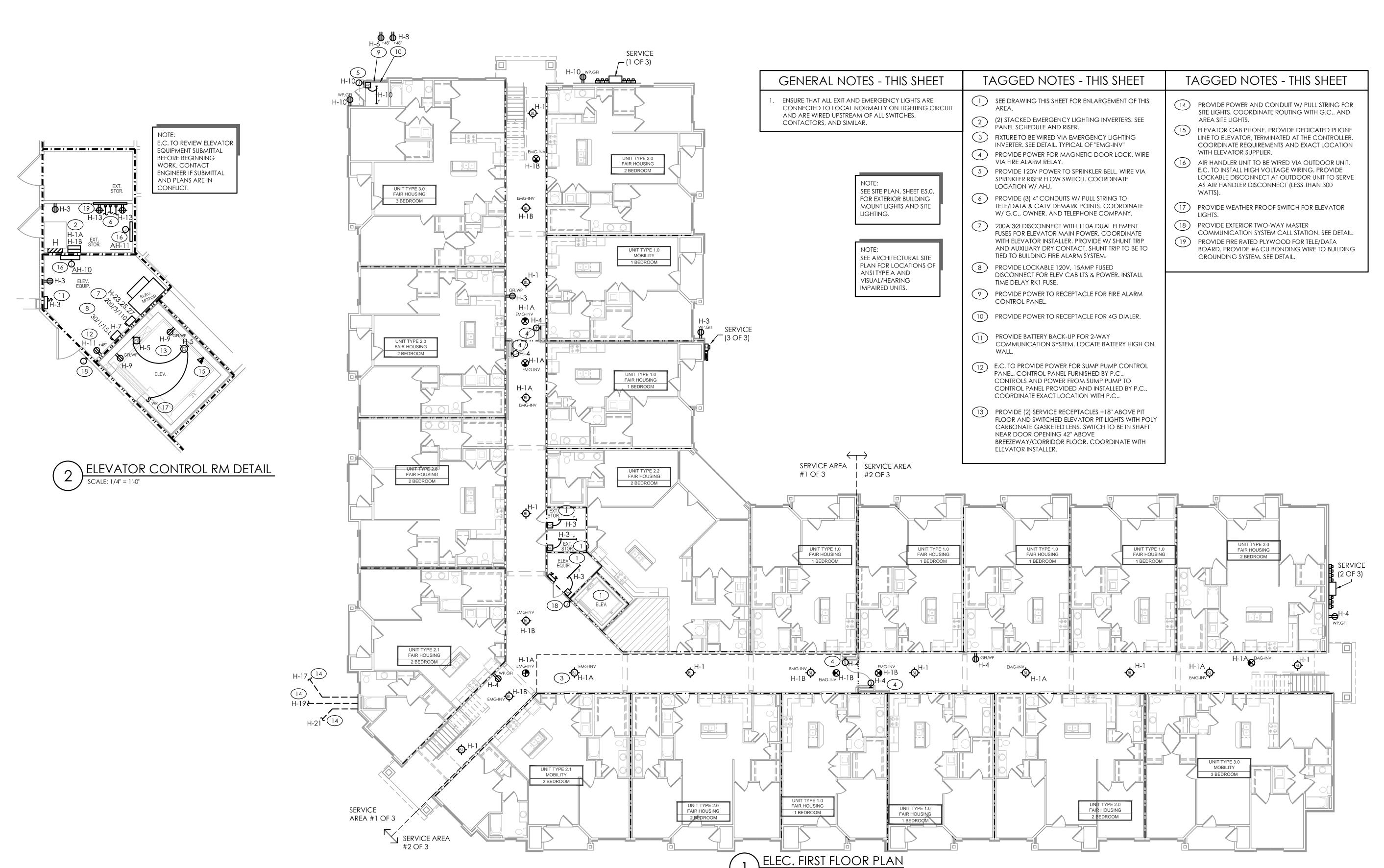
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ELECTRICAL FIRST FLOOR PLAN

SHEET NUMBER:

SHEET TITLE:

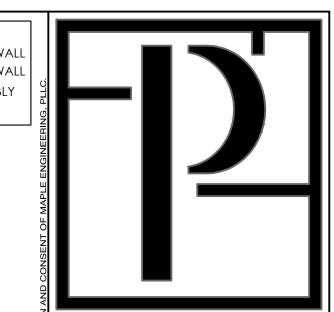
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All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

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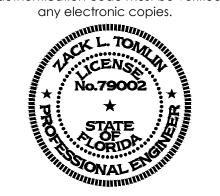
FIRE RATING LEGEND ■ • ■ 1-HR WAL 2-HR WAL \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.



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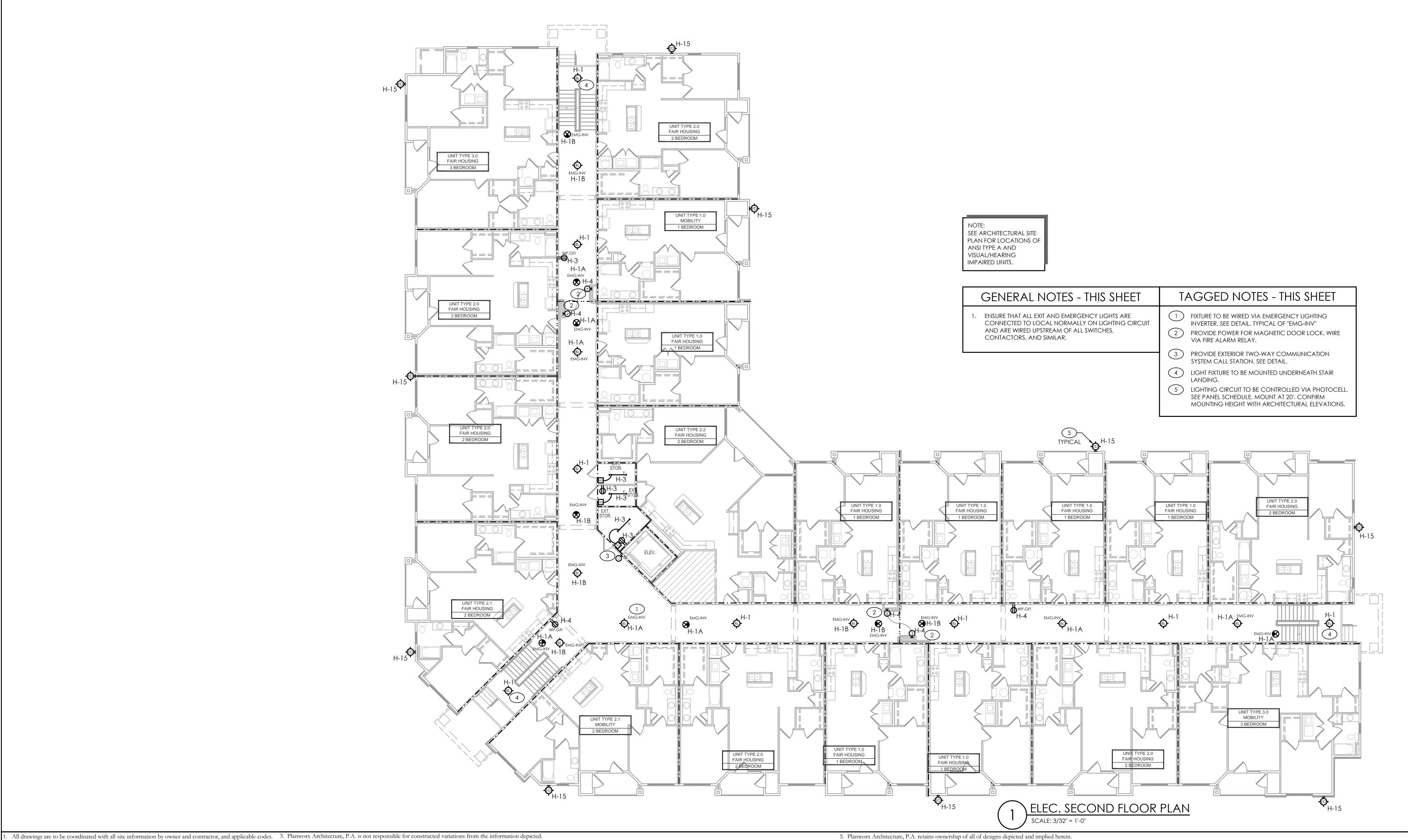
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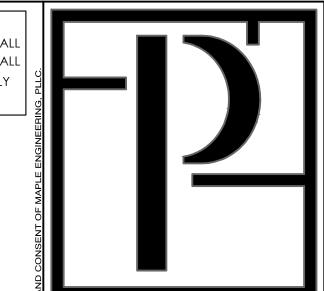
PROJECT NO: PLX-1900

DRAWN BY: ZLT

CHECKED BY: SHEET TITLE: ELECTRICAL SECOND FLOOR PLAN



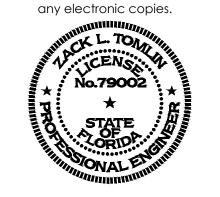
FIRE RATING LEGEND ■ • ■ 1-HR WAL 2-HR WAL \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.



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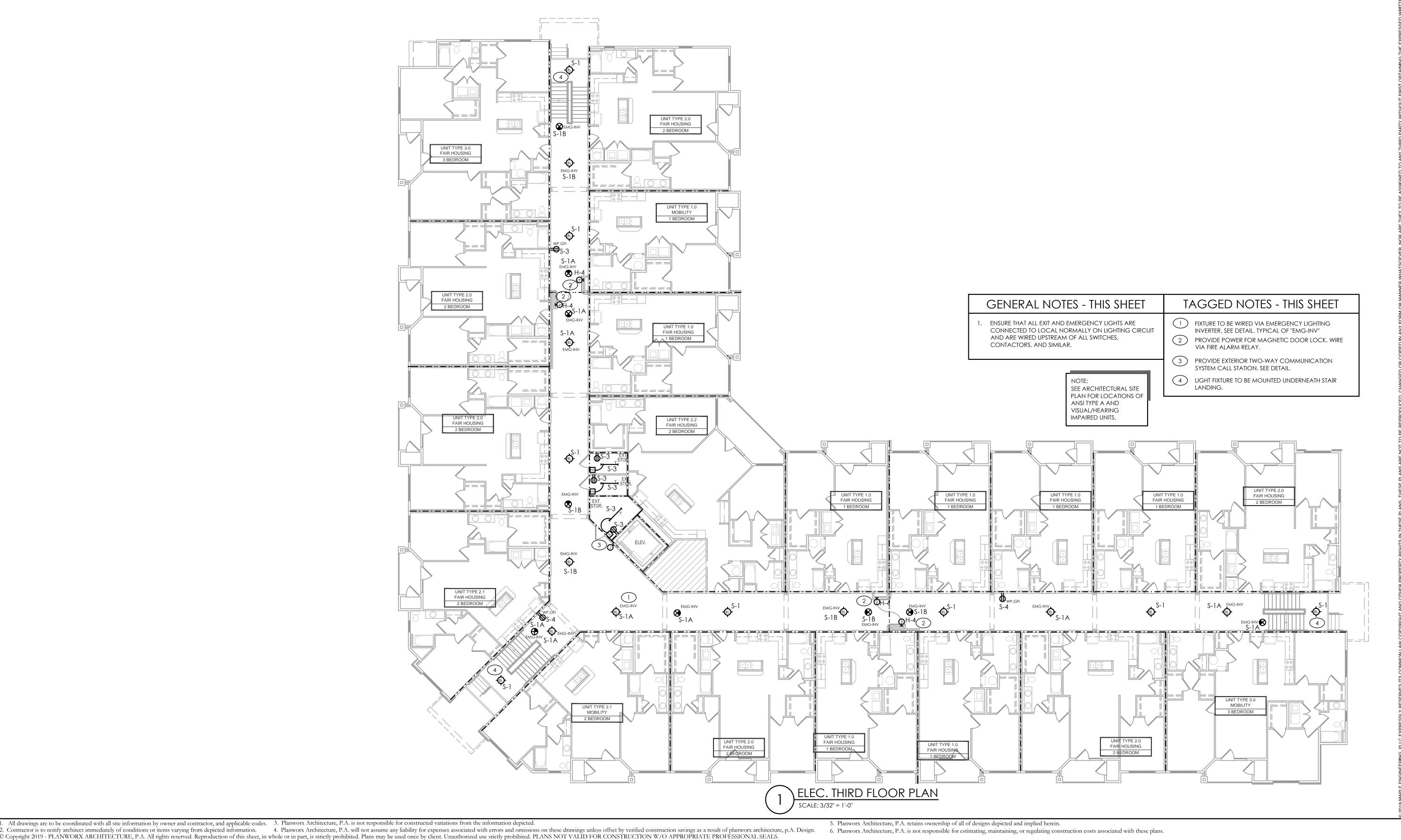
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PROJECT NO: PLX-1900

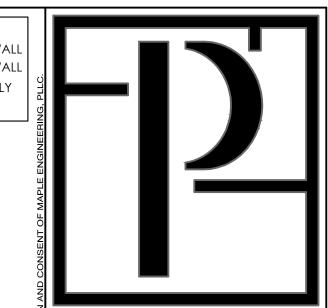
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CHECKED BY: ZLTSHEET TITLE: ELECTRICAL THIRD FLOOR PLAN

SHEET NUMBER:



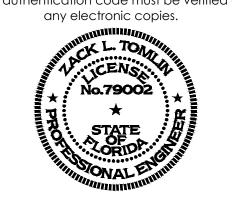
FIRE RATING LEGEND ■ • ■ 1-HR WAL 2-HR WAL \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.



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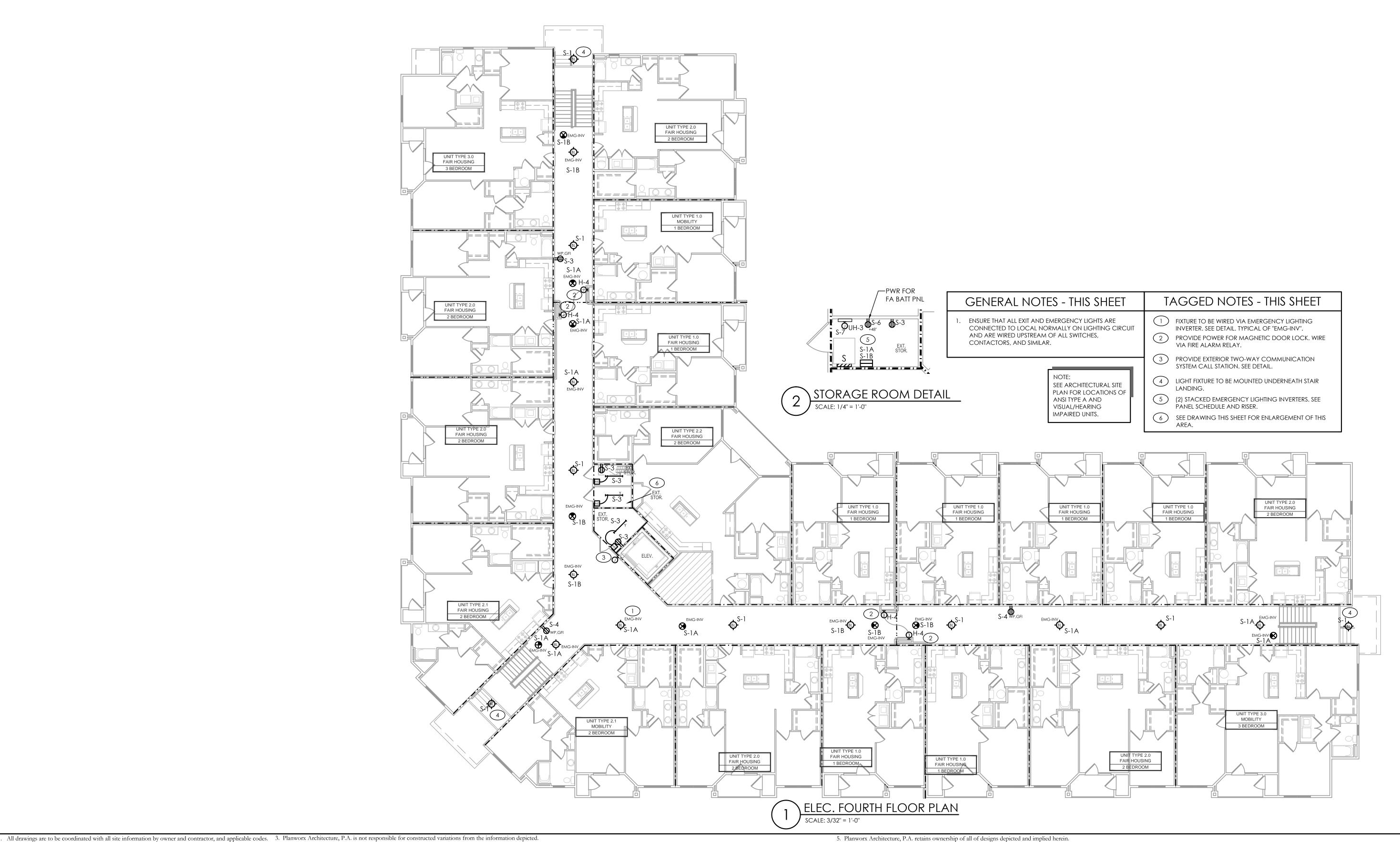
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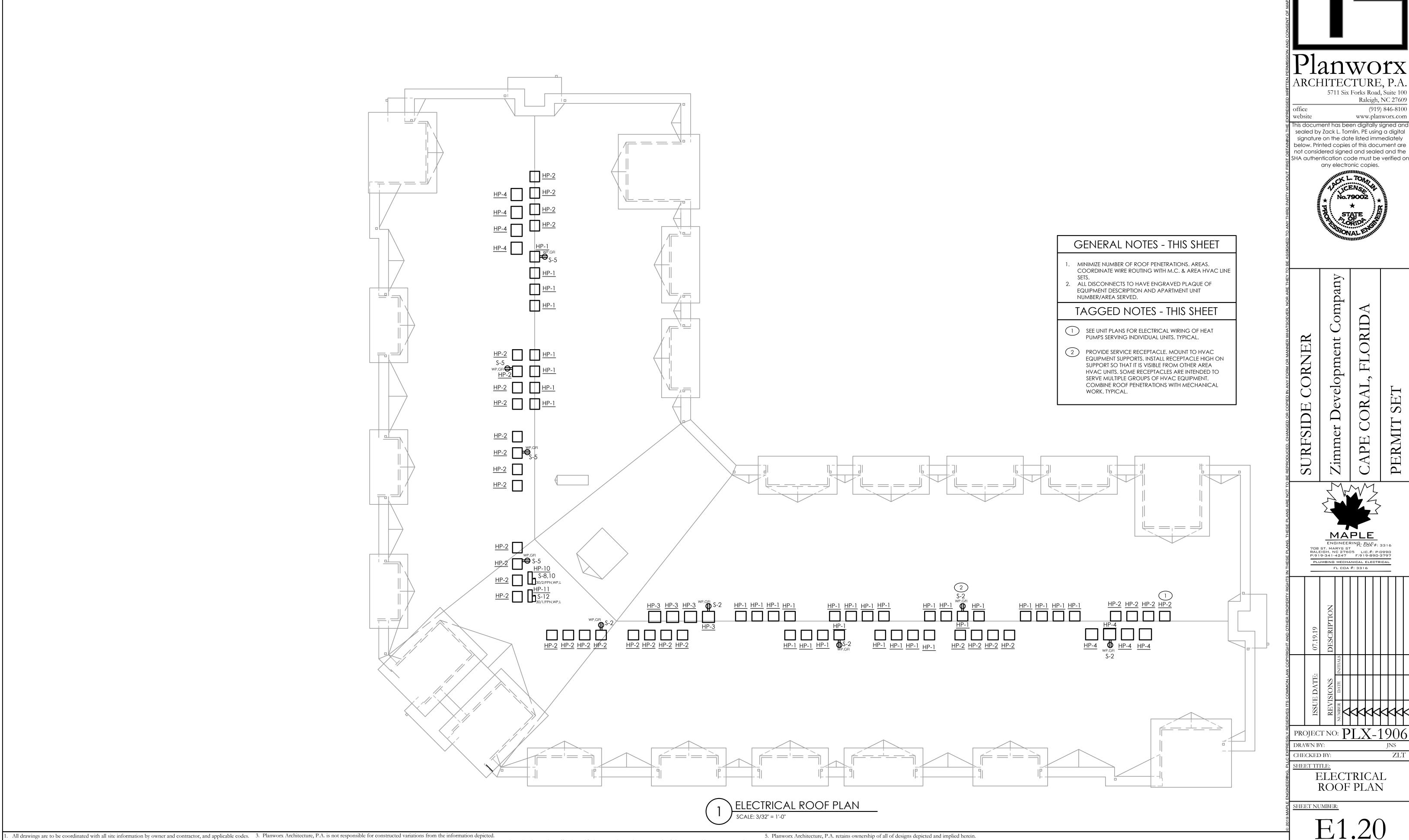
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ELECTRICAL FOURTH FLOOR PLAN

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SHEET TITLE: ELECTRICAL ROOF PLAN

SHEET NUMBER:

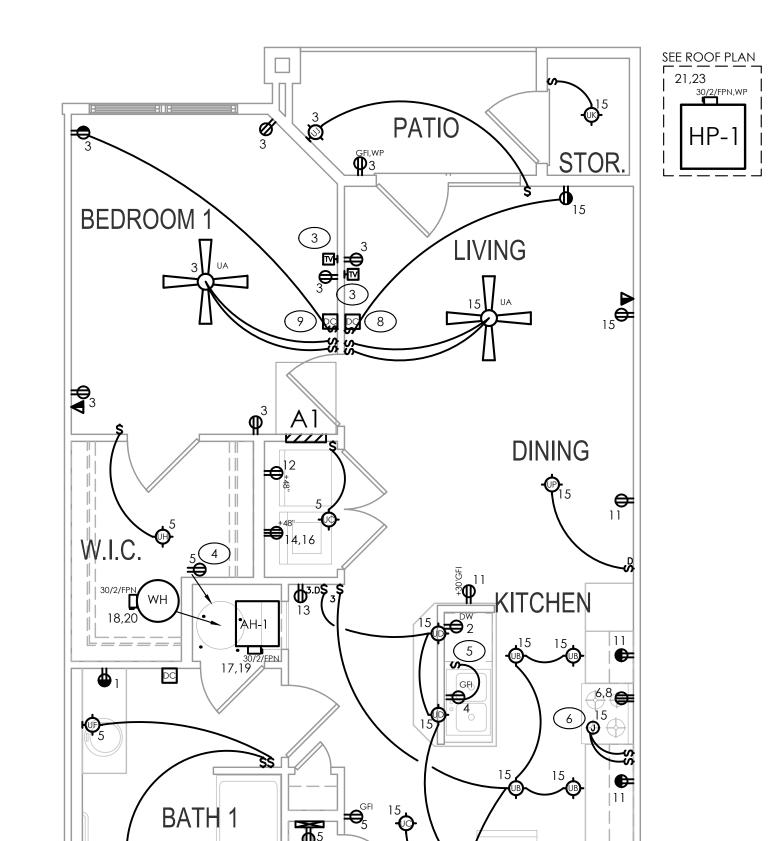
#### **GENERAL NOTES - THIS SHEET**

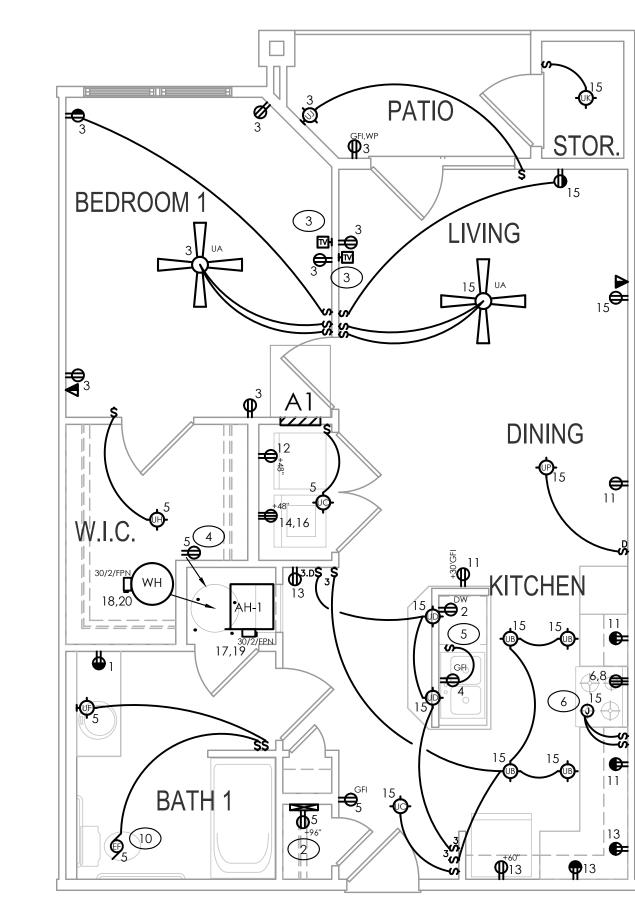
- . ALL 120V RECEPTACLES ARE TO BE TAMPER RESISTANT. 2. ALL RECEPTACLES ON 20 AMP CIRCUIT TO BE 20 AMP RECEPTACLES.
- 3. COORDINATE EXACT LOCATION OF WH, AH, & HP W/ P.C. & M.C. BEFORE BEGINNING WORK.
- 4. E.C. TO CONFIRM ALL APPLIANCE LOCATIONS W/ARCH PLANS PRIOR TO BEGINNING WORK.
- . PROVIDE EXTRA BRACING FOR ANY CEILING FAN. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND MOUNTING HEIGHTS FOR ALL OUTLETS BEFORE STARTING "ROUGH-IN" WORK. CONTRACTOR SHALL NOT "ROUGH-IN" ANY OUTLET, FIXTURE OR DEVICE OF ANY KIND WITHOUT FIRST ATTENDING A WALK THROUGH OF EACH APARTMENT UNIT WITH THE OWNER AND GENERAL CONTRACTOR FOR COORDINATION OF FINAL LOCATIONS.
- UNIT PANELS ARE TO BE INSTALLED SO THAT NO TRIM LATCH ON BREAKER IS GREATER THAN 48" AFF.
- 8. SEE BUILDING PLANS FOR RATING OF UNIT DEMISING WALLS & FLOOR CEILING ASSEMBLIES. 9. COORDINATE VISUAL/HEARING IMPAIRED UNIT
- DESIGNATIONS WITH G.C. AND ARCH PRIOR TO BID. 10. NOTIFICATION DEVICES SHALL COMPLY WITH 2017 FLORIDA ACCESSIBILITY CODE 809.5.5.

SEE FA PLANS FOR SMOKE DETECTORS IN ADA UNITS.

### TAGGED NOTES - THIS SHEET

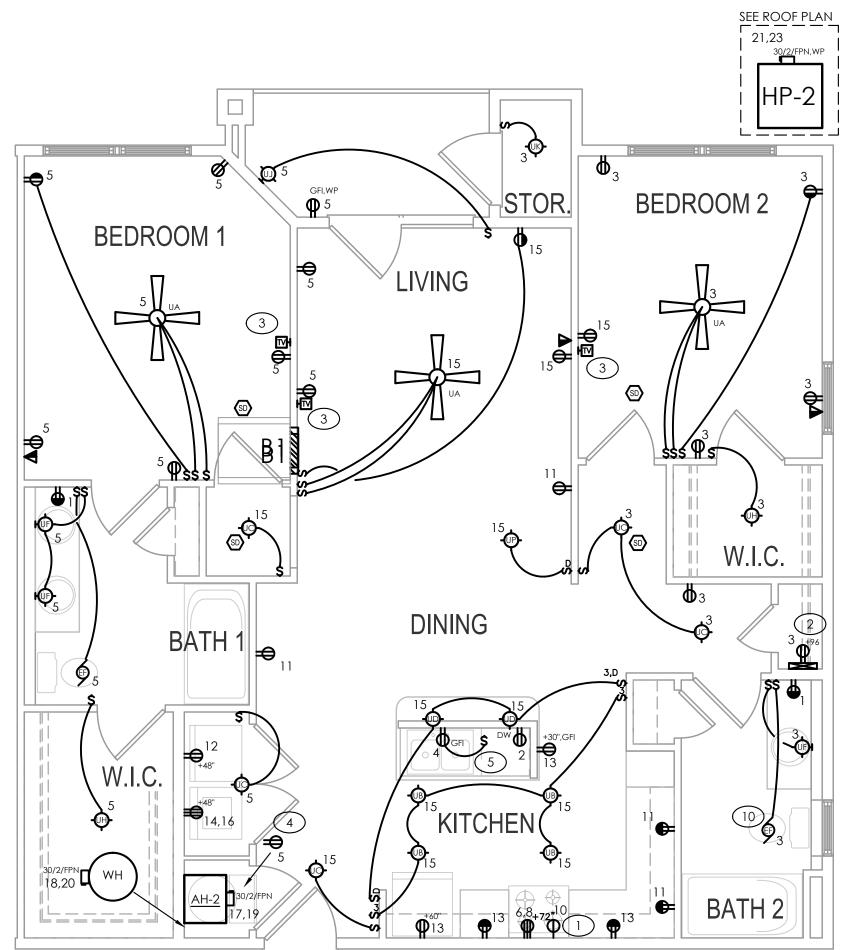
- (1) PROVIDE A SIMPLEX RECEPTACLE FOR MICROWAVE UNIT. MOUNT RECEPTACLE AT BACK OF UPPER CABINET; MICROWAVE UNIT IS MOUNTED OVER RANGE. COORDINATE EXACT LOCATION W/ G.C..
- 2 PROVIDE CHANNEL VISION BRAND STRUCTURED WIRING ENCLOSURE FOR NETWORKING PURPOSES WITHIN APARTMENT FOR MODULAR PUSH AND LOCK TELEPHONE, VIDEO, DATA, AND POWER MODULES. THE CABLE TV COAX AND TELEPHONE/DATA CAT 5 FEED FROM THE LOWER LEVEL DATA ROOM(S) SHALL TERMINATE AT THIS BOX IN EACH APARTMENT. THEN FROM THIS BOX SPLIT OFF TO FEED EACH DATA/TELEPHONE/CABLE TV OUTLET WITHIN EACH APARTMENT. USE 19" MODEL C-0119E IN THE 4BR AND 3BR UNITS AND USE 12" MODEL C-0112WE IN THE 2BR AND 1BR UNITS. INSIDE THE SINGLE GANG KNOCKOUT PROVIDED IN EACH STRUCTURED WIRING ENCLOSURE. PROVIDE A DUPLEX ELECTRICAL POWER RECEPTACLE ON CIRCUIT NOTED.
- 3 CONFIRM EXACT LOCATION OF TV OUTLET W/
- 4 PROVIDE POWER FOR WATER METER COORD. LOCATOIN W/ P.C..
- 5 PROVIDE COUNTER TOP AIR SWITCH NEXT TO SINK FOR GARBAGE DISPOSAL. CONFIRM EXACT LOCATION W/ OWNER.
- (6) HOOD LIGHTS AND CONTROLS TO BE SWITCHED SEPARATELY. SWITCHES TO BE LOCATED IN AN ADA COMPLIANT LOCATION. COORDINATE WITH G.C..
- HARD-WIRED DOORBELL BUTTON/SWITCH. PROVIDE A LIGHTED OR CONTRASTING COLOR DOORBELL BUTTON/SWITCH CONNECTED TO THE AUDIBLE AND STROBE ALARMS.
- (8) AUDIO/VISUAL DOORBELL NOTIFICATION DEVICE. AUDIBLE AND STROBE ALARM TO BE INSTALLED IN EACH BATHROOM, BEDROOM, AND COMMON AREA TYPICAL.
- (9) NOTIFICATION DEVICES IN SLEEPING AREAS SHALL HAVE CONTROLS TO DEACTIVATE THE DOORBELL
- (10) PROGRAMMABLE EXHAUST FAN SWITCH PROVIDED BY M.C. INSTALLED BY AND PROGRAMMED (DIALS SET) BY E.C.. SEE MECH PLAN.



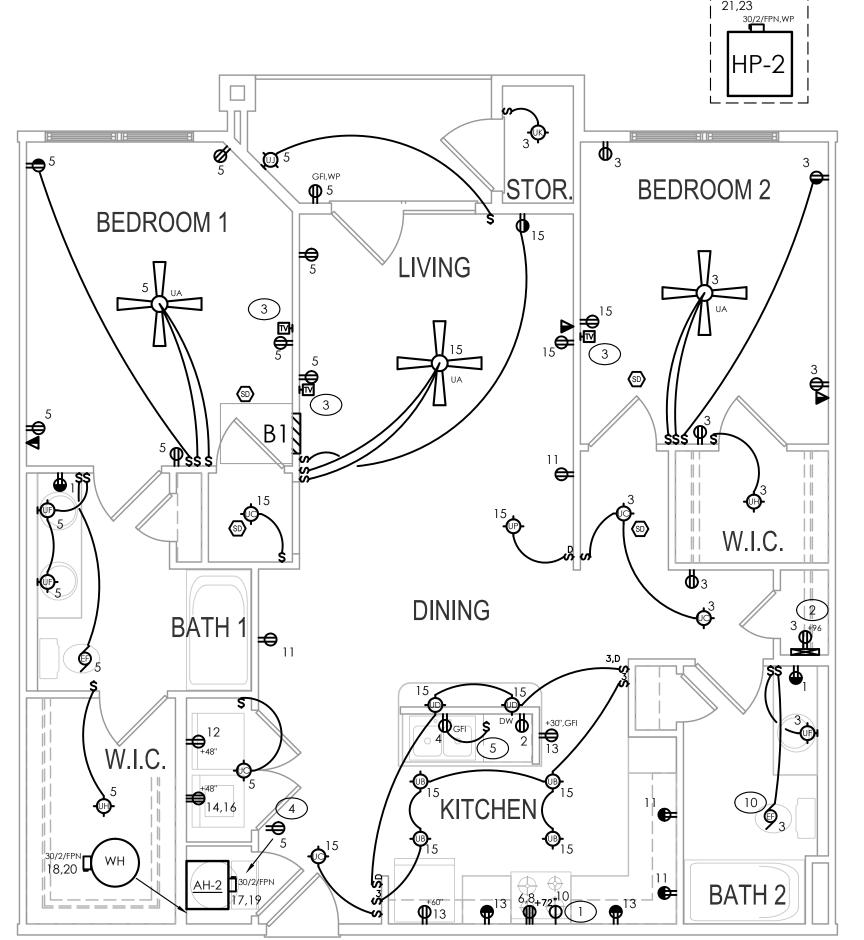


TELEC. UNIT PLAN - TYPE 1.0 MOBILITY

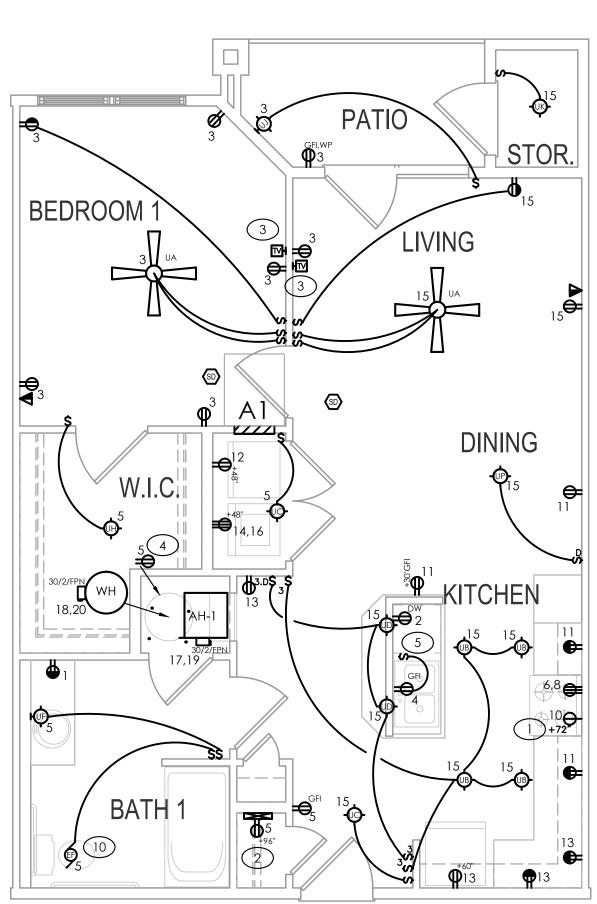
ELEC. UNIT PLAN - TYPE 1.0 MOBILITY (HEARING/VISUAL IMPARED)



ELEC. UNIT PLAN - TYPE 2.0 FAIR HOUSING END UNIT



ELEC. UNIT PLAN - TYPE 2.0 FAIR HOUSING INTERIOR



ELEC. UNIT PLAN - TYPE 1.0 FAIR HOUSING

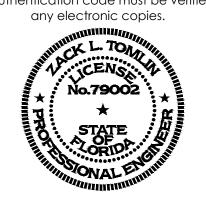
21,23

SEE ROOF PLAN 21,23

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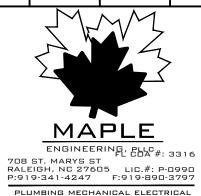
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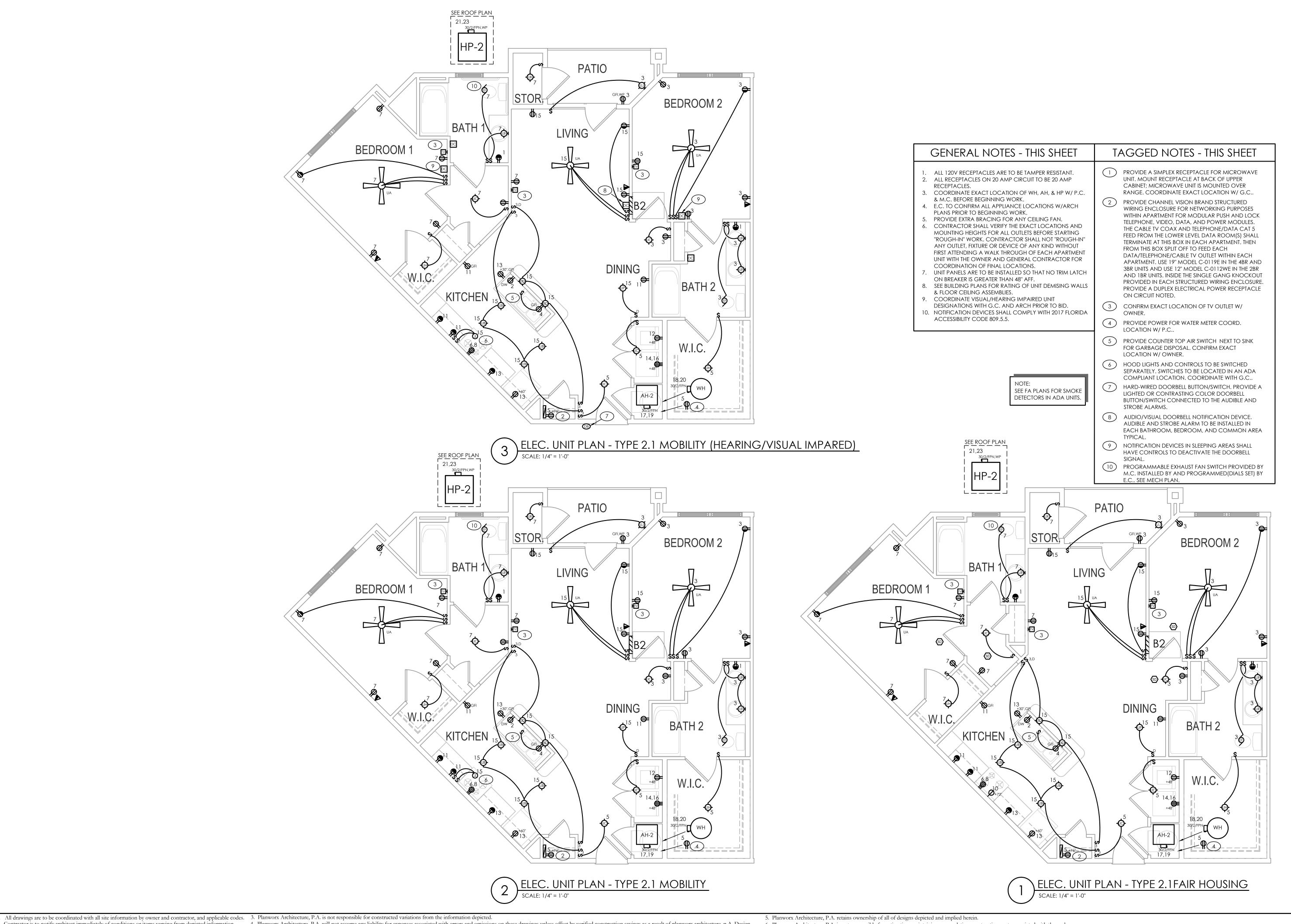
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PROJECT NO: PLX-190 DRAWN BY: CHECKED BY:

SHEET TITLE: ELECTRICAL UNIT PLANS

SHEET NUMBER:



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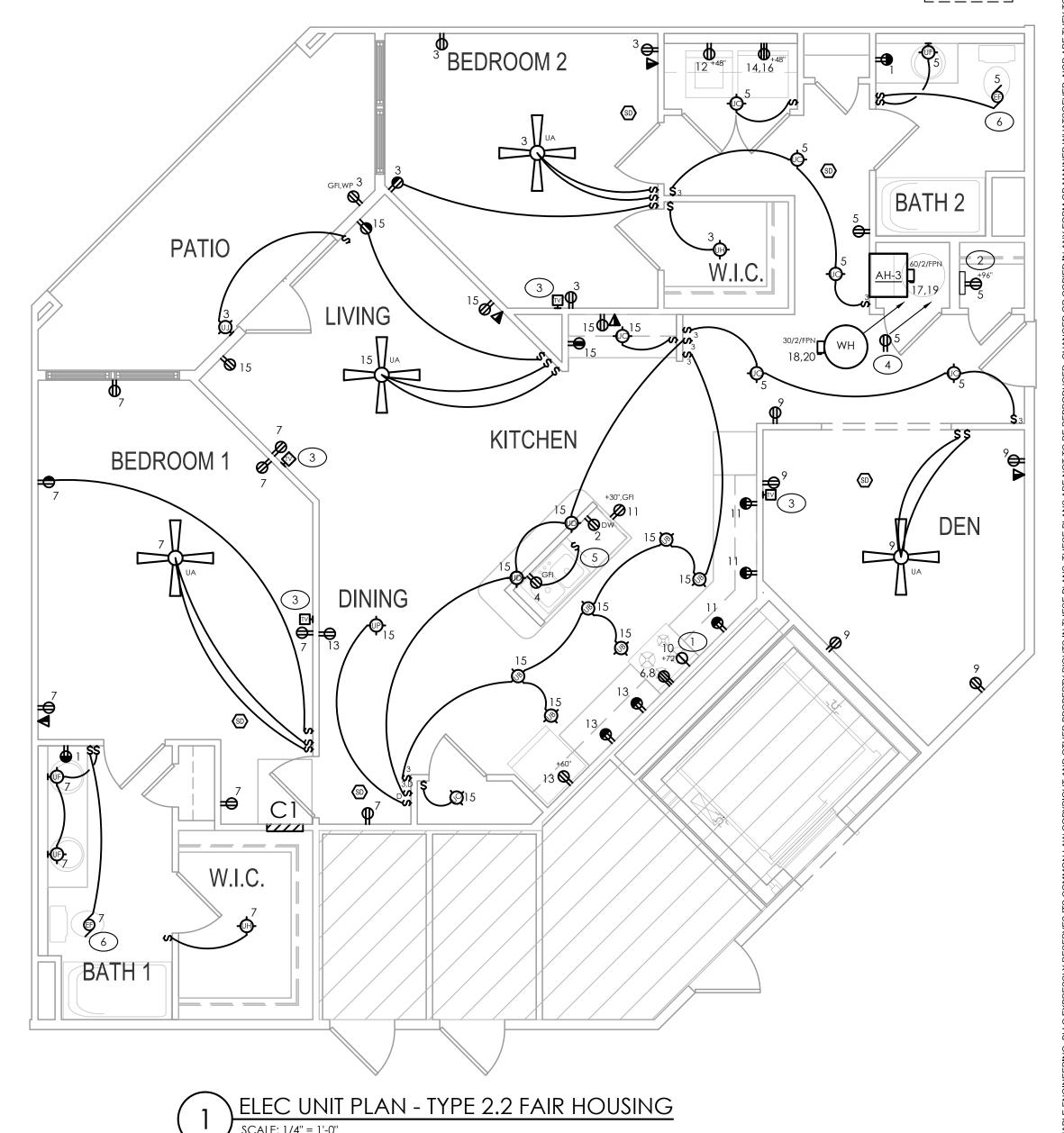
CHECKED BY: SHEET TITLE:

> ELECTRICAL UNIT PLANS

SHEET NUMBER:

#### GENERAL NOTES - THIS SHEET TAGGED NOTES - THIS SHEET (1) PROVIDE A SIMPLEX RECEPTACLE FOR MICROWAVE 1. ALL 120V RECEPTACLES ARE TO BE TAMPER RESISTANT. UNIT. MOUNT RECEPTACLE AT BACK OF UPPER 2. ALL RECEPTACLES ON 20 AMP CIRCUIT TO BE 20 AMP CABINET; MICROWAVE UNIT IS MOUNTED OVER RECEPTACLES. 3. COORDINATE EXACT LOCATION OF WH, AH, & HP W/ P.C. RANGE. COORDINATE EXACT LOCATION W/ G.C.. & M.C. BEFORE BEGINNING WORK. 2 PROVIDE CHANNEL VISION BRAND STRUCTURED 4. E.C. TO CONFIRM ALL APPLIANCE LOCATIONS W/ARCH WIRING ENCLOSURE FOR NETWORKING PURPOSES PLANS PRIOR TO BEGINNING WORK. WITHIN APARTMENT FOR MODULAR PUSH AND LOCK 5. PROVIDE EXTRA BRACING FOR ANY CEILING FAN. TELEPHONE, VIDEO, DATA, AND POWER MODULES. 6. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND THE CABLE TV COAX AND TELEPHONE/DATA CAT 5 MOUNTING HEIGHTS FOR ALL OUTLETS BEFORE STARTING FEED FROM THE LOWER LEVEL DATA ROOM(S) SHALL "ROUGH-IN" WORK, CONTRACTOR SHALL NOT "ROUGH-IN" TERMINATE AT THIS BOX IN EACH APARTMENT. THEN ANY OUTLET, FIXTURE OR DEVICE OF ANY KIND WITHOUT FROM THIS BOX SPLIT OFF TO FEED EACH FIRST ATTENDING A WALK THROUGH OF EACH APARTMENT DATA/TELEPHONE/CABLE TV OUTLET WITHIN EACH UNIT WITH THE OWNER AND GENERAL CONTRACTOR FOR APARTMENT. USE 19" MODEL C-0119E IN THE 4BR AND COORDINATION OF FINAL LOCATIONS. 3BR UNITS AND USE 12" MODEL C-0112WE IN THE 2BR 7. UNIT PANELS ARE TO BE INSTALLED SO THAT NO TRIM LATCH AND 1BR UNITS. INSIDE THE SINGLE GANG KNOCKOUT ON BREAKER IS GREATER THAN 48" AFF. PROVIDED IN EACH STRUCTURED WIRING ENCLOSURE. 8. SEE BUILDING PLANS FOR RATING OF UNIT DEMISING WALLS PROVIDE A DUPLEX ELECTRICAL POWER RECEPTACLE & FLOOR CEILING ASSEMBLIES. ON CIRCUIT NOTED. 3 CONFIRM EXACT LOCATION OF TV OUTLET W/ 4 PROVIDE POWER FOR WATER METER COORD. LOCATION W/ P.C..

SEE ROOF PLAN



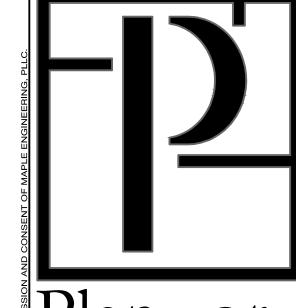
5 PROVIDE COUNTER TOP AIR SWITCH NEXT TO SINK FOR GARBAGE DISPOSAL. CONFIRM EXACT

(6) PROGRAMMABLE EXHAUST FAN SWITCH PROVIDED BY

M.C. INSTALLED BY AND PROGRAMMED (DIALS SET) BY

LOCATION W/ OWNER.

E.C., SEE MECH PLAN.



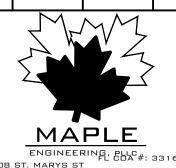
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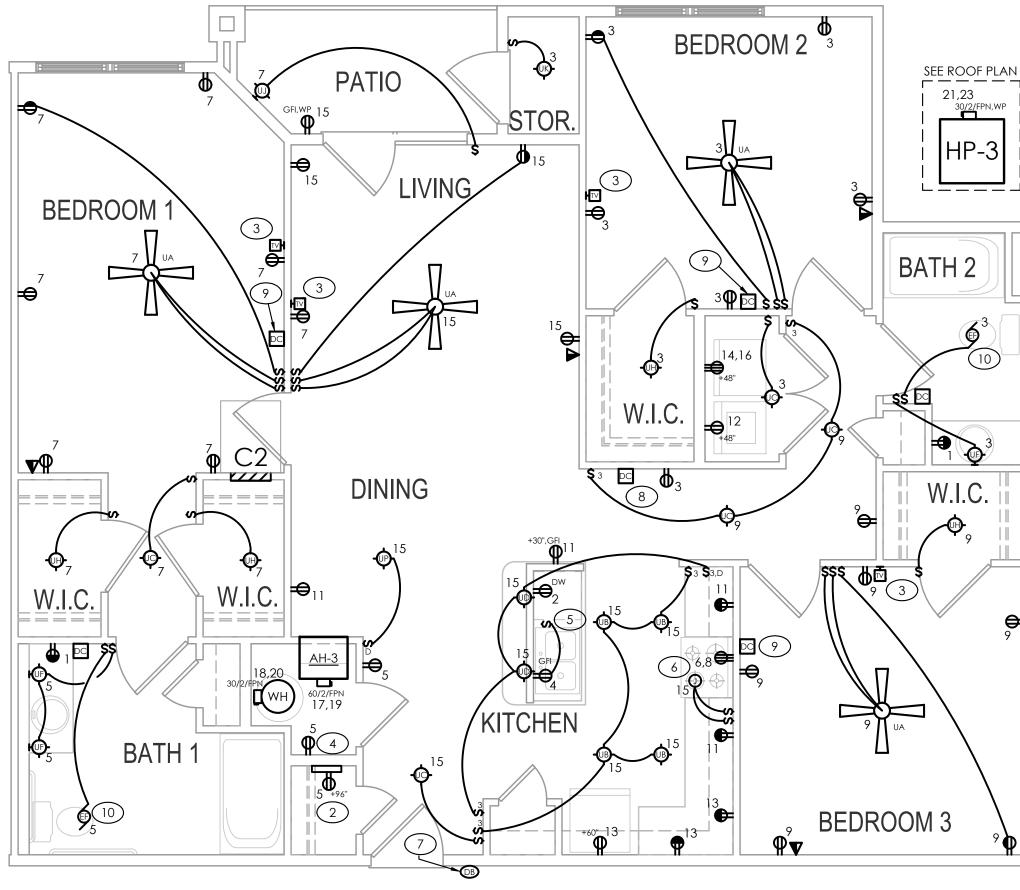


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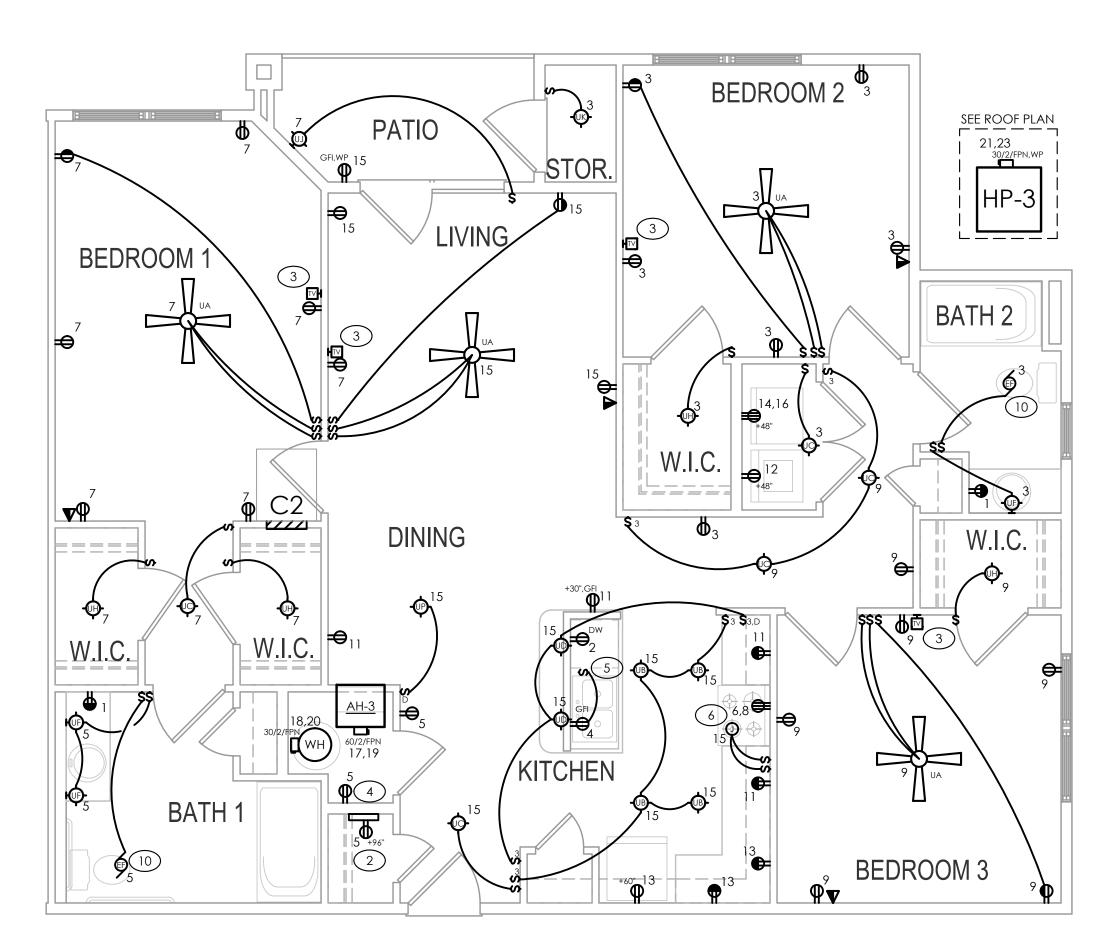
PROJECT NO: PLX-190 DRAWN BY:

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SHEET TITLE: ELECTRICAL UNIT PLANS



ELEC. UNIT PLAN - TYPE 3.0 MOBILITY (HEARING/VISUAL IMPARED) SCALE: 1/4" = 1'-0"



ELEC. UNIT PLAN - TYPE 3.0 MOBILITY SCALE: 1/4" = 1'-0"

All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.

## GENERAL NOTES - THIS SHEET

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- 4. E.C. TO CONFIRM ALL APPLIANCE LOCATIONS W/ARCH PLANS PRIOR TO BEGINNING WORK.
- PROVIDE EXTRA BRACING FOR ANY CEILING FAN. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND MOUNTING HEIGHTS FOR ALL OUTLETS BEFORE STARTING "ROUGH-IN" WORK, CONTRACTOR SHALL NOT "ROUGH-IN" ANY OUTLET, FIXTURE OR DEVICE OF ANY KIND WITHOUT FIRST ATTENDING A WALK THROUGH OF EACH APARTMENT UNIT WITH THE OWNER AND GENERAL CONTRACTOR FOR
- COORDINATION OF FINAL LOCATIONS. UNIT PANELS ARE TO BE INSTALLED SO THAT NO TRIM LATCH
- ON BREAKER IS GREATER THAN 48" AFF. . SEE BUILDING PLANS FOR RATING OF UNIT DEMISING WALLS & FLOOR CEILING ASSEMBLIES.
- COORDINATE VISUAL/HEARING IMPAIRED UNIT
- DESIGNATIONS WITH G.C. AND ARCH PRIOR TO BID. 10. NOTIFICATION DEVICES SHALL COMPLY WITH 2017 FLORIDA ACCESSIBILITY CODE 809.5.5.

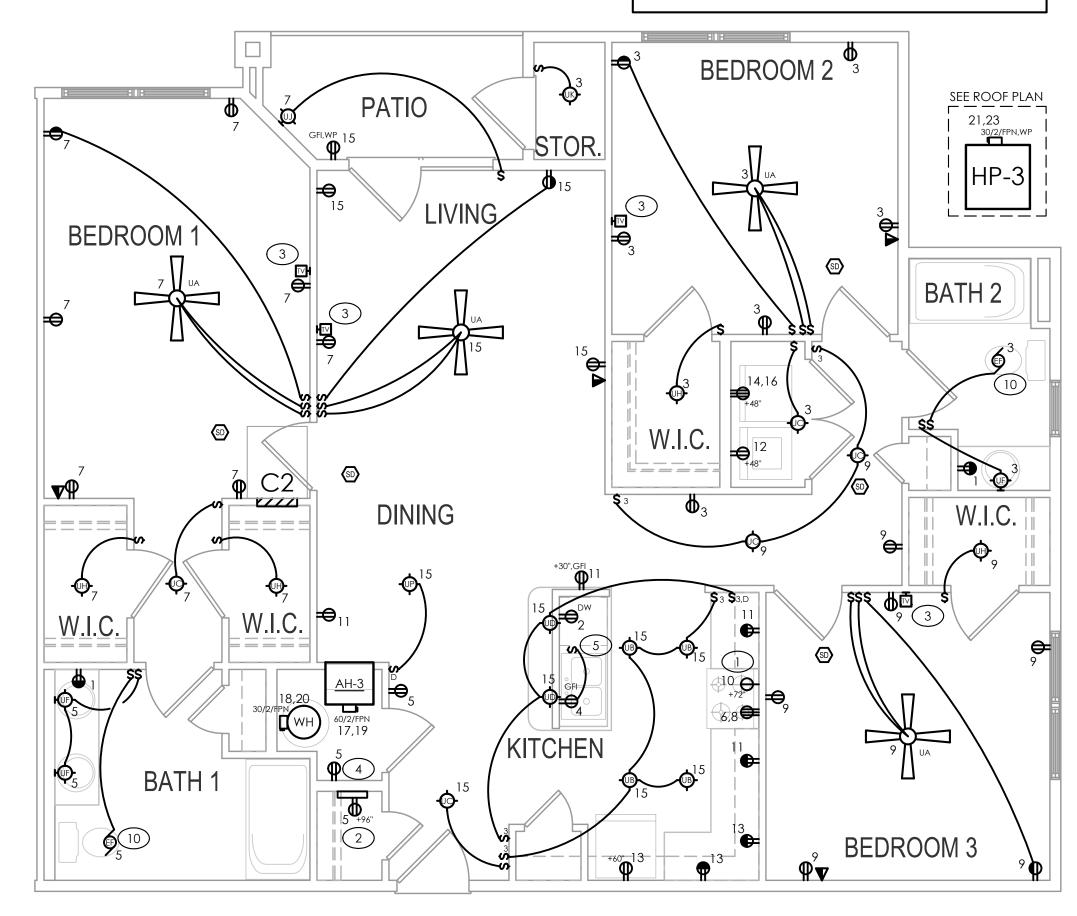
SEE FA PLANS FOR SMOKE DETECTORS IN ADA UNITS.

### TAGGED NOTES - THIS SHEET

- 1) PROVIDE A SIMPLEX RECEPTACLE FOR MICROWAVE UNIT. MOUNT RECEPTACLE AT BACK OF UPPER CABINET; MICROWAVE UNIT IS MOUNTED OVER RANGE. COORDINATE EXACT LOCATION W/ G.C..
- (2) PROVIDE CHANNEL VISION BRAND STRUCTURED WIRING ENCLOSURE FOR NETWORKING PURPOSES WITHIN APARTMENT FOR MODULAR PUSH AND LOCK TELEPHONE, VIDEO, DATA, AND POWER MODULES. THE CABLE TV COAX AND TELEPHONE/DATA CAT 5 FEED FROM THE LOWER LEVEL DATA ROOM(S) SHALL TERMINATE AT THIS BOX IN EACH APARTMENT. THEN FROM THIS BOX SPLIT OFF TO FEED EACH DATA/TELEPHONE/CABLE TV OUTLET WITHIN EACH APARTMENT. USE 19" MODEL C-0119E IN THE 4BR AND 3BR UNITS AND USE 12" MODEL C-0112WE IN THE 2BR AND 1BR UNITS. INSIDE THE SINGLE GANG KNOCKOUT PROVIDED IN EACH STRUCTURED WIRING ENCLOSURE. PROVIDE A DUPLEX ELECTRICAL POWER RECEPTACLE ON CIRCUIT NOTED.
- (3) CONFIRM EXACT LOCATION OF TV OUTLET W/
- 4 PROVIDE POWER FOR WATER METER COORD. LOCATION W/ P.C..
- PROVIDE COUNTER TOP AIR SWITCH NEXT TO SINK FOR GARBAGE DISPOSAL. CONFIRM EXACT LOCATION W/ OWNER.
- HOOD LIGHTS AND CONTROLS TO BE SWITCHED SEPARATELY. SWITCHES TO BE LOCATED IN AN ADA COMPLIANT LOCATION. COORDINATE WITH G.C.. HARD-WIRED DOORBELL BUTTON/SWITCH. PROVIDE A
- LIGHTED OR CONTRASTING COLOR DOORBELL BUTTON/SWITCH CONNECTED TO THE AUDIBLE AND STROBE ALARMS. (8) AUDIO/VISUAL DOORBELL NOTIFICATION DEVICE. AUDIBLE AND STROBE ALARM TO BE INSTALLED IN
- (9) NOTIFICATION DEVICES IN SLEEPING AREAS SHALL HAVE CONTROLS TO DEACTIVATE THE DOORBELL

EACH BATHROOM, BEDROOM, AND COMMON AREA

(10) PROGRAMMABLE EXHAUST FAN SWITCH PROVIDED BY M.C. INSTALLED BY AND PROGRAMMED (DIALS SET) BY E.C.. SEE MECH PLAN.



ELEC. UNIT PLAN - TYPE 3.0 FAIR HOUSING

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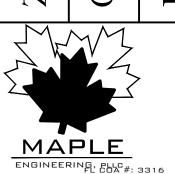
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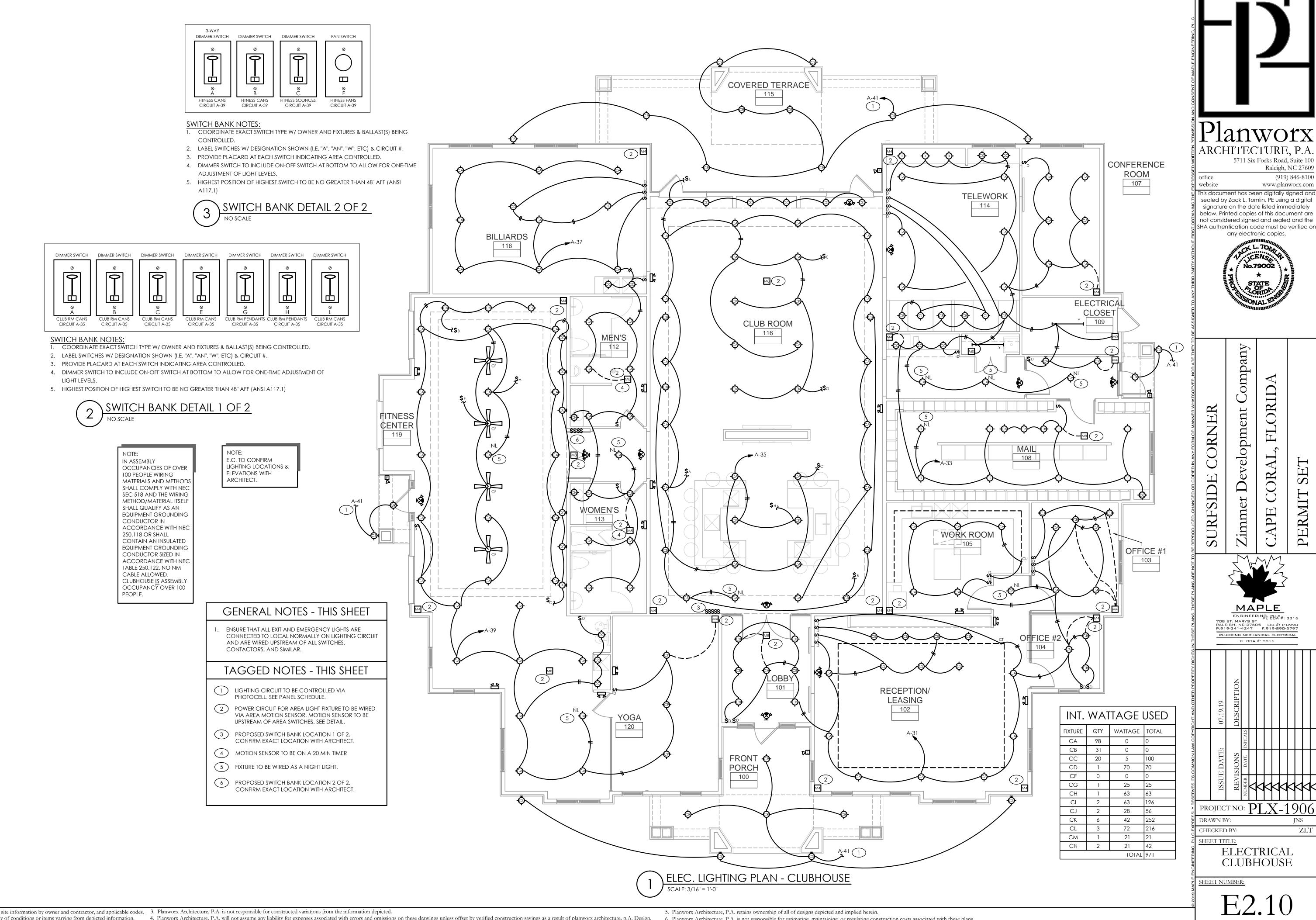
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PROJECT NO: PLX-190

DRAWN BY: CHECKED BY: ZLT

SHEET TITLE: ELECTRICAL UNIT PLANS

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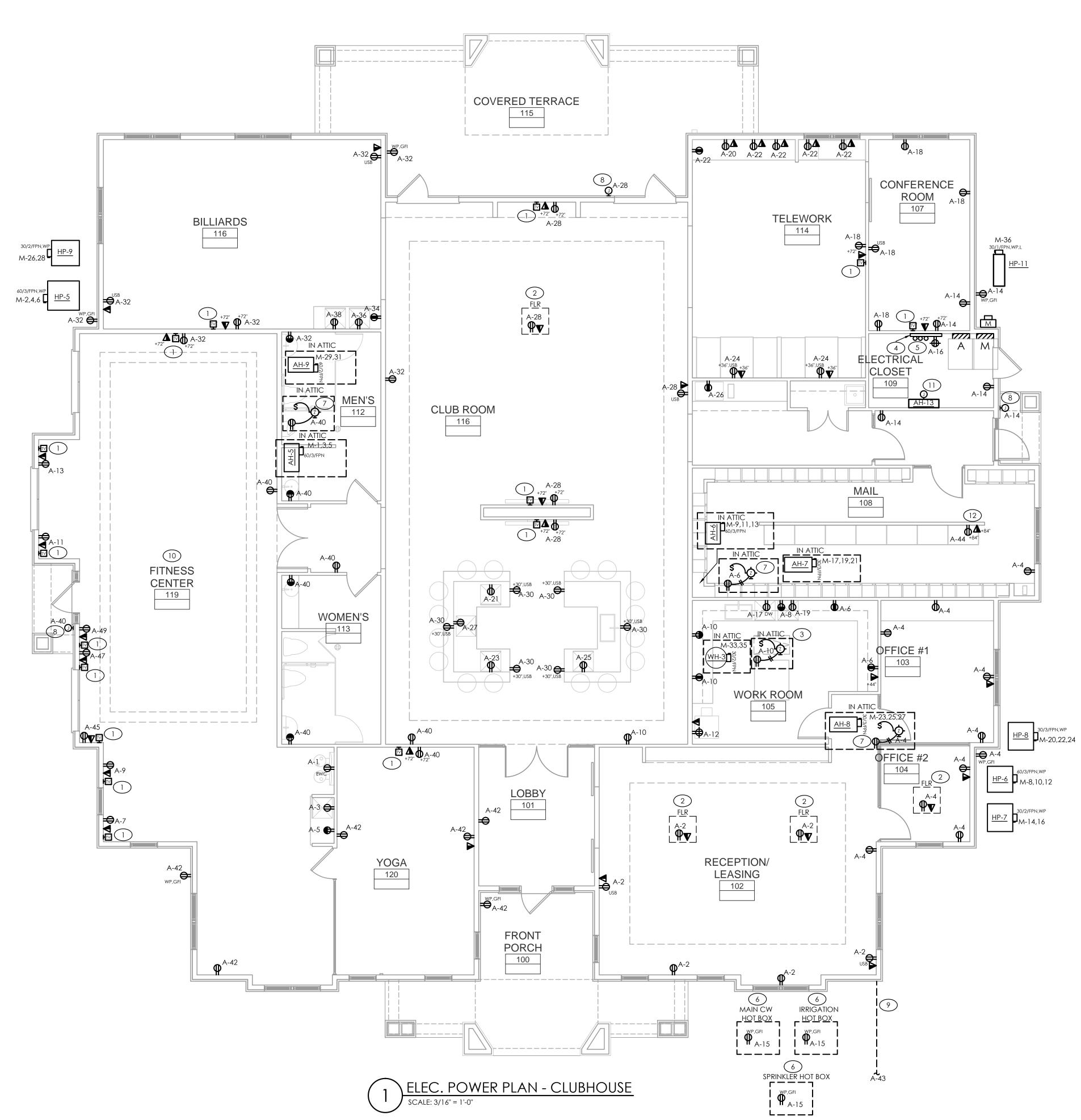
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IN ASSEMBLY OCCUPANCIES OF OVER 100 PEOPLE WIRING MATERIALS AND METHODS SHALL COMPLY WITH NEC SEC 518 AND THE WIRING METHOD/MATERIAL ITSELF SHALL QUALIFY AS AN **EQUIPMENT GROUNDING** CONDUCTOR IN ACCORDANCE WITH NEC 250.118 OR SHALL CONTAIN AN INSULATED QUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH NEC TABLE 250.122. NO NM CABLE ALLOWED. CLUBHOUSE IS ASSEMBLY OCCUPANCY OVER 100

All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.

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## GENERAL NOTES - THIS SHEET

- SEE PANEL SCHEDULES FOR GFI PROTECTION OF SOME
- E.C. TO COORDINATE EXACT LOCATION AND INSTALLATION OF ALL EQUIPMENT W/ OWNER. FINAL CONNECTION BY
- PROVIDE USB COMBINATION DUPLEX RECEPTACLES FOR THOSE SHOWN AS "USB"

TAGGED NOTES - THIS SHEET

- 1 CONFIRM EXACT LOCATION OF TV OUTLET W/
- (2) COORDINATE FLOOR BOX TYPE & EXACT LOCATION W/ OWNER. COORDINATE CONDUIT ROUTING WITH
- (3) PROVIDE POWER FOR SWITCH AND LIGHT AT ATTIC ENTRANCE FOR AREA EQUIPMENT. PROVIDE POWER TO SERVICE RECEPTACLE FOR AREA EQUIPMENT. COORDINATE LOCATION OF LIGHT WITH P.C. AND
- (4) PROVIDE FIRE RATED PLYWOOD FOR TELE/DATA BOARD. PROVIDE #6 CU BONDING WIRE TO BUILDING GROUNDING SYSTEM.
- (5) PROVIDE (3) 4" CONDUITS TO TELE/DATA DEMARC POINTS. COORDINATE W/ G.C. AND UTILITY.
- (6) PROVIDE POWER TO WEATHER PROOF GFI RECEPTACLE AT HOT BOX FOR HEAT TAPE. COORDINATE EXACT LOCATION W/ P.C AND CIVIL PLANS. TYPICAL OF ALL.
- (7) PROVIDE POWER FOR SWITCH AND LIGHT IN ATTIC FOR AREA EQUIPMENT. PROVIDE POWER TO SERVICE RECEPTACLE FOR AREA EQUIPMENT. COORDINATE LOCATION OF LIGHT WITH M.C. AND G.C..
- (8) PROVIDE CONDUIT AND POWER FOR CARD READER AND/OR DOOR LOCK. COORDINATE EXACT LOCATIONS AND DETAILS WITH G.C., DOOR TO OPEN FREELY IN DIRECTION OF EGRESS.
- (9) PROVIDE POWER AND CONDUIT FOR MONUMENT SIGN. CIRCUIT CONTROLLED VIA PHOTOCELL. CONFIRM SIGN LOCATION WITH ARCHITECT. COORDINATE ROUTING WITH G.C..
- (10) E.C. TO CONFIRM LOCATIONS OF ALL FITNESS CENTER RECEPTACLES WITH OWNER.
- (11) AIR HANDLER UNIT TO BE WIRED VIA OUTDOOR UNIT. E.C. TO INSTALL HIGH VOLTAGE WIRING. PROVIDE LOCKABLE DISCONNECT AT OUTDOOR UNIT TO SERVE AS AIR HANDLER DISCONNECT (LESS THAN 300
- (12) PROVIDE POWER AND DATA FOR AMAZON PACKAGE LOCKER. CONFIRM EXACT LOCATION WITH EQUIPMENT SUPPLIER.

PROJECT NO: PIX-190DRAWN BY: CHECKED BY: SHEET TITLE: ELECTRICAL **CLUBHOUSE** SHEET NUMBER:

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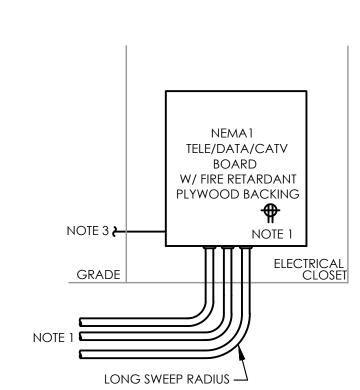
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E2.11



$\bigcirc$	TELE/DATA/CATV RISER
$( \angle )$	NO SCALE

#### TELE/DATA/CATV RISER NOTES:

- 1. PROVIDE THREE 4" CONDUITS PROVIDED UNDER SLAB/GROUND TO PROPERTY LINE W/ PULL STRING. CLEARLY LABEL AND COORDINATE EXACT TERMINATION LOCATION AND DETAILS WITH OWNER AND TELEPHONE UTILITY.
- 2. PROVIDE 120V RECEPTACLE FOR TELEPHONE AND OTHER COMMUNICATION EQUIPMENT (SEE POWER PLANS).
- 3. PROVIDE #6 CU GROUNDING/BONDING CONDUCTOR IN 3/4" CONDUIT TO INTERSYSTEM BONDING TERMINATION (IBT) AT BUILDING ELECTRICAL SERVICE. BOND CONDUIT/CONDUCTOR AT EACH END OF CONDUIT IF METAL RACEWAY IS USED. INSTALL PER NEC 250.94 & NEC 800.100. CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK.

PAN	IEL I	M I	LO	AD SUMN	1ARY	/	
L(	DAD	TYPI	E		kVA CONN.	DEM.	kVA DEM.
LO	ADS ON 40	00A MC	В		COMM.	FACI.	DEM.
LIGHTS (6796 SQFT	@ 2 W,	/SQF	Г > С	ONN. LOAD)	12.9	1.25	16.1
RECEPTACLES				1st 10 kVA	10.0	1.0	10.0
RECEFIACLES				REMAINDER	17.1	0.5	8.6
				ELEC HEAT	41.8	1.0	41.8
HVAC & R				LARGEST MOTOR	6.0	1.25	7.5
				REMAINDER	23.9	1.0	23.9
WATER	HEATER	R (ELE	CTRI	C)	4.5	1.00	4.5
МС	NUME		1.2	1.25	1.5		
				TOTALS	117.4		113.9
TOTAL AMPS @	208	٧	3	PHASE		316.1	

PAN	IEL /	4 [	0	ad Sumn	1ARY	•		
LC	DAD 1	ΥΡΙ	=		kVA	DEM.	kVA	
LOADS ON 20	10 AMP BRE	AKER ,	AT PAN	EL M	CONN.	FACT.	DEM.	
LIGHTS (6796 SQFT	ONN. LOAD)	12.9	1.25	16.1				
				1st 10 kVA	10.0	1.0	10.0	
RECEPTACLES				REMAINDER	17.1	0.5	8.6	
МС	NUMEN	IT SIC	ΞN		1.2	1.25	1.5	
				TOTALS	41.2		36.2	
TOTAL AMPS @	PHASE		100.4					

ELECTRICAL CLOSET

					TOTALS	71.2		50.2
	TOTAL AMPS @	208	V	3	PHASE		100.4	
NOTE: IN ASSEMBLY OCCUPANCIES OF OVER 100 PEOPLE WIRING MATERIALS AND METHODS SHALL COMPLY WITH NEC SEC 518 AND THE WIRING METHOD/MATERIAL ITSELF SHALL QUALIFY AS AN EQUIPMENT GROUNDING CONDUCTOR IN ACCORDANCE WITH NEC 250.118 OR SHALL CONTAIN AN INSULATED EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH NEC TABLE 250.122. NO NM CABLE ALLOWED. CLUBHOUSE IS ASSEMBLY OCCUPANCY OVER 100 PEOPLE.  UTILITY XFMR KVA	EXTERIOR NOTE 3	4 20	PANE M 00A M 08Y/12 NOTE	EL MCB 20V	200 208Y	ANEL A A MLO (/120V DTE 8		

# \ ELECTRICAL POWER RISER - CLUBHOUSE

NOTE 2,4

#### RISER DIAGRAM NOTES: 1. PAD MOUNTED TRANSFORMER BY UTILITY.

- 2. SECONDARY CONDUCTORS SIZED, PROVIDED & INSTALLED BY E.C., CONFIRM INSTALLATION W/ UTILITY BEFORE
- BEGINNING WORK.

GRADE

- 3. 400A METER BASE PER UTILITY REQUIREMENTS. METER BY UTILITY
- 4. (2) SETS OF (4)#3/0 CU, 2" CONDUIT.
- 5. (4)#3/0 CU, #6 CU GND, 2" CONDUIT.
- 6. #1/0 CU MAIN GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM (SEE DETAIL). BUILDING SHALL HAVE ONE GROUNDING ELECTRODE SYSTEM.
- 7. PROVIDE PLACARD INDICATING ARC-FLASH HAZARD AT PANEL(S)/DISCONNECT(S). (NEC 110.16)
- 8. UTILITY TRANSFORMER SPECS UNKNOWN AT TIME OF DESIGN COMPLETION. DESIGN IS BASED ON 65,000AIC. E.C. TO VERIFY TRANSFORMER PROPERTIES WITH UTILITY PRIOR TO PURCHASING EQUIPMENT. IF TRANSFORMER AIC IS LESS LOWER RATED EQUIPMENT MAY BE USED. IF HIGHER CONTACT ENGINEER. CIRCUIT BREAKERS WITH A LESSER LABELED AIC RATING MAY BE USED IF THOSE BREAKERS ARE PAIRED WITH AN UPSTREAM BREAKER OR FUSE AS PART OF A UL SERIES RATED COMBINATION. PAIRED DEVICES MUST BE IN ACCORDANCE WITH NEC 240.86. LABEL PER NEC 110.22(C). CONFIRM W/ EQUIPMENT MFG BEFORE PURCHASE. E.C. TO PROVIDE FIELD INSPECTOR WITH MFG'S DOCUMENTATION REGARDING UL SERIES RATING OF PAIRED BREAKERS/FUSES.
- 9. PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT (NEC 110.24).

						ELE	CTRICA	AL CLC	OSET						3 PHASE, 4 WIRE
VOLTAGE: 208Y/120V					P	A	NE	EL:	: M						SURFACE MOUNTED
AMPS: 400-MCB							AD PER								NEMA 1
-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	Α		В		С	Ck #				POLE	-DESCRIPTION-
				1	4.4	2.0				2					
AH-5	3	6	50	3			4.4	2.0		4	3.	5 8	3	3	HP-5
				5					4.5 2.	) 6					
SPACE	1	-	-	7	0	2.0				8					
				9			4.5	2.0		10	3.	5   8	3	3	HP-6
AH-6	3	6	50	11					4.4 2.	0 12	:				
				13	4.4	1.8				14	<b>-</b> 2.	5   10		2	HP-7
SPACE	1	-	-	15			0	1.9		16	_				
				17					2.9		+	-		1	SPACE
AH-7	3	10	30	19	2.9	1.3				20					
				21			2.8	1.2		22	-1 -	)   1:	2	3	HP-8
				23					2.9 1.	_	-				
AH-8	3	10	30	25	2.9	1.2				20	<b>-1</b> 2.	5 1		2	HP-9
				27			2.8	1.1	3.2 9.	28	+				
AH-9	2	8	40	29 31	3.1 1	12.9			3.2 9.	9 30	_	0 3/	ر ا	3	PANEL A
				33	3.1	12.7	2.2	10.9		34	-	0   3/	۱	3	FAINLLA
WATER HEATER	2	10	30	35			2,2	10.7	2.3 1.	_	+	) 1:	2	1	AH-11/HP-12
SPACE	1	_	_	37	0	0			_,,	38	-			1	SPACE
SPACE	1	-	_	39			0	0		40	) -	+		1	SPACE
SPACE	1	-	-	41					0 0	42	2 -	Τ.		1	SPACE
					38.9	9	35.	.8	37.0						
TOT	AL CON	NECT	ED k\	/A:			111	.7	1		DE	MAN	D k	(VA:	113.9
P/	ANEL RMS	S SYM	. AM	PS:	SEE R	RISER	?				DEM	AND	A۸	MPS:	316.1

1. PANEL SHALL BE SERVICE ENTRANCE RATED EQUAL TO SQUARE D NQ. 2. PROVIDE HACR BREAKERS FOR HVAC & REFRIGERATION EQUIPMENT.

			ELECTRICAL CLOSET													3 PHASE, 4 WIRE
	VOLTAGE: 208Y/120V						PA	NE	Ŀ	: A						SURFACE MOUNTED
	AMPS: 200-MLO						LC	DAD PER I	PHAS	SE						NEMA 1
	-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	1	٩	В		(	)	CKT #	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-
-	REC: EWC	1	12	20	1	0.5	1.2					2	20	12	1	REC: RECEP/LEASE
I	REC: U/C REFRIG FITNESS RM	1	12	20	3			0.5	1.2			4	20	12	1	REC: OFFICE #1/2 MAIL
	REC: FITNESS RM EQUIP	1	12	20	5					0.4	0.4	6	20	12	1	REC: WORK RM
	REC: FITNESS EQUIPMENT	1	12	20	7	0.5	0.4					8	20	12	1	REC: WORK RM EQUIP
	REC: FITNESS EQUIPMENT	1	12	20	9			0.5	0.4			10	20	12	1	REC: WORK RM
	REC: FITNESS EQUIPMENT	1	12	20	11					0.5	0.4	12	20	12	1	REC: COPIER/FAX
ŀ	REC: FITNESS EQUIPMENT	1	12	20	13	0.5	1.0					14	20	12	1	REC:CORR/ELEC/EXT/CONF
	REC: HOT BOXES	1	12	20	15			0.4	0.4			16	20	12	1	REC: TELE/DATA BOARD
ĺ	REC: DISHWASHER WORK RM	1	12	20	17					1.5	1.0	18	20	12	1	REC:CONF/TV
	REC: U/C REFRIG WORK RM	1	12	20	19	0.5	0.2					20	20	12	1	REC: PRINTER
	REC: U/C REFRIG CLUB RM	1	12	20	21			0.5	0.6			22	20	12	1	REC: WORKSTATIONS
	REC: U/C REFRIG CLUB RM	1	12	20	23					0.5	0.4	24	20	12	1	REC: WORKSTATIONS
l	REC: ICE MAKER CLUB RM	1	12	20	25	0.5	1.4					26	20	12	1	REC: COFFEE MACHINE
	REC: MICROWAVE	1	12	20	27			1.5	1.0			28	20	12	1	REC: CLUB RM/TVS
	SPACE	1	-	-	29					0	1.2	30	20	12	1	REC: CLUB RM
	LTS: RECEP/OFFICE/WORK	1	12	20	31	0.9	1.2					32	20	12	1	REC: BILLIARDS/EXT
	LTS: MAIL/TELE/CONF	1	12	20	33			1.0	0.4			34	20	12	1	REC: BILLIARDS EQUIP
	LTS: CLUB RM	1	12	20	35					1.2	0.5	36	20	12	1	REC: ICE MAKER BILLIARDS
	LTS: BILLIARDS/BATH RMS	1	12	20	37	0.9	0.5					38	20	12	1	REC: U/C REFRIG BILLIARDS
	LTS: FITNESS/YOGA	1	12	20	39			1.0	1.0			40	20	12	1	REC: BATH RM/HALL
	LTS: EXTERIOR	1	12	20	41					0.4	1.0	42	20	12	1	REC: YOGA/TV/LOBBY/EXT
	MONUMENT SIGN	1	12	20	43	1.2	1.0					44	20	12	1	REC: AMAZON PACK LOCK
	REC: FITNESS EQUIPMENT	1	12	20	45			0.5	0			46	20	-	1	SPARE
	REC: FITNESS EQUIPMENT	1	12	20	47					0.5	0	48	20	-	1	SPARE
	REC: FITNESS EQUIPMENT	1	12	20	49	0.5	0					50	20	-	1	SPARE
	SPACE	1	-	-	51			0	0			52	20	-	1	SPARE
	SPACE	1	-	-	53					0	0	54	20	-	1	SPARE
						12	2.9	10.9	7	9.	9					
	TOTAL	CON	NECT	ED k	A: 33.7					DEMAND kVA:				36.2		

DEMAND AMPS: 100.4

- 1. PANEL SHALL BE EQUAL TO SQUARE D NQ.
- 2. GFI PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION & ACCESSIBILITY.

PANEL RMS SYM. AMPS: SEE RISER

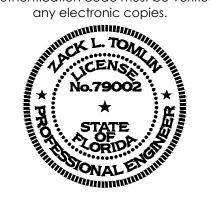
- 3. PC CIRCUIT CONTROLLED VIA CONTACTOR WIRED THROUGH PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.
- 4. VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING



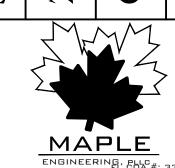
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SHEET TITLE: ELECTRICAL CLUBHOUSE

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#### PANEL: P AMPS: 200-MCB LOAD PER PHASE NEMA -DESCRIPTION--DESCRIPTION-A | B | REC: DEDICATED BAR POOL EQUIP RM PUMP #7 REC: DEDICATED BAR REC:TELE/DATA BOARD SHUNT TRIP #4 SPACE POOL EQUIP RM PUMP #7 TC,GFI LTS: POOL TC,GFI LTS: POOL SHUNT TRIP #4 REC: ATTIC/EXTERIOR REC:POOL EQUIP POOL EQUIP RM PUMP #7 REC:HEAT TAPE/POOL PHON REC: BAR EQUIPMENT SHUNT TRIP #4 GFI REC: VENDING MACHINE REC:TVS/COUNTER GFI REC: VENDING MACHINE SPARE LTS: INTERIOR/EF'S SPARE SPARE LTS:EXTERIOR SPARE AH-12A/B & HP-12

11.8

32.8

DEMAND kVA: 39.7

DEMAND AMPS: 110.2

STORAGE/MAINT

3 PHASE, 4 WIRE

SPARE

SPACE

SPACE

SPACE

SURFACE MOUNTED

1. PANEL SHALL BE SERVICE ENTRANCE RATED EQUAL TO SQUARE D NQ. 2. L - INDICATES LOCK-OFF ATTACHMENT REQUIRED (ATTACHMENT TO MEET NEC REQ'S FOR APPLIANCE

TOTAL CONNECTED kVA:

PANEL RMS SYM. AMPS: SEE RISER

DISCONNECT) 3. LO - INDICATES LOCK-ON ATTACHMENT REQUIRED

VOLTAGE: 208Y/120V

SPACE

SPACE

- 4. POOL PUMP SHUNT TRIP TO BE WIRED TO EMERGENCY STOP SWITCH. SEE PLAN FOR LOCATION.
- POWER SHUNT TRIP VIA CIRCUIT P-29. 5. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION & ACCESSIBILITY.
- 6. PC CIRCUIT THROUGH PHOTOCELL LOCATED ON NORTH FACE OF BUILDING. VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING
- 8. TC CIRCUIT THROUGH 7-DAY PROGRAMMABLE ASTRONOMICAL TIME SWITCH WITH AUTO-DUSK, AUTO-DAWN FEATURE EQUAL TO LEVITON VPT24-1PZ. SWITCH TO INCLUDE MANUAL OVERRIDE AND BATTERY BACK-UP. LOCATE AT PANEL

DATERY BACK-0	1.200	/ (IL /	(1 1 /	WALL.			
PAN	1EL	ΡL	0	ad summ	1ARY	•	
	DAD				kVA CONN.	DEM. FACT.	kVA DEM.
LIGHTS (704 SQFT	@ 2 W/	SQFT	> C	ONN. LOAD)	1.4	1.25	1.8
RECEPTACLES				1st 10 kVA	5.2	1.0	5.2
RECEPTACLES				REMAINDER	0.0	0.5	0.0
				ELEC HEAT	0.0	1.0	0.0
HVAC & R				LARGEST MOTOR	3.6	1.25	4.5
				REMAINDER	0.0	1.0	0.0
WATER	HEATER	(ELE	CTRI	IC)	4.5	1.00	4.5
	POOL	LTS			1.0	1.25	1.3
PO	OL RM	PUM	PS		18.0	1.25	22.5
				TOTALS	33.7		39.7
TOTAL AMPS @	208	٧	3	PHASE		110.2	

## **GENERAL NOTES - THIS SHEET**

- ENSURE THAT ALL EXIT AND EMERGENCY LIGHTS ARE CONNECTED TO LOCAL NORMALLY ON LIGHTING CIRCUIT AND ARE WIRED UPSTREAM OF ALL SWITCHES, CONTACTORS, AND SIMILAR.
- 2. SEE PANEL SCHEDULES FOR GFI PROTECTION OF SOME

EXTERIOR|

PANEL

200A MCB

208Y/120V

NOTE 8

NOTE 5

STORAGE/MAINT

NOTE 4

- FINAL CONNECTION TO ALL EQUIPMENT BY E.C.. 4. RECEPTACLES INDICATED "TR" ARE TO BE TAMPER RESISTANT.
- 1 PROVIDE POWER & GFCI PROTECTION FOR POOL PUMPS. COORDINATE EXACT LOCATION & SPEC W/ G.C. & POOL CONTRACTOR BEFORE BEGINNING WORK. FINAL CONNECTION BY E.C..

TAGGED NOTES - THIS SHEET

- PROVIDE EMERGENCY "PUSH IN" POWER OFF SWITCH FOR POOL PUMPS. VERIFY LOCATION W/ LOCAL AHJ. WIRE TO SHUNT TRIP BREAKERS IN PANEL. SEE PANEL
- 3 PROVIDE EMERGENCY PHONE RECEPTACLE. FIELD VERIFY LOCATION W/ LOCAL AHJ.
- PROVIDE 3" EMPTY CONDUIT W/ PULL STRING TO PROPERTY LINE FOR TELEPHONE. COORDINATE W/
- PROVIDE (2) 1" CONDUITS W/ CIRCUITS AS SHOWN TO POOL FOR POOL LIGHTS AND OTHER POOLSIDE **EQUIPMENT. COORDINATE EXACT SIZE & LOCATIONS** W/ G.C. & POOL CONTRACTOR. CIRCUIT TO BE CONTROLLED VIA TIME CLOCK.
- (6) EXHAUST FAN TO BE WIRED FOR CONTINUOUS OPERATION. COORDINATE W/ M.C..
- LIGHTING CIRCUIT TO BE CONTROLLED VIA 7 LIGHTING CIRCUIT TO BE CONTROLL PHOTOCELL. SEE PANEL SCHEDULE.
- (8) PROVIDE SWITCH AT ATTIC ENTRANCE FOR ATTIC LIGHT. PROVIDE SERVICE RECEPTACLE AT AREA EQUIPMENT COORD. LOCATION W/ P.C. AND G.C..
- 9 CONFIRM EXACT LOCATION OF TV OUTLET W/ OWNER.
- 10 CORROSIVE ENVIRONMENT (NEC 680.14). SEE GENERAL NOTES SHEET E0.01.
- (11) MOTION SENSOR TO BE ON 20 MINUTE TIMER.
- (12) POWER CIRCUIT FOR AREA LIGHT FIXTURE TO BE WIRED VIA AREA MOTION SENSOR. MOTION SENSOR TO BE UPSTREAM OF AREA SWITCHES. SEE DETAIL.
- (13) AIR HANDLER UNIT TO BE WIRED VIA OUTDOOR UNIT. E.C. TO INSTALL HIGH VOLTAGE WIRING. PROVIDE LOCKABLE DISCONNECT AT OUTDOOR UNIT TO SERVE AS AIR HANDLER DISCONNECT (LESS THAN 300
- (14) PROVIDE FIRE RATED PLYWOOD FOR TELE/DATA BOARD. PROVIDE #6 CU BONDING WIRE TO BUILDING GROUNDING SYSTEM.
- (15) PROVIDE (1) 3" CONDUITS W/ PULL STRING TO TELE/DATA & CATV DEMARK POINTS. COORDINATE W/ G.C. AND OWNER.

## UTILITY XFMR GRADE NOTE 2.4 FROM UTILITY

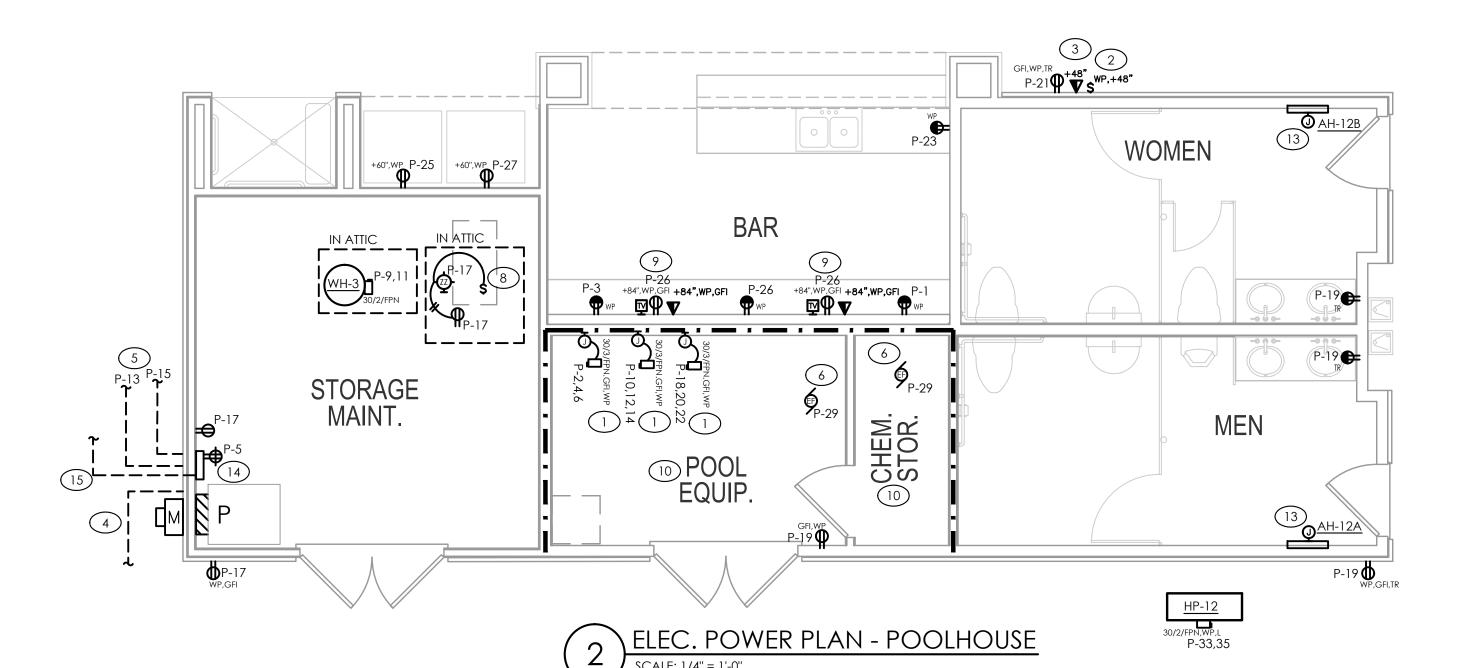
SERVICE CONDUCTORS

BACK OF ELECTRICAL

PANEL.

MUST ENTER DIRECTLY INTO

- RISER DIAGRAM NOTES: 1. PAD MOUNTED TRANSFORMER BY UTILITY.
- 2. SECONDARY CONDUCTORS SIZED, PROVIDED & INSTALLED BY E.C., CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK.
- 3. 200A METER BASE PER UTILITY REQUIREMENTS. METER BY UTILITY.
- 4. (4)#3/0 CU, 2" CONDUIT.
- 5. #4 CU MAIN GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM (SEE DETAIL). BUILDING SHALL HAVE ONE GROUNDING ELECTRODE SYSTEM.
- 6. PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT (NEC 110.24).
- 7. PROVIDE PLACARD INDICATING ARC-FLASH HAZARD AT PANEL(S)/DISCONNECT(S). (NEC 110.16)
- 8. UTILITY TRANSFORMER SPECS UNKNOWN AT TIME OF DESIGN COMPLETION. DESIGN IS BASED ON 42,000AIC. E.C. TO VERIFY TRANSFORMER PROPERTIES WITH UTILITY PRIOR TO PURCHASING EQUIPMENT. IF TRANSFORMER AIC IS LESS LOWER RATED EQUIPMENT MAY BE USED. IF HIGHER CONTACT ENGINEER. CIRCUIT BREAKERS WITH A LESSER LABELED AIC RATING MAY BE USED IF THOSE BREAKERS ARE PAIRED WITH AN UPSTREAM BREAKER OR FUSE AS PART OF A UL SERIES RATED COMBINATION. PAIRED DEVICES MUST BE IN ACCORDANCE WITH NEC 240.86. LABEL PER NEC 110.22(C). CONFIRM W/ EQUIPMENT MFG BEFORE PURCHASE. E.C. TO PROVIDE FIELD INSPECTOR WITH MFG'S DOCUMENTATION REGARDING UL SERIES RATING OF PAIRED BREAKERS/FUSES.



NEMA 1

TELE/DATA/CATV

CABINET

W/ FIRE RETARDAN

PLYWOOD BACKING

PROVIDE (1) 3" CONDUIT PROVIDED UNDER SLAB/GROUND TO PROPERTY LINE W/ PULL STRING. CLEARLY LABEL AND COORDINATE EXACT TERMINATION LOCATION AND DETAILS

PROVIDE 120V QUAD RECEPTACLE ON A DEDICATED CIRCUIT FOR TELEPHONE AND OTHER

CONDUIT/CONDUCTOR AT EACH END OF CONDUIT IF METAL RACEWAY IS USED. INSTALL PER

NEC 250.94 & NEC 800.100. CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK.

2. 3/4" FINISH GRADE PLYWOOD BACKBOARD PAINTED WITH FLAME RETARDANT PAINT.

4. PROVIDE #6 CU GROUNDING/BONDING CONDUCTOR IN  $\frac{3}{4}$ " CONDUIT TO INTERSYSTEM

BONDING TERMINATION (IBT) AT BUILDING ELECTRICAL SERVICE. BOND

STORAGE

NOTE 4

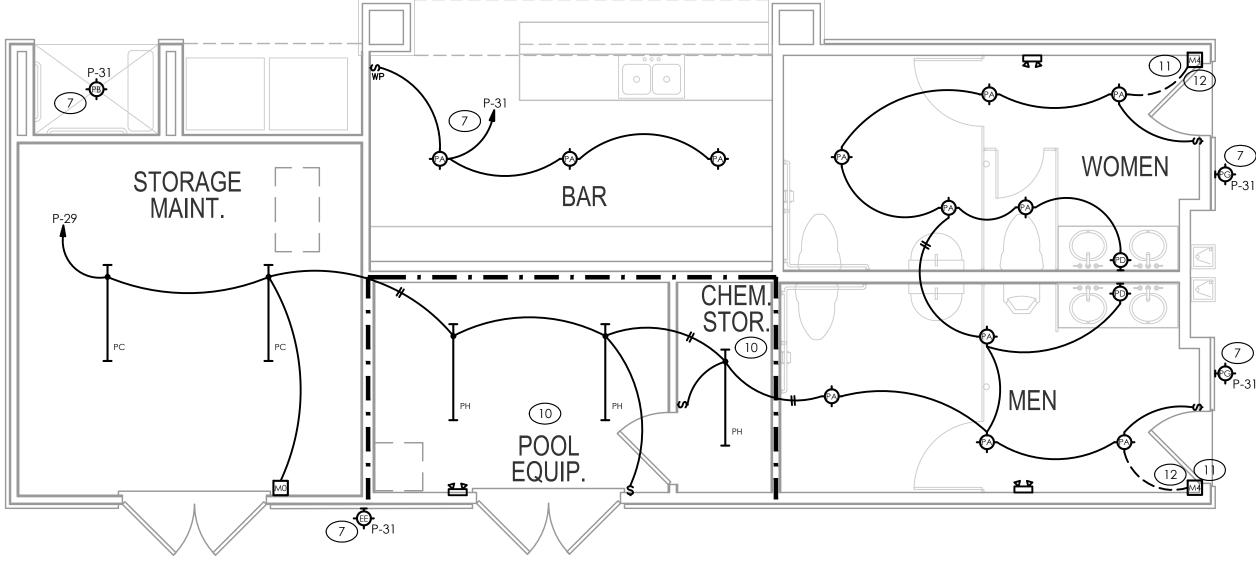
GRADE

LONG SWEEP RADIUS -

COORDINATE SIZE & EXACT LOCATION W/ OWNER.

COMMUNICATION EQUIPMENT (SEE POWER PLANS).

WITH OWNER AND TELEPHONE UTILITY.



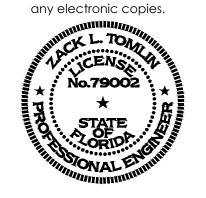
ELEC. LIGHTING PLAN - POOLHOUSE

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ARCHITECTURE, P.A 5711 Six Forks Road, Suite 100

Raleigh, NC 27609 (919) 846-8100 website www.planworx.com

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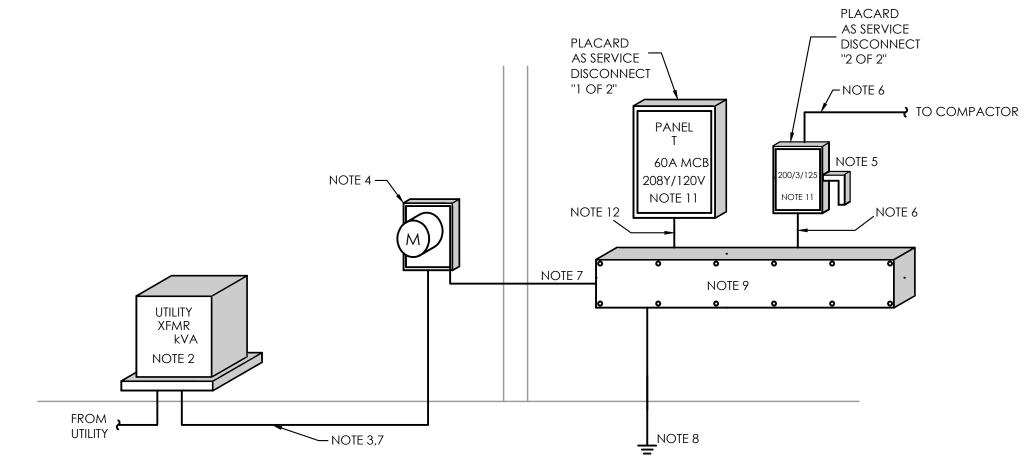
ENGINEERING, PLLC#: 3316 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797 PLUMBING MECHANICAL ELECTRICAL

PROJECT NO: PLX-190 DRAWN BY: CHECKED BY: ZLT

SHEET TITLE: ELECTRICAL

POOLHOUSE PLANS

SHEET NUMBER: E3.10



## ELECTRICAL COMPACTOR POWER RISER

#### RISER DIAGRAM NOTES:

- 1. E.C. TO VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING WORK.
- 2. PAD MOUNTED TRANSFORMER BY UTILITY.
- 3. SECONDARY CONDUCTORS SIZED, PROVIDED & INSTALLED BY E.C., CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK.
- 4. 200A METER BASE PER UTILITY REQUIREMENTS. METER BY UTILITY.
- 5. SERVICE ENTRANCE RATED WEATHERPROOF DISCONNECT SIZED AND FUSED AS INDICATED.
- 6. (4)#1/0 CU, 1-1/2" CONDUIT. 7. (4)#1/0 CU, 1 1/2" CONDUIT.
- 8. #6 CU MAIN GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM (SEE DETAIL). BUILDING SHALL HAVE ONE GROUNDING ELECTRODE SYSTEM.
- 9. PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT (NEC 110.24).
- 10. PROVIDE PLACARD INDICATING ARC-FLASH HAZARD AT PANEL(S)/DISCONNECT(S). (NEC 110.16) 11. UTILITY TRANSFORMER SPECS UNKNOWN AT TIME OF DESIGN COMPLETION. DESIGN IS BASED ON 65,000AIC. E.C. TO
- VERIFY TRANSFORMER PROPERTIES WITH UTILITY PRIOR TO PURCHASING EQUIPMENT. IF TRANSFORMER AIC IS LESS LOWER RATED EQUIPMENT MAY BE USED. IF HIGHER CONTACT ENGINEER. CIRCUIT BREAKERS WITH A LESSER LABELED AIC RATING MAY BE USED IF THOSE BREAKERS ARE PAIRED WITH AN UPSTREAM BREAKER OR FUSE AS PART OF A UL SERIES RATED COMBINATION. PAIRED DEVICES MUST BE IN ACCORDANCE WITH NEC 240.86. LABEL PER NEC 110.22(C). CONFIRM W/ EQUIPMENT MFG BEFORE PURCHASE. E.C. TO PROVIDE FIELD INSPECTOR WITH MFG'S DOCUMENTATION REGARDING UL SERIES RATING OF PAIRED BREAKERS/FUSES.
- 12. (4)#6 CU, 3/4" CONDUIT.

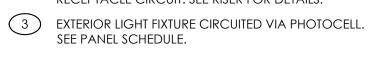
						TRASH	COMPACTOR I	ENCLOSURE			3 PHASE, 4 WIRE		
	VOLTAGE: 208Y/120V					Р	ANEL	_: T					SURFACE MOUNTED
	AMPS: 60-MCB						LOAD PER PHA	\SE					NEMA 3R
	-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	Α	В	С	CKT #	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-
PC	LTS: TRASH COMPACTOR	1	12	20	1	0.1 0			2	-	-	1	SPACE
	REC: NEXT TO PANEL	1	12	20	3		0.2 0		4	-	-	1	SPACE
	SPACE	1	ı	ı	5			0 0	6	-	-	1	SPACE
						0.1	0.2	0.0					
	TOTAL	CONI	NECT	ED k\	/A:		0.3			DEM.	AND	kVA:	0.3
	PANE	L RMS	SSYM	I. AM	PS:	SEE RIS	ER		DEMAND AMPS:				0.9

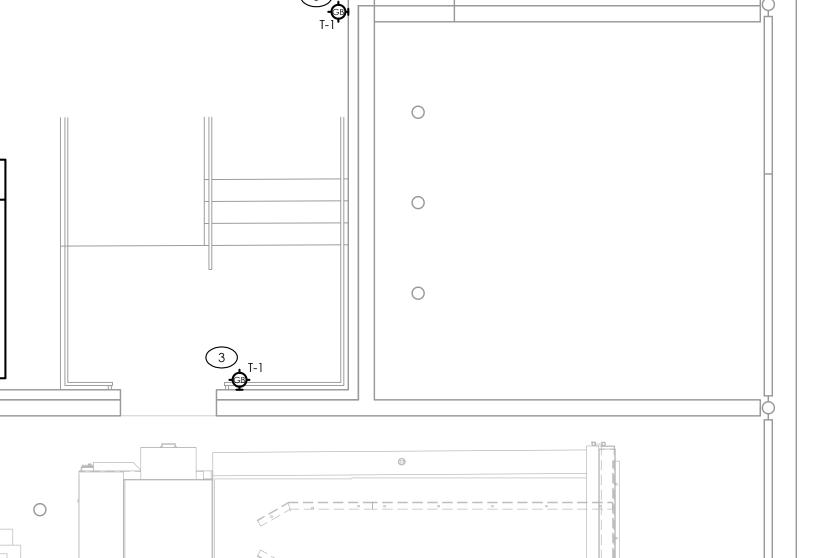
1. PANEL SHALL BE SERVICE ENTRANCE RATED EQUAL TO SQUARE D QO. 2. PC - CIRCUIT THROUGH PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.

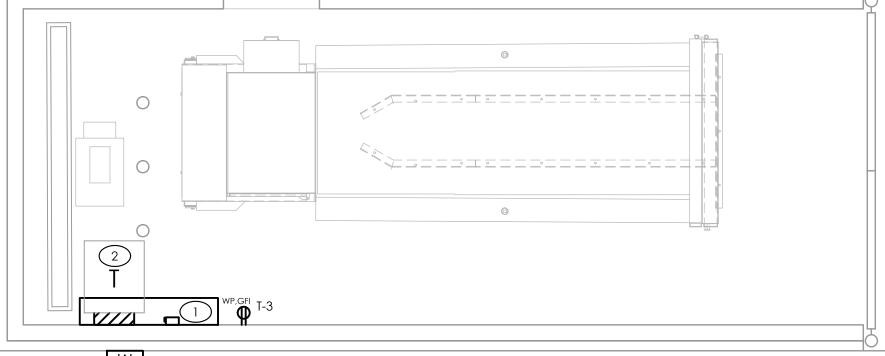
PAN	PANEL T LOAD SUMMARY													
	LOAD TYPE													
LIGHT	S (CONN. LO	DAD)		0.1	1.25	0.1								
RECEPTACLES			1st 10 kVA	0.2	1.0	0.2								
RECEFIACLES			REMAINDER	0.0	0.5	0.0								
			TOTALS	0.3		0.3								
TOTAL AMPS @	208 V	3	PHASE		0.9									

### TAGGED NOTES - THIS SHEET

- 1 PROVIDE DISCONNECT & POWER AS SHOWN FOR TRASH COMPACTOR. SEE RISER FOR DETAILS. CONFIRM REQ'S W/ MANUFACTURERS INSTRUCTINOS. FINALL CONNECTIONS BY E.C..
- 2 PROVIDE LOAD CENTER FOR AREA LIGHT & RECEPTACLE CIRCUIT. SEE RISER FOR DETAILS.







ELEC. POWER PLAN - TRASH COMPACTOR

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

ARCHITECTURE, P.A

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Development Company



PROJECT NO: PLX-190

DRAWN BY: CHECKED BY: SHEET TITLE:

ELECTRICAL COMPACTOR PLANS

SHEET NUMBER:

E3.20

PAN	1EL	ΗL	0	AD S	UMN	1ARY	,			
LOADS ON 3	DAC			FTFD		kVA CONN.	DEM. FACT.	kVA DEM.		
	S (CON					5.3	1.25	6.6		
				1s	t 10 kVA	9.4	1.0	9.4		
RECEPTACLES				RΕΛ	MAINDER	0.0	0.5	0.0		
				EL	EC HEAT	0.0	1.0	0.0		
HVAC & R				LARGEST	MOTOR	3.0	1.25	3.8		
				RΕΛ	MAINDER	2.0	1.0	2.0		
	ELEVA	TOR	# 0	F ELEVATORS:	1	45.7	1.0	45.7		
U	UNIT HEATERS									
					TOTALS	66.9		69.4		
TOTAL AMPS @			192.5							

E.C. TO REVIEW ELEVATOR SUBMITTAL BEFORE BEGINNING WORK.

						EXT.	STORAGE 1ST	FLOOR						3 PHASE, 4 WIRE	
	VOLTAGE: 208Y/120V					P/	ANEL	: H						SURFACE MOUNTED	
	AMPS: 400-MLO					L	OAD PER PHA	.SE						NEMA 1	
	-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	Α	В	С	T	CKT #	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-	1
4,PC,LO	LTS:CORRIDOR/EMG	1	12	20	1	1.5 0				2	-	-	1	SPACE	
	LTS: ELEV/EXT STORAGE	1	12	20	3		1.4 1.2			4	20	12	1	REC: EXTERIOR SERVICE	
	LTS: ELEVATOR SHAFT	1	12	20	5			0.2	.2	6	20	12	1	FACP	#3
	LTS: ELEVATOR CAB	1	12	20	7	0.4 0.2				8	20	12	1	4G DIALER	#3
	REC:ELEVATOR SHAFT	1	12	20	9		0.4 0.5			10	20	12	1	LTS/REC: SPRINKLER/EXT	
	SUMP PUMP PANEL	1	12	20	11			0.2	.0	12	-	-	1	SPACE	
	REC:TELE/DATA BOARD	1	12	20	13	0.8 0				14	1	-	1	SPACE	
С	LTS: BUILDING	1	12	20	15		0.8 0			16	1	-	1	SPACE	
#9, C	LTS: SITE/POLE PARKING	1	12	20	17			0.5	0	18	20	-	1	SPARE	
#9, C	LTS: SITE/POLE PARKING	1	12	20	19	0.5 0				20	20	-	1	SPARE	
#9, C	LTS: SITE/POLE PARKING	1	12	20	21		0.5 0			22	20	-	1	SPARE	
					23			15.3	0	24	20	-	1	SPARE	
#5	ELEVATOR	3	1	300	25	15.2 5.7				26					
					27		15.2 3.0			28	60	6	3	PANEL S	
	SPACE	1	-	-	29			0 3	.2	30					
						24.3	23.0	19.6							
	TOTAL	CON	NECT	ED k	√A:		66.9		$\perp$		DEM.	AND	kVA:	69.4	
	PANI	EL RMS	S SYN	1. AM	PS:	SEE RISE	ER .			D	EMAI	ND A	MPS:	192.5	

1. PANEL SHALL BE EQUAL TO SQUARE D NQ.

2. LO - INDICATES LOCK-ON ATTACHMENT REQUIRED 3. CIRCUIT BREAKER SHALL HAVE RED IDENTIFICATION AND INCLUDE LOCK-ON ATTACHMENT. BREAKER

TO BE LOCKED IN ON POSITION. NEC 760.41 WIRE PORTION OF CIRCUIT TO (2) EMERGENCY LIGHTING INVERTERS. SEE RISER.

VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING

6. L - INDICATES LOCK-OFF ATTACHMENT REQUIRED (ATTACHMENT TO MEET NEC REQ'S FOR APPLIANCE DISCONNECT)

7. PC - CIRCUIT THROUGH PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.

8. C - CIRCUIT THROUGH LIGHTING CONTACTOR CONTROLLED VIA PHOTOCELL. SEE DETAIL 9. NOT ALL CIRCUITS MAY BE PRESENT. COORDINATE WITH GC AND SITE LIGHTING INSTALL.

SEE VOLTAGE DROP SCHEDULE BELOW FOR WIRE SIZING ADJUSTMENT DUE TO CIRCUIT LENGTH. SHOWN WIRE SIZES IN PNL SCH ARE MINIMUMS (COPPER WIRE).

EXT. STORAGE 4TH FLOOR 3 PHASE, 4 WIRE PANEL: S VOLTAGE: 208Y/120V SURFACE MOUNTED AMPS: 60-MLO NEMA -DESCRIPTION-A B -DESCRIPTION-#4,PC,LO LTS: EXT/CORR/EMG 3&4 FLR REC: HVAC SERVICE TS/REC: ELEV/STORAGE 3&4 REC:CORRIDOR REC: HVAC SERVICE FA BATTERY EXTENDER #3,LO AH-10/HP-10 SPACE AH-11/HP-1 SPARE SPACE SPACE SPACE 5.7 3.0 3.2 TOTAL CONNECTED kVA: DEMAND kVA: 13.4 PANEL RMS SYM. AMPS: SEE RISER DEMAND AMPS: 37.2

1. PANEL SHALL BE EQUAL TO SQUARE D NQ.

TOTAL AMPS @ 208 V 3 PHASE

2. LO - INDICATES LOCK-ON ATTACHMENT REQUIRED

CIRCUIT BREAKER SHALL HAVE RED IDENTIFICATION AND INCLUDE LOCK-ON ATTACHMENT. BREAKER TO BE LOCKED IN ON POSITION. NEC 760.41

37.2

4TH FLR EXT

1ST FLR EXT

GRADE STORAGE

NOTE 16

STORAGE

208Y/120V

PANEL

400A MLC

208Y/120V

NOTE 10

NOTE 17

NOTE 11

NOTE 11

NOTE 11

**--**7H-1B

NOTE 11

4. WIRE PORTION OF CIRCUIT TO (2) EMERGENCY LIGHTING INVERTERS. SEE RISER. 5. PC - CIRCUIT THROUGH PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.

6. L - INDICATES LOCK-OFF ATTACHMENT REQUIRED (ATTACHMENT TO MEET NEC REQ'S FOR APPLIANCE

DISCONNECT)

PANEL S LOAD SUMMARY LOAD TYPE kVA DEM. kVA CONN. FACT. DEM. LOADS ON 60 AMP BREAKER @ PANEL H LIGHTS (CONN. LOAD) 1.5 1.25 1.9 1st 10 kVA 3.9 1.0 3.9 RECEPTACLES REMAINDER 0.0 0.5 0.0 ELEC HEAT | 0.0 | 1.0 | 0.0 HVAC & R LARGEST MOTOR 3.0 1.25 3.8 REMAINDER 2.0 1.0 2.0 UNIT HEATER 1.5 1.25 1.9 TOTALS 11.9 13.4

CENTER LINE OF

- TOP METER DOES

NOT EXCEED 6'-0"

EXTERIOR

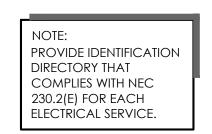
NOTE 15

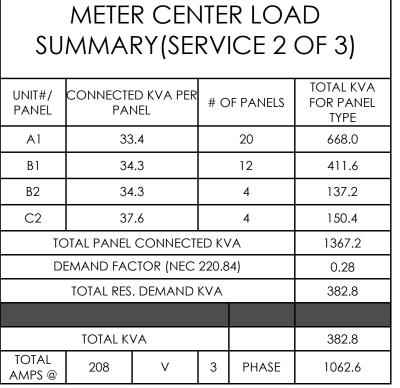
ABOVE GRADE.

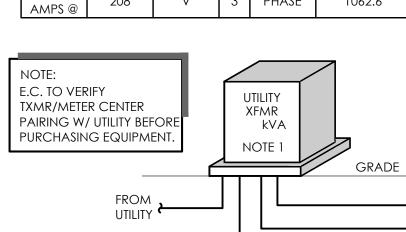
PLACARD \_ SERVICE

(3 OF 3)

#### METER CENTER LOAD SUMMARY(SERVICE 1 OF 3) UNIT#/ CONNECTED KVA PER # OF PANELS | FOR PANEL PANEL PANEL TYPE 12 400.8 33.4 411.6 34.3 12 137.2 34.3 37.9 151.6 150.4 37.6 TOTAL PANEL CONNECTED KVA 1251.6 DEMAND FACTOR (NEC 220.84) 0.30 TOTAL RES. DEMAND KVA 375.5 TOTAL KVA 375.5 PHASE 1042.2 208 AMPS @







APARTMENT FEEDER CHART.

DISTANCE

MIN. WIRING SIZE (ALUM. SER CABLE)

(3) #1/0, #4 GND

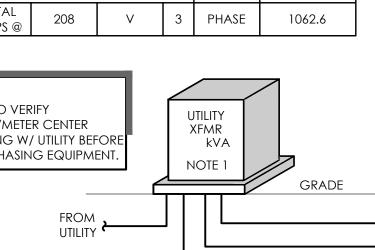
(3) #2/0, #4 GND

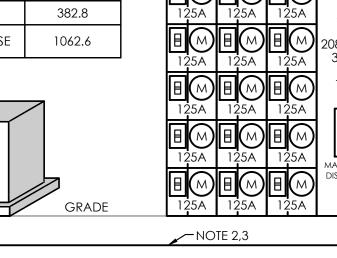
(3) #3/0, #4 GND

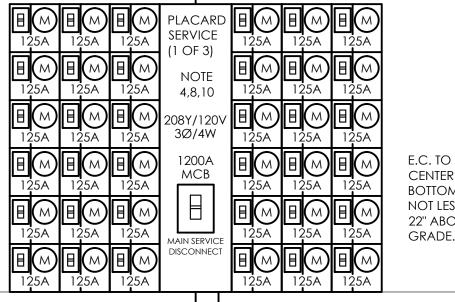
(3) #4/0, #4 GND

(3) #250, #4 GND

\*DISTANCE IS ACTUAL FEEDER LENGTH FROM METER CENTER TO APARTMENT PANEL





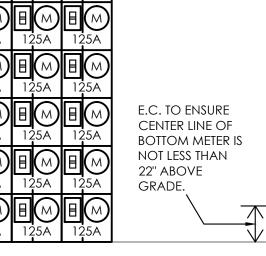


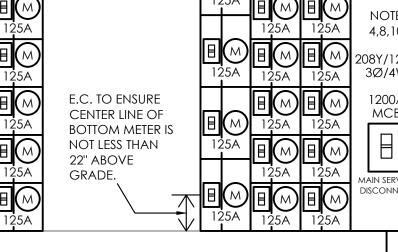
TO UNITS

NOTE 5

/TYPICAL

OF 36)





-NOTE 2,3

VOLTAGE DROP SCHEDULE

120V BRANCH CIRCUITS UP TO 8 AMPS (1 KVA)

120V BRANCH CIRCUITS 9 AMPS TO 16 AMPS (1 - 1.7 KVA)

WIRE SIZES INDICATED IN GENERAL NOTES AND CONNECTIONS SCHEDULES ARE MINIMUM WIRE SIZES. CONTRACTOR SHALL

UPSIZE WIRES BASED ON LOAD AND LENGTH OF RUN AS

WIRE SIZE (COPPER AWG)

#12

#10

#8

#6

WIRE SIZE (COPPER AWG)

#12

#10

#8

RUN DISTANCE (FT)

1' TO 120'

121' TO 190'

191' TO 300'

301' TO 470'

RUN DISTANCE (FT)

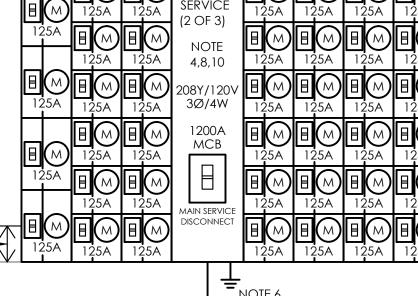
1' TO 65'

66' TO 110'

111' TO 170'

171' TO 270'

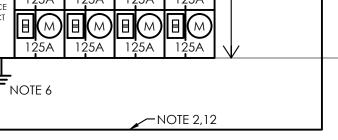
INDICATED IN SCHEDULE ABOVE.



NOTE 5

OF 40)

TYPICAL



INVER <sup>-</sup>	TER "	H-1A'' (	CALC	INVER'	TER "	S-1A'' (	CALC
FIXTURE	QTY	WATTAGE	TOTAL	FIXTURE	QTY	WATTAGE	TOTAL
BL	8	15	120	BL	8	15	120
EXIT SIGN	10	1.2	12	EXIT SIGN	10	1.2	12
		TOTAL	132			TOTAL	132
INVER	TER "	H-1B'' (	CALC	INVER	TER '	'S-1B'' C	CALC

ELECTRICAL POWER RISER

RISER DIAGRAM NOTES 1. PAD MOUNTED TRANSFORMER BY UTILITY.

2. SECONDARY CONDUCTORS SIZED, PROVIDED & INSTALLED BY E.C., CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK.

3. (4) SETS OF (4) #500 kcmil ALUM, 3" CONDUIT.

4. METER CENTER EQUAL TO SQUARE D EZ SERIES W/ BREAKERS AS SHOWN. U.L. APPROVED RINGLESS METER SOCKETS. METERS BY UTILITY. NEMA 3R. 5. SER CABLE TO APARTMENT PANEL. SEE FEEDER CHART FOR SIZING BASED ON TOTAL LENGTH.

6. #3/0 CU MAIN GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM (SEE DETAIL). BUILDING SHALL HAVE ONE GROUNDING ELECTRODE SYSTEM.

7. PROVIDE ENGRAVED PLACARD AT PANEL(S)/DISCONNECT(S) INDICATING APARTMENT NUMBER OR PANEL SERVED.

8. PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT (NEC 110.24).

9. PROVIDE PLACARD INDICATING ARC-FLASH HAZARD AT PANEL(S)/DISCONNECT(S). (NEC 110.16)

10. UTILITY TRANSFORMER SPECS UNKNOWN AT TIME OF DESIGN COMPLETION. DESIGN IS BASED ON 65,000AIC. E.C. TO VERIFY TRANSFORMER PROPERTIES WITH UTILITY PRIOR TO PURCHASING EQUIPMENT. IF TRANSFORMER AIC IS LESS LOWER RATED EQUIPMENT MAY BE USED. IF HIGHER CONTACT ENGINEER. CIRCUIT BREAKERS WITH A LESSER LABELED AIC RATING MAY BE USED IF THOSE BREAKERS ARE PAIRED WITH AN UPSTREAM BREAKER OR FUSE AS PART OF A UL SERIES RATED COMBINATION. PAIRED DEVICES MUST BE IN ACCORDANCE WITH NEC 240.86. LABEL PER NEC 110.22(C). CONFIRM W/ EQUIPMENT MFG BEFORE PURCHASE. E.C. TO PROVIDE FIELD INSPECTOR WITH MFG'S DOCUMENTATION REGARDING UL SERIES RATING OF PAIRED BREAKERS/FUSES.

11. EMERGENCY LIGHTING INVERTER WITH BATTERY BACK-UP EQUAL TO MYERS "ILLUMINATOR LVM 225VA". 225 WATT MODEL. SWITCHED INPUT. SEE DETAIL FOR MORE

INFORMATION.

12. (4) #500kcmil ALUM, 3" CONDUIT.

13. 400A METER BASE PER UTILITY REQUIREMENTS. METER BY UTILITY.

14. SERVICE ENTRANCE RATED WEATHERPROOF DISCONNECT SIZED AND FUSED AS INDICATED.

15. #2 CU MAIN GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM (SEE DETAIL). BUILDING SHALL HAVE ONE GROUNDING ELECTRODE SYSTEM.

16. (4)#500kcmil ALUM, #2 ALUM GND, 3-1/2" CONDUIT.

17. (4)#6 CU, #10 CU GND, 1" CONDUIT.

FIXTURE	QTY	WATTAGE	TOTAL	FIXTURE	QTY	WATTAGE	TOTAL
BL	8	15	120	BL	8	15	120
EXIT SIGN	10	1.2	12	EXIT SIGN	10	1.2	12
	•	TOTAL	132			TOTAL	132
INVER	TER "	'H-1B'' (	CALC	INVER	TER '	'S-1B'' C	CALC
INVER FIXTURE	TER "	'H-1В'' (	TOTAL	INVER	TER '	'S-1B'' C	TOTAL
	· · · · · · · · · · · · · · · · · ·		- · · - · - · - · · · · · · · · · · · ·			<u> </u>	
FIXTURE	QTY	WATTAGE	TOTAL	FIXTURE	QTY	WATTAGE	TOTAL

ELECTRICAL PANEL

SCHEDULE & RISER

PROJECT NO: PLX-190

ZLT

DRAWN BY:

CHECKED BY:

SHEET TITLE:

SHEET NUMBER:

ARCHITECTURE, P.A

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Company

Development

MAPLE

708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797

PLUMBING MECHANICAL ELECTRICAL

ENGINEERING, PLLC#: 3316

website

5711 Six Forks Road, Suite 100

Raleigh, NC 27609 (919) 846-8100

www.planworx.com

							BEDRO	OOM #	2					1 PHASE, 3 WIRE	
	VOLTAGE: 208Y/120V				F	PA	N	EL:	B	2				FLUSH MOUNTED	
	AMPS: 125-MLO					LC	DAD PE	R PHA	SE					NEMA 1	
	-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	1	4		3	CKT#	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-	İ
	REC: BATHROOMS	1	12	20	1	0.3	1.5			2	20	12	1	DISHWASHER	G
AFI	LTS/REC: BEDROOM#2/PAT	1	14	15	3			1.1	1.5	4	20	12	1	GARBAGE DISPOSAL	A
AFI	LTS/REC: LAUNDRY/BATH	1	14	15	5	0.8	4			6	50	6	2	OVEN/RANGE	]   #
AFI	LTS/REC: BEDROOM#1/STOR	1	14	15	7			1.0	4	8	30	0		OVLIN/KAINGL	# \
	SPACE	1	-	-	9	0	1.0			10	20	12	1	MICROWAVE	#7
AFI	REC: KITCHEN/DINING	1	12	20	11			0.6	1.0	12	20	12	1	WASHER	G
AFI	REC: KITCHEN	1	12	20	13	0.9	2.5			14	30	10	2	DRYER	
AFI	LTS/REC: LIVING/KITCHEN	1	14	15	15			1.3	2.5	16	30	10		DRIEK	
	AIR HANDLER	2	10	30	17	2.9	2.3			18	30	10	2	WATER HEATER	
	AIRTIANDLLIK		10	30	19			2.9	2.2	20	30	10		VVAILK HLAILK	
	HEAT PUMP	2	12	20	21	1.2	0			22	-	-	1	SPACE	
	TILATTOMI		12	20	23			1.1	0	24	-	-	1	SPACE	
						17	<b>7</b> .4	19	2.2						
	TOTAL	CON	NECT	ED k\	/A:		36	6.6			DEM	AND	kVA:	22.0	
	PANE	L RM:	S SYN	I. AM	PS:	SEE	RISE	R		D	EMA	ND A	MPS:	105.8	

- 1. PANEL SHALL BE EQUAL TO SQUARE D QO.
- 2. AFI PROVIDE ARC FAULT CIRCUIT INTERRUPTER BREAKER FOR CIRCUIT. 3. PROVIDE HACR BREAKERS FOR HVAC & REFRIGERATION EQUIPMENT.
- 4. GFI PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION & ACCESSIBILITY.
- 5. BRANCH CIRCUIT MAY BE #4 ALUM SER CABLE W/ #8 ALUM GND IN LIEU OF COPPER. 6. VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING
- 7. NOT PRESENT IN ADA UNITS.

							BEDRO	OM #	1					1 PHASE, 3 WIRE	
	VOLTAGE: 208/120V				F	PA	NE	<u>:</u>	$\overline{C}$	2				FLUSH MOUNTED	
	AMPS: 125-MLO					LC	DAD PE	R PHA	SE					NEMA 1	
	-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	1	4	E	3	CKT#	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-	
	REC: BATHROOMS	1	12	20	1	0.3	1.5			2	20	12	1	DISHWASHER	GFI,AF
FI	LTS/REC: BEDROOM#2	1	14	15	3			1.1	1.5	4	20	12	1	GARBAGE DISPOSAL	AFI
FI	LTS/REC: LAUNDRY/BATH	1	14	15	5	0.8	4			6	50	6	2	OVEN/RANGE	#5.6
FI	LTS/REC: BEDROOM#1/PAT	1	14	15	7			1.0	4	8	30	0	2	OVLINKAINGL	π 3,0
FI	LTS/REC: BEDROOM#3/HALL	1	14	15	9	1.0	1.0			10	20	12	1	MICROWAVE	#7,AF
FI	REC: KITCHEN/DINING	1	12	20	11			0.6	1.0	12	20	12	1	WASHER	GFI,AI
FI	REC: KITCHEN	1	12	20	13	0.9	2.5			14	30	10	2	DRYER	
FI	LTS/REC: LIVING/KITCHEN	1	14	15	15			1.3	2.5	16	30	10		DRTER	
	AIR HANDLER	2	8	40	17	3.0	2.3			18	30	10	2	WATER HEATER	
	7 (IIC 117 (IADEEK			40	19			3.0	2.2	20	50	10		VV/VIER HE/VIER	
	HEAT PUMP	2	10	25	21	1.4	0			22	-	-	1	SPACE	
	1127 (1 1 074)		10	20	23			1.4	0	24	-	-	1	SPACE	
						18	3.7	19	9.6						
	TOTAL	CON	NECT	ED k\	/A:		38	3.3			DEM	AND	kVA:	24.0	
	PANE	L RMS	SSYM	I. AM	PS:	SEE	RISE	R		D	EMAI	ND A	MPS:	115.5	

- 1. PANEL SHALL BE EQUAL TO SQUARE D QO.
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- PROVIDE HACR BREAKERS FOR HVAC & REFRIGERATION EQUIPMENT. 4. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION & ACCESSIBILITY.
- 5. BRANCH CIRCUIT MAY BE #4 ALUM SER CABLE W/ #8 ALUM GND IN LIEU OF COPPER. 6. VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING
- 7. NOT PRESENT IN ADA UNITS.

							BEDRO	OOM #	ŧ1					1 PHASE, 3 WIRE	
	VOLTAGE: 208Y/120V					PA	N	EL:	: B	1				FLUSH MOUNTED	
	AMPS: 125-MLO					L	OAD PE	R PHA	\SE					NEMA 1	
	-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	_	A	I	В	CKT#	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-	
	REC: BATHROOMS	1	12	20	1	0.3	1.5			2	20	12	1	DISHWASHER	GFI,AF
ŀΕΙ	LTS/REC: BEDRM#2/BATH#2	1	14	15	3			1.1	1.5	4	20	12	1	GARBAGE DISPOSAL	AFI
ŀΕΙ	LTS/REC: LAUNDRY/BATH #1	1	14	15	5	0.8	4			6	50	6	2	OVEN/RANGE	#5 Z
١FI	LTS/REC: BEDROOM#1/PAT	1	14	15	7			1.0	4	8	30	0	2	OVEN/KANGE	#3,6
	SPACE	1	-	-	9	0	1.0			10	20	12	1	MICROWAVE	AFI
ŀΕΙ	REC: KITCHEN/DINING	1	12	20	11			0.6	1.0	12	20	12	1	WASHER	GFI,AF
ŀΕΙ	REC: KITCHEN	1	12	20	13	0.9	2.5			14	30	10	2	DRYER	
١FI	LTS/REC: LIVING/KITCHEN	1	14	15	15			1.3	2.5	16	30	10		DRIER	
	AIR HANDLER	2	10	30	17	2.9	2.3			18	30	10	2	WATER HEATER	
	7 (IIC TI) (INDEEN		10	30	19			2.9	2.2	20	30	10		VV/ (TER TIE/ (TER	
	HEAT PUMP	2	12	20	21	1.2	0		,	22	-	-	1	SPACE	
	THE TOTAL		12	20	23			1.1	0	24	-	-	1	SPACE	
						17	7.4	19	9.2						
	TOTAL	CON	NECT	ED k	VA:		36	5.6			DEM.	AND	kVA:	22.0	
	PANE	EL RMS	S SYM	1. AM	IPS:	SEE	RISE	R		D	EMAI	ND A	MPS:	105.8	

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- PROTECTION & ACCESSIBILITY.
- 5. BRANCH CIRCUIT MAY BE #4 ALUM SER CABLE W/ #8 ALUM GND IN LIEU OF COPPER.6. VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING

						BEDRO	ООМ #	1					1 PHASE, 3 WIRE	
VOLTAGE: 208/120V				F	PA	NE	EL:	$\overline{C}$	1				FLUSH MOUNTED	
AMPS: 125-MLO					LC	DAD PE	R PHA	SE					NEMA 1	
-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	P	4	I	В	CKT#	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-	
REC: BATHROOMS	1	12	20	1	0.3	1.5			2	20	12	1	DISHWASHER	GFI,A
LTS/REC: BEDROOM#2/PAT	1	14	15	3			1.1	1.5	4	20	12	1	GARBAGE DISPOSAL	AFI
LTS/REC: LAUN/BATH/HALL	1	14	15	5	0.8	4			6	50	,	0	OVEN/RANGE	# E /
LTS/REC: BEDROOM#1/BATH	1	14	15	7			1.0	4	8	50	6	2	OVEN/RANGE	#3,6
LTS/REC:DEN	1	14	15	9	1.0	1.0			10	20	12	1	MICROWAVE	AFI
REC: KITCHEN/DINING	1	12	20	11			0.6	1.0	12	20	12	1	WASHER	GFI,A
REC: KITCHEN	1	12	20	13	0.9	2.5			14	30	10	2	DRYER	
LTS/REC: LIVING/KITCHEN	1	14	15	15			1.3	2.5	16	30	10		DRIER	
AIR HANDLER	2	8	40	17	3.0	2.3			18	30	10	2	WATER HEATER	
AIR HANDLER		0	40	19			3.0	2.2	20	30	10		WATERTIEATER	
HEAT PUMP	2	10	25	21	1.4	0			22	-	-	1	SPACE	
TILAT TOWN		10	23	23			1.4	0	24	-	-	1	SPACE	
					18	3.7	19	9.6						
TOTAL	CONI	NECT	ED k\	/A:		38	3.3			DEM.	AND	kVA:	24.2	
PANE	L RMS	SSYM	I. AM	PS:	SEE	RISE	R		D	EMAI	ND A	MPS:	116.2	

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							BEDR	:00M						1 PHASE, 3 WIRE	
	VOLTAGE: 208Y/120V				F	PA	N	EL:	Α	1				FLUSH MOUNTED	
	AMPS: 125-MLO					LC	)AD PE	R PHAS	SE					NEMA 1	
	-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	F	4	Е	3	CKT#	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-	
	REC: BATHROOM	1	12	20	1	0.3	1.5			2	20	12	1	DISHWASHER	GFI,AFI
AFI	LTS/REC: BEDROOM #1	1	14	15	3			1.1	1.5	4	20	12	1	GARBAGE DISPOSAL	AFI
AFI	LTS/REC: LAUNDRY/BATH	1	14	15	5	0.8	4			6	50	,	0	OVEN / DANCE	# <i>E</i> /
	SPACE	1	-	-	7			0	4	8	50	6	2	OVEN/RANGE	#3,6
	SPACE	1	-	-	9	0	1.0			10	20	12	1	MICROWAVE	#7,AFI
AFI	REC: KITCHEN/DINING	1	12	20	11			0.6	1.0	12	20	12	1	WASHER	GFI,AFI
AFI	REC: KITCHEN	1	12	20	13	0.9	2.5			14	30	10	2	DRYER	
AFI	LTS/REC: LIVING/KITCHEN	1	14	15	15			1.3	2.5	16	30	10		DRTER	
	AIR HANDLER	2	10	30	17	2.5	2.3			18	30	10	2	WATER HEATER	
	AIR HANDLER		10	30	19			2.5	2.2	20	30	10		WAILKILAILK	
	HEAT PUMP	2	12	20	21	1.0	0			22	-	-	1	SPACE	
	TIE/ (I T O/VII		12	20	23			1.0	0	24	-	-	1	SPACE	
						16	.8	17	.7						
	TOTAL	CON	NECT	ED k\	/A:		34	1.5			DEM	AND	kVA:	21.6	
	PANE	L RMS	SSYM	. AM	PS:	SEE	RISE	R		D	EMAI	ND A	MPS:	104.0	

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					WORK.						7. NOT PR	resent in ada units	S.					
LOAD SUM	MARY - RE	SIDENTIAL		LOAD SUMMA	ARY - RES	IDENTIAL	LOAD SUMA	MARY - RES	IDENTIA	\L	LOAD SUMM	1ARY - RES	SIDENTIAL	LOAD SUM	MARY - RES	SIDEN <sup>-</sup>	TIAL	
	NEC SECTION 220			NEC	SECTION 220		NE	EC SECTION 220			NE	EC SECTION 220			NEC SECTION 220			
	PANEL: C2			P/	ANEL: C1			PANEL: B2				PANEL: B1			PANEL: A1			
GENERAI	L LOAD	kVA CONN.		GENERAL LO	AD	kVA CONN.	GENERAL LO	DAD	kVA CO	NN.	GENERAL LO	DAD	kVA CONN.	GENERAL	LOAD	kVA	A CONN	Ν.
LIGHTS & REC	CEPTACLES			LIGHTS & RECEPTAG	CLES		LIGHTS & RECEPT	TACLES			LIGHTS & RECEPTA	ACLES		LIGHTS & REC	EPTACLES			
@ 3VA PER SQFT	1192 SQFT	3.6		@ 3VA PER SQFT 13	05 SQFT	3.9	@ 3VA PER SQFT	977 SQFT	2.9	İ	@ 3VA PER SQFT	965 SQFT	2.9	@ 3VA PER SQFT	657 SQFT		2.0	
SMALL APPLIANC	CES & LAUNDRY			SMALL APPLIANCES & L	.AUNDRY		SMALL APPLIANCES 8	LAUNDRY			SMALL APPLIANCES &	LAUNDRY		SMALL APPLIANC	ES & LAUNDRY			
@ 1500VA PER CIRCUIT	2 # CIRCUITS	3.0		@ 1500VA PER CIRCUIT	2 # CIRCUITS	3.0	@ 1500VA PER CIRCUIT	2 # CIRCUITS	3.0		@ 1500VA PER CIRCUIT	2 # CIRCUITS	3.0	@ 1500VA PER CIRCUIT	2 # CIRCUITS		3.0	
ELECTRIC CLO	THES DRYER	5.0		ELECTRIC CLOTHES [	DRYER	5.0	ELECTRIC CLOTHE	S DRYER	5.0		ELECTRIC CLOTHES	DRYER	5.0	ELECTRIC CLO	THES DRYER		5.0	
WASH	HER	1.0		WASHER		1.0	WASHER		1.0		WASHER		1.0	WASH	IER		1.0	
RANG	GE	8.0		RANGE		8.0	RANGE		8.0		RANGE		8.0	RANG	GE		8.0	
DISHWA	ASHER	1.5		DISHWASHER		1.5	DISHWASHE	ER	1.5		DISHWASHE	R	1.5	DISHWA	SHER		1.5	
DISPO	DSAL	1.5		DISPOSAL		1.5	DISPOSAL		1.5		DISPOSAL		1.5	DISPO	SAL		1.5	
WATER H	HEATER	4.5		WATER HEATER		4.5	WATER HEAT	ER	4.5		WATER HEATI	ER	4.5	WATER H	EATER		4.5	
MICROWAVE (	(DEDICATED)	1.0		MICROWAVE (DEDIC	CATED)	1.0	MICROWAVE (DED	DICATED)	1.0		MICROWAVE (DED	OICATED)	1.0	MICROWAVE (	DEDICATED)		1.0	
	TOTAL GENERAL LOA			TOTA	AL GENERAL LOAD		TC	TAL GENERAL LOAD			TO	TAL GENERAL LOAD			TOTAL GENERAL LOA		27.5	
DEMAND	LOAD	kVA DEM. K CONN. FACT. D		DEMAND LOA	AD.	kVA DEM. kVA CONN. FACT. DEM.	DEMAND LO	DAD	kVA DEM		DEMAND LO	DAD	kVA DEM. kVA CONN. FACT. DEM.	DEMAND	LOAD	kVA CONN. I		
FIRST 10 kVA GENER	RAL LOAD @ 100%	10.0   1.0   1	10.0	FIRST 10 kVA GENERAL LO	AD @ 100%	10.0 1.0 10.0	FIRST 10 kVA GENERAL L	OAD @ 100%	10.0 1.0	10.0	FIRST 10 kVA GENERAL L	OAD @ 100%	10.0 1.0 10.0	FIRST 10 kVA GENER.	al load @ 100%	10.0	1.0	10.0
REMAINDER OF GEN	ERAL LOAD @ 40%	19.1 0.4	7.6	REMAINDER OF GENERAL L	OAD @ 40%	19.4 0.4 7.8	REMAINDER OF GENERA	L LOAD @ 40%	18.4 0.4	7.4	REMAINDER OF GENERAL	LOAD @ 40%	18.4 0.4 7.4	REMAINDER OF GENE	ERAL LOAD @ 40%	17.5	0.4	7.0
HVAC LOAD (NEC		2.5 1.0	2.5	HVAC LOAD (NEC SEC : HEAT PUMP COMPRI		2.5 1.0 2.5	HVAC LOAD (NEC SE HEAT PUMP COMF		2.3 1.0	2.3	HVAC LOAD (NEC SEC HEAT PUMP COMP		2.3 1.0 2.3	HVAC LOAD (NEC		2.3	1.0	2.3
HEAT PUMP ELE		6.0 0.65	3.9	HEAT PUMP ELECTRIC		6.0 0.65 3.9	HEAT PUMP ELECTE		3.6 0.65	5 2.3	HEAT PUMP ELECTR		3.6 0.65 2.3	HEAT PUMP ELE		36	0.65	2.3
			24.0			37.9 24.2		TOTAL		22.0			S 34.3 22.0			LS 33.4		21.0
TOTAL AMPS @ 208	IR V 1 DILACE	115.5		TOTAL AMPS @ 208 V	1 5114.05	116.2	TOTAL AMPS @ 208 V		105.8		TOTAL AMPS @ 208 V		105.8	TOTAL AMPS @ 208			104.0	4

ARCHITECTURE, P.A

5711 Six Forks Road, Suite 100 Raleigh, NC 27609 (919) 846-8100 www.planworx.com

This document has been digitally signed and sealed by Zack L. Tomlin, PE using a digital signature on the date listed immediately below. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on



Company Development



ENGINEERING, PLLC 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797 PLUMBING MECHANICAL ELECTRICAL FL COA #: 3316

	07.19.19	DESCRIPTION									
			INITIALS								
	ISSUE DATE:	REVISIONS	DATE								
	INSSI	REVI	NUMBER	abla	abla	abla	abla	abla	abla	abla	$\vee$
PRO	OJEC	TNC	):	P	I		<u>.</u>			)(	)(
DRA	.WN B	Y:							J	NS	

CHECKED BY: SHEET TITLE: ELECTRICAL PANEL

**SCHEDULES** SHEET NUMBER:

	EXTERIOR LIGHTING DESIGN CRITERIA		<u>Cl</u>	TY OF CAPE CORAL, FL	ORIDA LAND DEVELOPMENT	CODE ARTICLE 5
AREA DESCRIPTION	1		MAXIUMUM INITIAL FOOT-CANDLES	MINIMUM INITIAL FOOT-CANDLES	UNIFORMITY RATIO MAX/MIN	UNIFORMITY RATIO AVG/MIN
PARKING LOT			3.0 FC	0.5 FC	12.0 / 1	4.0 / 1
	STATISTICAL CALCULATION AREA ILLUMINANCE					
area description	SYMBOL	AVERAGE INITIAL FOOT-CANDLES	MAXIUMUM INITIAL FOOT-CANDLES	MINIMUM INITIAL FOOT-CANDLES	UNIFORMITY RATIO MAX/MIN	UNIFORMITY RATIO AVG/MIN
GENERAL PARKING	+	1.5 FC	2.9 FC	0.5 FC	7.3 / 1	3.8 / 1

<u>EXTERI</u>	OR LIGHTING DESIGN CRITERIA		<u>C</u>	ITY OF CAPE CORAL, F	LORIDA LAND DEVELOPME	NT CODE ARTICLE 5						PARK	(INC	G LIGHTI	NG I	FIXTU	RE SCHI	EDULE	
PTION			MAXIUMUM INITIAL FOOT-CANDLES	MINIMUM INITIAL FOOT-CANDLES	UNIFORMITY RATIO MAX/MIN	UNIFORMITY RATIO AVG/MIN	MARK	MANUF.	CATALOG NUMBER	LAMF NO.	P DATA TYPE	VOLTS	BAL	LAST DATA	_	INITIAL LUMENS	IES DISTRIBUTION	MOUNTING	DESCRIPTION
			3.0 FC	0.5 FC	12.0 / 1	4.0 / 1	EA	LITHONIA	DSX1-LED-40C-530-	1	LED	MVOLT	1	LED DRIVER	68	8,090	TYPE T4M		SQUARE AREA LIGHT FIXTURE W/ FULL CUT-OI AND HOUSE-SIDE SHIELD. MOUNTED ON 20'
STATISTIC	AL CALCULATION AREA ILLUMIN	IANCE_							30K-T4M-MVOLT-HS										TAPERED SQUARE STEEL POLE. 3000K COLOR
PTION	SYMBOL	AVERAGE INITIAL FOOT-CANDLES	MAXIUMUM INITIAL FOOT-CANDLES	MINIMUM INITIAL FOOT-CANDLES	UNIFORMITY RATIO MAX/MIN	UNIFORMITY RATIO AVG/MIN	EB	LITHONIA	DSX1-LED-40C-530- 30K-T4M-MVOLT	1	LED	MVOLT	1	LED DRIVER	68	8,090	TYPE T4M	20' POLE	SQUARE AREA LIGHT FIXTURE W/ FULL CUT-OI MOUNTED ON 20' TAPERED SQUARE STEEL PC 3000K COLOR TEMP.
KING	+	1.5 FC	2.9 FC	0.5 FC	7.3 / 1	3.8 / 1	EC	LITHONIA	DSX1-LED-40C-700- 30K-T5M-MVOLT	1	LED	MVOLT	1	LED DRIVER	89	10,790	TYPE T5M	20' POLE	SQUARE AREA LIGHT FIXTURE W/ FULL CUT-OF MOUNTED ON 20' TAPERED SQUARE STEEL PC 3000K COLOR TEMP.
							NOTES												



**GENERAL NOTES - THIS SHEET** TAGGED NOTES - THIS SHEET

COORDINATE FINAL LIGHT POLE LOCATIONS W/ LANDSCAPE ARCHITECT AND LANDSCAPE PLAN. ALL UNDERGROUND CONDUITS SHALL BE LOCATED AS NECESSARY TO NOT INTERFERE WITH SITE UTILITY (STORM, WATER, SANITARY, ETC.) WORK. COORDINATE WITH SITE

UTILITY CONTRACTOR(S). REFER TO VOLTAGE DROP SCHEDULE FOR UPSIZED WIRES BASED ON LOAD AND LENGTH OF RUN. 4. LIGHT POLE BASE TO WITHSTAND WINDS OF 160+ MPH.

COORDINATE WITH STRUCTURAL ENGINEER.

(1) 120V/1Ø 20 AMP LIGHTING CIRCUIT TO BE CONTROLLED VIA PHOTOCELL. WIRE TO AREA BUILDING HOUSE PANEL. SEE PANEL SCHEDULE. (2) 120V/1Ø 20 AMP LIGHTING CIRCUIT TO BE CONTROLLED

INDICATED. SEE PANEL SCHEDULE. (3) 120V/1Ø 20 AMP LIGHTING CIRCUIT TO BE CONTROLLED VIA PHOTOCELL. WIRE TO AREA BUILDING HOUSE PANEL. SEE PANEL SCHEDULE.

VIA PHOTOCELL. WIRE TO POOL HOUSE PANEL CIRCUIT

E.C. TO CONFIRM ALL FIXTURE FINISHES AND COLOR TEMPERATURES WITH ARCHITECT BEFORE PURCHASE.

E.C. TO COORDINATE EXACT PLACEMENT OF AL BLDG MOUNTED LIGHTS WITH ARCHITECTS AND ELEVATIONS BEFORE BEGINNING WORK.

				PAR	KINC	G LIGHTI	NG I	FIXTU	RE SCHE	EDULE	
MANUF.	CATALOG NUMBER		1	VOLTS			INPUT WATTS	INITIAL LUMENS	IES DISTRIBUTION	MOUNTING	DESCRIPTION
LITHONIA	DSX1-LED-40C-530- 30K-T4M-MVOLT-HS	1	LED	MVOLT	1.01	LED DRIVER	68	8,090	TYPE T4M	20' POLE	SQUARE AREA LIGHT FIXTURE W/ FULL CUT-OFF AND HOUSE-SIDE SHIELD. MOUNTED ON 20' TAPERED SQUARE STEEL POLE. 3000K COLOR TEMP.
LITHONIA	DSX1-LED-40C-530- 30K-T4M-MVOLT	1	LED	MVOLT	1	LED DRIVER	68	8,090	TYPE T4M	20' POLE	SQUARE AREA LIGHT FIXTURE W/ FULL CUT-OFF MOUNTED ON 20' TAPERED SQUARE STEEL POLE. 3000K COLOR TEMP.
LITHONIA	D\$X1-LED-40C-700- 30K-T5M-MVOLT	1	LED	MVOLT	1	LED DRIVER	89	10,790	TYPE T5M	20' POLE	SQUARE AREA LIGHT FIXTURE W/ FULL CUT-OFF MOUNTED ON 20' TAPERED SQUARE STEEL POLE. 3000K COLOR TEMP.
	LITHONIA	MANUF.  NUMBER  DSX1-LED-40C-530- 30K-T4M-MVOLT-HS  LITHONIA  DSX1-LED-40C-530- 30K-T4M-MVOLT  DSX1-LED-40C-700-	MANUF.  NUMBER  NO.  LITHONIA  DSX1-LED-40C-530- 30K-T4M-MVOLT-HS  1  LITHONIA  DSX1-LED-40C-530- 30K-T4M-MVOLT  1  DSX1-LED-40C-700- 1	MANUF.         NUMBER         NO.         TYPE           LITHONIA         DSX1-LED-40C-530- 30K-T4M-MVOLT-HS         1         LED           LITHONIA         DSX1-LED-40C-530- 30K-T4M-MVOLT         1         LED	MANUF.  CATALOG NUMBER  NO. TYPE  VOLTS  LITHONIA  DSX1-LED-40C-530- 30K-T4M-MVOLT-HS  1 LED MVOLT  LITHONIA  DSX1-LED-40C-700- 1 LED MVOLT	MANUF.         CATALOG NUMBER         LAMP DATA NO.         VOLTS         BA           LITHONIA         DSX1-LED-40C-530- 30K-T4M-MVOLT-HS         1         LED         MVOLT         1           LITHONIA         DSX1-LED-40C-530- 30K-T4M-MVOLT         1         LED         MVOLT         1	MANUF.  CATALOG NUMBER  NO. TYPE  VOLTS  BALLAST DATA  NO. TYPE  LITHONIA  DSX1-LED-40C-530- 30K-T4M-MVOLT-HS  1 LED MVOLT 1 LED DRIVER  LITHONIA  DSX1-LED-40C-700- 1 LED MVOLT 1 LED DRIVER	MANUF.  CATALOG NUMBER  NO. TYPE  VOLTS  BALLAST DATA INPUT WATTS  LITHONIA  DSX1-LED-40C-530- 30K-T4M-MVOLT-HS  1 LED MVOLT 1 LED DRIVER  68  LITHONIA  DSX1-LED-40C-700- 1 LED MVOLT 1 LED DRIVER  89	MANUF.         CATALOG NUMBER         LAMP DATA NO.         VOLTS         BALLAST DATA NO.         INPUT WATTS         INITIAL LUMENS           LITHONIA         DSX1-LED-40C-530-30K-T4M-MVOLT-HS         1         LED         MVOLT         1         LED DRIVER         68         8,090           LITHONIA         DSX1-LED-40C-530-30K-T4M-MVOLT         1         LED         MVOLT         1         LED DRIVER         68         8,090	MANUF.         CATALOG NUMBER         LAMP DATA NO.         VOLTS         BALLAST DATA NO.         INPUT WATTS         INITIAL LUMENS         IES DISTRIBUTION           LITHONIA         DSX1-LED-40C-530-30K-T4M-MVOLT-HS         1         LED         MVOLT         1         LED DRIVER         68         8,090         TYPE T4M           LITHONIA         DSX1-LED-40C-530-30K-T4M-MVOLT         1         LED         MVOLT         1         LED DRIVER         68         8,090         TYPE T4M           LITHONIA         DSX1-LED-40C-700-30K-T4M-MVOLT         1         LED DRIVER         89         10,790         TYPE T5M	MANUF.         NUMBER         NO.         TYPE         VOLTS         NO.         TYPE         WATTS         LUMENS         DISTRIBUTION         MOUNTING           LITHONIA         DSX1-LED-40C-530- 30K-T4M-MVOLT-HS         1         LED         MVOLT         1         LED DRIVER         68         8,090         TYPE T4M         20' POLE           LITHONIA         DSX1-LED-40C-530- 30K-T4M-MVOLT         1         LED         MVOLT         1         LED DRIVER         68         8,090         TYPE T4M         20' POLE

NOTES:

1. W/ PHILIPS GARDCO MODEL #: GTS-20-II-D1-BLP POLE (160+ MPH WIND RATED). POLE COLOR TO BE BLACK.

2. MOUNTING HEIGHT = 20' 3. COLOR TO BE BLACK. POLE AND FIXTURE COLOR TO MATCH.

		E	BUILE	DING LIC	HTIN	VG F	IXTURE S	CHE	DULE		
MARK	MANUF.	CATALOG		AMP DATA	VOLTS		LAST DATA	INPUT	MOUNTING	DESCRIPTION	
		NUMBER	NO.	TYPE		NO.	TYPE	WATTS			
ED	LITHONIA	WSQ-LED-P4-SR4- 30K-MVOLT	1	LED	MVOLT	1	LED DRIVER	61	WALL 20' MOUNT HEIGHT	LED WALL PACK. WET LOC. & COLD TEMP RATED. 5,991 LUMENS. 3000K TEMP. SR4 DISTRIBUTION. FULL CUT-OFF	
PG	LITHONIA	WSQ-LED-P3-SR4- 30K-MVOLT	1	LED	MVOLT	1	LED DRIVER	40	WALL 8.5' MOUNT HEIGHT	LED WALL PACK. WET LOC. & COLD TEMP RATED. 4,486 LUMENS. 3000K TEMP. SR4 DISTRIBUTION. FULL CUT-OFF	





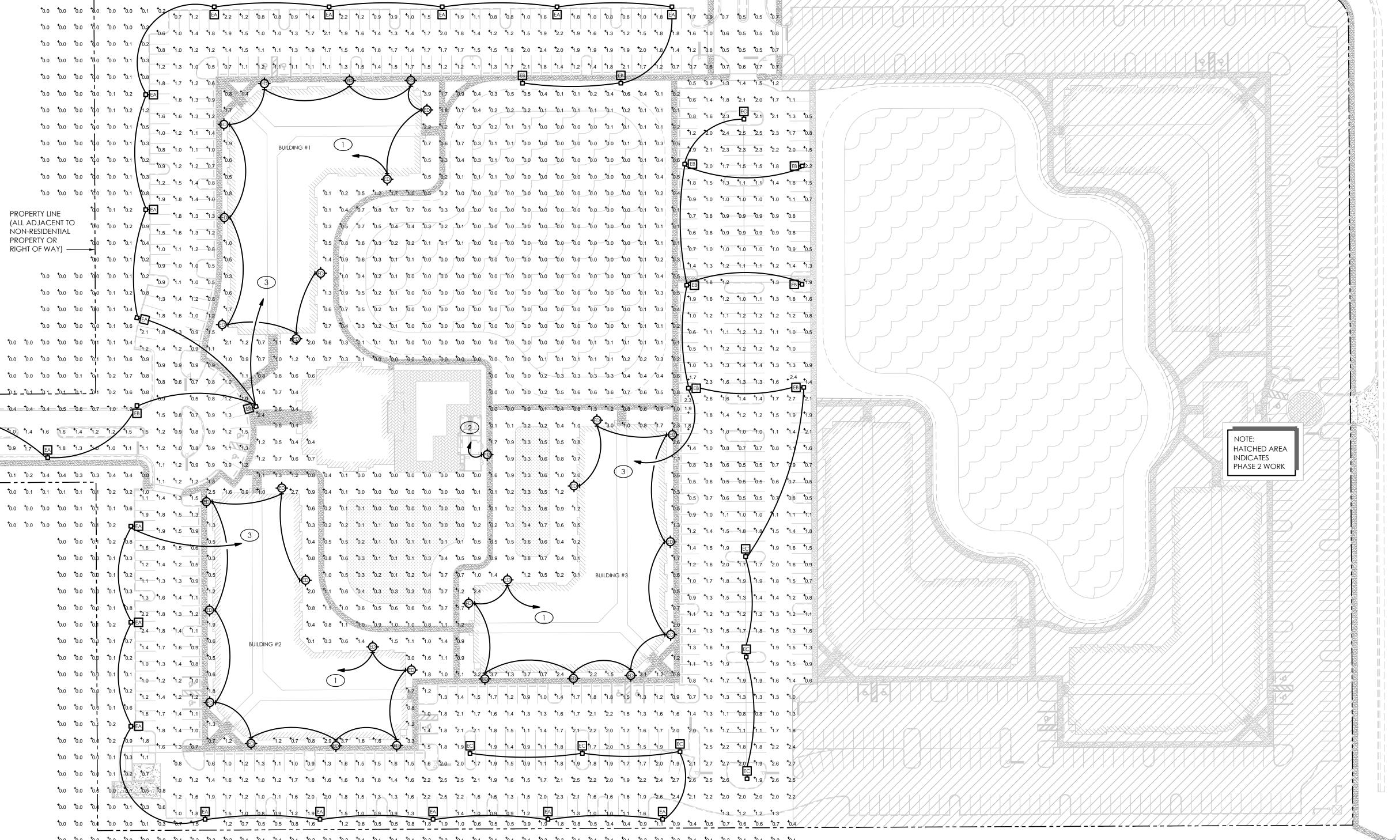
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`			SCA	ALE:	NON	E					<b>+</b> 0.0	<b>+</b> 0.0
	<b>+</b> 0.0	<b>+</b> 0.0	<b>†</b> 0.0	<b>+</b> 0.0	<b>+</b> 0.0	<b>+</b> 0.0	<b>+</b> 0.0	<b>†</b> 0.0	<b>+</b> 0.0	<b>+</b> 0.0		
	<b>+</b> 0 0	<b>+</b> 0.0	<b>+</b> 0 0	<b>+</b> 0.0								

<sup>†</sup>0.0 <sup>†</sup>0.1 <sup>†</sup>0.3 <sup>†</sup>0.5

VOLTAGE DE	ROP SCHEDULE
	ITS UP TO 8 AMPS (1 KVA)
RUN DISTANCE (FT)	WIRE SIZE (COPPER AWG)
1' TO 120'	#12
121' TO 190'	#10
191' TO 300'	#8
301' TO 470'	#6
120V BRANCH CIRCUITS 9 A	AMPS TO 16 AMPS (1 - 1.7 KVA)
RUN DISTANCE (FT)	WIRE SIZE (COPPER AWG)
1' TO 65'	#12
66' TO 110'	#10
111' TO 170'	#8
171' TO 270'	#6

NOTE: WIRE SIZES INDICATED IN GENERAL NOTES AND CONNECTIONS SCHEDULES ARE MINIMUM WIRE SIZES. CONTRACTOR SHALL UPSIZE WIRES BASED ON LOAD AND LENGTH OF RUN AS

INDICATED IN SCHEDULE ABOVE.

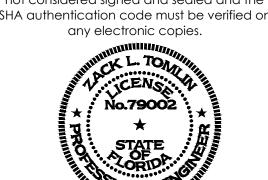


SITE LIGHTING PLAN

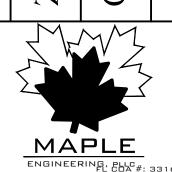
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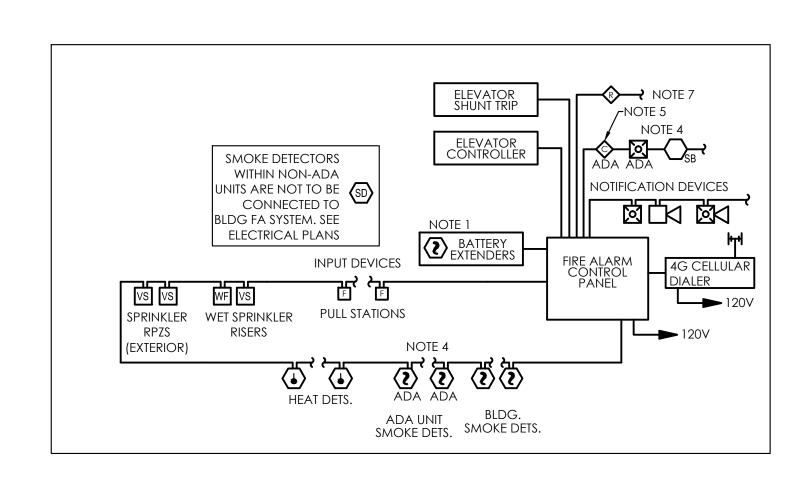


ENGINEERING, PLLC#: 3316 708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990 P:919-341-4247 F:919-890-3797 PLUMBING MECHANICAL ELECTRICAL
FL COA #: 3316

	07.19.19	DESCRIPTION									
			INITIALS								
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SHEET TITLE: SITE LIGHTING PLAN



#### RISER NOTES:

- 1. FIRE ALARM CONTROL PANEL TO BE EQUAL TO FIRE-LITE MS9200UDLS W/ FIRE-LITE IPGSM-4G DIGITAL CELLULAR FIRE COMMUNICATOR W/ BATTERY BACK-UP (POWER AND TELECOM LINES FOR DEVICE MUST BE IN CONDUIT. SEE MANUFACTURER'S INSTRUCTIONS). PROVIDE FCPS24-FS8 POWER SUPPLIES AS REQUIRED. ENSURE SMOKE DETECTOR IS PROVIDED AT ALL BATTERY EXTENDER PANELS.
- 2. ENSURE ALL DEVICES/APPLIANCES USED ARE COMPATIBLE WITH FACP. PROVIDE ALL PROGRAMMING AND FINAL CONNECTION BY A FACTORY TRAINED TECHNICIAN.
- 3. RISER IS GENERIC IN NATURE SEE PLAN FOR EXACT DEVICE LAYOUT AND QUANTITY.
- 4. MAP ADA UNIT SMOKE DETECTORS TO CORRESPONDING UNIT CONTROL MODULE. WHEN SMOKE IS DETECTED IN AN ADA UNIT ONLY NOTIFICATION DEVICES IN THAT SPECIFIC UNIT ARE TO ACTIVATE.
- 5. CONTROL MODULE TO ACTIVATE ADA UNIT NOTIFICATION APPLIANCES UPON GENERAL BUILDING ALARM AND DETECTION OF SMOKE WITHIN INDIVIDUAL UNIT.
- 6. ALL DEVICES IN SLEEPING AREAS AND APARTMENT UNITS, INCLUDING LIVING ROOMS, TO BE LOW FREQUENCY TYPE.
- 7. RELAY(S) FOR DOOR HOLDERS. SEE PLANS.

FIRE ALARM RISER DIAGRAM (TYPICAL OF MULTIPLE BUILDINGS)

## GENERAL FIRE ALARM NOTES

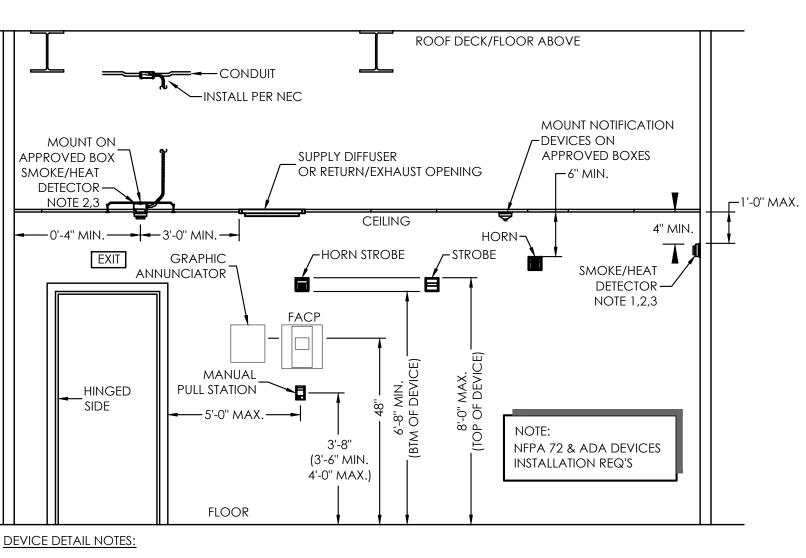
- THE FIRE ALARM CONTRACTOR IS TO BE HELD TO THE SAME REQUIREMENTS AS THE ELECTRICAL CONTRACTOR. FIRE ALARM CONTRACTOR SHALL REVIEW ELECTRICAL PLANS AND ELECTRICAL "GENERAL NOTES" BEFORE COMPLETING BID.
- FIRE ALARM CONTRACTOR IS TO VERIFY PROPOSED SYSTEM HAS BATTERY AND VOLTAGE CAPACITY TO HANDLE ALL DEVICES PLUS REQUIRED CAPACITY FOR POTENTIAL FUTURE DEVICES. PROVIDE FIRE ALARM SHOP DRAWINGS TO LOCAL AHJ.
- AUDIBLE FIRE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 dBA ABOVE THE AVERAGE AMBIENT SOUND PRESSURE LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, AT ALL LOCATIONS WITHIN THE OCCUPIABLE SPACE (TYPICAL AVERAGE AMBIENT SOUND PRESSURE LEVELS ARE GIVEN IN NFPA 72 TABLE A.18.4.3). THE MINIMUM SOUND PRESSURE LEVEL SHALL BE 75 dBA IN OCCUPANCY GROUPS R AND I-1, 90 dBA IN MECHANICAL EQUIPMENT ROOMS, AND 60 dBA IN ALL OTHER OCCUPANCIES. THE MAXIMUM SOUND PRESSURE LEVEL SHALL BE 110 dBA AT THE MINIMUM HEARING DISTANCE FROM ANY AUDIBLE APPLIANCE.
- . IF THREE OR MORE FIRE ALARM SYSTEM VISUAL NOTIFICATION APPLIANCES ARE LOCATED WITHIN AN OBSERVERS FIELD OF VIEW (135°) AND WITHIN 55'-0" OF THE OBSERVER, THEN THE DEVICES SHALL BE SYNCHRONIZED.
- LOW FREQUENCY DEVICES TO BE INSTALLED IN SLEEPING AREAS. APARTMENT UNITS (INCLUDING LIVING ROOMS).
- 5. FIRE ALARM DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND 'ADA'.
- BASE. TEMPORAL 3 TONE PATTERN FOR FIRE ALARM.

. ADA SMOKE DETECTORS TO INCLUDE LOW FREQUENCY SOUNDER

- 8. ALL FIRE ALARM WIRING SHALL BE IN CONDUIT OR AS ALLOWED BY NEC OR LOCAL AHJ.
- 9. ELECTRICAL CONTRACTOR SHALL PROVIDE AN UPDATED FIRE ALARM LAYOUT PLAN AT THE FACP.
- 10. TESTING OF THE FIRE ALARM SYSTEM SHALL BE THE RESPONSIBILITY

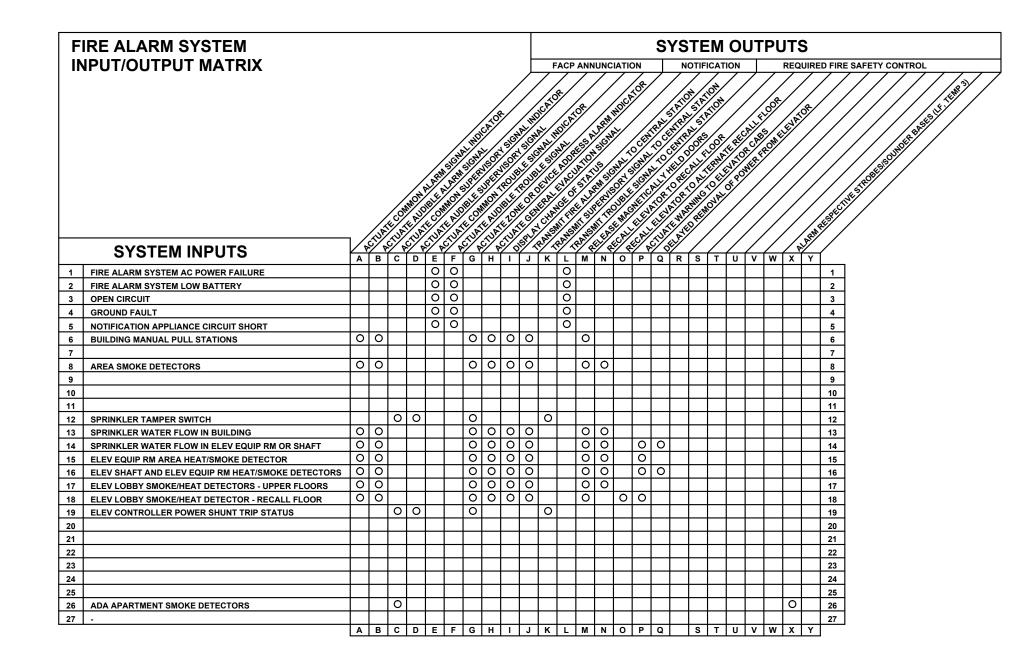
OF THE ELECTRICAL CONTRACTOR.

11. FIRE ALARM DEVICES COLOR TO BE SELECTED BY ARCHITECT.

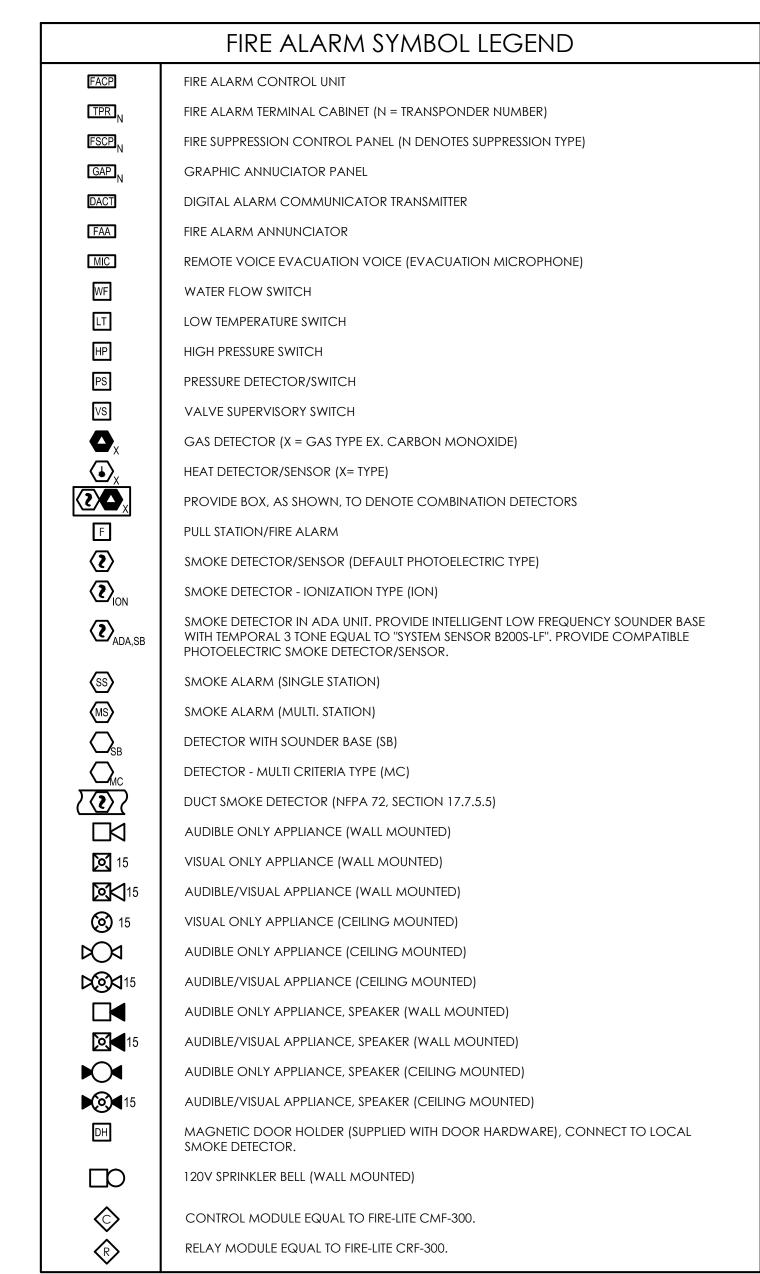


- 1. PLACE SMOKE/HEAT DETECTOR AT HIGHEST POINT IN VAULTED CEILINGS. 2. PLACE SMOKE/HEAT DETECTOR NO LESS THAN 3FT FROM BATHROOM/SHOWER ROOM DOORS.
- 3. PLACE PHOTOELECTRIC SMOKE/HEAT ALARMS NO LESS THAN 6FT FROM PERMANENTLY INSTALLED COOKING APPLIANCES. PLACE IONIZATION SMOKE/HEAT DETECTORS WITH AN ALARM-SILENCING SWITCH NO LESS THAN 10FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. PLACE IONIZATION SMOKE/HEAT DETECTORS WITHOUT AN ALARM-SILENCING SWITCH NO LESS THAN 20FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE.

FIRE ALARM AND SIMILAR DEVICE LOCATIONS



FIRE ALARM DEVICE MATRIX



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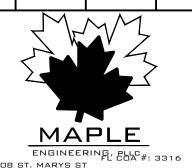
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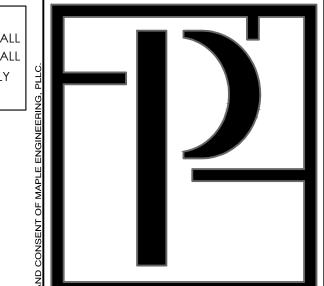
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ZLT CHECKED BY: SHEET TITLE: FIRE ALARM

SCHEDULES & NOTES

SHEET NUMBER:

FIRE RATING LEGEND 2-HR WAL \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.

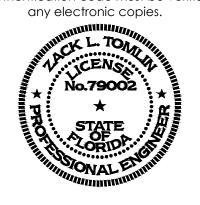


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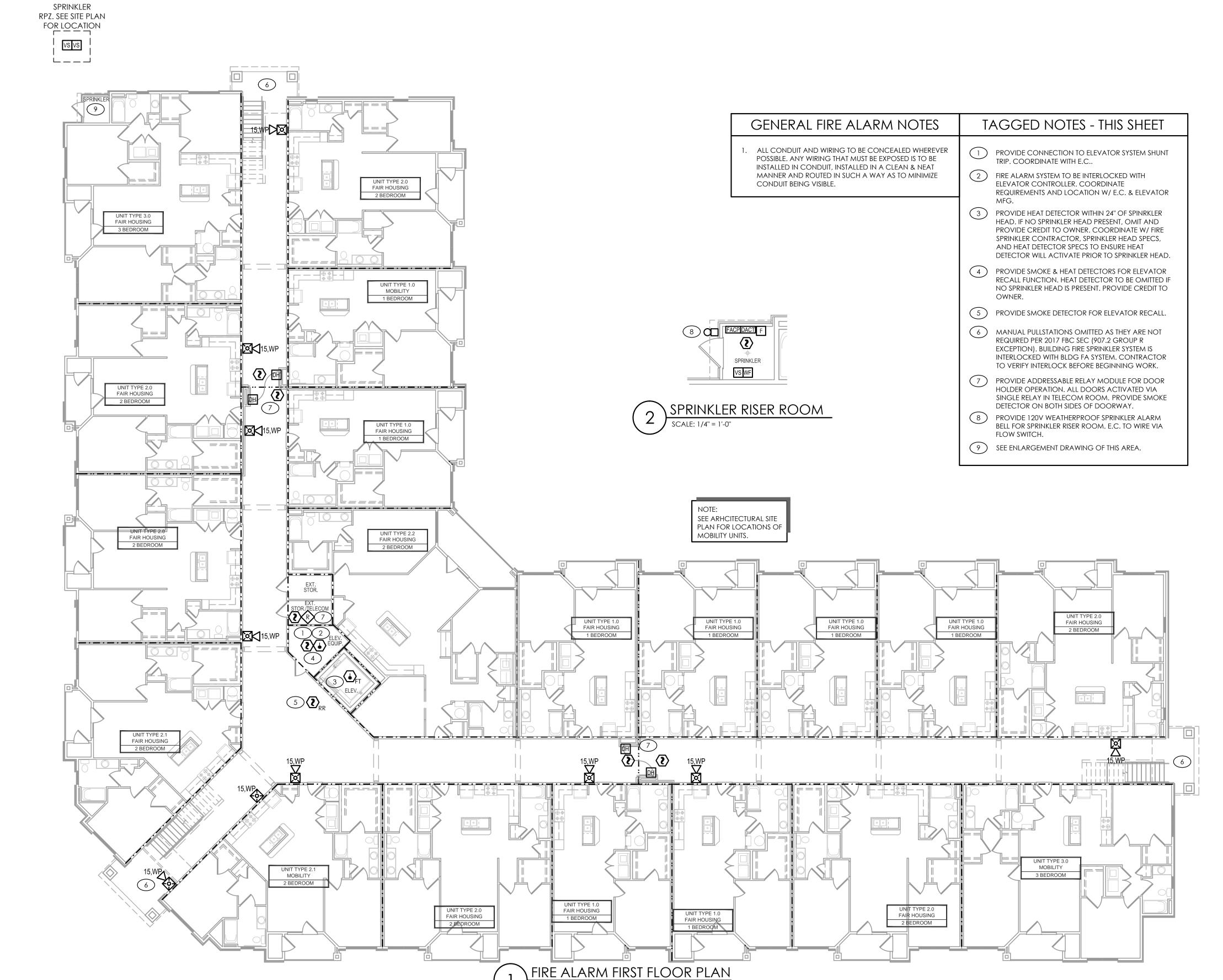
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FIRE ALARM FIRST FLOOR PLAN



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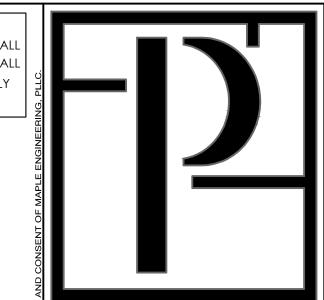
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FIRE RATING LEGEND

I I I 1-HR WAL

\* FLOOR/CEILING ASSEMBLY
IS 1-HR RATED.



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Zimmer Development Company

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PERMIT SET



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708 ST. MARYS ST
RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL
FL COA #: 3316

ISSUE DATE: 07.19.19

REVISIONS DESCRIPTION

NUMBER DATE INITIALS

OLIVERAL DATE INITIALS

OLIVERAL DATE INITIALS

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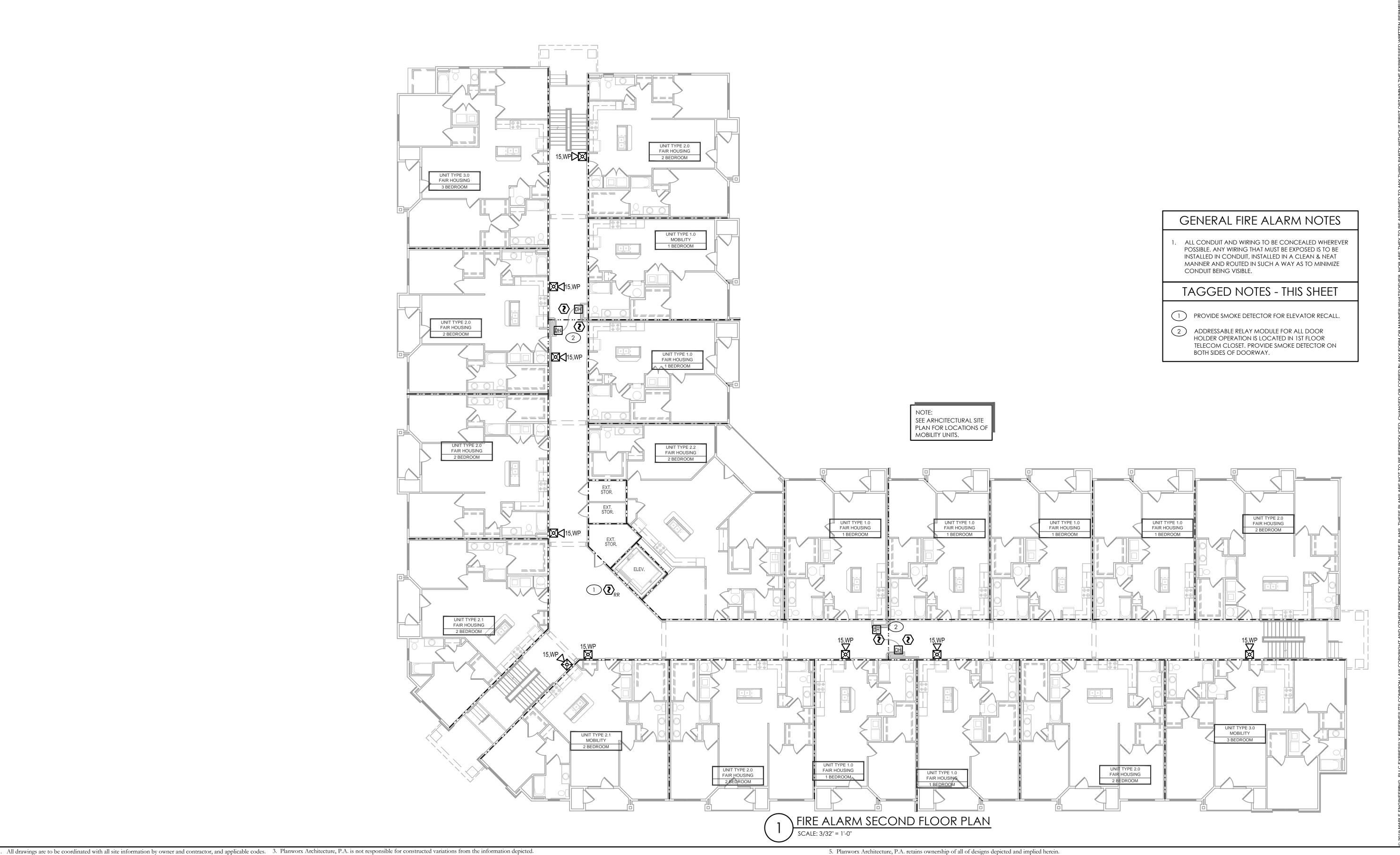
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FIRE ALARM SECOND

FLOOR PLAN

SHEET NUMBER:

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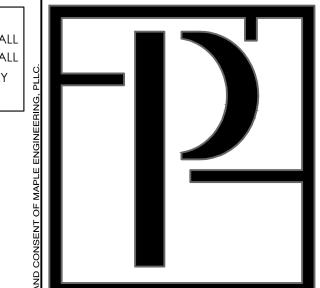
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FIRE RATING LEGEND

1-HR WAL

2-HR WAL

\* FLOOR/CEILING ASSEMBLY
IS 1-HR RATED.



# Planworx

ARCHITECTURE, P.A

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website www.planworx.com

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RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL

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PROJECT NO: PLX-1906
DRAWN BY: NPB
CHECKED BY: ZLT

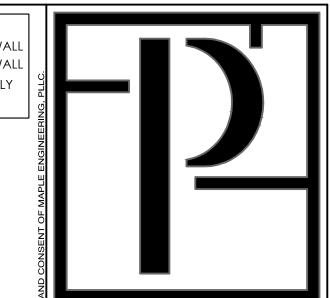
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FIRE ALARM THIRD
FLOOR PLAN

SHEET NUMBER:

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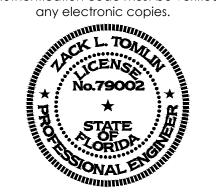
FIRE RATING LEGEND ■ • ■ 1-HR WAL 2-HR WAL \* FLOOR/CEILING ASSEMBLY IS 1-HR RATED.



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Zimmer Development

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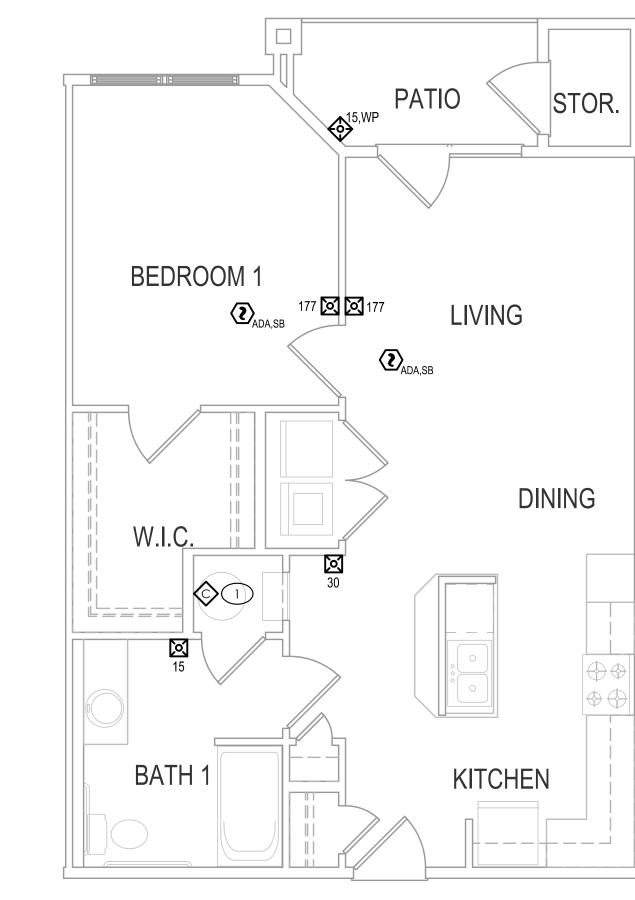
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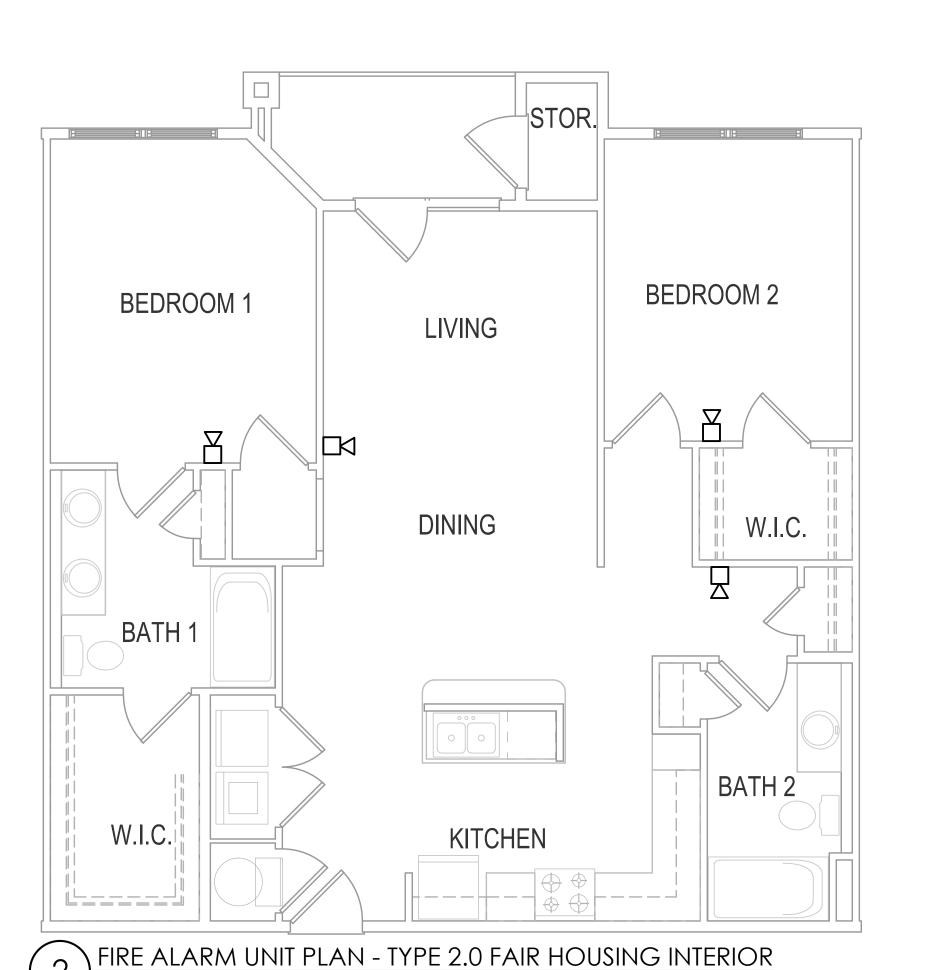
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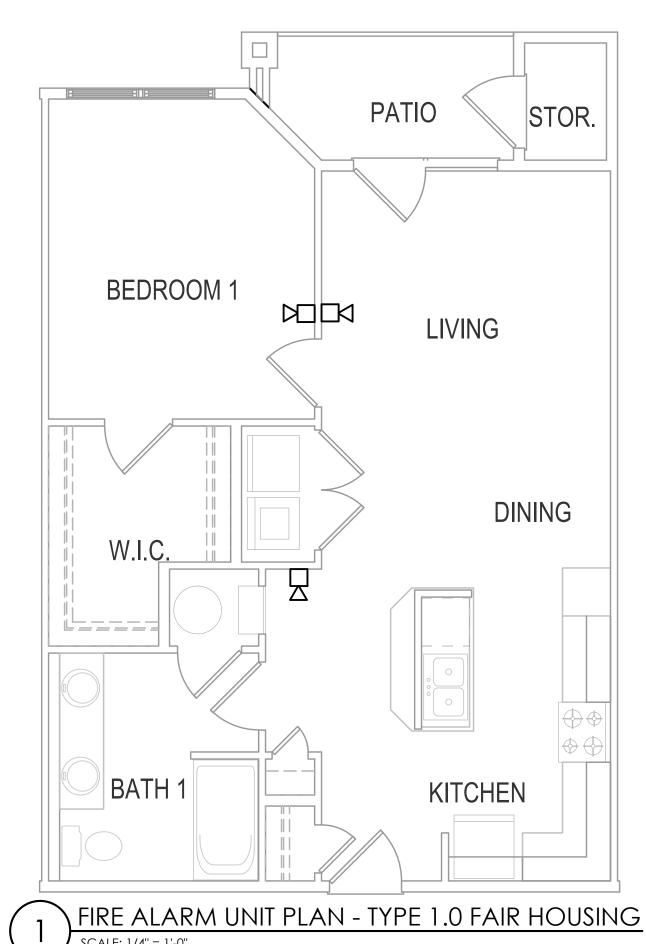
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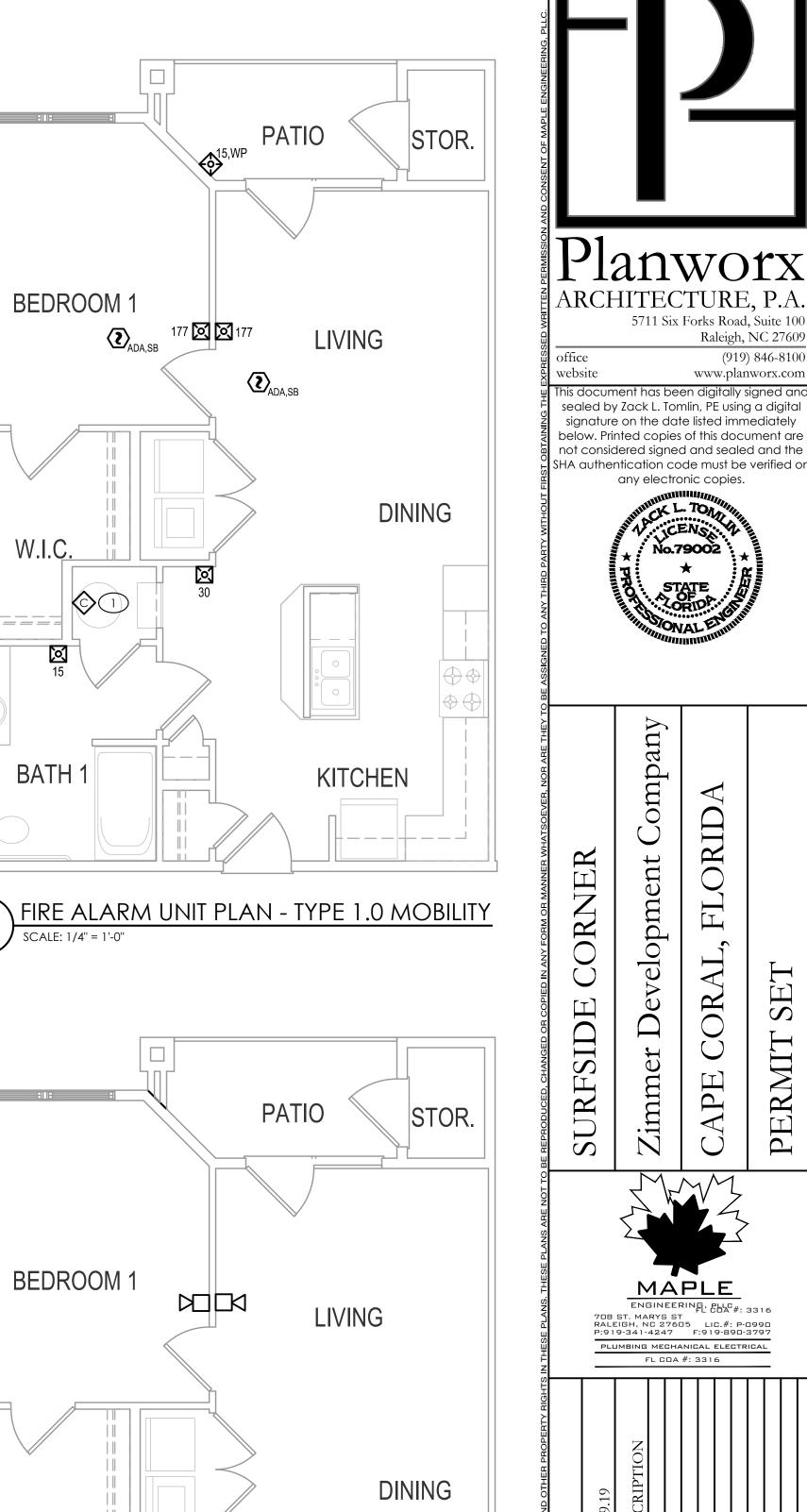
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PROJECT NO: PLX-1900

FIRE ALARM UNIT PLANS

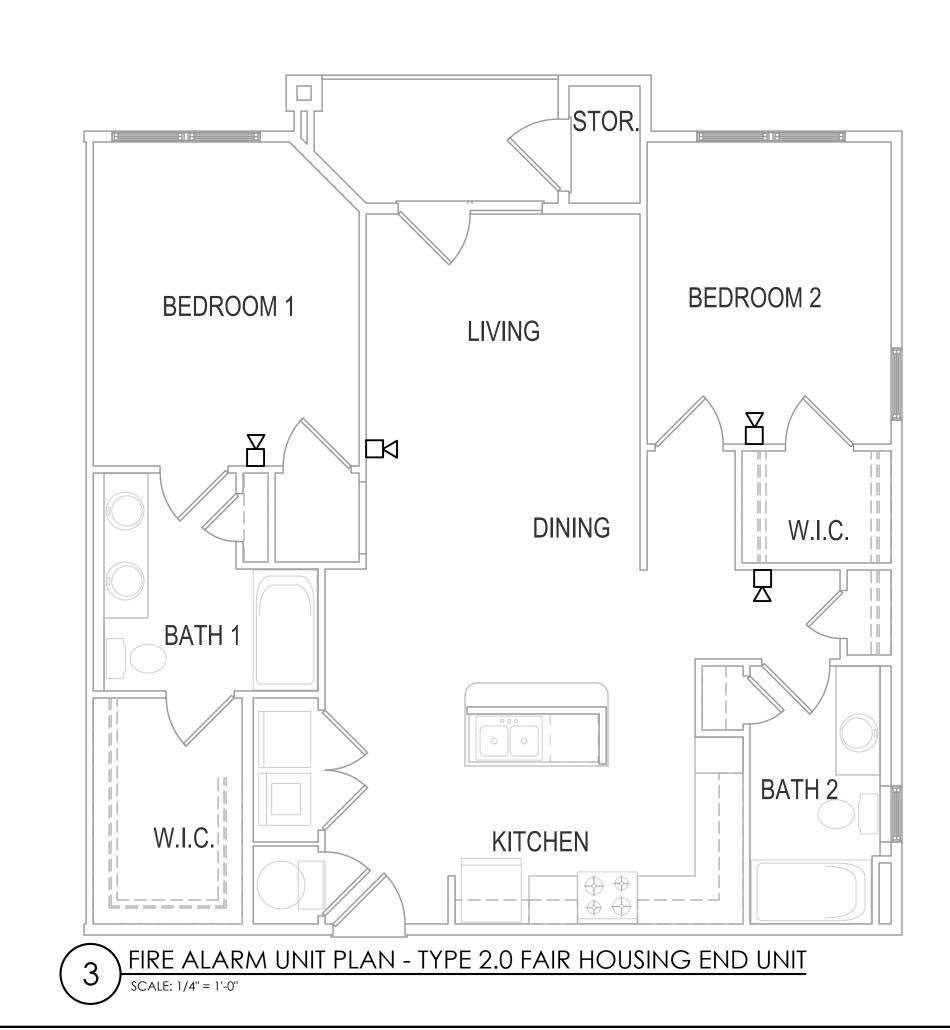
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. SEE FIRE ALARM DEVICE DETAIL (SHEET FA0.01) FOR MORE

. SEE ELECTRICAL PLANS FOR STAND ALONE SMOKE

. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND

4. ALL FIRE ALARM DEVICES IN APARTMENTS TO BE LOW

TAGGED NOTES - THIS SHEET

NOTIFICATION APPLIANCES DURING BUILDING WIDE ALARM OR APARTMENT UNIT SMOKE DETECTION.

1 PROVIDE CONTROL MODULE TO ACTIVATE

INFORMATION.

DETECTORS IN NON-ADA UNITS.

FLOOR/CEILING RATINGS.

FREQUENCY TYPE.

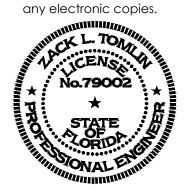


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PROJECT NO: PLX-1906

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SHEET TITLE: FIRE ALARM UNIT PLANS

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SHEET NUMBER:

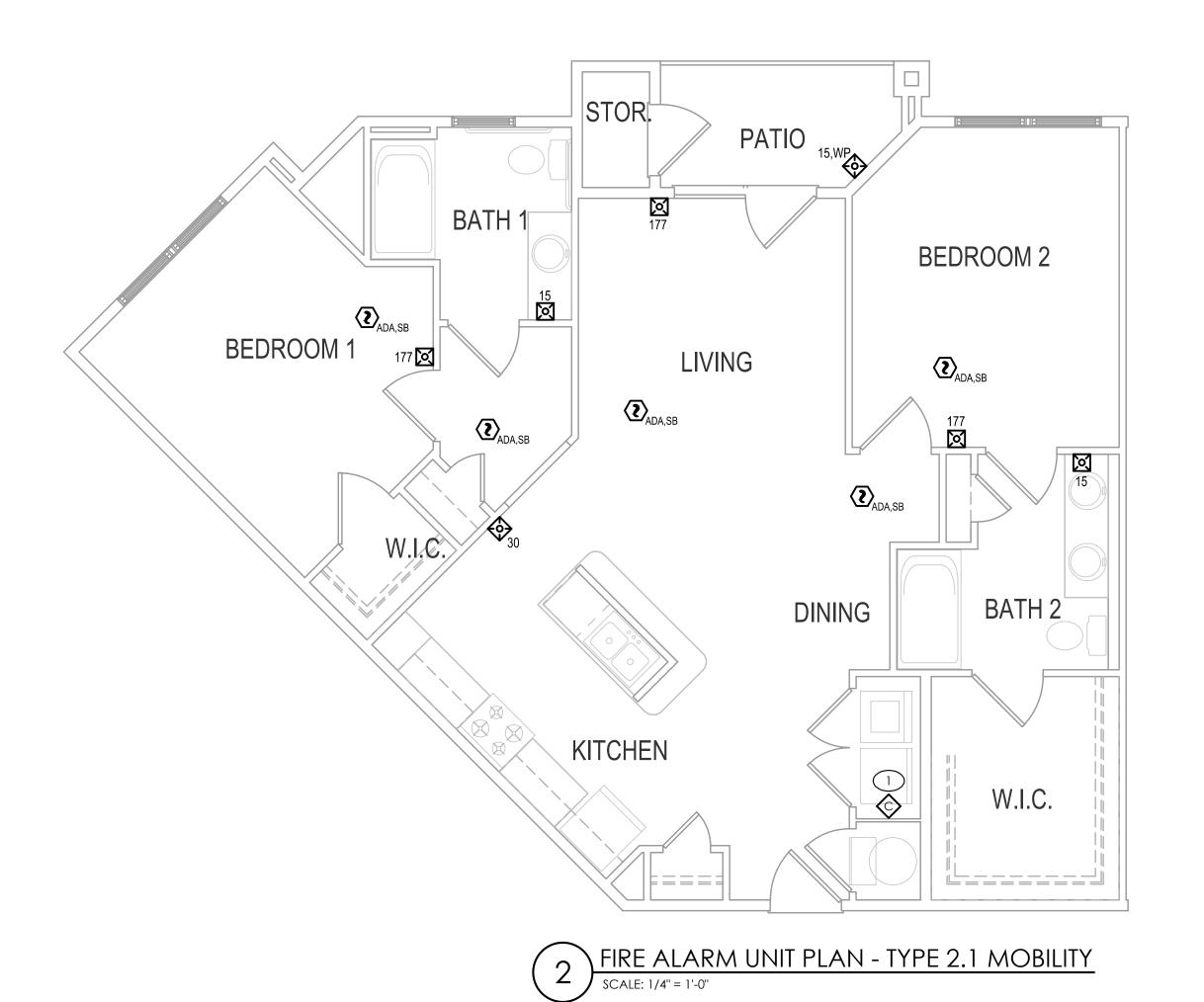
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## GENERAL FIRE ALARM NOTES

- . SEE FIRE ALARM DEVICE DETAIL (SHEET FA0.01) FOR MORE INFORMATION.
- 2. SEE ELECTRICAL PLANS FOR STAND ALONE SMOKE DETECTORS IN NON-ADA UNITS.
- 3. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND
- FLOOR/CEILING RATINGS.
- 4. ALL FIRE ALARM DEVICES IN APARTMENTS TO BE LOW FREQUENCY TYPE.

## TAGGED NOTES - THIS SHEET

1 PROVIDE CONTROL MODULE TO ACTIVATE NOTIFICATION APPLIANCES DURING BUILDING WIDE ALARM OR APARTMENT UNIT SMOKE DETECTION.



PATIO BATH 1 BEDROOM 2 BEDROOM 1 LIVING BATH 2 DINING W.I.C. 

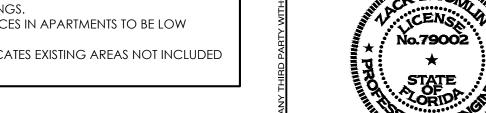
FIRE ALARM UNIT PLAN - TYPE 2.1 FAIR HOUSING

## GENERAL FIRE ALARM NOTES

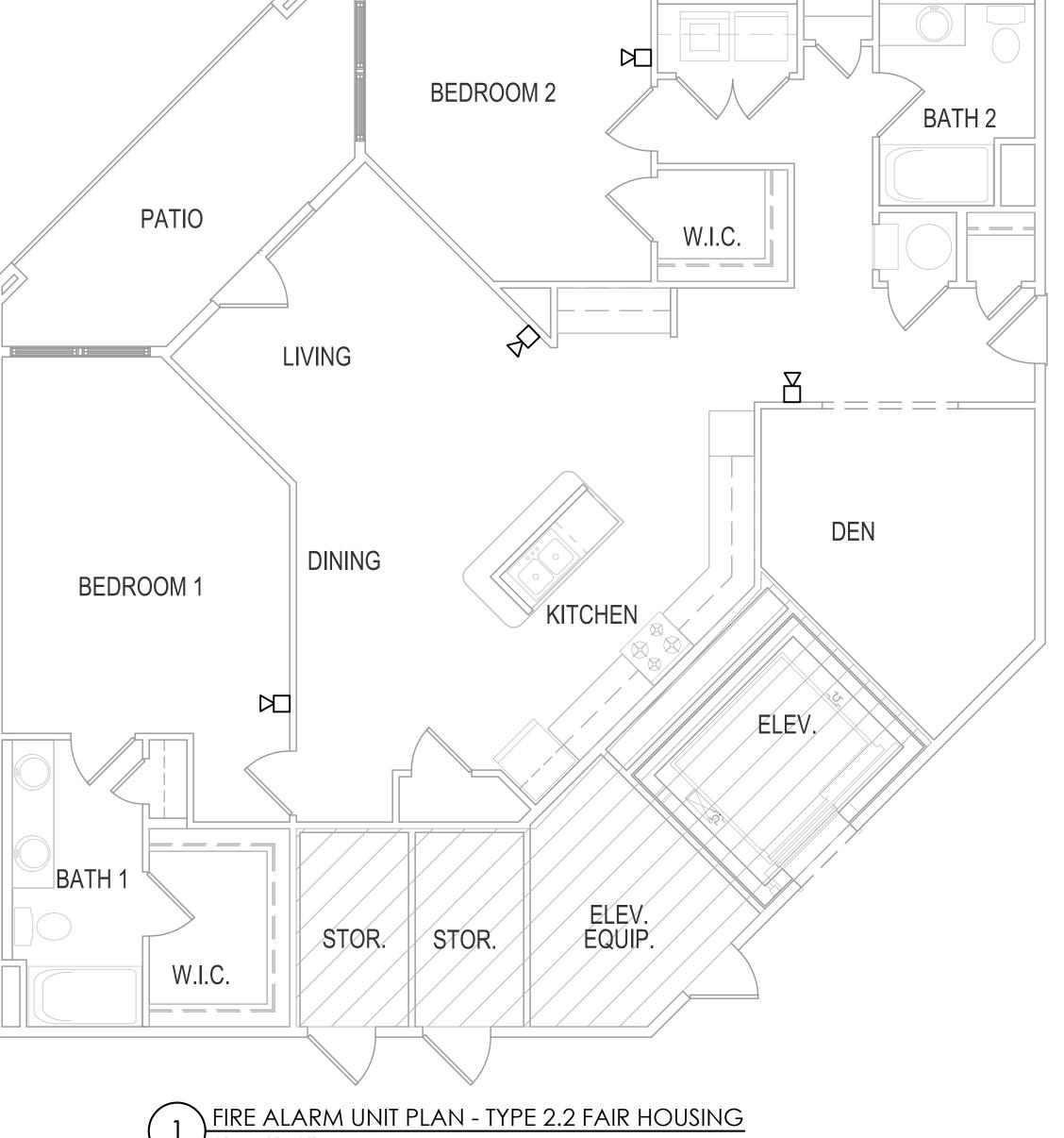
- 1. SEE FIRE ALARM DEVICE DETAIL (SHEET FA0.01) FOR MORE INFORMATION.
- 2. SEE ELECTRICAL PLANS FOR STAND ALONE SMOKE DETECTORS IN NON-ADA UNITS.
- 3. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND FLOOR/CEILING RATINGS.

IN SCOPE OF WORK

- 4. ALL FIRE ALARM DEVICES IN APARTMENTS TO BE LOW
- FREQUENCY TYPE. 5. HATCHED AREA INDICATES EXISTING AREAS NOT INCLUDED



website



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P:919-341-4247 F:919-890-3797 PROJECT NO: PLX-1900DRAWN BY: ZLTCHECKED BY: SHEET TITLE: FIRE ALARM UNIT PLANS

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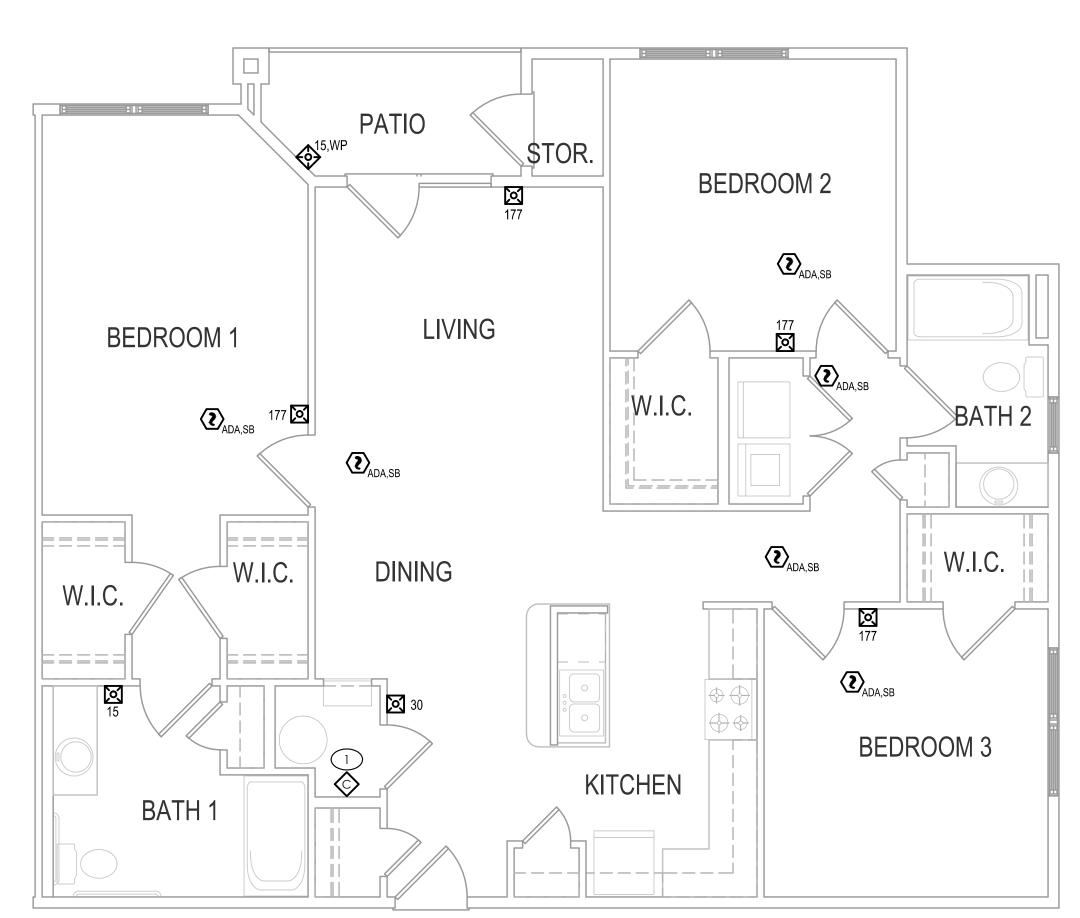
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- 1. SEE FIRE ALARM DEVICE DETAIL (SHEET FA0.01) FOR MORE INFORMATION.
- 2. SEE ELECTRICAL PLANS FOR STAND ALONE SMOKE
- DETECTORS IN NON-ADA UNITS. 3. SEE BUILDING PLANS FOR UNIT DEMISING WALL AND
- FLOOR/CEILING RATINGS. 4. ALL FIRE ALARM DEVICES IN APARTMENTS TO BE LOW
- FREQUENCY TYPE.

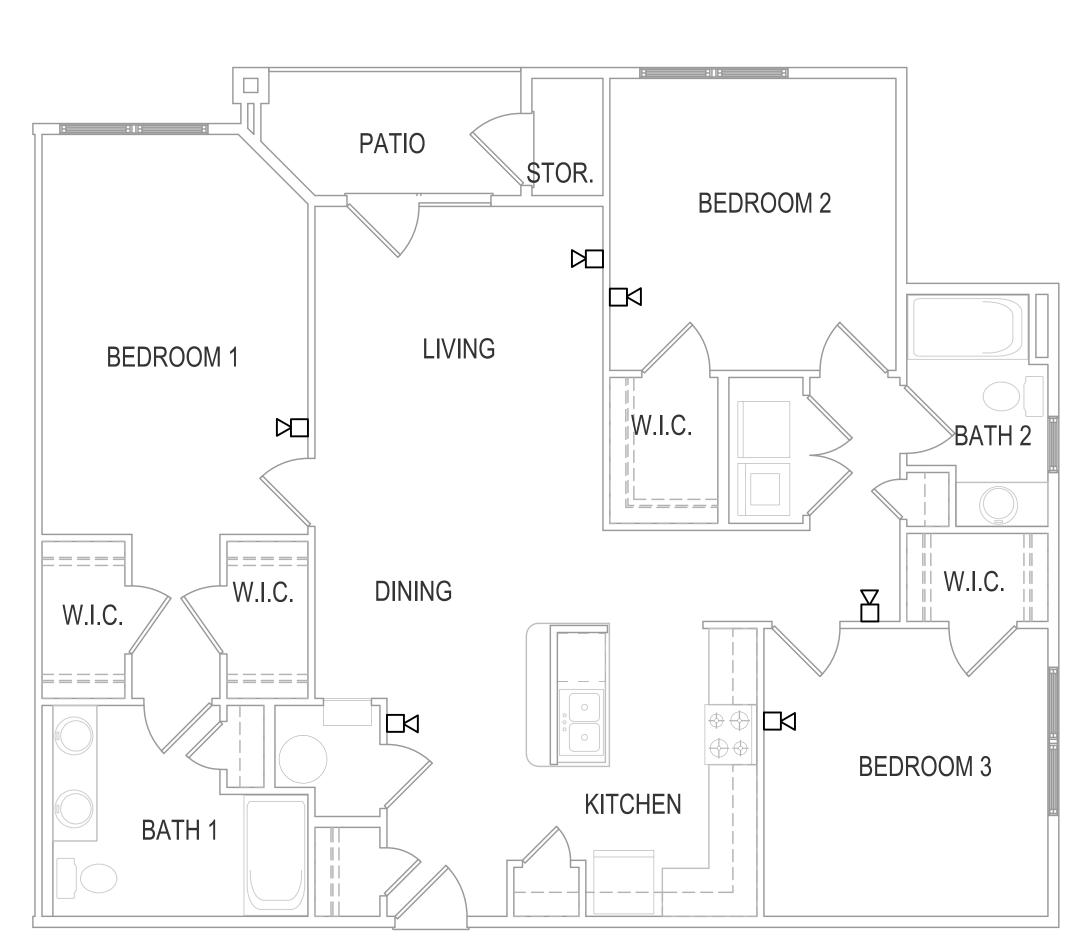
## TAGGED NOTES - THIS SHEET

1 PROVIDE CONTROL MODULE TO ACTIVATE NOTIFICATION APPLIANCES DURING BUILDING WIDE ALARM OR APARTMENT UNIT SMOKE DETECTION.



FIRE ALARM UNIT PLAN - TYPE 3.0 MOBILITY SCALE: 1/4" = 1'-0"

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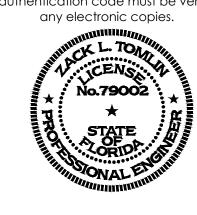


FIRE ALARM UNIT PLAN - TYPE 3.0 FAIR HOUSING

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