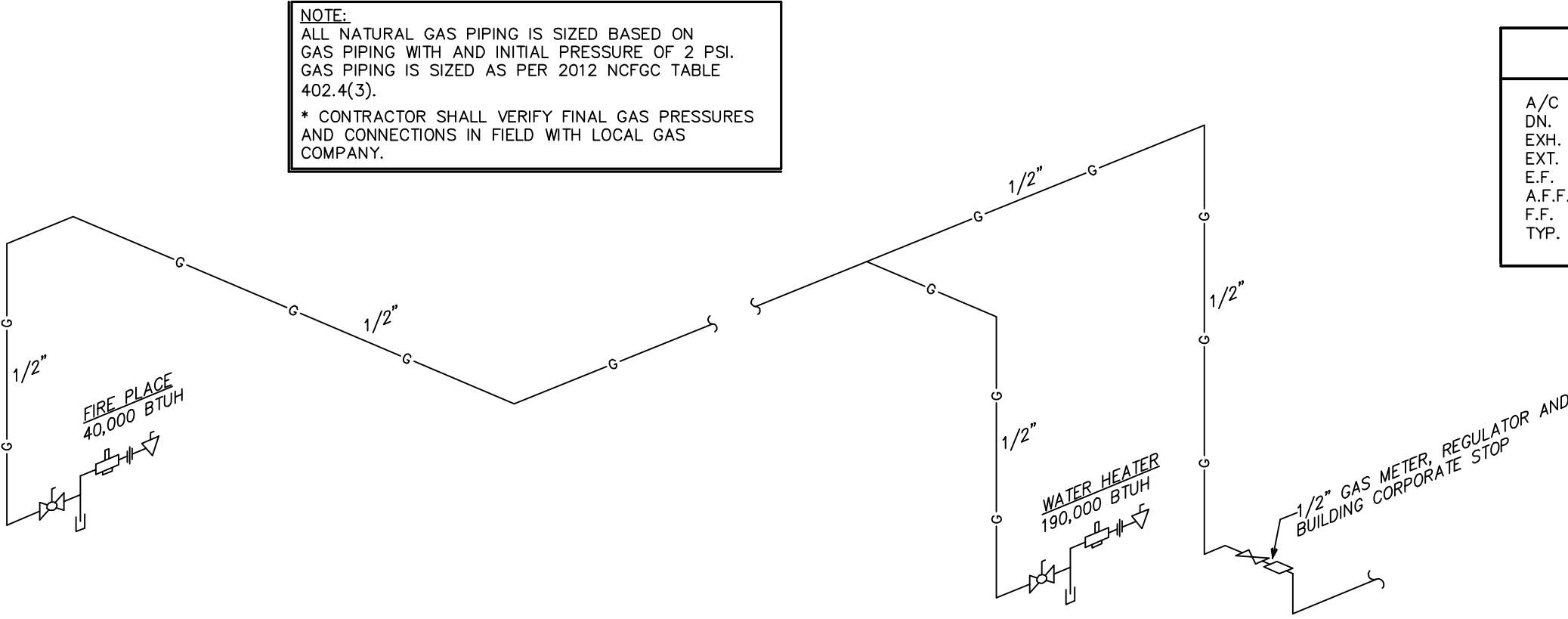


GAS PIPE LEGEND	
	BALL VALVE
	DRIP LEG
	REGULATOR/OPD AS REQUIRED
	UNION
	QUICK DISCONNECT



2 GAS PIPING ISOMETRIC

NO SCALE

H.V.A.C. ABBREVIATION LEGEND		
A/C	AIR CONDITIONER	REV. REVISION
DN.	DOWN	N.T.S. NOT TO SCALE
EXH.	EXHAUST	MFG. MANUFACTURER
EXT.	EXTERIOR	R/A RETURN AIR
E.F.	EXHAUST FAN	GR. GRILLE
A.F.F.	ABOVE FINISH FLOOR	C.D. CEILING DIFFUSER
F.F.	FINISH FLOOR	REG. REGISTER
TYP.	TYPICAL	C.U. CONDENSING UNIT
A.H.U.	AIR HANDLING UNIT	D.G. DOOR GRILLE
F.D.	FIRE DAMPER	F.I.D. FIRE DAMPER
D/SP.	DISPOSABLE	D/SP. DISPOSABLE
V.C.D.	VOLUME CONTROL DAMPER	F/A FRESH AIR
F/A	FRESH AIR	S.P. SAFE PAN
CD.	CONDENSATE DRAIN	

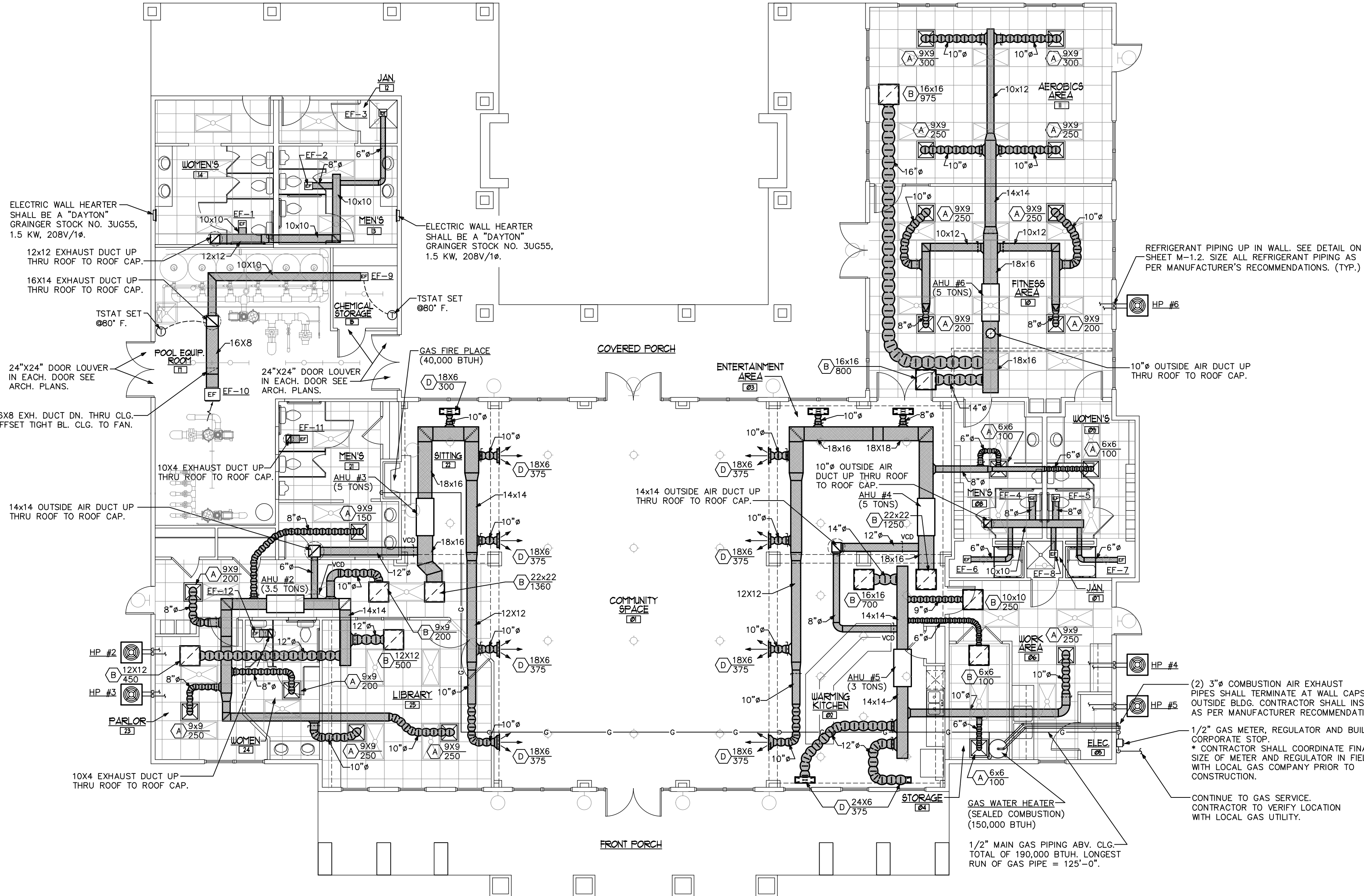
HVAC SYMBOLS LEGEND	
	THERMOSTAT, MTD +60° AFF
	EXHAUST FAN
	SECTION "A"-"A"
	REMOTE BULB SENSOR
	DUCT SMOKE DETECTOR
	TRANSITION
	TURNING VANE
	45° BRANCH DUCT TAKE-OFF
	FIRE DAMPER
	VOLUME CONTROL DAMPER
	RETURN REGISTER
	SUPPLY DIFFUSER
	RETURN AIR GRILLE
	SUPPLY REGISTER
	AIR FLOW DIRECTION
	ROOF MTD. EXH. FAN
	DUCT TURN DOWN
	DUCT TURN UP
	FLEXIBLE DUCT

GENERAL GAS PIPING NOTES

1. GAS PIPING AND FITTINGS SHALL BE SEAMLESS BLACK STEEL WITH WALLEABLE IRON FITTINGS. DIELECTRIC COUPLINGS OR UNIONS SHALL BE UTILIZED WHEN PIPING OF DISSIMILAR METAL IS CONNECTED. EXTERIOR GAS PIPING ON ROOF SHALL BE PAINTED WITH YELLOW "RUSTOLEUM" PAINT. EXPOSED GAS PIPING ON BACK WALL SHALL BE "RUSTOLEUM", PAINTED TO MATCH BUILDING. GAS PIPING CONNECTIONS SHALL BE THREADED UNLESS OTHERWISE REQUIRED BY CODE.
2. GAS PIPING SYSTEM SHALL BE INSTALLED TO THE REQUIREMENTS OF THE ASHRAE PAMPHLET "INSTALLATION OF GAS APPLIANCES AND GAS PIPING" AND THE NFPA STANDARD #54. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND PAY ALL FEES WITH THE "LOCAL" GAS COMPANY FOR THE INSTALLATION OF THE GAS METER, GAS SERVICE, AND ITS ACCESSORIES NECESSARY FOR A COMPLETE SYSTEM.
3. GAS PIPING SHALL BE TESTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN NFPA #54, AND ANY OTHER TESTS REQUIRED BY THE LOCAL BUILDING DEPARTMENT AND/OR THE LOCAL GAS UTILITY COMPANY.
4. THE INSTALLING SUBCONTRACTOR SHALL BE LICENSED BY THE STATE FOR THE INSTALLATION OF GAS PIPING.
5. RUNOUT PIPING, FROM THE MAIN PIPING TO APPLIANCES, SHALL BE WITH AN INVERTED TRAP CONNECTION AT THE MAIN.
6. A 12" DIRT LEG, AND A GAS COCK, SHALL BE PROVIDED AT ALL GAS APPLIANCES.
7. ALL EXPOSED GAS PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "GAS" IN BLACK LETTERS. THE MARKERS SHALL BE AT INTERVALS NOT EXCEEDING 5'.
8. ALL GAS BURNING EQUIPMENT SHALL BE INSTALLED PER NFPA #58, NFPA #54 (L.P.G.) OR NFPA #96 (COMMERCIAL COOKING EQUIPMENT).
9. GAS PIPE SIZES 2-1/2" AND GREATER SHALL BE WELDED, IF REQUIRED BY CODE.
10. GAS CONNECTIONS PER ANSI Z21.69

GENERAL MECHANICAL NOTES

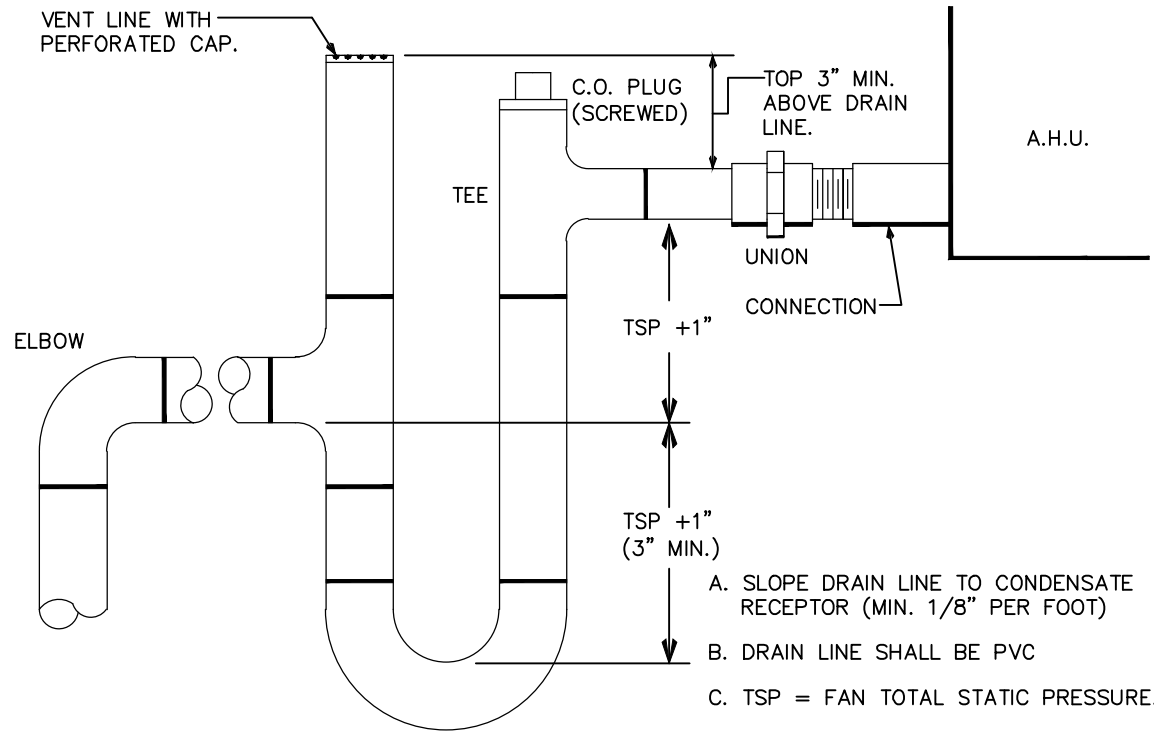
1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE APPLICABLE BUILDING CODE AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS: SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B-9.1 ALL DUCTWORK SHALL BE FABRICATED, INSTALLED AND SUPPORTED AS PER SMACNA STANDARDS.
2. THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
3. THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES, TO INSURE AN ORDERLY PROGRESS OF THIS WORK.
4. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH ONE SET OF "AS-BUILT" DRAWINGS UPON COMPLETION OF THIS PROJECT. CONTRACTOR SHALL ALSO LEAVE FOR ONE AT LEAST ONE SET OF THE MANUFACTURER'S INSTALLATION AND OPERATIONS MANUALS FOR ALL EQUIPMENT PROVIDED ON THE PROJECT.
5. ALL PROVIDED MATERIALS SHALL BE NEW OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMAN.
6. CONTRACTOR SHALL SUBMIT, FOR APPROVAL, FIVE (5) COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT. IT IS STRONGLY PREFERRED THAT THE SUBMITTALS BE MADE IN THE FORM OF AN ELECTRONIC SUBMITTAL IN A PDF TYPE FORMAT.
7. ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE GALVANIZED SHEET STEEL EXTERNALLY WRAPPED WITH WITH A MIN. OF R5 INSULATION OR R8 IF DUCTWORK IS LOCATED EXTERIOR TO BLDG INSULATION ENVELOPE. ALL FLEX DUCT SHALL BE "THERMOFLEX" OR APPROVED EQUAL AND SHALL HAVE EQUIVALENT INSULATION.
8. ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS.
9. DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
10. ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE ALL ALUMINUM CONSTRUCTION WITH EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. DEVICES SHALL BE TITUS, METALAIR, AIRGUIDE. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS.
11. THERMOSTAT SHALL BE COMBINATION COOLING/HEATING, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. PROVIDE PROGRAMMABLE TYPE THERMOSTAT. * CONTRACTOR SHALL FULLY INSTRUCT OWNER ON HOW TO PROPERLY PROGRAM INSTALLED THERMOSTATS. * PROGRAMMABLE THERMOSTAT SHALL BE BY MANUFACTURER OF INSTALLED AIR HANDLING UNIT. IT IS RECOMMENDED THAT DURING OCCUPIED HOURS, THE SET BE SET TO "ON" IN LIEU OF "AUTO". * THERMOSTATS SHALL BE MOUNTED A MAX. OF 48" A.F.F.
12. REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER SOLDER-JOINT TYPE FITTINGS, USE 95/5 SOLDER. REFRIGERANT LINES SHALL SIZED AS PER MANUFACTURER RECOMMENDATIONS.
13. SPLIT SYSTEMS (IF APPLICABLE) SHALL HAVE ARMAFLEX 3/4" INSULATION (OR APPROVED EQUAL) USED FOR SUCTION LINES. INSTALLATION SHALL BE AS PER MANUFACTURERS INSTRUCTIONS. PRE-INSULATED LINES SETS ARE ACCEPTABLE.
14. ALL BRANCH TAKE-OFFS TO BE PROVIDED W/MANUAL VOLUME DAMPERS AND TAPS AS PER PLANS REQUIREMENTS.
15. PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
16. PROVIDE SMOKE DETECTORS WITH ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON DESIGN SUPPLY OR RETURN PLENUM OF ABOVE 2000 CFM. ALL SMOKE DETECTORS SHALL BE BY ONE MANUFACTURER. COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
17. HVAC CONTRACTOR SHALL PROVIDE A TEST AND BALANCE REPORT FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHU'S AND FANS. THE T & B SHALL BE IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS, AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY GRILLES, RETURN GRILLES, AND EXHAUST GRILLES, AND THE LEAVING AND ENTERING AIR TEMPERATURE (°F) FROM SUPPLY GRILLES AND EVAPORATORS.
18. THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER BEFORE INSTALLATION.
19. ALL INSULATION SHALL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
20. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH. PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
21. CONTRACTOR SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND WIND LOADING FORCES AS REQUIRED BY LOCAL CODES. REFER TO STRUCTURAL PLANS BY OTHERS FOR STRUCTURAL DETAILS.
22. PROVIDE ALL NECESSARY CONTACTORS, RELAYS, ETC., FOR A COMPLETE OPERATING SYSTEM.
23. THROUGHOUT THE COURSE OF THE WORK, MINOR CHANGES AND ADJUSTMENTS TO THE PLANS AND SPECIFICATIONS MAY BE REQUESTED BY THE TENANT. THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE TENANT, WHERE SUCH ADJUSTMENTS ARE NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE INTENT OF THE CONTRACT DOCUMENTS.
24. NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
25. IF ANY ERRORS, DISCREPANCIES OR OMISSIONS APPEAR IN THE DRAWINGS, SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF SUCH ERROR OR OMISSION. IN THE EVENT OF THE CONTRACTOR FAILING TO GIVE SUCH NOTICE BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK, HE WILL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS, DISCREPANCIES OR OMISSIONS AND THE COST OF RECTIFYING SAME.



1 FLOOR PLAN - MECHANICAL

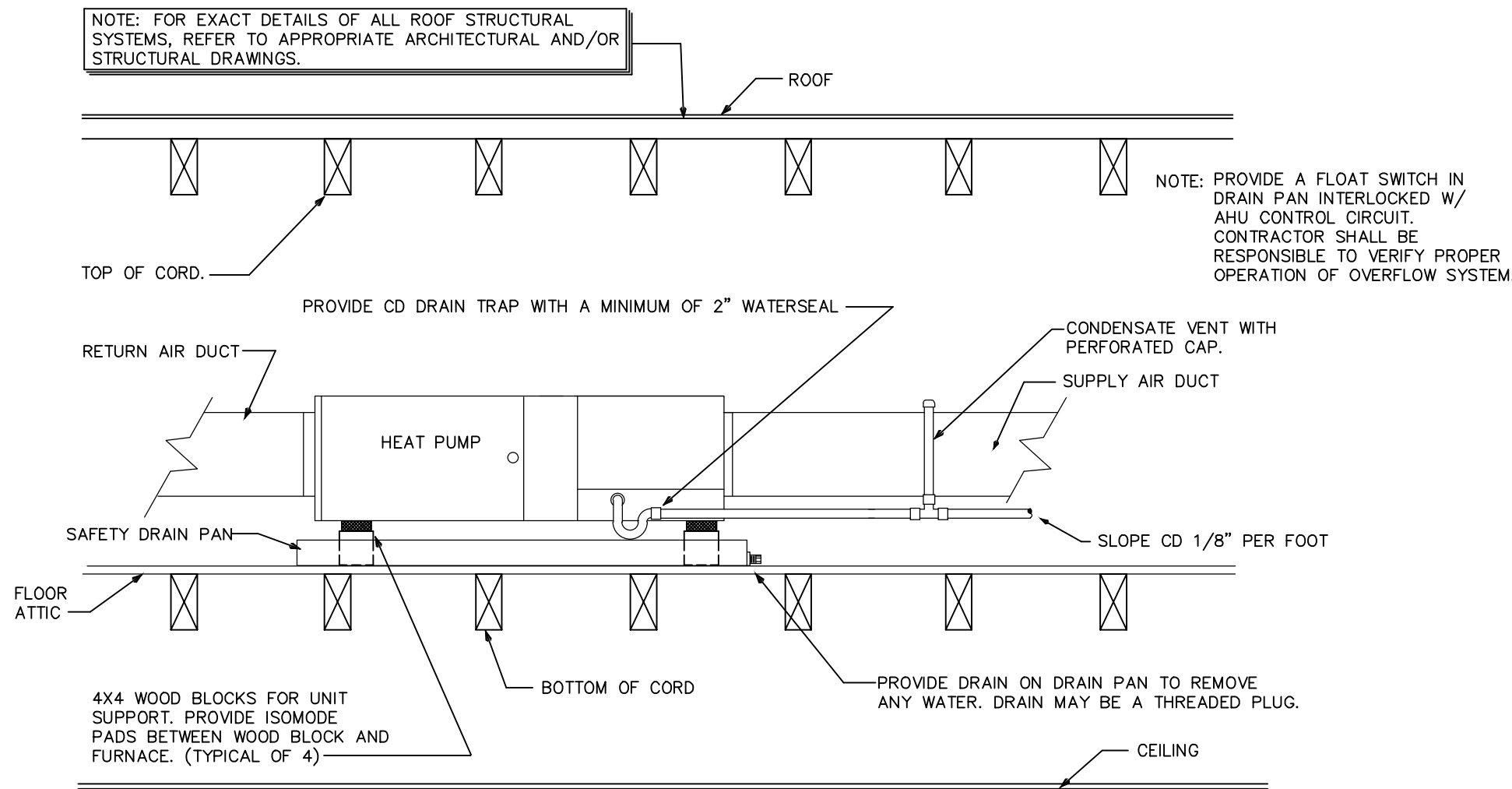
SCALE: 1/8"=1'-0"

NOTE - THIS PROJECT WAS PARTIALLY CONSTRUCTED AND SAT FOR SEVERAL YEARS. THIS DESIGN HAS BEEN PREPARED TO UTILIZED WHAT WAS INSTALLED (BASED ON FIRST GENERATION DESIGN DOCUMENTS) WHERE AND WHEN POSSIBLE. SEVERAL CHANGES HAVE BEEN MADE TO CONFIGURE WITH REVISED LAYOUTS. CONTRACTOR IS RESPONSIBLE TO CAREFULLY INSPECT ALL ELEMENTS OF THE EXISTING FACILITY TO FAMILIARIZE HIMSELF WITH THE WORK NEEDED TO COMPLETE THE PROJECT TO THE WORK SCOPE SHOWN ON THIS SET OF PLANS.



1 CONDENSATE P-TRAP DETAIL

NOT TO SCALE

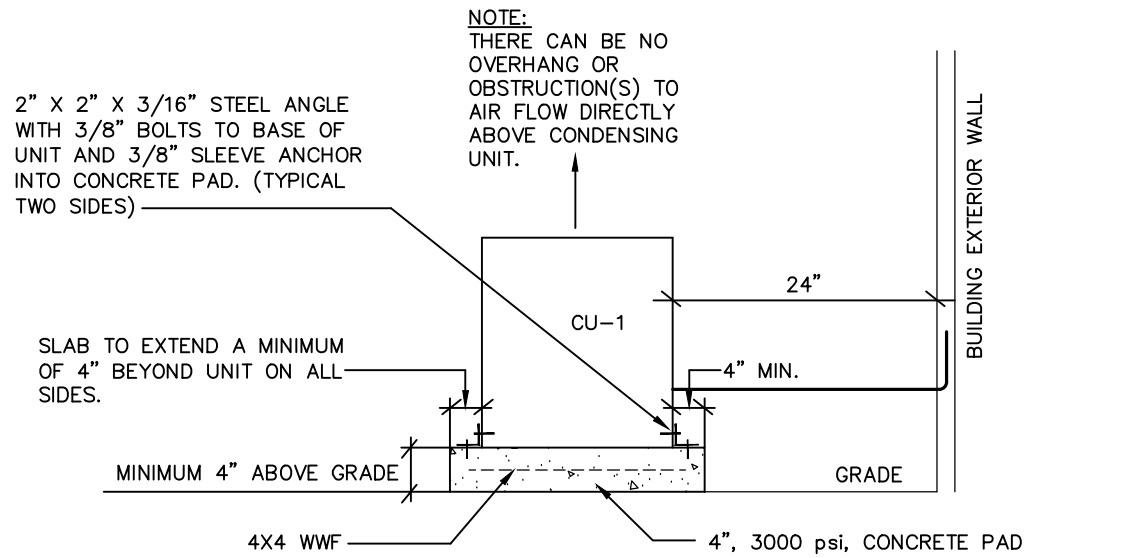


2 HEAT PUMP MOUNTING DETAIL

NOT TO SCALE

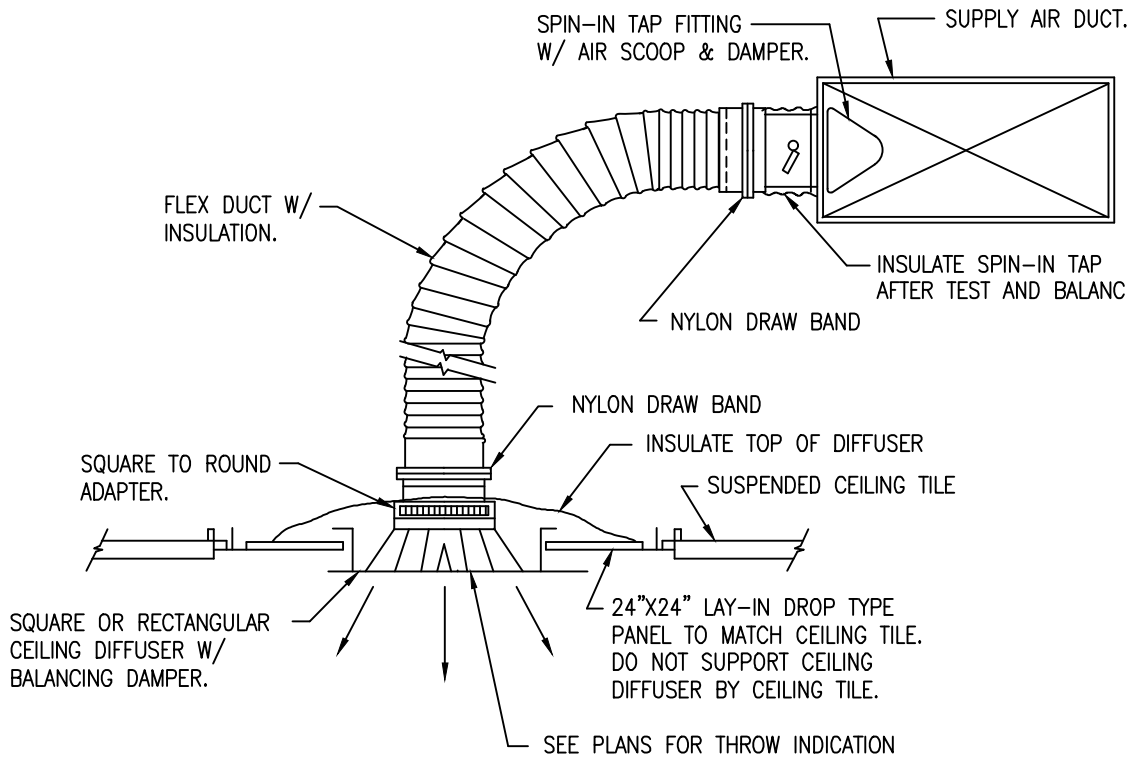
FAN SCHEDULE										
LABEL	TYPE OF UNIT – AREA SERVED	MANUFACTURER & MODEL NO.	CFM	SP	MOUNTING ARRANGEMENT	MOTOR H.P.	ENCLOSURE TYPE	RPM	VOLTAGE	NOTES
EF-1	CABINET FAN – SEE PLANS	GREENHECK SP-A700	450	.250"	CEILING MOUNTED	360W	OPEN DRIP PROOF	–	115V/1ø	1,2
EF-2,11	CABINET FAN – SEE PLANS	GREENHECK SP-A390	225	.250"	CEILING MOUNTED	135W	OPEN DRIP PROOF	–	115V/1ø	1,2
EF-3,6-8	CABINET FAN – SEE PLANS	GREENHECK SP-A125	100	.250"	CEILING MOUNTED	53W	OPEN DRIP PROOF	–	115V/1ø	1,2
EF-4,5	CABINET FAN – SEE PLANS	GREENHECK SP-B150	150	.250"	CEILING MOUNTED	129W	OPEN DRIP PROOF	–	115V/1ø	1,2
EF-9	CABINET FAN – CHEMICAL STORAGE	PENN ZEPHYR Z8H	380	.125"	CEILING MOUNTED	1.6A	OPEN DRIP PROOF	1550	115V/1ø	1,2
EF-10	CABINET FAN – POOL EQUIPMENT	PENN ZEPHYR Z10H(TDA)	600	.125"	CEILING MOUNTED	3.6A	OPEN DRIP PROOF	1550	115V/1ø	1,2
EF-12	CABINET FAN – SEE PLANS	GREENHECK SP-B150	150	.250"	CEILING MOUNTED	129W	OPEN DRIP PROOF	–	115V/1ø	1,2

- 1) ALL FANS TO BE PROVIDED WITH BACKDRAFT DAMPERS
- 2) REFER TO ELECTRICAL PLANS FOR WIRING AND CONTROLS.



3 COND. UNIT DETAIL

NO SCALE



4 ROUND SUPPLY TAP DETAIL

NO SCALE

OUTSIDE AIR CALCULATIONS						
THE FOLLOWING IS BASED ON 2012 NCMC TABLE 403.3 MINIMUM VENTILATION RATES FOR OUTSIDE AIR REQUIREMENTS						
UNIT LABEL	OCCUPANCY	AREA	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	E _s	TOTAL
AHU #1	N/A					
AHU #2	OFFICE	325	5 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(2 X 5) + (325 X .06) = 30 PEOPLE AREA TOTAL		
AHU #2	CORRIDOR	205	0.06 CFM PER SQ. FT.	(N/A) + (205 X .06) = 13 PEOPLE AREA TOTAL		
AHU #2	LOBBY	150	10 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(2 X 5) + (150 X .06) = 19 PEOPLE AREA TOTAL		
				AHU #2 TOTAL = 62	0.8	62/0.8 = 78
AHU #3	MULTIPURPOSE ASSEMBLY	790	120 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(94 X 5) + (790 X .06) = 517 PEOPLE AREA TOTAL	0.8	517/0.8 = 646
AHU #4	MULTIPURPOSE ASSEMBLY	915	120 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(109 X 5) + (915 X .06) = 599 PEOPLE AREA TOTAL	0.8	599/0.8 = 748
AHU #5	MULTIPURPOSE ASSEMBLY	210	120 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(25 X 5) + (210 X .06) = 138 PEOPLE AREA TOTAL		
AHU #5	STORAGE	80	0.12 CFM PER SQ. FT.	(N/A) + (80 X .12) = 9.6 PEOPLE AREA TOTAL		
AHU #5	OFFICE	225	5 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(2 X 5) + (225 X .06) = 24 PEOPLE AREA TOTAL		
				AHU #5 TOTAL = 172	0.8	172/0.8 = 215
AHU #6	AEROBICS ROOM	490	40 PEOPLE PER 1,000 S.F./20 CFM PER PERSON	(19 X 5) + (490 X .06) = 125 PEOPLE AREA TOTAL		
AHU #6	WEIGHT ROOM	500	10 PEOPLE PER 1,000 S.F./20 CFM PER PERSON	(5 X 5) + (500 X .06) = 55 PEOPLE AREA TOTAL		
				AHU #6 TOTAL = 180	0.8	180/0.8 = 225

* E_s (SYSTEM VENTILATION EFFICIENCY) AS PER 2012 NCMC TABLE 403.3.2.3.2

APPENDIX B BUILDING CODE SUMMARY (MECHANICAL SUMMARY)	
MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT	
METHOD OF COMPLIANCE:	
Prescriptive ☒ Energy Cost Budget ☐	
Thermal Zone <u>Zone 3A</u>	
Exterior Design Conditions	
winter dry bulb	<u>20° F</u>
summer dry bulb	<u>97° F</u>
Interior Design Conditions	
winter dry bulb	<u>68° F</u>
summer dry bulb	<u>74° F</u>
relative humidity	<u>52.9%</u>
Building Heating Load	<u>208,193 BTU</u>
Building Cooling Load	<u>252,080 BTU</u>
Mechanical Spacing Conditioning System	
Unitary	
Description of unit	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
heating efficiency	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
cooling efficiency	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
heat output of unit	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
cooling output of unit	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
Boiler	<u>N/A</u>
total boiler output, if oversized, state reason.	
Chiller	<u>N/A</u>
total chiller capacity, if oversized, state reason.	
List equipment efficiencies	
Equipment schedules with motors (mechanical systems)	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
motor horsepower	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
number of phases	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
minimum efficiency	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
motor type	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
# of poles	REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
DESIGNER STATEMENT:†	
To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina Energy Code 2012.	
SIGNED:	<u>1000 W. CAREY</u>
NAME:	<u>N.C. PROFESSIONAL ENGINEER #9079</u>
TITLE:	

AIR COOLED HEAT PUMP SCHEDULE																						
HEAT PUMP											AIR HANDLING UNIT							INTEGRATED ELECTRIC HEATING				
CU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CAPACITY COOLING	SENSIBLE CAPACITY COOLING	TOTAL CAPACITY HEATING	COMP. RLA	FAN FLA	VOLTAGE	MOCP	EER/SEER	WEIGHT	AHU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CFM	O/A CFM	E.S.P.	BLOWER SPEED	FAN HP	VOLTAGE	WEIGHT	HEATER KW	VOLTAGE	NOTES
HP #1	NOT USED	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
HP #2	CARRIER 25HBB342A003	40,500	30,640	30,690	19.9	1.2	208V/1ø	40A	13.0	203 lbs.	AHU #2	CARRIER FX4DNF042008	1,400	SEE SCH	0.3"	HIGH	1/2 HP	208V/1ø	144 lbs.	6.0 K.W.	208V/1ø	1 THRU 6
HP #3	CARRIER 25HBB360A003	59,260	44,220	43,770	26.3	1.2	208V/1ø	50A	13.0	295 lbs.	AHU #3	CARRIER FX4DNF06015	2,000	SEE SCH	.25"	HIGH	3/4 HP	208V/1ø	168 lbs.	6.0 KW	208V/1ø	1 THRU 6
HP #4	CARRIER 25HBB360A003	59,260	44,220	43,770	26.3	1.2	208V/1ø	50A	13.0	295 lbs.	AHU #4	CARRIER FX4DNF06015	2,000	SEE SCH	.25"	HIGH	3/4 HP	208V/1ø	168 lbs.	6.0 KW	208V/1ø	1 THRU 6
HP #5	CARRIER 25HBB336A003	33,800	25,600	26,480	16.7	0.9	208V/1ø	35A	13.0	203 lbs.	AHU #5	CARRIER FX4DNF036008	1,200	SEE SCH	0.3"	HIGH	1/2 HP	208V/1ø	144 lbs.	6.0 KW	208V/1ø	1 THRU 6
HP #6	CARRIER 25HBB360A003	59,260	44,220	43,770	26.3	1.2	208V/1ø	50A	13.0	295 lbs.	AHU #6	CARRIER FX4DNF06015	2,000	SEE SCH	.25"	HIGH	3/4 HP	208V/1ø	168 lbs.	6.0 KW	208V/1ø	1 THRU 6
GENERAL NOTES: • ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED. • PROVIDE VIBRATION ISOLATION FOR UNITS. • EXTERNAL STATIC PRESSURE DOES NOT INCLUDE COIL OR FILTER PRESSURE DROP. • CONTRACTOR MAY SUBSTITUTE MANUFACTURER FOR APPROVED EQUAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ANY CLEARANCE REQUIREMENTS ARE MET FOR ANY SUBSTITUTIONS.					ABBREVIATION LEGEND: O/A – OUTSIDE AIR H/P – HORSE POWER RLA – RUNNING LOAD AMPS FLA – FULL LOAD AMPS MOCP – MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE) E.S.P. – EXTERNAL STATIC PRESSURE EER – ENERGY EFFICIENCY RATIO SEER – SEASONAL ENERGY EFF. RATIO						SPECIFIC NOTES: 1) SIZE AND RUN REFRIGERANT PIPING AS PER MANUFACTURERS PUBLISHED RECOMMENDATIONS. 2) INSULATE REFRIGERANT SUCTION LINE WITH 3/4" ARMAFLEX OR APPROVED EQUAL. 3) INSTALL FILTER DRYER AND STRAINER IN REFRIGERANT LIQUID LINE. 4) PROVIDE FIELD INSTALLED ACCESSORIES AND 5 MINUTE TIME DELAY SWITCH. 5) PROVIDE 5 YEAR WARRANTY ON COMPRESSOR AND 1 YEAR WARRANTY ON ALL PARTS AND LABOR. 6) PROVIDE SINGLE POINT POWER CONNECTION WITH INTEGRAL OVERCURRENT PROTECTION DEVICE.							SEQUENCE OF OPERATION FOR HEATING FIRST STAGE WHEN THE THERMOSTAT CALLS FOR HEATING, THE INDOOR FAN MOTOR, OUTDOOR FAN MOTORS AND THE COMPRESSOR (FULLY LOADED) ARE ENERGIZED, THE REVERSING VALVE SOLENOID IS ENERGIZED IN THE HEATING MODE. SECOND STAGE IF ADDITIONAL HEAT IS REQUIRED, THE ELECTRIC HEAT SHALL BE ENERGIZED.				

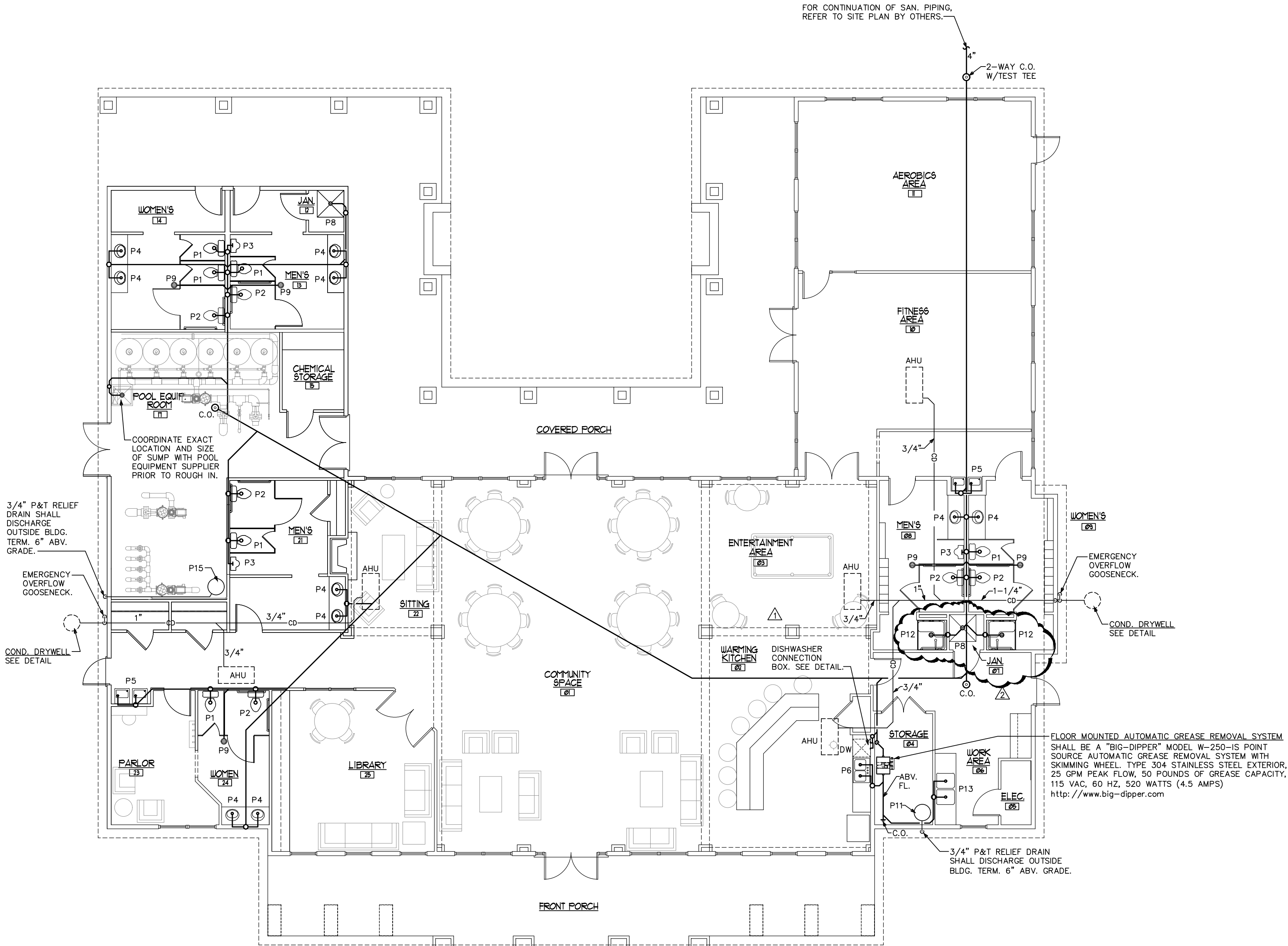
PLUMBING FIXTURE SCHEDULE
P-1 (FLOOR MOUNTED FLUSH TANK WATER CLOSET) SHALL BE AN AMERICAN STANDARD MODEL CADET MODEL 2333.100 ELONGATED 1.6 GPF, VITREOUS CHINA, PRESSURE-ASSISTED SIPHON ACTION BOWL, CLOSE-COUPLED TANK, FLOOR MOUNTED, FLOOR OUTLET, SPEED CONNECT TANK/BOWL COUPLING SYSTEM, WITH AMERICAN STANDARD OPEN FRONT SEAT WITH COVER MODEL 5325.024. * http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_722.pdf
P-2 (HANDICAPPED FLOOR MOUNTED FLUSH TANK WATER CLOSET) SHALL BE AN AMERICAN STANDARD MODEL CADET RIGHT HEIGHT 16-1/2" 2377.100 ELONGATED 1.6 GPF, VITREOUS CHINA, PRESSURE-ASSISTED SIPHON ACTION BOWL, CLOSE-COUPLED TANK, FLOOR MOUNTED, FLOOR OUTLET, SPEED CONNECT TANK/BOWL COUPLING SYSTEM, WITH AMERICAN STANDARD OPEN FRONT SEAT WITH COVER MODEL 5325.024. * http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_1006.pdf
P-3 (HANDICAPPED URINAL) SHALL BE AN AMERICAN STANDARD LYNBROOK MODEL 6601.012 TOP SPUD, 0.83 GPF, FLUSH VALVE SHALL BE SLOAN ROYAL MODEL 180-1. * http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_190.pdf
P-4 (HANDICAPPED COUNTER TOP LAVATORY) SHALL BE AN AMERICAN STANDARD MODEL RONALYN MODEL 0490.011 VITREOUS CHINA SELF-RIMMING, FAUCET SHALL BE A BRADLEY "AERADA 90-75 SERIES METERING FAUCET" MODEL S53-053 WITH 4" CENTERS, UNIT IS ADA COMPLIANT AND 0.5 GPM WITH A 10 SECOND OPERATING CYCLE PRODUCING UNDER .25 GALLONS PER CYCLE, PROVIDE A BRADLEY VERNATHERM THERMOSTATIC MIXING VALVE TO DELIVER TEMPERED WATER AT A TEMPERATURE NOT TO EXCEED 105 DEGREES, GRID DRAIN, OFFSET PERFORATED WHEELCHAIR LAVATORY DRAIN ASSEMBLY WITH 1-1/2" TAILPIECE, MCGUIRE #155WC, PROVIDE PROTECTIVE INSULATION ON DRAIN AND HOT WATER LINE TO MEET HANDICAP CODE REQUIREMENTS ON ALL INSTALLATIONS WITH EXPOSED PIPING. * http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_90.pdf * http://www.bradleycorp.com/products/techdata/3000.pdf
P-5 (HANDICAPPED ELECTRIC WATER COOLER COMBINATION H/O) SHALL BE AN ELKAY MODEL EMABFTLBC, SPLIT LEVEL TWO STATION WATER COOLER WITH BARRIER FREE ACCESS, MODEL EMABFTLBC, 8.8 GPH, 4.0 FLA AT 120 VOLT. * http://www.elkayusa.com/cps/rde/xbr/ekay/12-53B_EMABFTLBC_EMABFTLDDC.pdf
P-6 (HANDICAPPED DOUBLE BOWL STAINLESS STEEL SINK) SHALL BE A "JUST" MODEL DL-ADA-1933-A-GR, 19"x33"x6-1/2" DOUBLE BOWL, SEAMLESS DIE-DRAWN CONSTRUCTION OF TYPE 304, 18-8 STAINLESS STEEL, INTERIOR AND TOP SURFACES POLISHED TO A NON-POROUS HAND-BLENDED JUST FINISH WITH HIGHLIGHTED BOWL RIM, FULLY COATED UNDERSIDE INSULATES FOR SOUND, AND REDUCES CONDENSATION, STRAIGHT-SIDED COMPARTMENT WITH 1 3/4" RADIUS CORNERS PROVIDES GREATER CAPACITY, SELF-RIMMING TOP MOUNT GRIP-RIM PLUS WITH 300 SERIES STAINLESS STEEL MOUNTING CHANNELS, DRAIN PUNCH #35 CENTERED FOR JUST J-35 UNLESS OTHERWISE SPECIFIED, FAUCET SHALL BE A "JUST" MODEL J-1174-KS WITH 4" WRIST BLADE HANDLES. * http://www.justmfg.com/PDF/DLADA1933A.pdf * http://www.justmfg.com/PDF/7-29.pdf
P-7 (EXTERIOR HOSE BIBB WITH LOCK COVER) SHALL BE A "ZURN" Z1320-C ENCASED ECOCLOTROL, ANTI-SIPHON, AUTOMATIC DRAINING, NON-FREEZE WALL HYDRANT COMPLETE WITH INTEGRAL BACKFLOW PREVENTOR, COPPER CASING, ALL BRONZE INTERIOR PARTS, NON-COMBINATION 3/4" MALE PIPE THREAD INLET CONNECTION STANDARD, REGULARLY FURNISHED WITH 3/4" HOSE CONNECTION, CHROME-PLATED ROUGH CAST BRONZE BOX AND HINGED COVER, INCLUDES OPERATING KEY. * http://zurn.com/operations/lightcommercial/pdfs/specsheets/63805.pdf
P-8 (FLOOR MOUNTED MOP RECEPTOR) SHALL BE A FLORESTONE #50 36X36X6" MOLDED MOP BASIN WITH 3" OUTLET, PROVIDE WITH MR-371 THREADED FAUCET WITH WALL BRACE, PAIL HOOK AND APPROVED VACUUM BREAKER, MR-370 HOSE & HOSE BRACKET, MR-372 MOP HANGER, MR-373 BUMPER GUARDS AND MR-377 STAINLESS STEEL WALL GUARD. * http://www.florestone.com/mop_sinks/model_50-70.html * http://www.florestone.com/mop_sinks/ms_accessories.html
P-9 (FLOOR DRAIN WITH TRAP SEAL) SHALL BE A JOSAM 30000-WT-A-49 SERIES COATED CAST IRON FLOOR DRAIN, TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WELOC INVERTIBLE NON- PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET, INSIDE CALK NICKELALUM AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER. * http://www.josam.com/images/josamnmkt/sbmtl/s06_30000-WT-A.pdf FLOOR DRAIN TRAP SEAL SHALL BE A "SURE SEAL" MODEL SS3000 PREASSEMBLED INLINE FLOOR DRAIN TRAP SEALER, 5 PIECES: COMMERCIAL GRADE ABS PLASTIC HOUSING AND KEEPER PIN, PROPRIETARY NEOPRENE RUBBER DIAPHRAGM, WITH 2 SOFT RUBBER SEALING GASKETS, FLOOR RATING ASSE -1072 AF-OW. * http://www.thesureseal.com/Portals/49321/docs/plitch_sheet_ss3000.pdf
P-10 (WATER CONNECTION BOX) SHALL BE A HIGH QUALITY CONNECTION BOX AS SPECIFIED ON PLUMBINGSUPPLY.COM LOCATED ON THIS PAGE "http://www.plumbingsupply.com/icemaker-outlet-boxes.html" SHALL INCLUDE 2 SUPPORT BRACKETS, HIGH IMPACT POLYSTYRENE, 1/4" BRASS BALL VALVE WITH 1/2" SWEAT CONNECTION, OR APPROVED EQUAL.
P-11 (GAS WATER HEATER - DIRECT VENT - SEALED COMBUSTION) SHALL BE A STATE "ULTRA-FORCE" MODEL SUP-100-NE GAS FIRED COMMERCIAL WATER HEATER, 150,000 BTU INPUT TO PRODUCE 173 GALLONS PER HOUR OF HOT WATER AT 100 DEGREE RISE, INSULATED GLASSLINED 100 GALLON STORAGE TANK, WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE SECTIONS 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION. * http://www.statewaterheaters.com/lit/spec/comm-gas/SCGSS00207.pdf
P-12 (HANDICAPPED SHOWER STALL AND MIXING VALVE) SHOWER STALL SHALL BE A "FLORESTONE" MODEL 3PC-40-40H, (O.D. = 40 1/4"x40 1/4"x78 1/2") THREE-PIECE GEL-COATED FIBERGLASS SHOWER DESIGNED FOR BARRIER-FREE USE AS MANUFACTURED BY FLORESTONE PRODUCTS CO. UNIT TO HAVE A FLAME SPREAD OF 25, AND A SMOKE DENSITY RATING OF 400 OR LESS IN ACCORDANCE WITH ASTM-E84 TEST METHOD. BASIC SHOWER WILL CONFORM TO ANSI-Z-24.2 AND THE ACCESSORIZED MODULE TO ANSI-A-117.1. UNIT TO INCLUDE STAINLESS STEEL CURTAIN ROD; SYMMONS® PRESSURE BALANCE MIXING VALVE WITH CONCEALED CHECK STOPS; ALSONS®HAND-HELD SHOWER HEAD WITH HOSE AND CHROME-PLATED SLIDE BAR, STAINLESS STEEL CORNER GRAB BAR, STAINLESS STEEL RECESSED SOAP DISH; WHITE NAUGAHYDE FOLDING WHEELCHAIR TRANSFER SEAT. (OR APPROVED EQUAL) * http://www.florestone.com/ada/3pc-40-40h.html
P-13 (2 COMPARTMENT WORK SINK) COORDINATE FINAL SPECIFICATIONS WITH ARCHITECT/OWNER PRIOR TO CONSTRUCTION.
P-14 (INTERIOR HOSE BIBB) SHALL BE A ZURN Z1350 ENCASED MODERATE CLIMATE WALL HYDRANT FOR NARROW WALL INSTALLATION, COMPLETE WITH BRONZE BODY, ALL BRONZE INTERIOR PARTS, REPLACEABLE SEAT WASHER, SCREWDRIVER OPERATED STOP VALVE IN SUPPLY, KEY OPERATED CONTROL VALVE, AND 3/4" IP FEMALE INLET AND 3/4" MALE HOSE CONNECTION STANDARD, STAINLESS STEEL BOX AND HINGED COVER WITH CYLINDER LOCK AND "WATER" STAMPED ON COVER. **NOTE: CAULKING OF INSIDE JOINTS BY OTHERS. * http://www.zurn.com/operations/specdrain/pdfs/specsheets/58877.pdf
P-15 (ELECTRIC WATER HEATER) SHALL BE A LOCHINVAR MODEL JR4040KS, 40 GALLON GLASSLINED STORAGE TANK, JUNIOR TYPE WATER HEATER WITH (2) - 4.5 KW ELECTRIC ELEMENTS WIRED FOR NON-CONCURRENT INDEPENDENT OPERATION AT 208 VOLTS, SINGLE PHASE INCOMING POWER, 3 YEAR LIMITED WARRANTY ON STORAGE TANK AGAINST TANK FAILURE, WATER RATED, SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE STANDARD 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION. * http://lochinvar.com/_linefiles/JRE-06.pdf
NOTES: 1.) ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL. 2.) PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.

PLUMBING ABBREVIATION LEGEND					
DN.	DOWN	C.C.	CENTER TO CENTER	F.U.	FIXTURE UNITS
EXT.	EXTERIOR	N.T.S.	NOT TO SCALE	H.B.	HOSE BIBBS
F.D.	FLOOR DRAIN	MFR.	MANUFACTURER	C.O.	CLEANOUT
F.F.	FINISH FLOOR	S.O.V.	SHUT OFF VALVE	E.W.H.	ELECTRIC WATER HEATER
A.F.F.	ABOVE FINISH FLOOR	W.C.	WATER CLOSET	JAN.SK.	JANITOR SINK
V.T.R.	VENT THRU ROOF	LAV.	LAVATORY	P & T	PRESSURE & TEMPERATURE
TYP.	TYPICAL	SK.	SINK	RWL.	RAIN WATER LEADER
R.D.	ROOF DRAIN	D.W.	DISH WASHER		
REV.	REVISION	E.D.F.	ELECTRIC DRINKING FOUNTAIN		
O.C.	ON CENTER	UR.	URINAL		

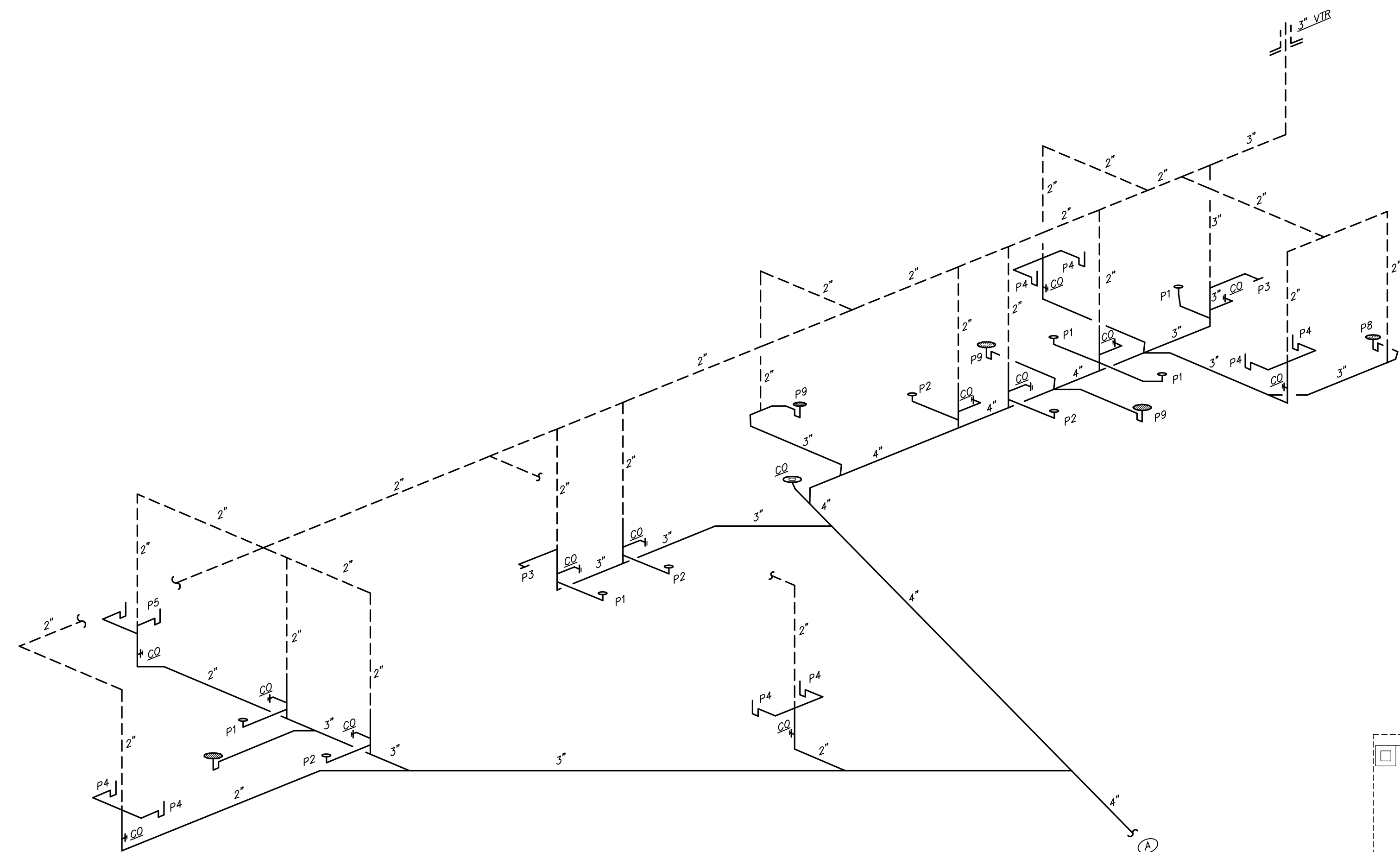
PLUMBING SYMBOLS LEGEND	
	FLOOR DRAIN
	HOSE BIBB
	CLEANOUT
	RELIEF VALVE
	AIR CHAMBER
	UNION
	SOIL OR WASTE LINE
	SANITARY VENT LINE
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC WATER RECIRCULATION
	PRESSURE & TEMP. RELIEF LINE
	CONDENSATE DRAIN LINE
	RAIN WATER LEADER
	GAS LINE
	SEWER LINE
	FIRE PROTECTION
	SHUT OFF VALVE
	SAFEPAN LINE
	FIRE SPRINKLER HEAD
	PIPE TURN UP
	PIPE TURN DOWN
	P-TRAP

NOTE - THIS PROJECT WAS PARTIALLY CONSTRUCTED AND SAT FOR SEVERAL YEARS. THIS DESIGN HAS BEEN PREPARED TO UTILIZE WHAT WAS INSTALLED (BASED ON FIRST GENERATION DESIGN DOCUMENTS) WHERE AND WHEN POSSIBLE. SEVERAL CHANGES HAVE BEEN MADE TO CONFORM WITH REVISED LAYOUTS. CONTRACTOR IS RESPONSIBLE TO CAREFULLY INSPECT ALL ELEMENTS OF THE EXISTING FACILITY TO FAMILIARIZE HIMSELF WITH THE WORK NEEDED TO COMPLETE THE PROJECT TO THE WORK SCOPE SHOWN ON THIS SET OF PLANS.

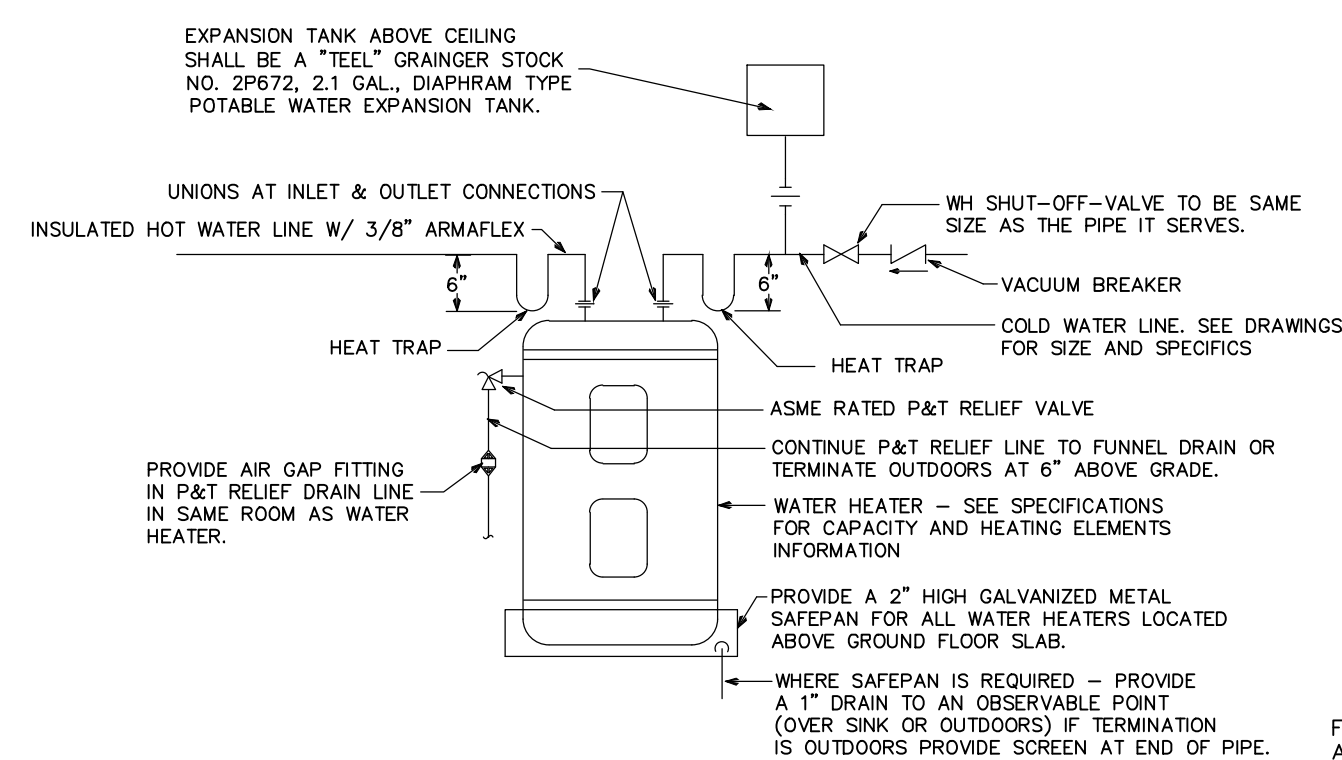
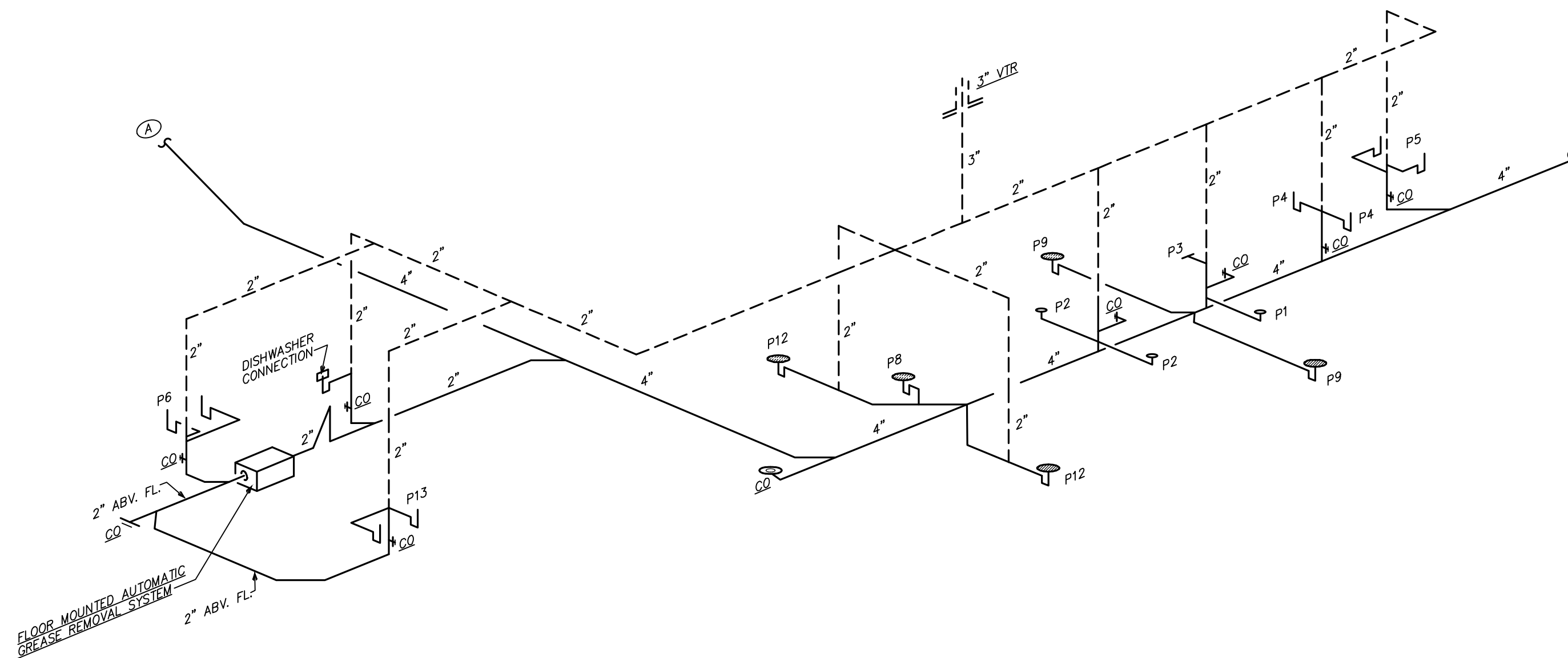
GENERAL PLUMBING NOTES
1) DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES, EQUIPMENT, ETC.. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS REQUIRED FOR A COMPLETE AND ACCEPTABLE WORKING INSTALLATION. CONTRACTOR IS RESPONSIBLE TO INSTALL ALL FIXTURES AND EQUIPMENT IN STRICT COMPLIANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THIS REQUIREMENT IS TO SUPERSEDE ANY DETAILS OR INFORMATION CONTAINED ON THESE DRAWINGS.
2) ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL, STATE, AND ALL LOCAL CODES AND ORDINANCES HAVING JURISDICTION.
3) THE PLUMBING CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS. ALL EXECUTION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
4) ALL MATERIAL SHALL BE NEW.
5) ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER, THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.
6) ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OR PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
7) THE PLUMBING CONTRACTOR SHALL SECURE AND PAY ALL PERMIT FEES, INSPECTIONS, AND TESTS.
8) ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
9) THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN (1) ONE YEAR FROM DATE OF ACCEPTANCE. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
10) VERIFY LOCATION, SIZE AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION. ADVISE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
11) ALL FIXTURES SHALL BE PROVIDED WITH READILY ACCESSIBLE STOPS.
12) ALL BELOW FLOOR SLAB WATER PIPING SHALL BE FLEXIBLE "TEMPRITE PEX (CROSS-LINKED POLYETHYLENE)" INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS FOUND HERE: WWW.LUBRIZOL.COM . ALL ABOVE SLAB WATER PIPING SHALL BE "FLOWGUARD GOLD CPVC" INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS FOUND HERE: WWW.FLOWGUARDGOLD.COM . ALL WATER PIPING AS SPECIFIED OR APPROVED EQUAL. ALL WATER PIPING LARGER THAN 1" SHALL BE CPVC.
13) SOIL, WASTES AND VENT PIPING SHALL BE PVC #40 DMV. WASTE AND VENT PIPING ABOVE SLAB SHALL BE PVC, IF APPROVED BY LOCAL AUTHORITIES HAVING JURISDICTION, OTHERWISE CAST IRON. PVC SHALL NOT BE INSTALLED IN A/C RETURN AIR PLENUM OR PENETRATE FIRE RATED WALLS OR FLOORS.
14) AIR CONDITIONING CONDENSATE DRAIN PIPING SHALL BE PVC #40 OR COPPER DRAIN WASTE AND BENT PIPE AND FITTINGS. INSULATE ALL CONDENSATE PIPING EXCEPT EXTERIOR PIPING. INSTALL ALL CONDENSATE PIPING FOR AIR CONDITIONING UNITS AS REQUIRED PER LOCAL CODES.
15) FURNISH AND INSTALL APPROVED WATER HAMMER ARRESTORS AT EACH GROUP OF FIXTURES. INSTALLATION OF WATER HAMMER ARRESTORS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE AND INSTALL AN APPROVED WATER HAMMER ARRESTOR AT EACH FIXTURE OR DEVICE THAT HAS A SOLENOID WATER CONTROL VALVE.
16) PROVIDE CHROME PLATED COMBINATION COVERED PLATE AND CLEANOUT PLUG FOR ALL WALL CLEANOUTS, JOSAM 58890.
17) INSULATE LINES AS FOLLOWS: A.) 1" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON BOTH C.W. & H.W. WHEN PIPING IS LOCATED OUTSIDE OF THE INSULATED BUILDING ENVELOPE. B.) 1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON HW PIPING & H.W. RECIRC. PIPING, ONLY WHEN THERE IS A H.W. RECIRCULATING PIPING SYSTEM. C.) CONDENSATE PIPING: 1/2" THICK ARMAFLEX PREFORMED OR APPROVED EQUAL.
18) STORM DRAIN PIPING SHALL BE SCHED. 40 PVC.



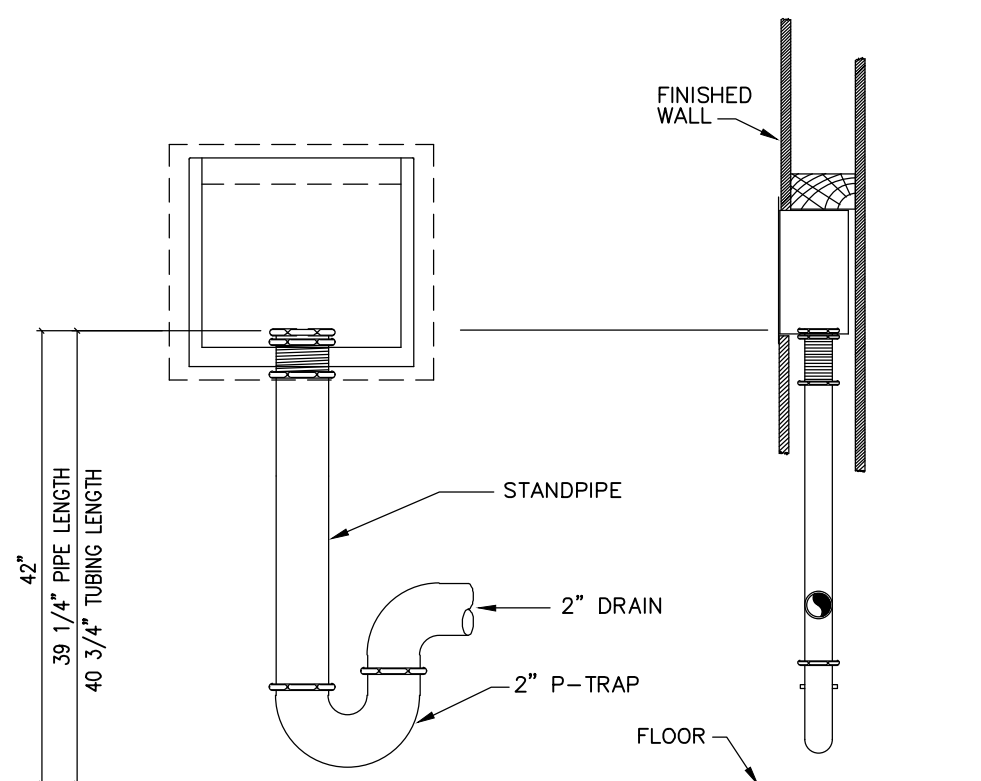
(SANITARY PIPING)
1 FLOOR PLAN - PLUMBING
SCALE: 1/8"=1'-0"



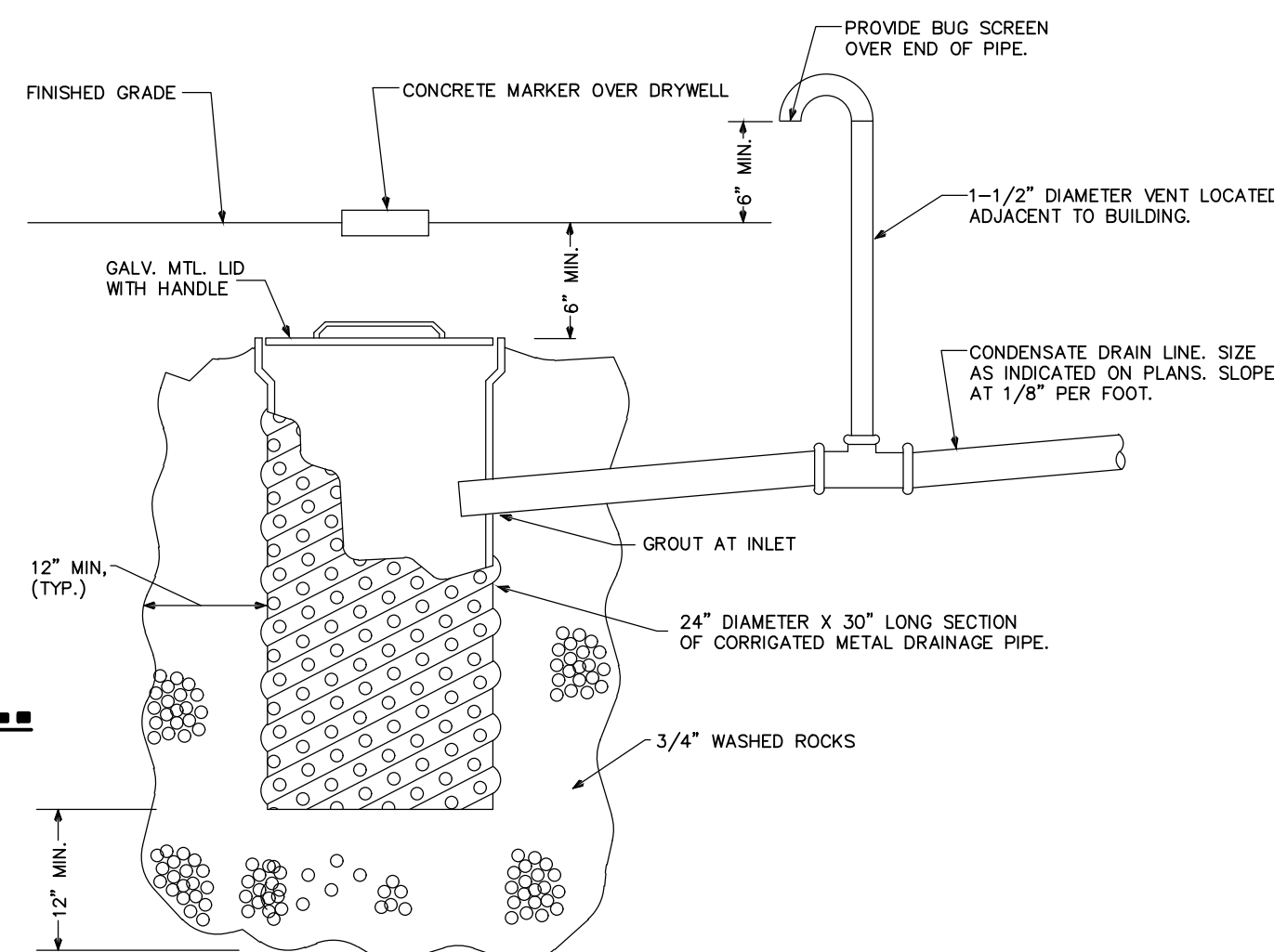
2 SANITARY ISOMETRIC
NO SCALE



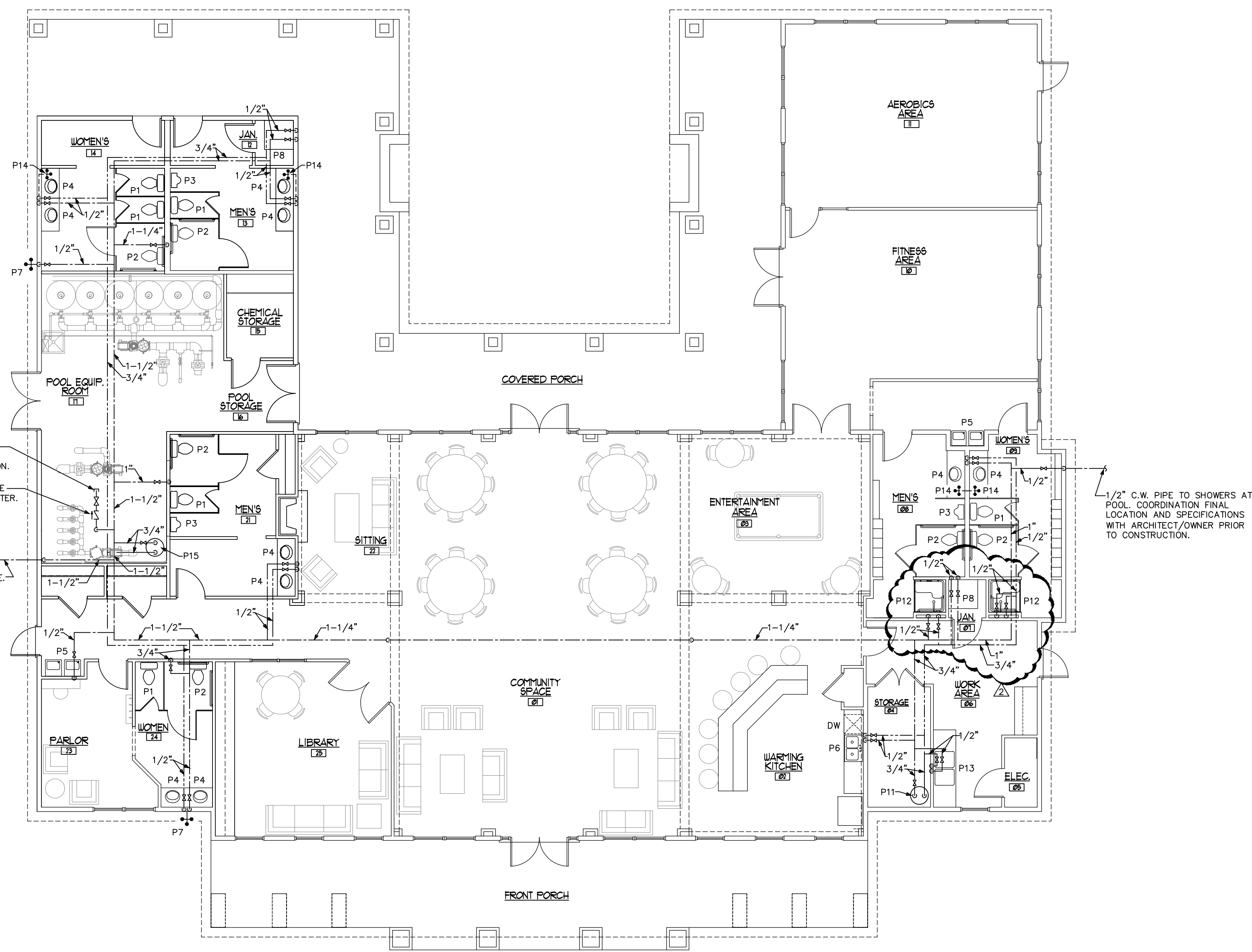
2 WATER HEATER DETAIL
NO SCALE



3 D.W. CONNECTION BOX DTL.
NO SCALE



3 COND. DRYWELL DETAIL
NO SCALE



(WATER PIPING)
1 FLOOR PLAN - PLUMBING
SCALE: 1/8"=1'-0"

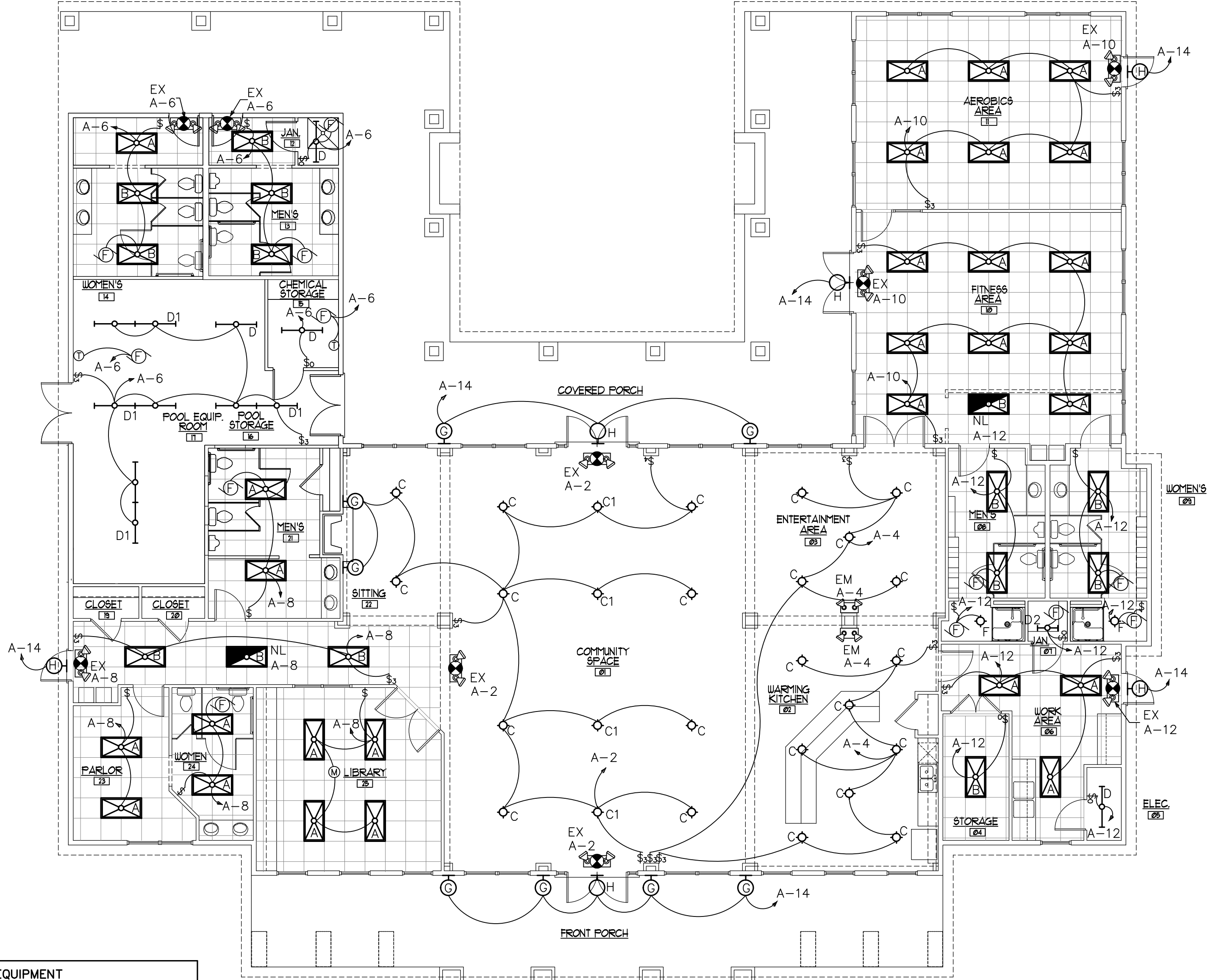
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ELECTRICAL NOTES:

1. GENERAL: ALL WORK SHALL CONFORM TO THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL JURISDICTIONAL CODES.
- THE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND ANY APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, THE CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM, AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL THE OWNER HAS DIRECTED THE CORRECTIVE ACTION TO BE TAKEN.
- THE CONTRACTOR SHALL COORDINATE THE PROPOSED LOCATIONS OF ALL ELECTRICAL MATERIALS AND EQUIPMENT WITH THE REPRESENTATIVES OF THE OTHER TRADES INVOLVED BEFORE STARTING INSTALLATION OF THOSE ITEMS.
- COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES, CONDUIT, AND SLEEVES TO BE SET IN CAST-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.
- UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL SPECS ARE NOT INTENDED TO BE PROPRIETARY. SUBSTITUTIONS WILL BE ACCEPTABLE FOR EQUAL RATED AND LISTED UNITS.
2. SCOPE: EXCEPT WHERE OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS BY "FUTURE", "BY OTHERS", OR BY A SIMILAR NOTATION, IT IS THE INTENT THAT THE CONTRACTOR FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS NECESSARY TO PROVIDE ALL SYSTEMS IN COMPLETE AND OPERATING CONDITION.
3. EXCAVATE AS NECESSARY FOR THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT. VERIFY THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES OR STRUCTURES BEFORE EXCAVATING AND EXERCISE CARE TO AVOID DAMAGE TO SUCH ITEMS DURING EXCAVATION. BACKFILL WITH EARTH FREE OF LARGE CLODS, LARGE STONES AND FOREIGN DEBRIS. DEPOSITED IN 6" LAYERS AND COMPACTED TO A DENSITY OF NOT LESS THAN THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. MATERIALS: THE MATERIALS AND EQUIPMENT FURNISHED SHALL BE AS INDICATED ON THE DRAWINGS; SUBSTITUTIONS SHALL NOT BE MADE EXCEPT WHERE EXPRESSLY APPROVED BY THE OWNER OR HIS REPRESENTATIVE PRIOR TO STARTING INSTALLATION OF THE ITEMS. THE ELECTRICAL MATERIALS AND EQUIPMENT FURNISHED SHALL BE LISTED OR LABELED BY UNDERWRITERS LABORATORIES OR OTHER RECOGNIZED TESTING ORGANIZATION, AND SHALL BE ACCEPTABLE TO THE LOCAL BUILDING AUTHORITY.
5. GROUNDING: GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250, NEC.
6. SHARED NEUTRAL CONDUCTORS SHALL NOT BE ALLOWED UNLESS INSTALLED IN ACCORDANCE WITH NEC-210.4
7. CONDUITS: PROVIDE CONDUITS WHERE CALLED FOR ON PANEL SCHEDULES. ELECTRICAL METALLIC TUBING (EMT) SHALL BE INSTALLED ONLY IN DRY LOCATIONS, IN CONCRETE ABOVE GRADE, AND WHERE NOT SUBJECT TO PHYSICAL DAMAGE. CONDUITS INSTALLED UNDERGROUND SHALL BE POLYVINYLCHLORIDE (PVC) AND SHALL NOT BE SMALLER THAN 3/4" TRADE SIZE. WHERE PVC CONDUIT IS INSTALLED UNDERGROUND, ELBOWS TURNING UP AND CONDUIT EMERGING ABOVE GRADE SHALL BE RSC. THE TOPS OF CONDUITS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE. PVC CONDUIT INSTALLED ABOVE GRADE OR DIRECT-BURIED IN EARTH SHALL BE NEMA TC2 TYPE EPC-40-PVC (SCHEDULE 40) EXCEPT THAT WHERE UNDER AREAS SUBJECT TO HEAVY VEHICULAR TRAFFIC, IT SHALL BE NEMA TC2 TYPE EPC-80-PVC (SCHEDULE 80).
- ALL ARMOR CLAD CABLE (AC CABLE) WIRING SHALL MEET OR EXCEED ALL NEC, OSHA AND HUD STANDARDS.
8. CONDUCTORS: CONDUCTORS SHALL BE AS SCHEDULED ON PANEL SCHEDULES. ALL POWER CONDUCTORS SHALL NOT BE SMALLER THAN #14 AWG (CU), OR #12 AWG (AL), CONTROL CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #18 AWG CU. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET WITHOUT SPLICES EXCEPT WITHIN WIREWAY OR JUNCTION BOXES. MARK CONDUCTORS IN PANELS, PULL BOXES OR WIREWAYS AND TERMINAL STRIP TERMINALS FOR IDENTIFICATION OF CIRCUITS.
- CONDUCTORS SHALL BE JOINED USING COMPRESSION SPLICES, EXCEPT THAT CONDUCTORS #10 AND SMALLER MAY BE JOINED USING WIRE NUT TYPE CONNECTORS. CONDUCTORS SHALL BE TERMINATED USING COMPRESSION OR PRESSURE TYPE TERMINAL LUGS, OR IN PRESSURE TERMINALS. COMPRESSION SPLICES USED ON CONDUCTORS #10 AWG. AND SMALLER, SHALL BE THE SELF-INSULATED TYPE; OTHER SPLICES SHALL BE INSULATED USING 3M #33+ OR #86 PLASTIC TAPE. SPLICES IN WET LOCATIONS SHALL BE INSULATED WITH ELECTRICAL TAPE AND ENCAPSULATED WITH SCOTCHCAST OR EQUAL POTTING COMPOUND.
9. PROVIDE AND INSTALL JUNCTION AND PULL BOXES WHERE INDICATED AND WHERE NECESSARY TO TERMINATE, TAP OFF, OR REDIRECT MULTIPLE CONDUIT RUNS, OF SIZE INDICATED OR AS REQUIRED BY NEC. WHERE FEEDER SPLICES ARE TO BE MADE, INSTALL BOXES LARGE ENOUGH TO PROVIDE AMPLE WORK SPACE.
10. LIGHTING FIXTURES: LIGHTING FIXTURES SHALL BE AS INDICATED ON THE DRAWINGS, AND SHALL BE INSTALLED COMPLETE WITH LAMPS. FIXTURES WITH ADJUSTMENTS AFFECTING LIGHT DISTRIBUTION SHALL BE SET TO PROVIDE THE REQUIRED LIGHT PATTERNS PRIOR TO THE FINAL DEMONSTRATION TEST.
11. TESTS: AFTER EACH SYSTEM HAS BEEN COMPLETED, A FUNCTIONAL TEST SHALL BE PERFORMED TO DEMONSTRATE THAT THE SYSTEM OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS. THE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE.
12. TERMINALS: ALL ELECTRICAL EQUIPMENT FURNISHED ON THIS PROJECT IS TO HAVE TERMINALS RATED FOR 75° C. OPERATION.

ELECTRICAL SYMBOLS LEGEND			
SYMBOLS		DESCRIPTION	
	DUPLEX RECEPTACLE, MTD. +18" AFF		TRANSFORMER - SIZE AS NOTED
	240 VOLT RECEPTACLE (HT. AS REQ.)		PANEL - SIZE AS NOTED
	QUADRUPLEX RECEPTACLE, MTD. +18"		MOMENTARY CONTACT PUSH BUTTON
	COUNTERTOP HT. RECEPTACLE +42"		F-FAN; M-MOTOR; P-PUMP
	SINGLE POLE SWITCH, MTD +47"		SPECIAL OUTLET - AS REQUIRED
	THREE-WAY SWITCH, MTD +47"		OKT. HOMERUN (B INDICATES PANEL)
	MANUAL STARTER SWITCH		"2" DESIGNATES CIRCUIT NUMBER
	DIMMER SWITCH, MTD +47"		EXIT SIGN; ONE SIDED, OR TWO SIDED
	SWITCH W/ ILLUM WHEN ON MTD +47"		EMERGENCY LIGHTING
	THREE-WAY SWITCH W/ OCCU SENSOR MTD. +47"		RECESSED MOUNTED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	SWITCH W/ OCCU SENSOR		OVERHEAD OCCUPANCY SENSOR
	JUNCTION BOX, FLUSH IF POSSIBLE		HIGHBAY HID LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	TELEPHONE / DATA OUTLET +18"		FLUORESCENT LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	DED. COMPUTER TERM. OUTLET +18"		FLUORESCENT STRIP LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	DISCONNECT SWITCH W/ STARTER		ISOLATED GROUND
	DISCONNECT SWITCH		WEATHER-PROOF
	FLR. MTD. FLUSH DUPLEX RECEPTACLE		BELOW COUNTER
	FLR. MTD. FLUSH QUAD. RECEPTACLE		TIME CLOCK - 24 HOUR
	FLR. MTD. FLUSH PHONE/DATA OUTLET		GROUND FAULT INTERRUPTER
	AREA SMOKE DETECTOR		ABOVE FINISHED FLOOR
	HEAT DETECTOR		ELECTRIC WATER COOLER
	DUCT SMOKE DETECTOR		ABOVE SHOW WINDOW
	FIRE ALARM MAN. PULL STATION +47"		FIRE ALARM CONTROL PANEL
	HORN WITH STROBE LIGHT, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING # BESIDE DEVICE IS CANDELLA RATING		FIRE ALARM ANNUNCIATOR PANEL

LIGHTING FIXTURE SCHEDULE								
LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS	
A	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(3) 32W T8	LITHONIA 2SP8G-332-FWA12-MVOLT		
B	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(2) 32W T8	LITHONIA 2SP8G-232-FWA12-MVOLT		
C	DOWNLIGHT	WHITE		120	60W A19	SPECTRUM SP6000A-A19-60-120-6310CL		
C1	PENDANT LIGHT			120	100W MAX	TO BE SELECTED BY OWNER		
D	4' STRIP LIGHT			120	32W T8	C-232-MVOLT		
D1	8' STRIP LIGHT			120	32W T8/ 4FT	TC-232-MVOLT		
D2	2' STRIP LIGHT			120	(1) 17 T8	C-117-MVOLT		
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP	
EX	EXIT SIGN COMBO	WHITE	RED	120	INCLUDED	LITHONIA LHOM	W/ BATTERY BACKUP	
F	SHOWER LIGHT			120	26W TT	SPECTRUM 7570GL-SP7HF226EX-WL	WET LOCATION LISTED	
G	DECORATIVE ENTRY LIGHT			120	100W MAX	TO BE SELECTED BY OWNER		
H	EXTERIOR/ EGRESS LIGHT			120	42TRT	LITHONIA WSQ-42TRT-MVOLT-2ELED		



NOTE - THIS PROJECT WAS PARTIALLY CONSTRUCTED AND SAT FOR SEVERAL YEARS. THIS DESIGN HAS BEEN PREPARED TO UTILIZED WHAT WAS INSTALLED (BASED ON FIRST GENERATION DESIGN DOCUMENTS) WHERE AND WHEN POSSIBLE. SEVERAL CHANGES HAVE BEEN MADE TO CONFIGURE WITH REVISED LAYOUTS. CONTRACTOR IS RESPONSIBLE TO CAREFULLY INSPECT ALL ELEMENTS OF THE EXISTING FACILITY TO FAMILIARIZE HIMSELF WITH THE WORK NEEDED TO COMPLETE THE PROJECT TO THE WORK SCOPE SHOWN ON THIS SET OF PLANS.

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

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE

PREScriptive ☒ PERFORMANCE ☐ ENERGY COST BUDGET ☐

PROVIDE A STANDARD RISER DIAGRAM WHICH INDICATES DESIGNATED POINTS FOR CHECK METERING. PROVIDE A STANDARD PANEL SCHEDULE DESCRIPTION WHICH IDENTIFIES DIFFERENT ENDUSE LOADS.

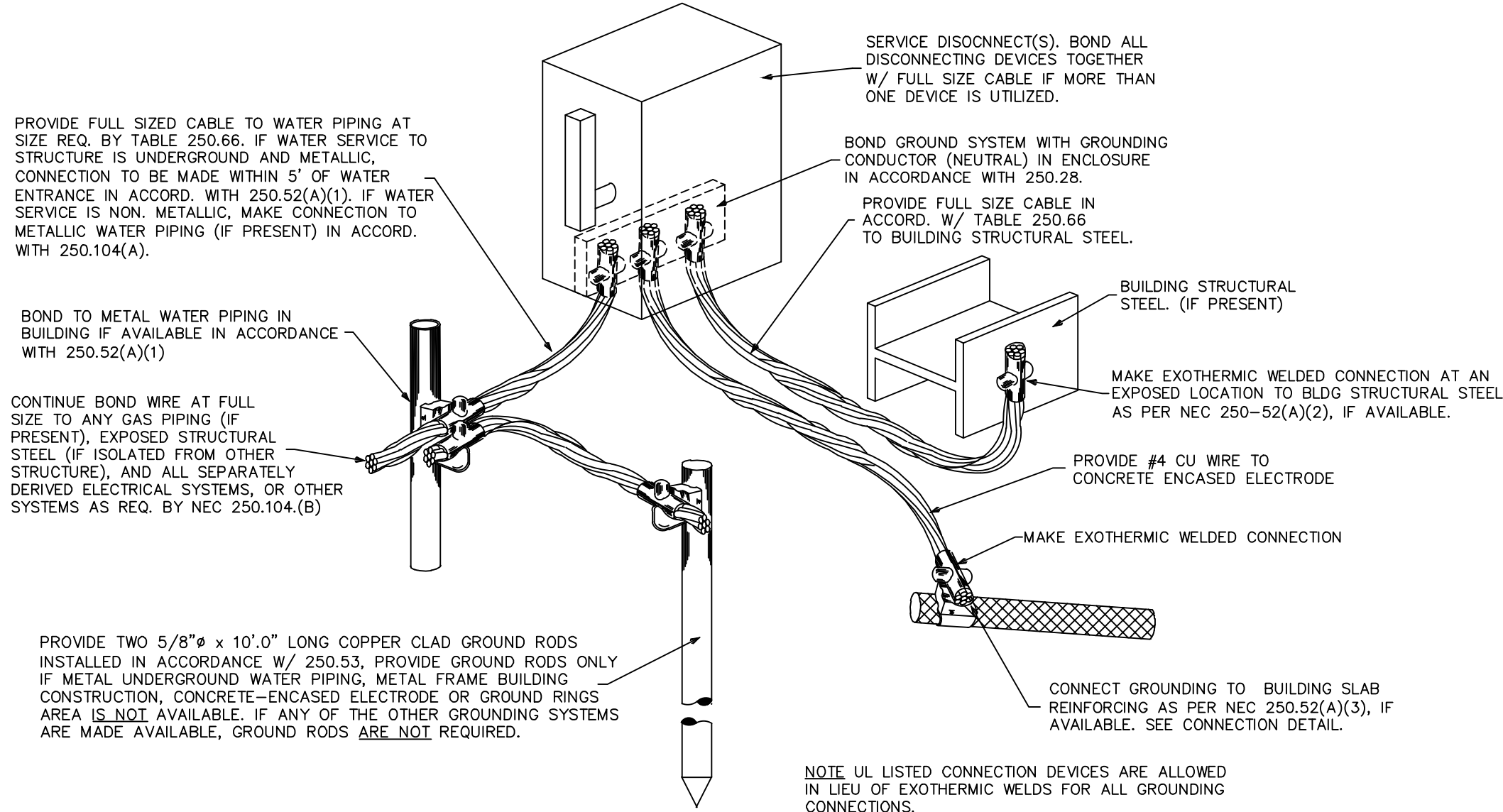
LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN FIXTURE _____ SEE SCHEDULE ON DRAWINGS
NUMBER OF LAMPS IN FIXTURE _____ SEE SCHEDULE ON DRAWINGS
BALLAST TYPE USED IN FIXTURE _____ SEE SCHEDULE ON DRAWINGS
NUMBER OF BALLASTS IN FIXTURE _____ SEE SCHEDULE ON DRAWINGS
TOTAL WATTAGE PER FIXTURE _____ SEE SCHEDULE ON DRAWINGS
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED 6210 VS. 6943
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED _____ N/A

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER _____ N/A
NUMBER OF PHASES _____ N/A
MINIMUM EFFICIENCY _____ N/A
MOTOR TYPE _____ N/A
NUMBER OF POLES _____ N/A

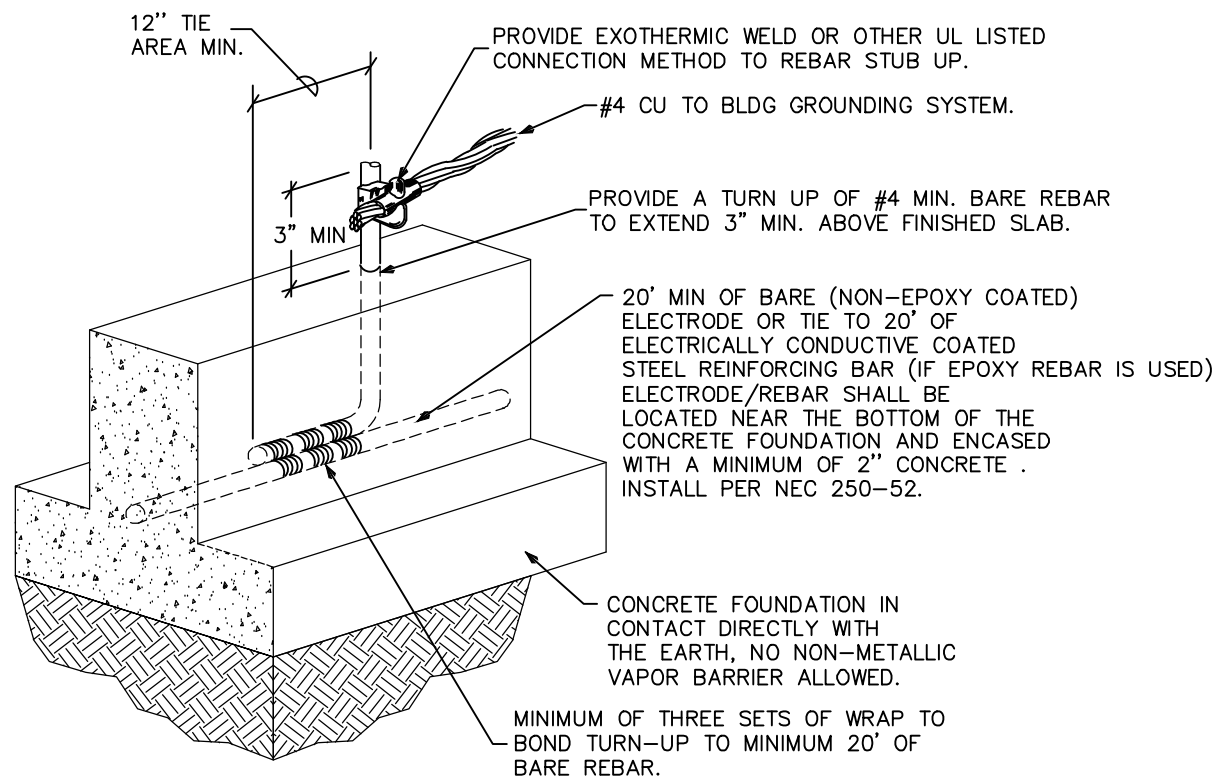
DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA ENERGY CODE 2012, CHAPTER 5.

SIGNED: _____
NAME: _____
TITLE: _____



2 GROUNDING DETAIL
NO SCALE



3 GROUNDING DETAIL
NO SCALE

PANEL SCHEDULE MDP																									
400 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 400A, M.C.B., 22000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE																									
#	BKR.	WIRE AND CONDUIT					LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT					BKR.	#						
		COND.	NEUTRAL	COND	C.	KEYS							KEYS	C.	COND	NEUTRAL	COND.								
1							SPACE	0	7880	7880	0													2	
3							SPACE	0	7440	7440	0													4	
5							SPACE	0	5700	5700	0	PANELBOARD "A"	CHAL	1-1/2"	#6	#1	#1	125/3						6	
7							SPACE	1500	0	18360	0													8	
9							SPACE	0	1500	0	21936													10	
11							SPACE	0	0	0	23672													12	
13	20/1	#12	#12	#12	1/2	CHAL	GAS GRILL AND FIREPLACE	360	360	0	0													14	
15							SPACE	0	0	0	0													16	
17	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES	360	360	0	360													18	
19	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES	360	360	0	360													20	
21	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES	360	360	0	360													22	
23	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES	360	360	0	360													24	
25	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES	360	360	0	360													26	
27	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES	360	360	0	360													28	
29	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES	360	360	0	360													30	
31							SPACE	0	0	0	0													32	
33							SPACE	0	0	0	0													34	
35							SPACE	0	0	0	0													36	
37							SPACE	0	0	0	0													38	
39							SPACE	0	0	0	0													40	
41							SPACE	0	0	0	0													42	
WIRE/CONDUIT KEY								TEMP RATING								PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 80.5 AMPS									
1234								L-70-86 Deg. F.								NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 241.9 AMPS									
-TEMP RATING								87,068																	
-CONDUIT TYPE																									
-INSULATION																									
-WIRING TYPE																									
PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001																									
REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS																									

PANEL SCHEDULE A																																							
125 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.D., 22000 AMPS MINIMUM A.I.C. BRACING, SURFACE MOUNTED, TYPE NEMA 1 ENCLOSURE																																							
#	BKR.	WIRE AND CONDUIT					LOAD DESCRIPTION					NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION					WIRE AND CONDUIT					BKR.	#												
		COND.	NEUTRAL	COND.	C.	KEYS														KEYS	C.	COND.	NEUTRAL	COND.															
1	20/1	#12	#12	#12	1/2	CHAL	LIBRARY RECEPTACLE			540	540	1200	1200												2														
3	20/1	#12	#12	#12	1/2	CHAL	PARLOR RECEPTACLES			900	900	1200	1200												4														
5	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES			360	360	1200	1200												6														
7	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES			360	360	1200	1200												8														
9	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES			360	360	1200	1200												10														
11							SPACE			0	0	0	0												12														
13	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES			900	900	0	0												14														
15	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES			720	720	0	0												16														
17	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES			1080	1080	0	0												18														
19	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES			360	360	1200	1200												20														
21	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES			360	360	1200	1200												22														
23	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES			360	360	1200	1200												24														
25	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES			720	720	1200	1200												26														
27	20/1	#12	#12	#12	1/2	CHAL	FITNESS RECEPTACLES			540	540	360	360												28														
29	20/1	#12	#12	#12	1/2	CHAL	FLOOR RECEPTACLES			720	720	900	900												30														
31	20/1	#12	#12	#12	1/2	CHAL	VENDING RECEPTACLE			180	180	180	180												32														
33	20/1	#12	#12	#12	1/2	CHAL	VENDING RECEPTACLE			180	180	180	180												34														
35	20/1	#12	#12	#12	1/2	CHAL	VENDING RECEPTACLE			180	180	180	180												36														
37	20/1	#12	#12	#12	1/2	CHAL	VENDING RECEPTACLE			180	180	180	180												38														
39	20/1	#12	#12	#12	1/2	CHAL	ATTICALS/POWER			1500	1500	360	360												40														
41							SPACE			0	0	0	0												42														
WIRE/CONDUIT KEY										TEMP RATING										PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 71.5 AMPS																			
1234										L-70-86 Deg. F.										NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 63.8 AMPS																			
WIRING TYPE										22,980																													
INSULATION																																							
CONDUIT TYPE																																							
A-EMT																																							
PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001																																							
REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS																																							

PANEL SCHEDULE B																																															
200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.D., 22000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE																																															
#	BKR.	WIRE AND CONDUIT					LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT					BKR.	#																												
		COND.	NEUTRAL	OND	C.	KEYS							KEYS	C.	OND	NEUTRAL	COND.																														
1	20/1	#12	#12	1/2	CHAL	HEATER	1500	1500	0	-----	-----	SPACE																																			
3	20/1	#12	#12	1/2	CHAL	HEATER	1500	0	1500	-----	-----	SPACE																																			
5	60/2	#6	---	#10	3/4	CHAL	AH-2	0	-----	0	4562	SPACE																																			
7								0	2195	-----	2195	HP-2	CHAL	1/2	#10	---	#10	40/2																													
9	100/2	#3	---	#8	1	CHAL	AH-3	0	-----	8291	-----																																				
11								0	2860	-----	2860	HP-3	CHAL	3/4	#10	---	#8	50/2																													
13	45/2	#8	---	#10	1/2	CHAL	AH-4	0	3245	-----	3245																																				
15								0	2860	-----	2860	HP-4	CHAL	3/4	#10	---	#8	50/2																													
17	45/2	#8	---	#10	1/2	CHAL	AH-5	0	3245	-----	3245																																				
19								0	3006	-----	3006	HP-5	CHAL	1/2	#10	---	#10	35/2																													
21								0	1810	-----	1810																																				
23	45/2	#8	---	#10	1/2	CHAL	AH-6	0	3245	-----	3245	HP-4	CHAL	3/4	#10	---	#8	50/2																													
25								0	2860	-----	2860																																				
27								0	0	-----	0	SPACE																																			
29								0	0	-----	0	SPACE																																			
31								0	0	-----	0	SPACE																																			
33								0	0	-----	0	SPACE																																			
35								0	0	-----	0	SPACE																																			
37								0	0	-----	0	SPACE																																			
39								0	0	-----	0	SPACE																																			
41								0	0	-----	0	SPACE																																			
43								0	0	-----	0	SPACE																																			
WIRE/CONDUIT KEY								19178	24861	28829	PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS =										12.5 AMPS																										
1234 C-CU WIRE								INSULATION H-TWAN								CONDUIT TYPE A-EMT								TEMP RATING L-78-86 Deg. F.								NEN DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE =								202.4 AMPS							
1-TEMP RATING																								72.868																							
2-TEMP RATING																																								PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001, 4001							
3-INSULATION																																								REGISTERED TO - TODD V. CAREY AND ASSOCIATES OF THE CARDINAS							
4-WIRING TYPE																																															