

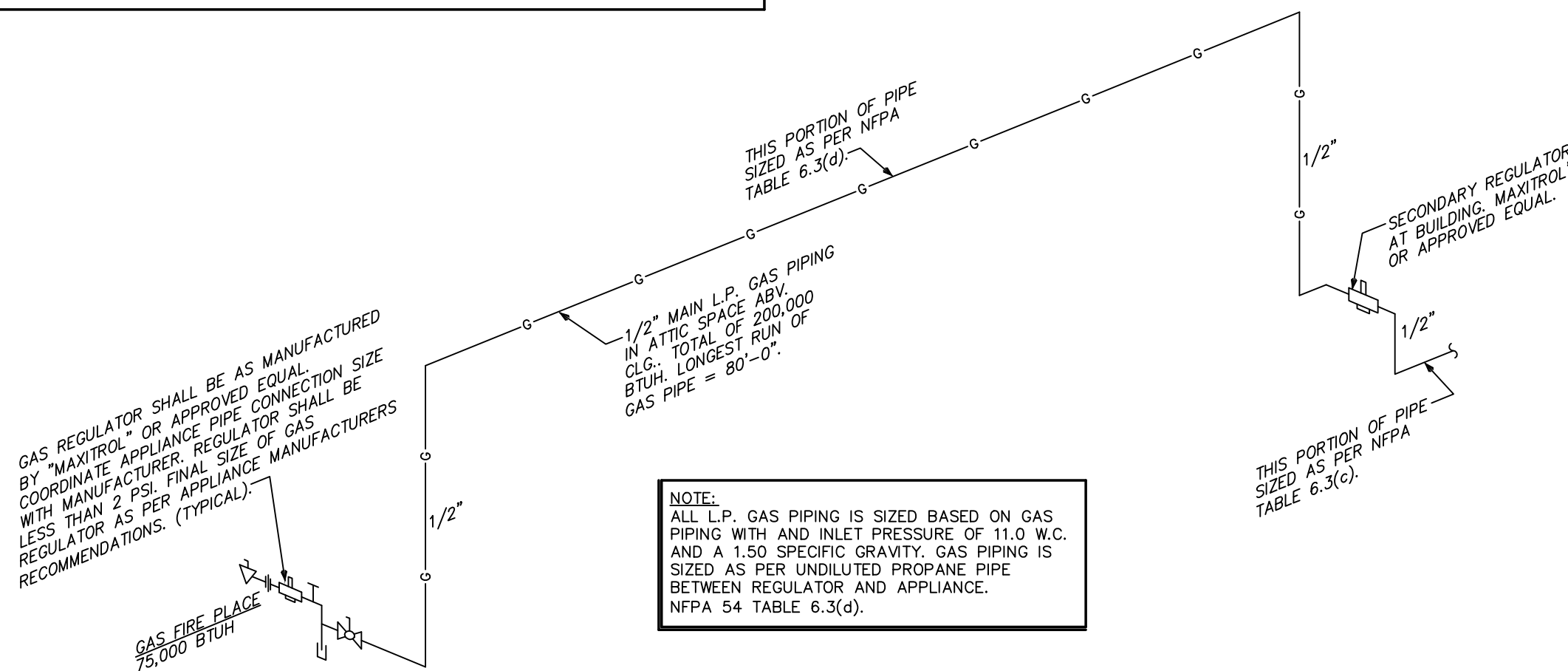
HVAC SYMBOLS LEGEND	
	THERMOSTAT, MTD +47" AFF
	EXHAUST FAN
	SECTION "A"-"A"
	REMOTE BULB SENSOR
	DUCT SMOKE DETECTOR
	TRANSITION
	TURNING VANE
	45° BRANCH DUCT TAKE-OFF
	FIRE DAMPER
	VOLUME CONTROL DAMPER
	RETURN REGISTER
	SUPPLY DIFFUSER
	RETURN AIR GRILLE
	SUPPLY REGISTER
	DUCTWORK TRANSITION
	ROOF MTD. EXH. FAN
	DUCT TURN DOWN
	DUCT TURN UP
	FLEXIBLE DUCT

RETURN GRILLE SCHEDULE				
160	DESIGNATES LABEL FOR GRILLE TYPE		FILTERED RETURN AT AHU.	
	DESIGNATES CFM QUANTITY FOR GRILLE			
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 350FL	8X6	0 - 200	CEILING GRILLE
2	TITUS 350FL	12X6	205 - 330	CEILING GRILLE
3	TITUS 350FL	12X10	335 - 500	CEILING GRILLE
4	TITUS 350FL	14X14	505 - 850	CEILING GRILLE

SPECIFIC MECHANICAL NOTES	
1	PROVIDE VOLUME CONTROL DAMPER AND MOTORIZED OUTSIDE AIR DAMPER. MOTORIZED OUTSIDE AIR DAMPER SHALL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF DURING PREOCCUPANCY BUILDING WARMUP, COOLDOWN, AND SETBACK.

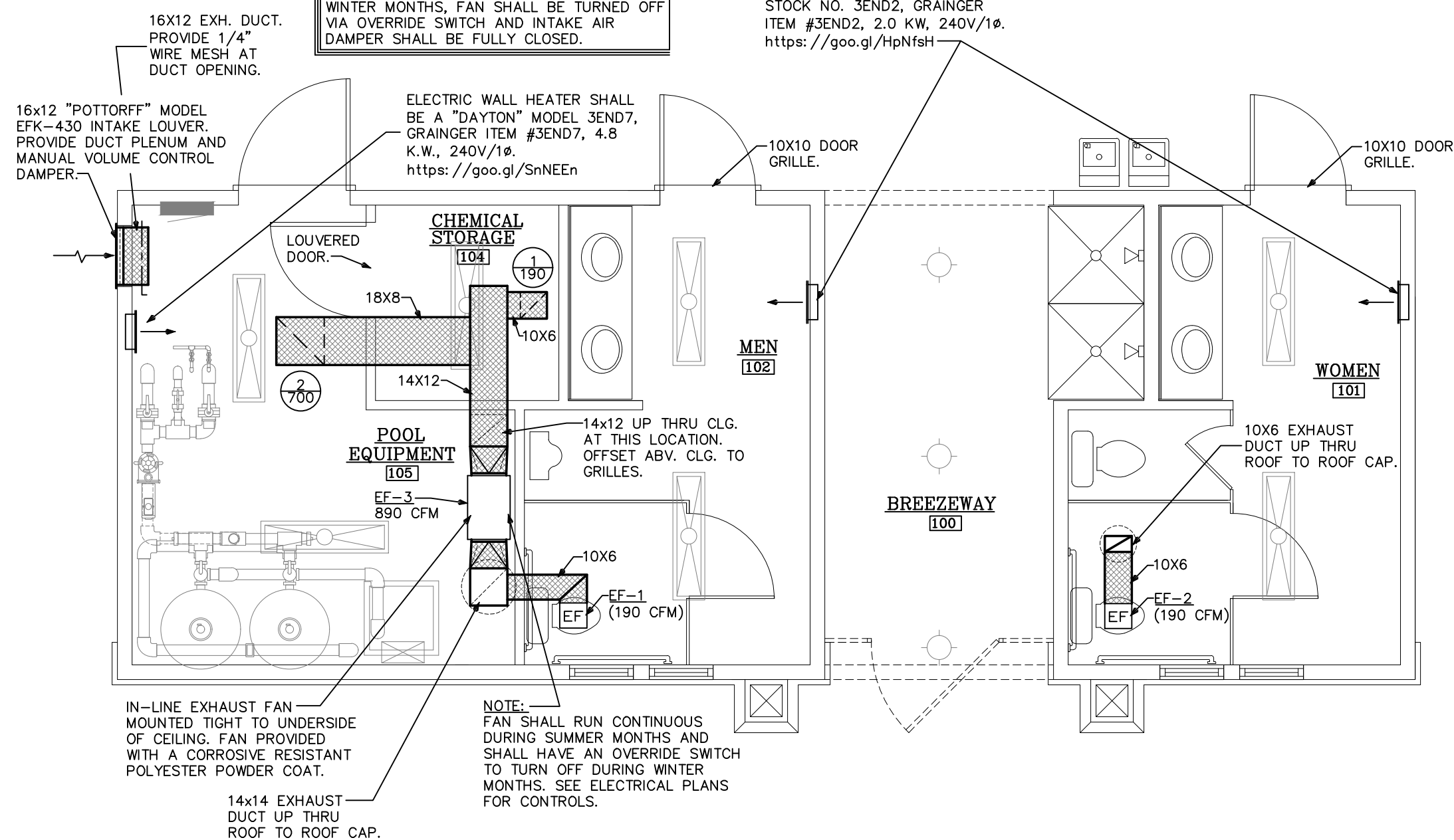
GAS PIPE LEGEND

- | | |
|---|------------------------------|
|  | BALL VALVE |
|  | DRIP LEG |
|  | REGULATOR/OPN
AS REQUIRED |
|  | UNION |
|  | QUICK
DISCONNECT |

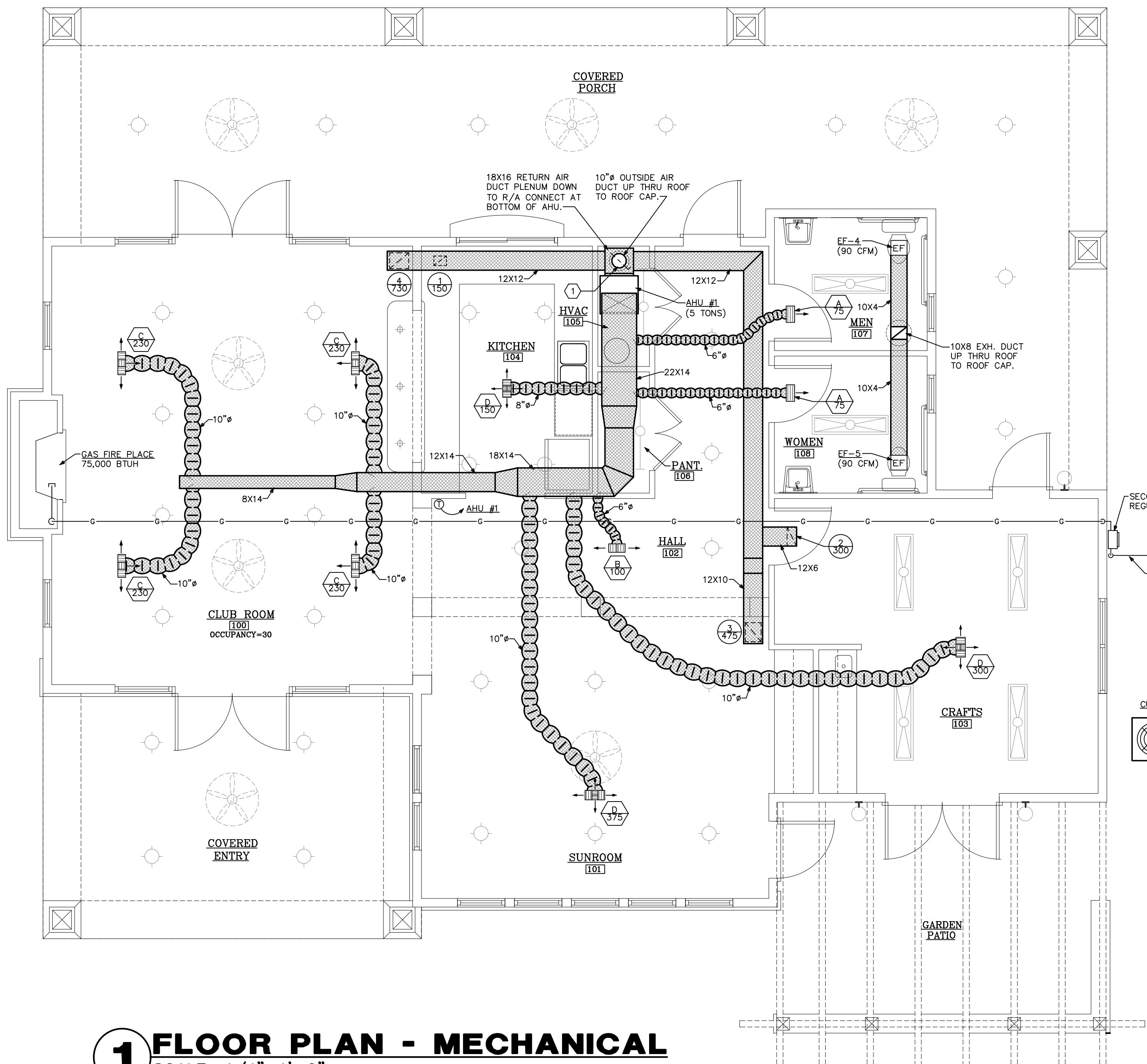


POOL EQUIPMENT ROOM
SEQUENCE OF OPERATION NOTE:
EXHAUST FAN SYSTEM AND HEATER OFF
SEASON SEQUENCE OF OPERATION: DURING
SUMMER MONTHS EXH. FAN SHALL RUN
CONTINUOUS AND INTAKE AIR DAMPER SHALL
BE FULLY OPENED. DURING OFF SEASON
WINTER MONTHS, FAN SHALL BE TURNED OFF
VIA OVERRIDE SWITCH AND INTAKE AIR
DAMPER SHALL BE FULLY CLOSED.

ELECTRIC WALL HEATER SHALL
BE A "DAYTON" GRAINGER
STOCK NO. 3END2, GRAINGER
ITEM #3END2, 2.0 KW, 240V/1Ø.
<https://goo.gl/HpNfsH>



1 FLOOR PLAN - MECHANICAL



[illegible]

FAN SCHEDULE										
LABEL	TYPE OF UNIT – AREA SERVED	MANUFACTURER & MODEL NO.	CFM	SP	MOUNTING ARRANGEMENT	MOTOR H.P.	ENCLOSURE TYPE	RPM	VOLTAGE	NOTES
EF-1,2	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z5H	150	.125"	CEILING MOUNTED	79 WATTS	OPEN DRIP PROOF	1550	115V/1ø	1,2
EF-3	CABINET FAN – REFER TO PLANS	CENTREX INLINER SX100BC	890	.25"	IN LINE	1/4 HP	OPEN DRIP PROOF	1400	115V/1ø	1,2,3
EF-4,5	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z6	90	.125"	CEILING MOUNTED	50 WATTS	OPEN DRIP PROOF	1055	115V/1ø	1

NOTES: 1.) REFER TO ELECTRICAL PLANS FOR CONTROL.
2.) FAN TO BE PROVIDED WITH BACKDRAFT DAMPER.
3.) FAN SHALL PROVIDED WITH A CORROSIVE RESISTANT POLYESTER POWDER COAT.



DESIGNER STATEMENT:¹
To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of IECC (International Energy Conservation Code) 2009 Edition W/2012 Amendments.

M2.0



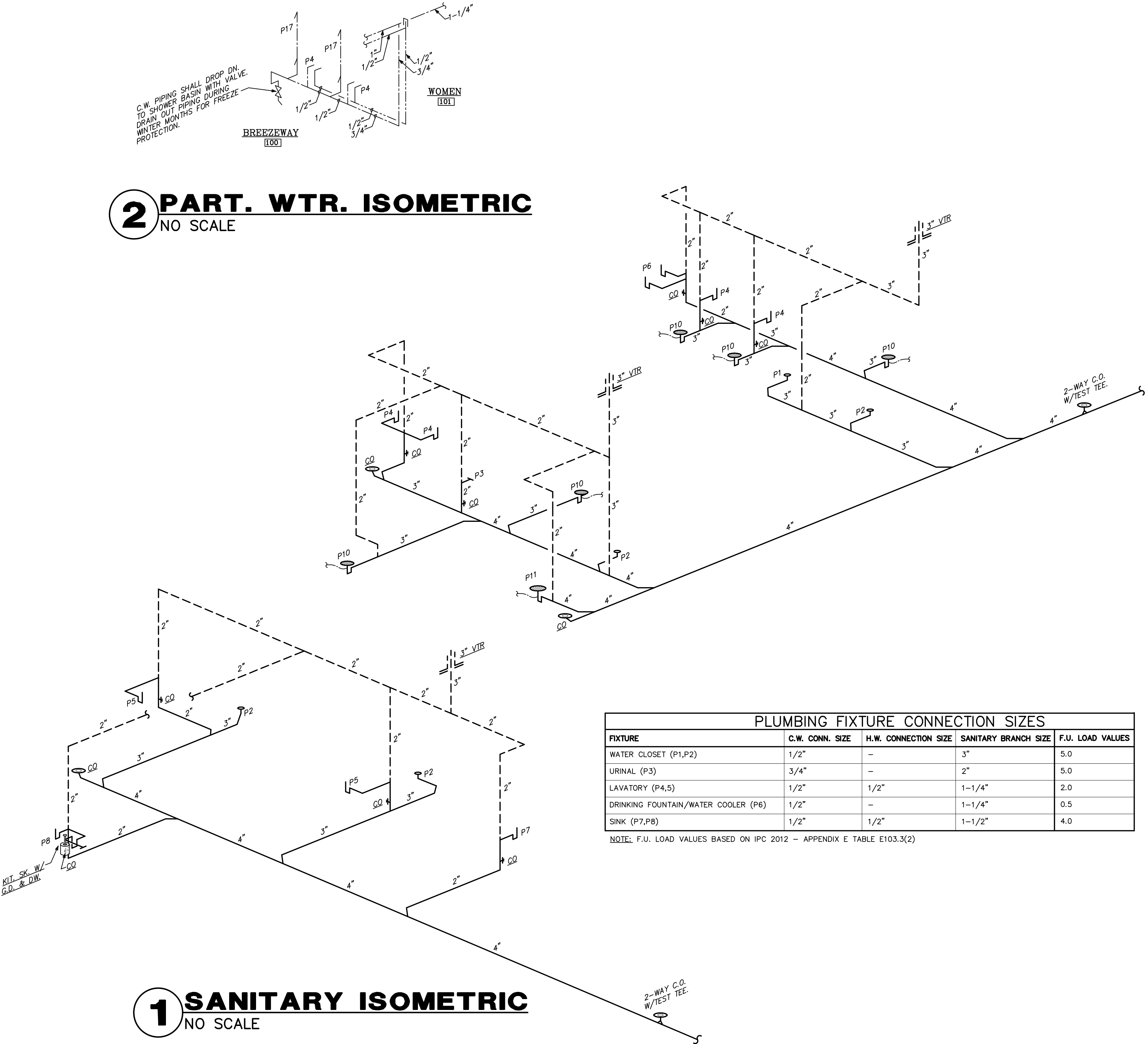
DN.	DOWN	C.C.	CENTER TO CENTER	F.B.	FIXTURE UNITS
EXT.	EXTERIOR	N.T.S.	NOT TO SCALE	H.O.	HOSE BIBBS
F.D.	FLOOR DRAIN	MGR.	MANUFACTURER	C.E.O.	CLEANOUT
F.F.	FINISH FLOOR	S.O.V.	SHUT OFF VALVE	E.W.H.	ELECTRIC WATER HEATER
N.T.F.	NOT TO FINISH FLOOR	W.C.	WATER CLOSET	JAN. SK.	JANITOR SINK
V.T.R.	VENT THRU ROOF	L.A.V.	LABORATORY	P & T	PRESSURE & TEMPERATURE
		C.S.K.	SINK	R.W.L.	RAIN WATER LEADER
R.D.	ROOF DRAIN	D.W.	DISH WASHER		
REV.	REVISION	E.D.F.	ELECTRIC DRINKING FOUNTAIN		
R.C.	R.O. CENTER	U.R.N.A.L.	URINAL		

	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
	SAFEWASTE LINE
	FIRE PROTECTION
	SHUT OFF VALVE
	SAFEPAN LINE
	FIRE SPRINKLER HEAD
	PIPE TURN UP
	PIPE TURN DOWN
	P-TRAP



PLUMBING FIXTURE SCHEDULE
P-1 (FLOOR MOUNTED FLUSH TANK WATER CLOSET) SHALL BE AN AMERICAN STANDARD MODEL 270CA.001 CADET 3 ELONGATED 1.6 GPF TOILET, VITREOUS CHINA, CADET FLUSHING SYSTEM, TANK TYPE, FLOOR MOUNTED, FLOOR OUTLET, WITH AMERICAN STANDARD OPEN FRONT HEAVY-DUTY COMMERCIAL SEAT MODEL 5901.100. WATER CLOSET: https://goo.gl/rZTofA TOILET SEAT: https://goo.gl/120eyk
P-2 (HANDICAPPED FLOOR MOUNTED FLUSH TANK WATER CLOSET) SHALL BE AN AMERICAN STANDARD MODEL 270AA.001 CADET 3 RIGHT HEIGHT ELONGATED 1.6 GPF TOILET, VITREOUS CHINA, CADET FLUSHING SYSTEM, TANK TYPE, FLOOR MOUNTED, FLOOR OUTLET, WITH AMERICAN STANDARD OPEN FRONT HEAVY-DUTY COMMERCIAL SEAT MODEL 5901.100. * TOILET LEVER HANDLE SHALL BE LOCATED ON ACCESSIBLE SIDE OF TOILET. WATER CLOSET: https://goo.gl/kP4fSI TOILET SEAT: https://goo.gl/120eyk
P-3 (HANDICAPPED URINAL AND FLUSH VALVE) SHALL BE AN AMERICAN STANDARD WASHBROOK MODEL 6501.511 3/4" TOP SPUD. 0.125 TO 1.0 GPF. URINAL INCLUDES AMERICAN STANDARD MANUAL FLUSH VALVE MODEL 6590.001 3/4" TOP SPUD. URINAL & VALVE: https://goo.gl/yisTAF
P-4 (HANDICAPPED COUNTER TOP LAVATORY) SHALL BE AN AMERICAN STANDARD MODEL RONALYN MODEL 0491.019 VITREOUS CHINA SELF-RIMMING. FAUCET SHALL BE A "CHICAGO" MODEL 333-665PRABCP METERING FAUCET. UNIT IS ADA COMPLIANT, ADJUSTABLE RUN TIME FROM 2 TO 15 SECONDS, OPENS WITH PUSH, 0.20 MAX GALLON/CYCLE. WATER PIPING AND P-TRAP SHALL BE COVERED WITH AN UNDER-SINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (TRUEBRO.COM) OR APPROVED EQUAL. PROVIDE MIXING VALVE BELOW LAVATORY SET TO 110° H.W. LAVATORY: https://goo.gl/TlWyd3 FAUCET: https://goo.gl/69DjDw
P-5 (HANDICAPPED WALL HUNG LAVATORY) SHALL BE AN AMERICAN STANDARD REGALYN LAVATORY MODEL 4869.004 (CENTER HOLE ONLY), VITREOUS CHINA, WALL MOUNT WITH CONCEALED ARMS SUPPORT. FAUCET SHALL BE A "CHICAGO" MODEL 333-665PRABCP METERING FAUCET. UNIT IS ADA COMPLIANT, ADJUSTABLE RUN TIME FROM 2 TO 15 SECONDS, OPENS WITH PUSH, 0.20 MAX GALLON/CYCLE. WATER PIPING AND P-TRAP SHALL BE COVERED WITH AN UNDER-SINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (TRUEBRO.COM) OR APPROVED EQUAL. PROVIDE MIXING VALVE BELOW LAVATORY SET TO 110° H.W. LAVATORY: https://goo.gl/LLwx4l FAUCET: https://goo.gl/69DjDw
P-6 (EXTERIOR HANDICAPPED NON-REFRIGERATED DRINKING FOUNTAIN COMBINATION H/L/O) SHALL BE AN "OASIS" MODEL MSSLFM-140 (SPLIT-LEVEL). * PROVIDE HEAT TAPE ON EXTERIOR WATER PIPING AND SANITARY P-TRAP AT FIXTURE CONNECTION AS NOTED ON PLANS. WATER COOLER: https://goo.gl/kzAmfs
P-7 (SINGLE BOWL STAINLESS STEEL BAR SINK W/FAUCET) SHALL BE A "JUST" MODEL SLF-1815-A-GR, 18"X15"X7-1/2". SINGLE BOWL, STAINLESS STEEL, (3) HOLES ON 4" CENTERS. SELF-RIMMING TOP MOUNT GRIP-RIM PLUS WITH STAINLESS STEEL MOUNTING CHANNELS. FAUCET SHALL BE A "JUST" MODEL J-1174-KS WITH 4" WRIST BLADE HANDLES. SINK: https://goo.gl/2LgU4r FAUCET: https://goo.gl/hgV6fh
P-8 (HANDICAPPED DOUBLE BOWL STAINLESS STEEL SINK) SHALL BE A "JUST" MODEL DL-ADA-1933-A-GR, 19"X33"X6-1/2" DOUBLE BOWL, STAINLESS STEEL, STAINLESS STEEL, (3) HOLES ON 4" CENTERS. SELF-RIMMING TOP MOUNT GRIP-RIM PLUS WITH STAINLESS STEEL MOUNTING CHANNELS. FAUCET SHALL BE A "JUST" MODEL J-1174-KS WITH 4" WRIST BLADE HANDLES. SINK: https://goo.gl/UhkGkp FAUCET: https://goo.gl/hgV6fh
P-9 (AUTOMATIC TRAP PRIMER) SHALL BE A IPS CORPORATION "SIOUX CHIEF" MODEL 695 TRAP PRIMER WITH VACUUM BREAKER. AUTOMATIC TRAP PRIMER VALVE SHALL ACTIVATE WITH A 10 PSIG PRESSURE DROP BETWEEN 30-150 PSIG. DRAIN: https://goo.gl/WqkVxk
P-10 (FLOOR DRAIN WITH TRAP PRIMER) SHALL BE A JOSAM 30003-A-50 SERIES COATED CAST IRON FLOOR DRAIN WITH 1/2" TRAP PRIMER. 3"ø PIPE CONNECTION, 6"ø DRAIN TOP, STRAINER TYPE 6A. TWO-PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WE&LOCS INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER. DRAIN: https://goo.gl/0G5lly
P-11 (4" FLOOR DRAIN WITH TRAP PRIMER) SHALL BE A JOSAM 30004-A-50 SERIES COATED CAST IRON FLOOR DRAIN WITH 1/2" TRAP PRIMER. 4"ø PIPE CONNECTION, 6"ø DRAIN TOP, STRAINER TYPE 6A. TWO-PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WE&LOCS INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER. DRAIN: https://goo.gl/0G5lly
P-12 (HOSE BIBB - NON-FREEZE HYDRANT WITH LOCK COVER) SHALL BE A "ZURN" Z1300 ENCASED ECOLOTROL, 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. HOSE BIBB: https://goo.gl/0Wajxx
P-13 (HOSE BIBB INTERIOR W/HANDWHEEL) SHALL BE A "WOODFORD" MODEL 101 ANTI-SIPHON WALL FAUCET. HOSE BIBB: https://goo.gl/PDOLyD
P-14 (WATER CONNECTION BOX) SHALL BE A HIGH QUALITY CONNECTION BOX AS SPECIED ON PLUMBINGSUPPLY.COM SHALL INCLUDE 2 SUPPORT BRACKETS, HIGH IMPACT POLYSTYRENE, 1/4" BRASS BALL VALVE WITH 1/2" SWEAT CONNECTION. OR APPROVED EQUAL. CONNECTION BOX: https://goo.gl/wBbLCM
P-15 (JUNIOR WATER HEATER) WATER HEATER SHALL BE A LOCHINVAR MODEL JRC010DS, 10 GALLON GLASSLINED STORAGE TANK, JUNIOR TYPE WATER HEATER WITH (1) - 1.6 KW. ELECTRIC ELEMENT AT 115 VOLTS. SINGLE PHASE INCOMING POWER. 3 YEAR LIMITED WARRANTY ON STORAGE TANK AGAINST TANK FAILURE. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE STANDARD 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION. WATER HEATER: https://goo.gl/FcznR5
P-16 (JUNIOR WATER HEATER) WATER HEATER SHALL BE A LOCHINVAR MODEL JTC020FS, 20 GALLON GLASSLINED STORAGE TANK, JUNIOR TYPE WATER HEATER WITH (1) - 2.5 KW. ELECTRIC ELEMENT AT 115 VOLTS. SINGLE PHASE INCOMING POWER. 3 YEAR LIMITED WARRANTY ON STORAGE TANK AGAINST TANK FAILURE. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE STANDARD 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION. WATER HEATER: https://goo.gl/FcznR5
P-17 (ADA STAINLESS STEEL EXTERIOR SHOWER C.W. ONLY) SHALL BE A "OUTDOOR SHOWER CO." MODEL PM-600-ADA WALL MOUNT COLD WATER SHOWER UNIT WITH SHOWER HEAD "DEL-78" 2.5 GPM CHROME PLATED BRASS STANDARD. ADA COMPLIANT ADJUSTABLE STRAIGHT METERED PUSH VALVE SV-ADA-665-1/2"NPT . FOOT SHOWER "FSH-12-SP" CROSS HANDLE CHROME PLATED BRASS ANGLE VALVE 1/2-FIP, 45° STAINLESS STEEL NIPPLE, HEATING SHOWER HEAD. STAINLESS STEEL RISER W/GOOSENECK SCH. 40 SSARM-44-3/4" 39" MIP THREADED BOTH ENDS. STAINLESS STEEL PIPE SCH. 40 SSTP-36-3/4" 36"-MIP THREADED BOTH ENDS. SHOWER: https://goo.gl/LwVuo
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.

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 MANUFACTURERS 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 2" WATER PIPING SHALL BE TYPE "L" COPPER AND TYPE "K" COPPER FOR 2 1/2" AND LARGER. (OR APPROVED EQUAL)
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.) 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON BOTH C.W. & H.W. WHEN PIPING IS LOCATED OUTSIDE OF THE INSULATED BUILDING ENVELOPE. B.) 1-1/2" 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.



AIC BRACING CALCULATIONS
 75 kVA TRANSFORMER WITH 1.4% IMPEDANCE 120/240V/1ϕ
 TRANSFORMER FLA = 75,000 / 240 = 312.5 A
 IMPEDANCE MULTIPLIER 100/1.4 = 71.428
 AIC AVAILABLE CURRENT = 312.5 X 71.428 = 22,321 A
 FEEDER OF (1) SET OF 4/0 CU IN A PVC CONDUIT WITH
 AN EXPECTED LENGTH OF 75 FEET.

$$f = \frac{2 \times 75 \times 22,321}{16,390 \times 240} = 0.8511$$

$$M = 1 + 0.8511 = 0.5402$$

$$AIC = 0.5402 \times 22,321 = 12,058 \text{ AMPS}$$

PANEL A DIVERSIFICATION CALCULATIONS
 RECEPTACLES (27) = 4860 VA TOTAL
 120V / 15A @ 100% = 1800
 LIGHTING = 1000 27/2 X 15% = 2840
 HVAC LOAD AT 100% = 15341
 MOTOR LOADS AT 100% = 5088
 PLUS 25% OF THE LARGEST MOTOR = 1464
 MISC NON-CONTINUOUS LOADS AT 100% = 16490
 TOTAL DIVERSIFIED PANEL LOAD = 46083
 LOAD AT 120/240V/1-PHASE/3-WIRE = 152.9A

PANEL B DIVERSIFICATION CALCULATIONS			
RECEPTACLES (5) -	900 VA TOTAL		
	FIRST 10 KVA AT 100% -		900
LIGHTING -	542 X 125% -		678
MOTOR LOADS AT 100% -			4188
PLUS 25% OF THE LARGEST MOTOR			960
MISC NON-CONTINUOUS LOADS AT 100% -			10450
TOTAL DIVERSIFIED PANEL LOAD			17176
LOAD AT 120/240V/1-PHASE/3-WIRE			71.6A

PROVIDE FULL SIZE CABLE TO WATER PIPING AT SIZE REQ. BY TABLE 250.66. IF WATER SERVICE TO STRUCTURE IS UNDERGROUND AND METALLIC, CONNECTION TO BE MADE WITHIN 5' OF WATER ENTRANCE IN ACCORD. WITH 250.52(A)(1). IF WATER SERVICE IS NON-METALLIC, MAKE CONNECTION TO METALLIC WATER PIPING (IF PRESENT) IN ACCORD. WITH 250.104(A).

BOND TO METAL WATER PIPING IN BUILDING IF AVAILABLE IN ACCORDANCE WITH 250.52(A)(1).

CONTINUE BOND WIRE AT FULL SIZE TO ANY GAS PIPING (IF PRESENT), EXPOSED STRUCTURAL STEEL, IF ISOLATED FROM OTHER STRUCTURE, AND ALL SEPARATELY DERIVED ELECTRICAL SYSTEMS, OR OTHER SYSTEMS AS REQ. BY NEC 250.104(B).

PROVIDE TWO 5/8" x 10'-0" LONG COPPER CLAD GROUND RODS INSTALLED IN ACCORDANCE W/ 250.53. PROVIDE GROUND RODS ONLY IF METAL UNDERGROUND WATER PIPING, METAL FRAME BUILDING CONSTRUCTION, CONCRETE-ENCASED ELECTRODE OR GROUND RINGS AREA IS NOT AVAILABLE. IF ANY OF THE OTHER GROUNDING SYSTEMS ARE MADE AVAILABLE, GROUND RODS ARE NOT REQUIRED.

BOND GROUND SYSTEM WITH GROUNDING CONDUCTOR (NEUTRAL) IN ENCLOSURE IN ACCORDANCE WITH 250.28.

PROVIDE FULL SIZE CABLE IN ACCORD. W/ TABLE 250.66 TO BUILDING STRUCTURAL STEEL.

BUILDING STRUCTURAL STEEL (IF PRESENT)

MAKE EXOTHERMIC WELDED CONNECTION AT AN EXPOSED LOCATION TO BUILD STRUCTURAL STEEL AS PER NEC 250-52(A)(2), IF AVAILABLE.

PROVIDE #4 CU WIRE TO CONCRETE ENCASED ELECTRODE

MAKE EXOTHERMIC WELDED CONNECTION

CONNECT GROUNDING TO BUILDING SLAB REINFORCING AS PER NEC 250.52(A)(3). PROVIDE A 6" LONG, 3/4"Ø PVP SLEEVE SET 3" IN CONCRETE FOR GROUND WIRE PROTECTION WHERE WIRE EXITS THE SLAB.

NOTE: UNLISTED CONNECTION DEVICES ARE ALLOWED IN LIEU OF EXOTHERMIC WELDS FOR ALL GROUNDING

5. GROUND
ARTICLE
6. SHARP
UNLESS

Diagram illustrating a single-phase, 120/240V, 3-wire service disconnect with two metering locations (Panel A and Panel B).

Service Entrance: The service enters from the left, labeled "ABOVE OR UNDER GROUND SERVICE TO LOCAL UTILITY COMPANY. CONTRACTOR IS TO COORDINATE WITH LOCAL UTILITY COMPANY REPRESENTATIVE PRIOR TO CONSTRUCTION".

Service Disconnect: A 100A/100A M.C.B. (Main Circuit Breaker) is shown at the service entrance.

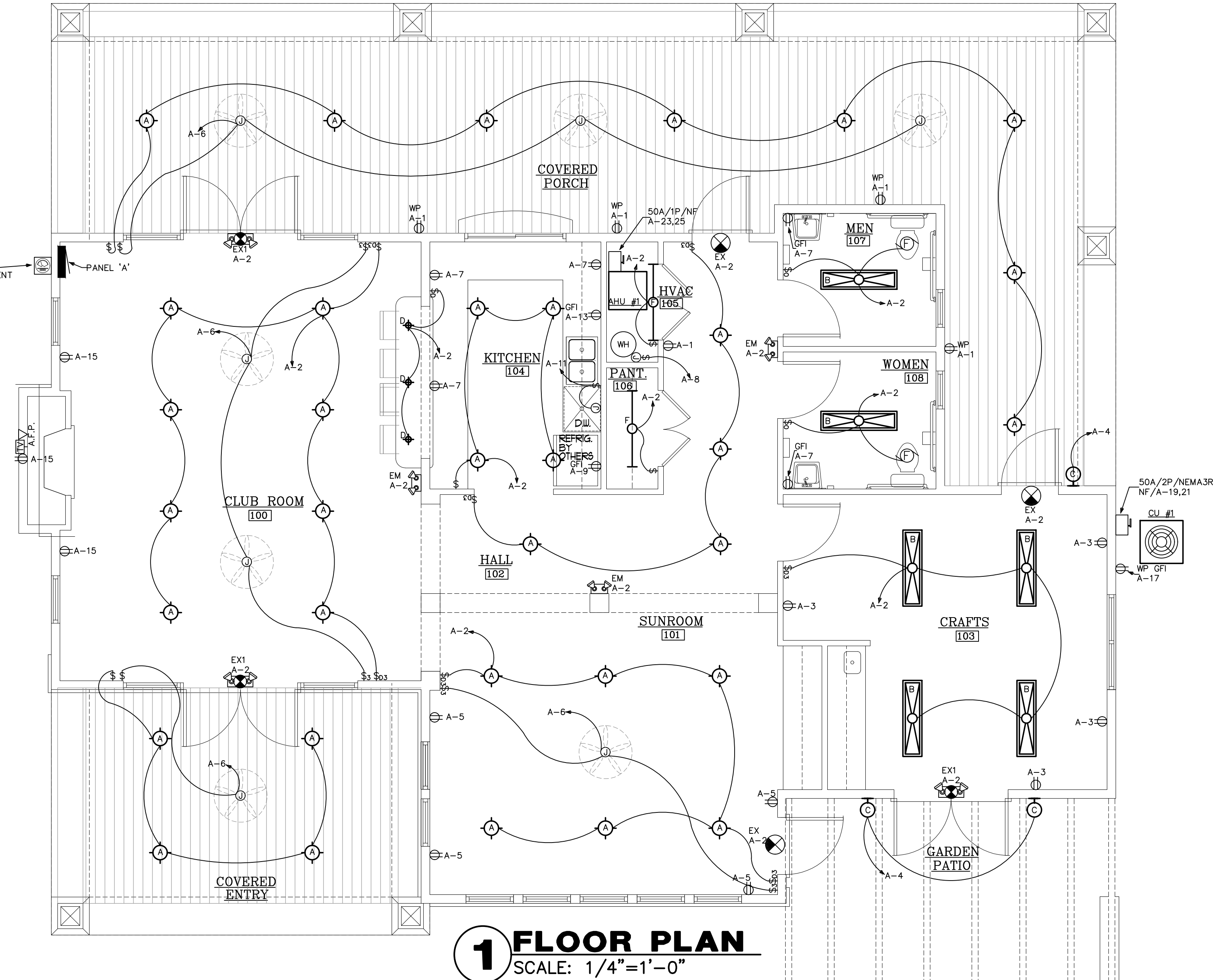
Metering: Two metering locations are indicated: "METERING AS PER LOCAL UTILITY COMPANY REQUIREMENT" for Panel A and "225A/175/225A M.C.B. AS SERVICE DISCONNECT" for Panel B.

Conduit and Wiring:

- (1) 2" CONDUIT / W (3) #4/0 CU THWN CONDUCTORS: Connects the service entrance to the metering locations.
- (1) 1-1/4" CONDUIT / W (3) #3 CU THWN CONDUCTORS AND (1) #6 CU GROUND: Connects the metering locations to the building disconnect.
- (1) #2 CU GROUND: Connects the metering locations to the ground.

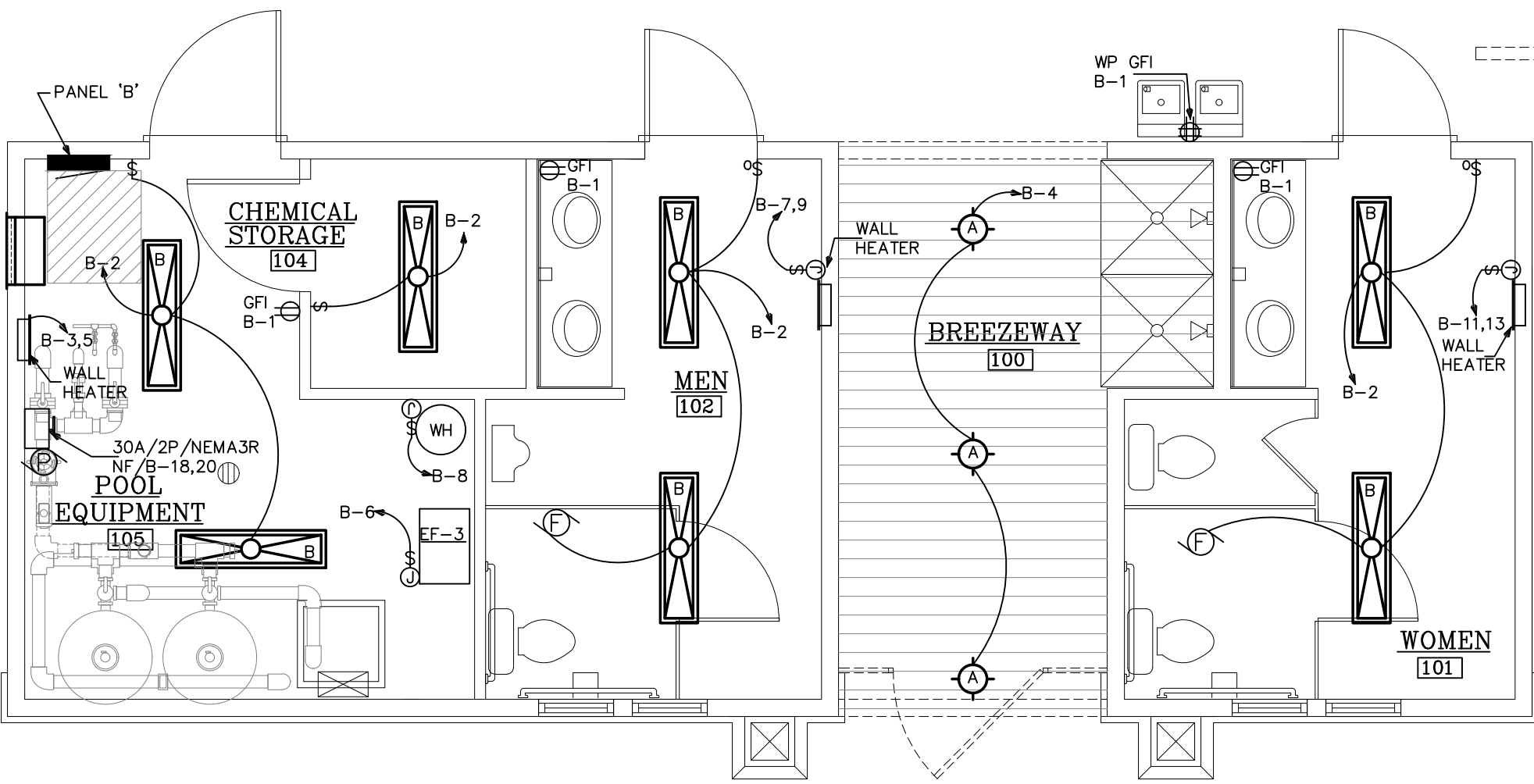
Grounding: The diagram shows a ground connection labeled "PROVIDE PROPER GROUNDING AS PER NEC-250 SEE THIS DRAWING FOR DETAIL".

LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	6" LED DOWNLIGHT	SEMISPECULAR	3000 LUMENS	120	34.7 W	LITHONIA LDN6-35/30-L06-LSS-MVOLT-EZ1-WL	(P) - PHOTOCCELL
B	RECESSED 1'X4' LED TROFFER	WHITE	4000 LUMENS	120	40 W	CREE FP14-40L-35K-10V	SMK-CR14 - MOUNTING KIT
C	LED WALL SCONCE	BRONZE	7182 LUMENS	120	74 W	LITHONIA DSXW1 LED-20C-1000-40K-TFTM-MVOLT-PE-DBBXD	BY OWNER NOT TO EXCEED 100 W
D	OWNER LIGHTS			120		OWNER LED LIGHT NOT TO EXCEED 100 W	
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP
EX1	EXIT SIGN w/ REM HEAD	WHITE	RED	120	INCLUDED	LITHONIA LHQM LED R	W/ MODEL ELA T Q DUAL REMOTE HEAD. 90 MIN BATTERY
EX	EXIT SIGN	WHITE	RED	120	INCLUDED	LITHONIA LE-SW2R-120/277-ELN	W/ BATTERY BACKUP
F	4' LED STRIP LIGHT	WHITE	5000 LUMENS	120	34 W	LITHONIA CLX-L48-5000LM-SEFFDL-MVOLT-GZ10-40K-80CRI-WH	



1 FLOOR PLAN

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



2 CABANA FLOOR PLAN

- [illegible]

PRESCRIPTIVE	☒	PERFORMANCE ☐	ENERGY COST BUDGET ☐
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PROVIDE A STANDARD RISER DIAGRAM WHICH INDICATES DESIGNATED POINTS FOR CHECK METERING. PROVIDE A STANDARD PANEL SCHEDULE DESCRIPTION WHICH IDENTIFIES DIFFERENT ENUSE LOADS.

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FUTURE	SEE SCHEDULE ON DRAWINGS
NUMBER OF LAMPS IN FUTURE	SEE SCHEDULE ON DRAWINGS
BALLAST TYPE USED IN FUTURE	SEE SCHEDULE ON DRAWINGS
NUMBER OF BALLASTS IN FUTURE	SEE SCHEDULE ON DRAWINGS
TOTAL WATTAGE PER FUTURE	SEE SCHEDULE ON DRAWINGS
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	2272 VS 3296
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 systems and equipment requirements of IECC (International Energy Conservation Code) 2009 Edition W/2012 Amendments.

SIGNED: _____

NAME: TODD W. CAREY, P.E. _____

TITLE: SOUTH CAROLINA PROFESSIONAL ENGINEER #16410 _____

DESIGNER STATEMENT:

To the best of my knowledge and belief, the design of this building complies with the Electrical systems and equipment requirements of IECC (International Energy Conservation Code) 2009 Edition W/2012 Amendments.

SIGNED: _____
NAME: _____ TODD W. CAREY, P.E.
TITLE: _____ SOUTH CAROLINA PROFESSIONAL ENGINEER #16410