SPECIFIC MECHANICAL NOTES

1. WALL MOUNTED EXHAUST FAN SHALL BE A "PENN" BREEZEWAY MODEL BHM24B, BELT DRIVE, 1/4 HP, 626 RPM, 208V/1ø, 4,300 CFM. PROVIDE "PENN" REAR GUARD, WALL MOUNTING SLEEVE, INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
   * http://www.pennbarry.com/files/catalog/PennBarry_Breezeway_Catalog.pdf
2. EXHAUST FAN EXTERIOR WALL SHUTTER SHALL BE A "PENN" 34-1/2"X34-1/2" MODEL EBR RECESSED MOTORIZED SHUTTER WITH ELECTRIC ACTUATOR INTERLOCKED WITH FAN. PROVIDE NEOPRENE GASKET ALONG FULL LENGTH OF BLADE SURFACE. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
3. 48x48 ALUMINUM "POTTORFF" MODEL EOJ-445 OPERABLE INTAKE STORM LOUVER WITH NEOPRENE GASKET ALONG FULL LENGTH OF EACH BLADE TO SEAL MATING BLADE SURFACE. LOUVER SHALL ALSO BE PROVIDED WITH AN ELECTRIC ACTUATOR INTERLOCKED WITH EF-5. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
   * http://www.pottorff.com/cat/eoj-445.pdf

H.V.A.C. ABBREVIATION LEGEND

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

SUPPLY DIFFUSER SCHEDULE

A/100 — DESIGNATES LABEL FOR DIFFUSER TYPE
DESIGNATES CFM QUANTITY FOR DIFFUSER

ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.

LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	TITUS 250-AA	8X6	0 - 125	CEILING REGISTER
B	TITUS 250-AA	10X6	125 - 200	CEILING REGISTER
C	TITUS 250-AA	12X10	205 - 325	CEILING REGISTER
D	TITUS S300FS	14X6	130 - 250	DIRECT SPIRAL MOUNTED REGISTER
E	TITUS S300FS	18X8	255 - 500	DIRECT SPIRAL MOUNTED REGISTER

NOTE:
SUPPLY REGISTER SHALL BE PROVIDED WITH A SURFACE MOUNT BORDER TYPE 1.

RETURN GRILLE SCHEDULE

A/100 — DESIGNATES LABEL FOR GRILLE TYPE
DESIGNATES CFM QUANTITY FOR GRILLE

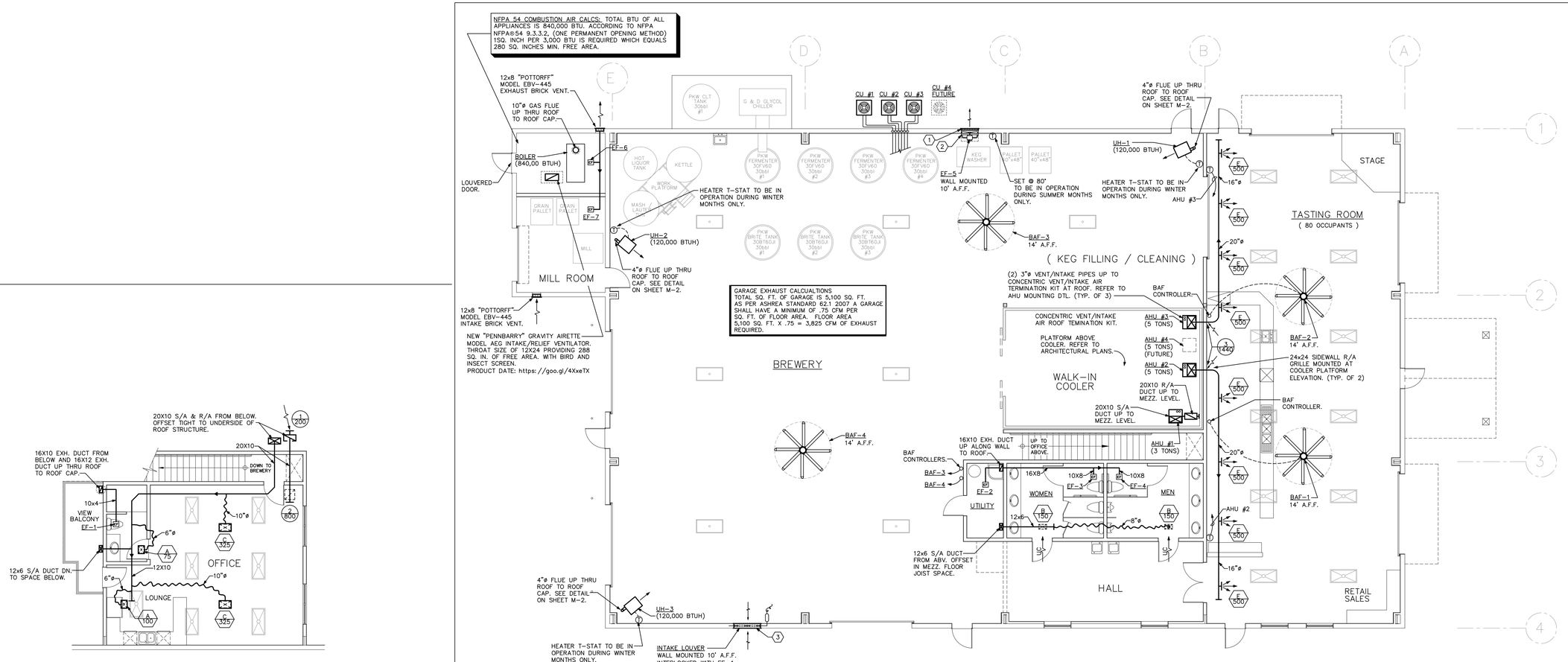
FILTER SHALL BE PROVIDED AT UNIT.

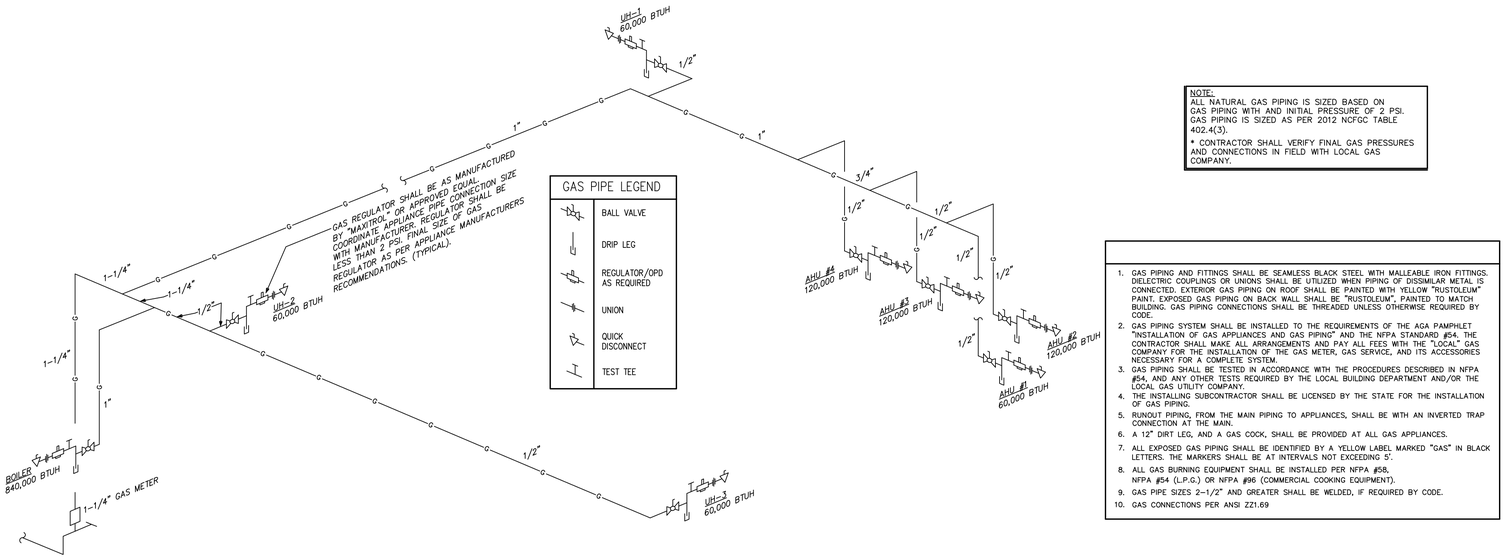
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	10x8	0 - 300	
2	TITUS 355FL	18X18	0 - 1000	
3	TITUS 355FL	24X24	1005 - 2250	

NOTE:
RETURN AIR GRILLE SHALL BE PROVIDED WITH A SURFACE MOUNT BORDER TYPE 1.

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





NOTE:
ALL NATURAL GAS PIPING IS SIZED BASED ON GAS PIPING WITH AND INITIAL PRESSURE OF 2 PSI. GAS PIPING IS SIZED AS PER 2012 NCFGC TABLE 402.4(3).

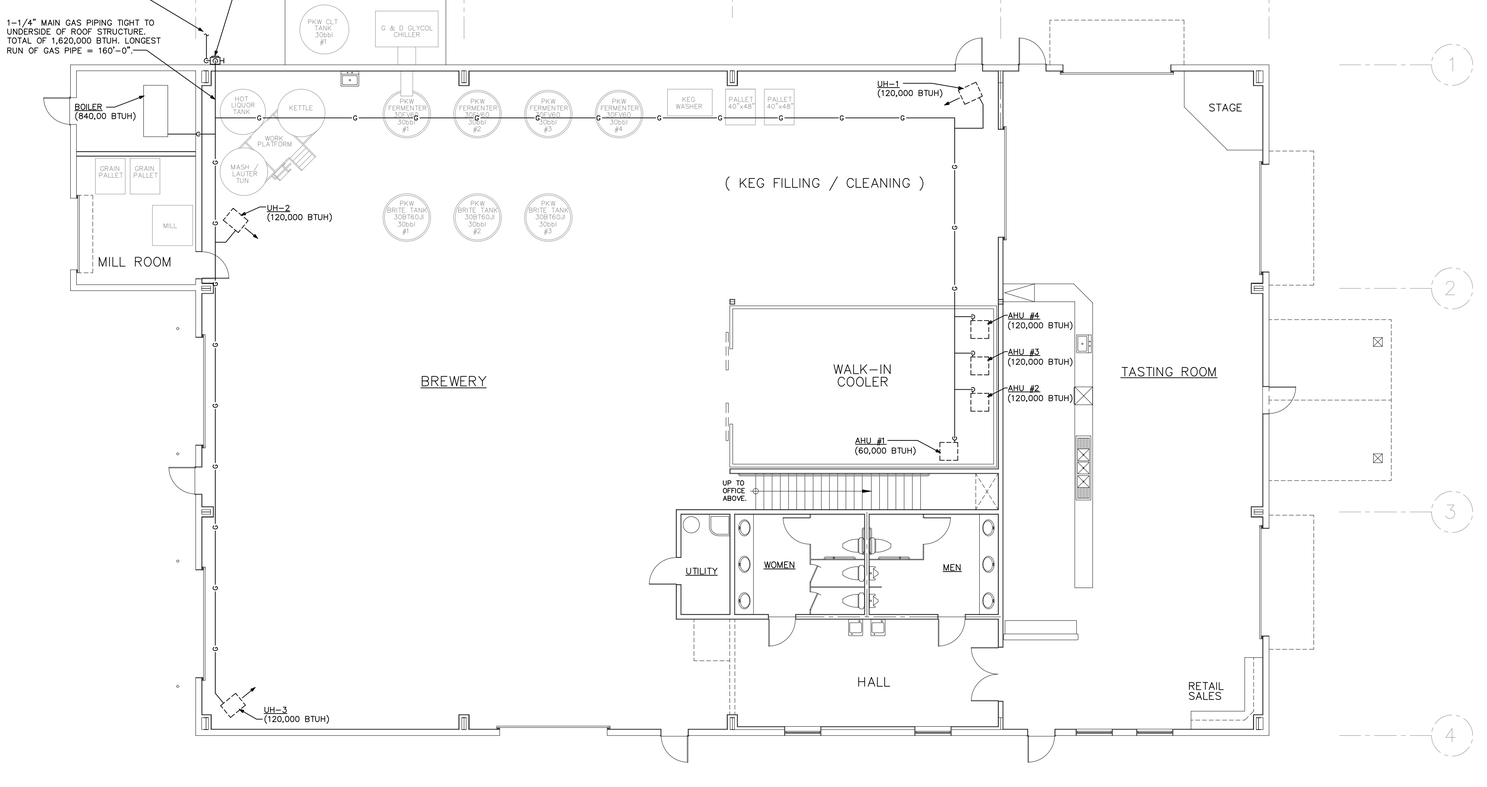
- CONTRACTOR SHALL VERIFY FINAL GAS PRESSURES AND CONNECTIONS IN FIELD WITH LOCAL GAS COMPANY.

1. GAS PIPING AND FITTINGS SHALL BE SEAMLESS BLACK STEEL WITH MALLEABLE 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 AGA 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

GAS PIIPNG ISOMETRIC

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

101

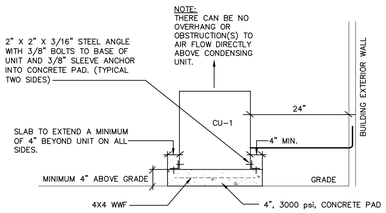


GROUND FLOOR PLAN - GAS PIPING

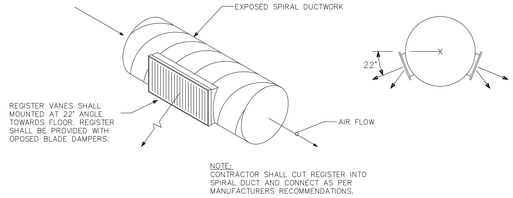
SCALE : 1/8" = 1'-0"

101

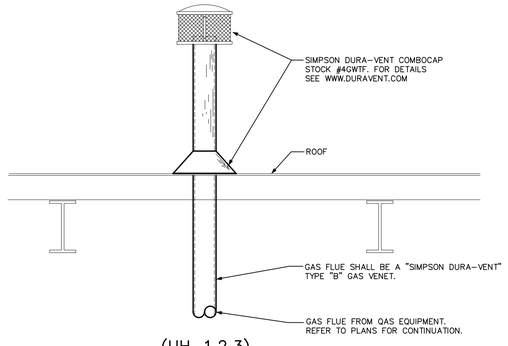
M-2



1 COND. UNIT MTG. DETAIL
NO SCALE



2 SPIRAL DUCT / REGISTER CONNECTION DETAIL
NO SCALE



(UH-1,2,3)

3 GAS FLUE DETAIL
NO SCALE

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" WITH A MINIMUM 4.2 R VALUE, OR APPROVED EQUAL AND SHALL HAVE EQUIVALENT INSULATION. * ALL EXPOSED ROUND DUCTWORK SHALL BE "SPIROSAFE" NON-INSULATED SINGLE WALL SPIRAL DUCTS AS MANUFACTURED BY LINDAB, INC. http://www.lindabusa.com OR APPROVED EQUAL.
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, METALAIRE, 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 FANS 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 A MINIMUM OF 1-1/2" ARMAFLEX 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 GRILLS, RETURN GRILLS, AND EXHAUST GRILLS, AND THE LEAVING AND ENTERING AIR TEMPERATURE (°F) FROM SUPPLY GRILLS 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.

OUTSIDE AIR CALCULATIONS

THE FOLLOWING IS BASED ON 2012 NCMC CODE TABLE 403.3 MINIMUM VENTILATION RATES FOR OUTSIDE AIR REQUIREMENTS (EQUATION 4-1)

UNIT LABEL	OCCUPANCY CATAGORY	AREA A_z	ESTIMATED MAX. OCCUPANCY P_z	R_p	OUTSIDE AIR REQUIRED (CFM) $P_z \times R_p$	$A_z \times R_A$	ZONE AIR DIST. EFF. E_z	TOTAL
AHU #2&3	BAR	1,654	80 PEOPLE AS PER ARCH. PLANS	7.5 CFM PER PERSON	(080 x 7.5) + (1,654 x .18) = 897 PEOPLE / AREA / TOTAL		0.8	0,897/0.8 = 1,121
RTU #1	OFFICE	0,626	005 PEOPLE PER 1,000 S.F.	5.0 CFM PER PERSON	(003 x 5.0) + (0,626 x .06) = 0,053 PEOPLE / AREA / TOTAL		0.8	0,053/0.8 = 0,066

A_z — ZONE FLOOR AREA
P_z — ZONE POPULTION
R_p — PEOPLE OUTDOOR RATE
R_A — AREA OUTDOOR RATE
E_z — ZONE AIR DISTRIBUTION EFFECTIVENESS

PADDLE FAN SCHEDULE

LABEL	MANUFACTURER & MODEL NO.	FAN DIA.	MOUNTING ARRANGEMENT	VOLTAGE	MOCP	NOTES
BAF #1-4	BIG ASS FAN - ESSENCE	8'	FROM ROOF STRUCTURE	120V/1ø	10A	1

NOTES: 1.) REFER TO ELECTRICAL PLANS FOR CONTROL.
2.) INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
PRODUCT DATA HERE: http://goo.gl/Jqigg7

POWER VENTED GAS-FIRED UNIT HEATER SCHEDULE

LABEL	MANUFACTURER & MODEL NO.	CFM	BTUH OUTPUT CAPACITY	BTUH INPUT CAPACITY	SEASONAL EFFICIENCY	MOTOR FLA	VENT SIZE	MOTOR H.P.	VOLTAGE	GAS CONNECTION	WEIGHT	NOTES
UH #1,2,3	REZNOR MODEL B100	1,600	80,000	100,000	80%	5.3	6"	1/3 HP	120V/1ø	1/2"ø	126 lbs.	1-6

GENERAL NOTES:
* ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED.
* CONTRACTOR MAY SUBSTITUTE MANUFACTURER FOR APPROVED EQUAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ANY CLEARANCE REQUIREMENTS ARE MET FOR ANY SUBSTITUTIONS.
* PRODUCT DATA: http://www.rezspec.com/files/C-UH_vH11.pdf

ABBREVIATION LEGEND:
HP - HORSE POWER
FLA - FULL LOAD AMPS
MOCP - MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE)

NOTES:
1.) ALUMINIZED STEEL HEAT EXCHANGER.
2.) ALUMINIZED STEEL BURNERS WITH STAINLESS STEEL INSERT.
3.) FACTORY INSTALLED POWER VENTER.
4.) 24-VOLT CONTROL VOLTAGE TRANSFORMER.
5.) FULL SAFETY FAN GUARD.
6.) TWO-STAGE GAS CONTROL.

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 Z6	90	.125"	CEILING MOUNTED	50 WATTS	OPEN DRIP PROOF	1055	115V/1ø	1
EF-3,4,6,7	CABINET FAN - REFER TO PLANS	PENN ZEPHYR Z81	300	.125"	CEILING MOUNTED	124 WATTS	OPEN DRIP PROOF	1115	115V/1ø	1
EF-5	REFER TO PLANS FOR SPECIFICATIONS		-	-	-	-	-	-	-	-

NOTES: 1.) REFER TO ELECTRICAL PLANS FOR CONTROL.

GAS FURNACE W/SPLIT SYSTEM AIR CONDITIONING SYSTEM SCHEDULE

CONDENSING UNIT

CU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CAPACITY	SENSIBLE CAPACITY	COMP. RLA	FAN FLA	VOLTAGE	MOCP	EER/SEER
CU #1	CARRIER 24ABB336A005	33,800	26,580	10.5	1.4	208V/3ø	20A	13.0
CU #2,3	CARRIER 24ABB360A005	57,000	44,120	16.0	1.4	208V/3ø	30A	13.0

EVAPORATOR COIL UNIT

MANUFACTURER & MODEL NO.
CARRIER CNPV 036 (VERTICAL COIL CONF.)
CARRIER CNPV 060 (VERTICAL COIL CONF.)

GAS FURNACE

AHU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CFM	E.S.P.	BLOWER SPEED	FAN HP	VOLTAGE	INPUT BTUH	OUTPUT BTUH	FLUE SIZE	NOTES
AHU #1	CARRIER 59SC2C060S14--12	1,200	.40"	MED-LOW	1/3	120V/1ø	60,000	56,000	3"	1 THRU 4
AHU #2	CARRIER 59SC2C120S24--20	2,000	.40"	HIGH	3/4	120V/1ø	120,000	112,000	3"	1 THRU 4

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
HP - 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 2/4" ARMAFLEX OR APPROVED EQUAL.
3) PROVIDE 5 YEAR WARRANTY ON COMPRESSOR AND 1YEAR WARRANTY ON ALL PARTS AND LABOR.
4) FURNACE SHALL BE A 2-PIPE SYSTEM AND SHALL BE PROVIDED WITH CONCENTRIC VENT/INTAKE AIR ROOF TERMINATION KIT.

APPENDIX B BUILDING CODE SUMMARY (MECHANICAL SUMMARY)
MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT

METHOD OF COMPLIANCE:
Prescriptive [X] Energy Cost Budget [ ]
Thermal Zone: Zone ?

Exterior Design Conditions
winter dry bulb: 20° F
summer dry bulb: 97° F

Interior Design Conditions
winter dry bulb: 68° F
summer dry bulb: 74° F
relative humidity: 52.9%

Building Heating Load: 632,000 BTU
Building Cooling Load: 204,800 BTU

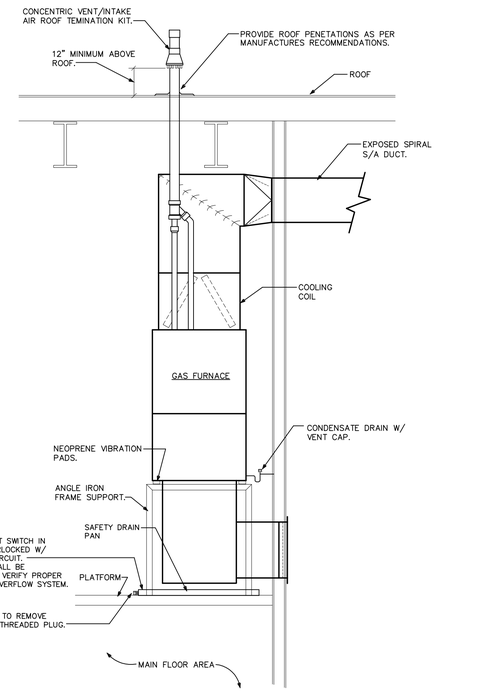
Mechanical Spacing Conditioning System
Unitary
Description of unit: REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
heating efficiency: REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
cooling efficiency: REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
heat output of unit: REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
cooling output of unit: REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
Boiler N/A
total boiler output. If oversized, state reason.
Chiller N/A
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:[1]
To the best of my knoledge 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:
NAME: TODD W. CAREY
TITLE: N.C. PROFESSIONAL ENGINEER #9079

NOTE:
COMPLIANCE TO NC ENERGY SECTION 506 IS MADE BY LIGHTING LEVEL REDUCTION.



4 GAS FURNACE MOUNTING DETAIL
NO SCALE

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 MANUFACTURES 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 2" SHALL BE TYPE "L" COPPER AND TYPE "K" COPPER FOR 2 1/2" AND LARGER.

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.

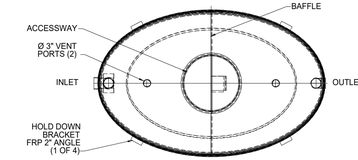
PLUMBING ABBREVIATION LEGEND

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	MFGR.	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.	LAVORATORY	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		

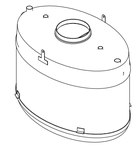
PLUMBING SYMBOLS LEGEND

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

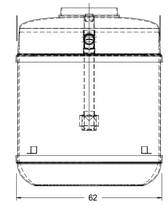
NOTES:
1. FOR GRAVITY APPLICATIONS ONLY.
2. ALL PROCEPTOR UNITS ARE MANUFACTURED WITH FIBERGLASS REINFORCED PLASTICS. PHYSICAL CHARACTERISTICS AND THICKNESS: POLYESTER RESIN, C.F. GLASS.
3. MINIMUM THICKNESS 1/4" SIDES AND 3/8" TOP AND BOTTOM BOWLS.
4. ALL PROCEPTOR UNITS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTION.
4. STANDARD PIPING IS SCH. 40 PVC.
5. GMC/OMC 550 - 3000 UNITS COME STANDARD WITH 4" INLET AND OUTLET.OTHER PIPE SIZE OPTIONS AVAILABLE ON REQUEST.
6. EXTENSION COLLAR SEAT TO BE SET FLUSH WITH FINISHED GRADE. CUT ON SITE FOR FINAL ADJUSTMENT AND CAULKED WITH SIKAFLEX BY CONTRACTOR FOR WATERTIGHT SEAL.
7. COVERS AVAILABLE FOR H20 TRAFFIC LOADING, PEDESTRIAN LOADING OR ABOVE GROUND INSTALLATION.
8. CONSULT GREEN TURTLE FOR OTHER SIZES.
9. 30 YEAR WARRANTY AGAINST LEAKS, AND STRUCTURAL FAILURE.
10. U.S. PATENT #5,746,912; CDN PATENT #2,195,822



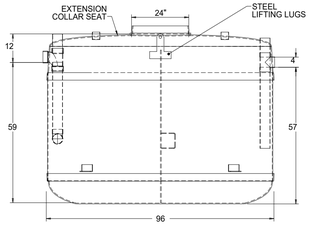
TOP VIEW



ISOMETRIC VIEW



SIDE VIEW

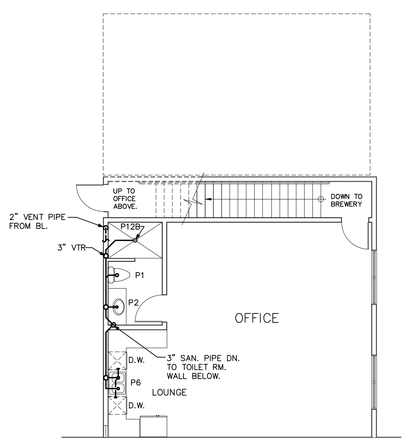


FRONT VIEW

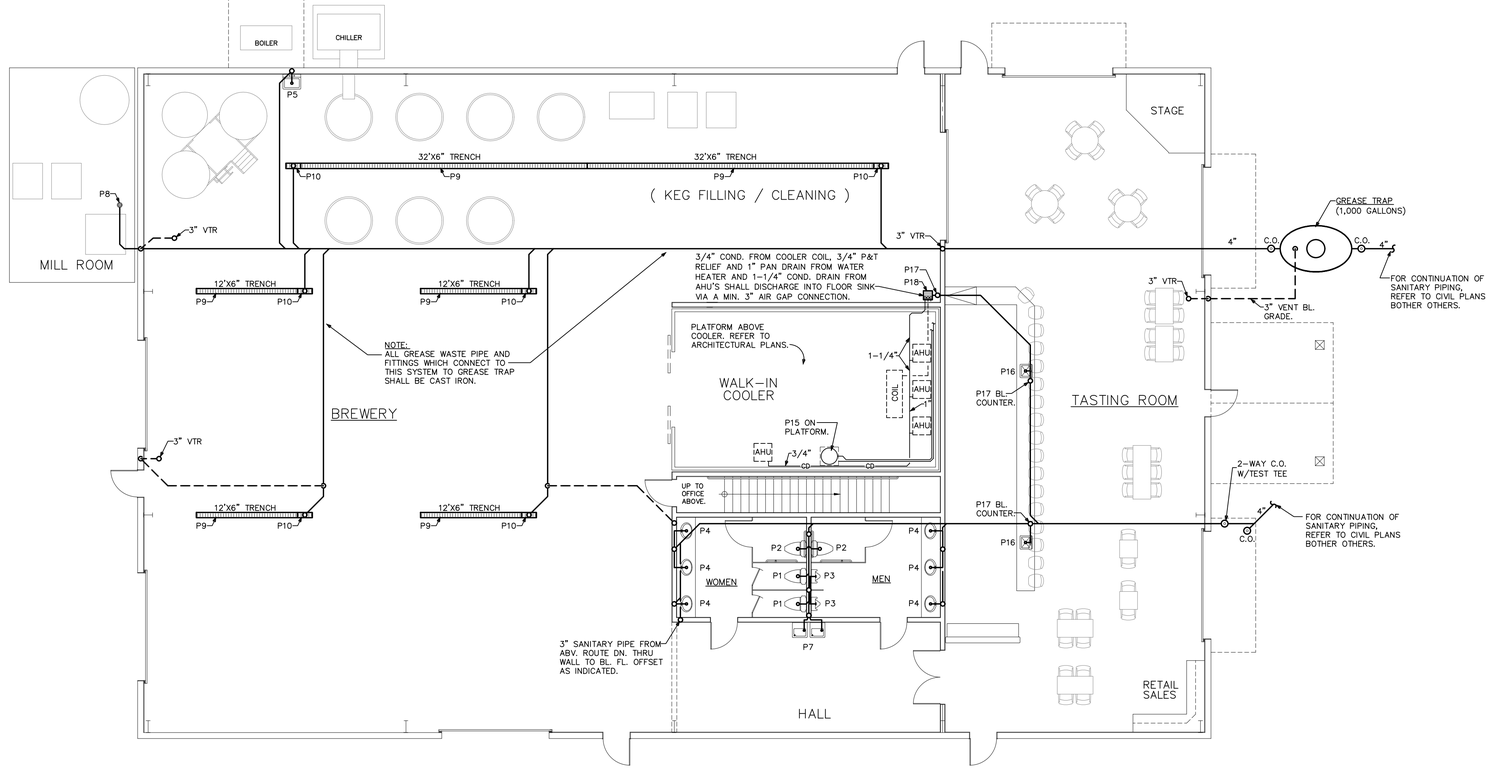
(1,000 GALLONS)

1 GREASE TRAP DETAIL
NO SCALE

Proceptor ®
by greenturtle®
US 877 428 8187 CAN 877 966 9444
www.greenturtletech.com

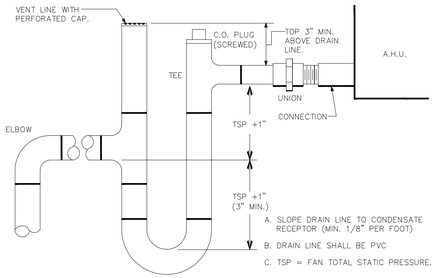


MEZZANINE LEVEL FLOOR PLAN – PLUMBING SCALE : 1/8" = 1'-0" 102

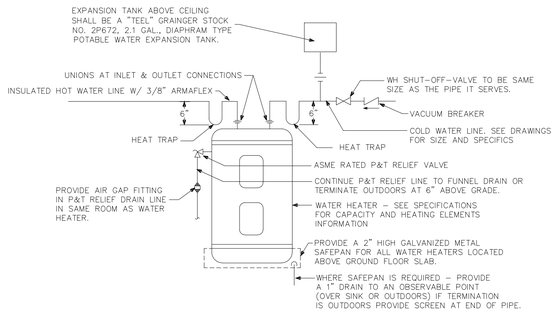


GROUND FLOOR PLAN – PLUMBING (SANITARY PIPING) SCALE : 1/8" = 1'-0" 101

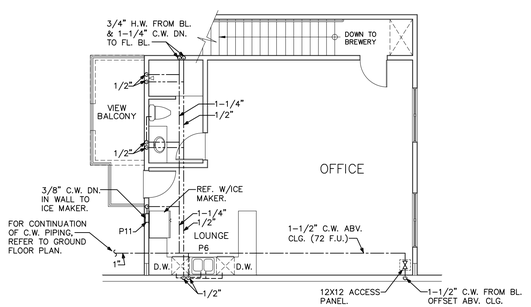
P-1

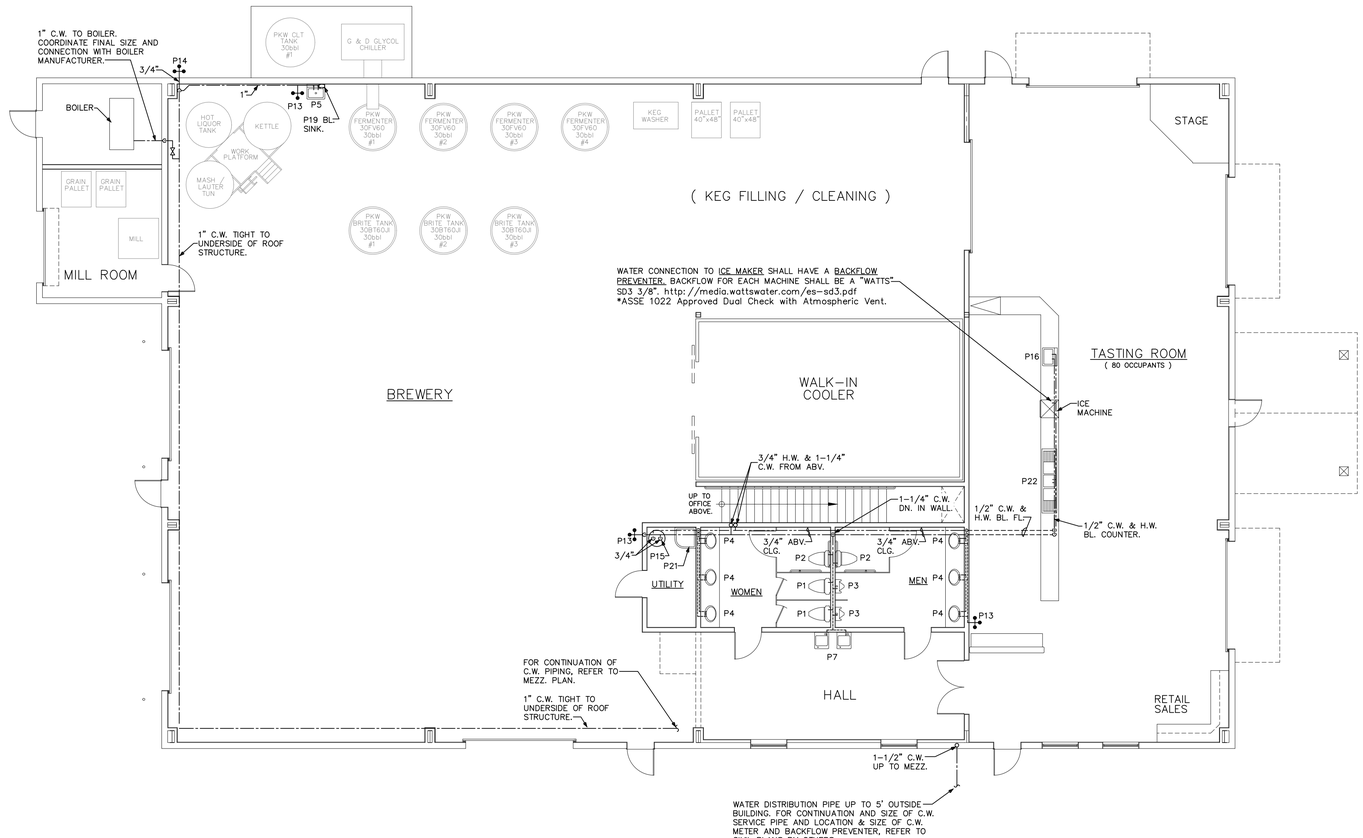


1 CONDENSATE P-TRAP DETAIL
NOT TO SCALE



2 WATER HEATER DETAIL
NO SCALE





MEZZANINE LEVEL FLOOR PLAN - PLUMBING SCALE : 1/8" = 1'-0" 102

GROUND FLOOR PLAN - PLUMBING (WATER PIPING) SCALE : 1/8" = 1'-0" 101

P-2

PLUMBING FIXTURE SCHEDULE

P-1 (FLOOR MOUNTED FLUSH TANK WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL 2462.016 CADET 1.6 GPF ELONGATED PRESSURE ASSISTED TOILET. VITREOUS CHINA, LOW-CONSUMPTION (1.6 GPF), ELONGATED BOWL, CLOSE-COUPLED FLUSHOMETER TANK. WITH RISE AND SHINE ELONGATED OPEN FRONT SEAT AND COVER AMERICAN STANDARD MODEL 5325.024
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_2670.pdf

P-2 (HANDICAPPED FLOOR MOUNTED FLUSH TANK WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL 2467.016 CADET 1.6 GPF RIGHT HEIGHT ELONGATED PRESSURE ASSISTED TOILET. VITREOUS CHINA, LOW-CONSUMPTION (1.6 GPF), CLOSE-COUPLED FLUSHOMETER TANK WITH RISE AND SHINE ELONGATED OPEN FRONT SEAT AND COVER AMERICAN STANDARD MODEL 5325.024
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_2669.pdf

P-3 (HANDICAPPED URINAL AND FLUSH VALVE)
SHALL BE AN AMERICAN STANDARD WASHBROOK MODEL 6501.511 3/4" TOP SPUD. 1.0 GPF. URINAL INCLUDES AMERICAN STANDARD MANUAL FLUSH VALVE MODEL 6045.102 FOR 3/4" TOP SPUD URINAL.
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_4875.pdf
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_4085.pdf

P-4 (HANDICAPPED COUNTER TOP LAVATORY)
SHALL BE AN AMERICAN STANDARD MODEL RONALYN MODEL 0490.011 VITREOUS CHINA SELF-RIMMING. PROVIDE AN AMERICAN STANDARD HERITAGE CENTERSET FAUCET WITH 4" WRIST BLADE HANDLES MODEL 6530.170. WATER PIPING AND P-TRAP SHALL BE CONCEALED WITH AN UNDERSINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (HTTP://WWW.TRUEBRO.COM) OR APPROVED EQUAL.
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_90.pdf

P-5 (STAINLESS STEEL WALL HUNG HAND SINK)
SHALL BE A "JUST" MODEL A-544-912-T WALL HUNG STAINLESS STEEL HAND SINK. FABRICATED OF 20 GAUGE TYPE 304 STAINLESS STEEL. EXPOSED SURFACES POLISHED WITH A HAND-BLENDED JUST FINISH. INTEGRAL SUPPORT BRACKET AT REAR. INCLUDES ONE 14 GAUGE STAINLESS STEEL WALL CUP. FAUCET SHALL BE A "JUST" MODEL JS-45-TGA.
* http://www.justmfg.com/PDF/4-15AB.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 (HANDICAPPED ELECTRIC WATER COOLER COMBINATION HI/LO & WALL CARRIER)
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. WITH ACCESSORY IN-WALL CARRIER ELKAY MODEL MLP200.
HI/LO WATER COOLER: * http://www.elkay.com/emabftlbsc
IN-WALL CARRIER SYSTEM: * http://www.elkay.com/mlp200
WALL CARRIER INSTALLATION: * http://goo.gl/P4Tct

P-8 (6" FLOOR DRAIN WITH TRAP SEAL)
SHALL BE A JOSAM 30003-A SERIES COATED CAST IRON FLOOR DRAIN. 3"⌀ PIPE CONNECTION, 6"⌀ DRAIN TOP, STRAINER TYPE 6A. TWO-PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WE/LOC INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER.
* http://www.josam.com/p/cast-iron-adjustable-round-top-floor-drain/30000-A

FLOOR DRAIN TRAP SEAL
SHALL BE A 3"⌀ "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-GW.
* http://www.thesuresed.com/Portals/49321/docs/pitch_sheet_ss3000.pdf

P-9A (TRENCH DRAIN - LENGTH INDICATED ON PLAN)
SHALL BE A "ZURN" MODEL Z806 6" FLO-THRU TRENCH SYSTEM - ZURN Z806 6" WIDE PRE-SLOPED TRENCH DRAINAGE SYSTEM. GLASS-FILLED POLYESTER FIBERGLASS DRAIN CHANNEL WITH .75% BOTTOM SLOPE. ALL SECTIONS ARE MODULAR 10-FOOT LENGTHS OR CUSTOM CUT TO FIT WITH INTERLOCKING ENDS. COMPLETE WITH HEAVY-DUTY, DURA-COATED STEEL FRAME W/ANCHOR STUDS AT SURFACE, COMBINATION ANCHOR TABS/LEVELING DEVICES AT APPROPRIATE LOCATIONS AND HEAVY-DUTY CAST IRON GRATE W/ LOCKDOWN. GRATE SHALL BE STANDARD WEIGHT DUCTILE IRON. TRENCH DRAIN INSTALLATION INSTRUCTION FOUND HERE:
* http://content.zurn.com/web_documents/pdfs/specsheets/z806.pdf
* http://content.zurn.com/web_documents/pdfs/installation/tt531.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.

P-10 (20"X6" TRENCH DRAIN CATCH BASIN)
SHALL BE A "ZURN" MODEL Z817-6-HDS FLO-THRU CATCH BASIN - 6" X 20" - ZURN Z817 CATCH BASIN (SPECIFY SIZE). POLYESTER GLASS-FILLED FIBERGLASS REINFORCED BODY, COMPLETE WITH HEAVY-DUTY, DURA-COATED STEEL FRAME WITH ANCHOR STUDS AT SURFACE AND HEAVY-DUTY CAST IRON GRATE. CATCH BASIN INSTALLATION INSTRUCTION FOUND HERE:
* http://content.zurn.com/web_documents/pdfs/specsheets/Z817-6-HDS.pdf

P-11 (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-12A (HANDICAPPED SHOWER MIXING VALVE)
SHOWER SHALL INCLUDE AN SPEAKMAN MODEL SM-5040. SENTINELPRO SHOWER SYSTEM INCLUDES SENTINELPRO CONCEALED ANTI-SCALD THERMOSTATIC/PRESSURE BALANCING SHOWER VALVE & COMBINATION. CHROME PLATED BRASS WALL PLATE. CHROME PLATED METAL LEVER HANDLE. ADJUSTABLE TEMPERATURE LIMIT STOP (TLS). FACTORY SET @ 110 F. BRASS BODY WITH INTEGRAL SPRING CHECK STOPS. DUAL ELEMENT THERMOSTATIC/PRESSURE BALANCING CARTRIDGE. FOUR PORT VALVE WITH ½"FEMALE COPPER SWEAT INLETS AND SHOWER OUTLET. ½"NPT FEMALE TUB OUTLET. FURNISHED WITH ½"PIPE PLUG. CHROME PLATED BRASS SUPPLY ELL WITH WALL FLANGE. 69"SQUARE LOCK STAINLESS STEEL HOSE WITH RUBBER LINER. SWIVEL CONNECTOR. IN-LINE VACUUM BREAKER. 30"CHROME PLATED BRASS SLIDE BAR WITH MOUNTING SCREWS. VS-100-AF HANDSHOWER WITH FLOW CONTROL DEVICE REDUCES FLOW TO 2.5 GPM.
* http://www.speakmancompany.com/products/detail/SM-5040
SHOWER STALL COORDINATE FINAL SPECIFICATIONS OF SHOWER STALL WITH ARCHITECT/ OWNER PRIOR TO BID.

P-12B SHOWER DRAIN SHALL BE A JOSAM MODEL FD-200-4CP, 2"⌀ PIPE CONNECTION, 4"⌀ DRAIN TOP.
* http://www.josam.com/images/josammkt/sbmtl/s06_FD-200-4CP.pdf

P-13 (HOSE BIBB INTERIOR W/HANDWHEEL)
SHALL BE A "WOODFORD" MODEL 101 ANTI-SIPHON WALL FAUCET.
* http://www.wcmind.com/woodford/Wall_Faucet_Pages/Model-101.html

P-14 (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.
* http://content.zurn.com/web_documents/pdfs/specsheets/S8867.pdf

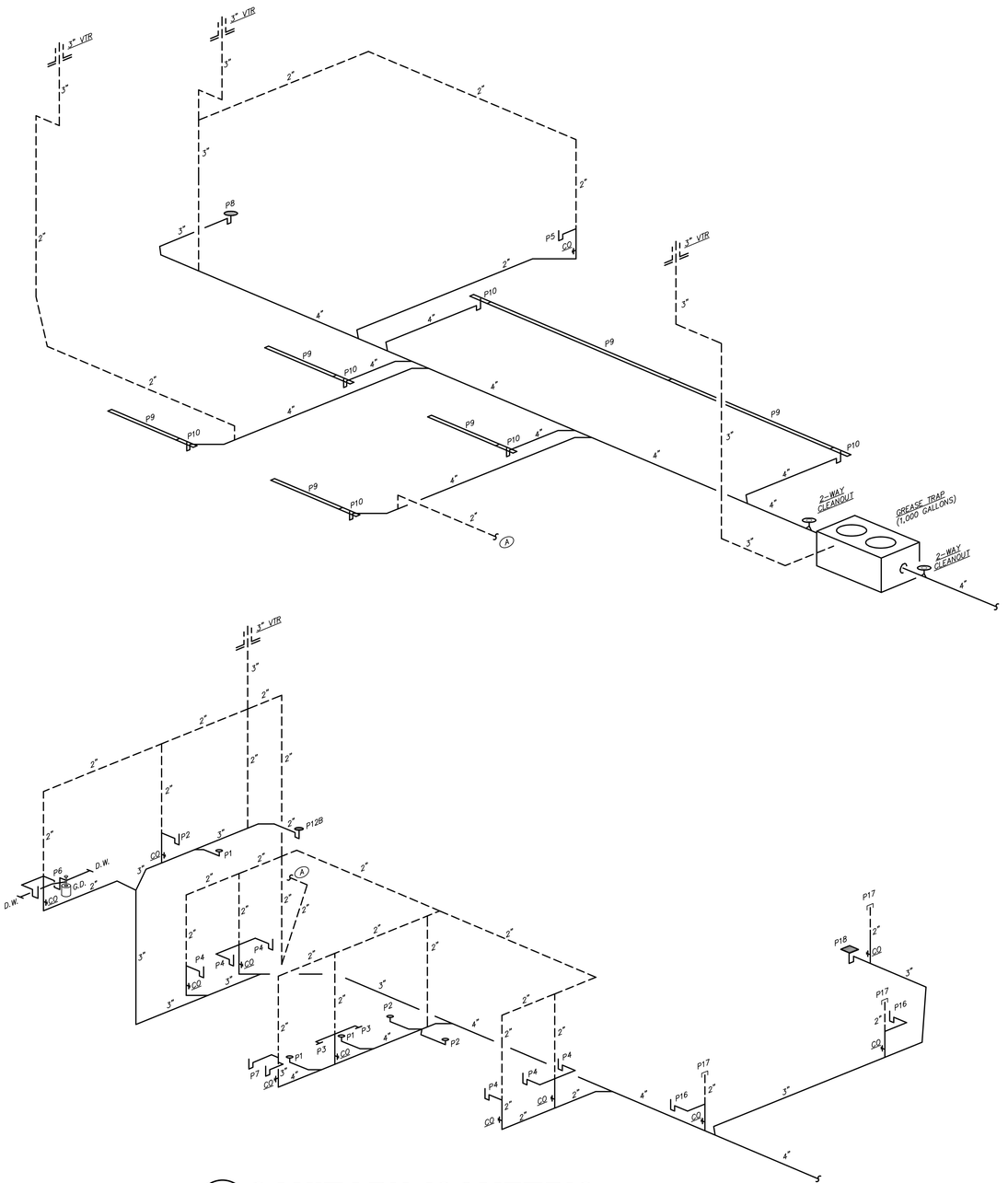
P-15 (WATER HEATER - MEDIUM DUTY - TALL MODEL)
SHALL BE A LOCHINVAR MODEL KTA055KD, 55 GALLON GLASSLINED STORAGE TANK, TALL TANK TYPE WATER HEATER WITH (2) - 4.5 KW ELECTRIC ELEMENTS WIRED FOR NON-CONCURRENT INDEPENDENT OPERATION AT 208 VOLTS, SINGLE PHASE INCOMING POWER. 3 YEAR LIMITED WARRANTY ON STORAGE TANK AGAINST TANK FAILURE. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE STANDARD 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION.
* http://www.lochinvar.com/_linefiles/RE-21.pdf

P-16 (SINGLE BOWL STAINLESS STEEL SINK)
SHALL BE A "JUST" MODEL SLF-2125-A-GR, 21"X35"X8" SEAMLESS DIE-DRAWN CONSTRUCTION OF TYPE 304, 18-8 STAINLESS STEEL. INTERIOR AND TOP SURFACES POLISHED TO A NONPOROUS HAND-BLENDED JUST FINISHWITH HIGHLIGHTED BOWL RIM. FULLY COATED UNDERSIDE INSULATED FOR SOUND AND REDUCES CONDENSATION. STRAIGHT-SIDED COMPARTMENT WITH RADIUS CORNERS PROVIDES GREATER CAPACITY. SELF-RIMMING TOPMOUNT GRIP-RIMPLUSWITH STAINLESS STEEL MOUNTING CHANNELS.CONFORMS TO ASME/ANSI A112.19.3M. CERTIFIED CONFORMANCE WITH ASME A112.19.3/CSA B45.4. FAUCET SHALL BE A "JUST" MODEL JWF-201.
* http://www.justmfg.com/PDF/SLF2125A.pdf
* http://www.justmfg.com/PDF/7-119.pdf

P-17 (2" STUDOR VENT - AIR ADMITTANCE VALVE)
SHALL BE A IPS CORPORATION "STUDOR MINI-VENT". 2" VENT.
* http://www.ipscorp.com/plumbing/studor/minivent

P-18 (FLOOR SINK W/SEDIMENT BUCKET)
SHALL BE A JOSAM 49340A-3-31 SERIES SQUARE CAST IRON 8" DEEP SUPER-FLO-SEPTOR FLOOR SINK WITH PORC-COATED INTERIOR, DOUBLE DRAINAGE FLANGE WITH WEEPHOLES, BOTTOM OUTLET, ALUMINUM INTERNAL DOME STRAINER, AND CAST IRON, NON-TRAFFIC, PORC-COATED, ANTI-TILTING GRATE. WITH HALF GRATE AND ALUMINUM SEDIMENT BUCKET.
* http://www.josam.com/catalog/JOS/pl=FS/49340A

P-19 (INSTA-HOT WATER HEATER BELOW LAVATORY)
WATER HEATER SHALL BE A "CHRONOMITE" MODEL SR-20L/208 , 4.1 KW TANKLESS WATER HEATER @ 208V/1⌀, 20 AMPS.
* http://www.chronomite.com/uploads/fileLibrary/InstantFlowSRLowFlow-IFSRLF.PDF



1 SANITARY ISOMETRIC
NO SCALE

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 #88 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.

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	SURFACE MTD 1X4 FLUOR.	WHITE	PRISMATIC	120	(2) 32W T8	LITHONIA CB-232-MVOLT	W/ WRAP AROUND LENS
C	FLUORESCENT WALL LIGHT	WHITE	PRISMATIC	120	(2) 17W T8	LITHONIA WC-217-A12-120	
D	FLUORESCENT DOWN LIGHT	WHITE	CLEAR GLASS	120	(2) 13W DTT	LITHONIA AF-2/13DTT-6-AR-CGL	DAMP LOCATION LISTED
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP
EX1	EXIT / EMERGENCY EGRESS	WHITE	RED	120	INCLUDED	LITHONIA LHQM-MVOLT-HO	W/ MODEL NX DUAL REMOTE HEAD. 90 MIN BATTERY
EX	EXIT SIGN	WHITE	RED	120	INCLUDED	LITHONIA LE-SW2R-120/277-ELN	W/ BATTERY BACKUP
F	EXT. FLUORESCENT WALL MTD	BRONZE	POLYCARBONATE	120	(1) 28WDTT	LITHONIA TWL-28DTT-120	
G	HI BAY FLUORESCENT	CHROME		208	(6) 54W T5HO	LITHONIA IB-654L-WDS-MVOLT-2/3	
H	SINGLE CIRCUIT 8' TRACK LT	WHITE		120	(5) 150W HALOGEN	LITHONIA LT8-WH	W/ (5) LITHONIA PRSP HEADS
K	4' FLUORESCENT STRIP	WHITE		120	(2) 32W T8	LITHONIA C-232-MVOLT	

ELECTRICAL SYMBOLS LEGEND

NOTE - NOT ALL SYMBOLS MAY BE USED ON PROJECT

SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	DUPLEX RECEPTACLE, MTD. +18" AFF	T	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	F-FAN; M-MOTOR; P-PUMP
$	SINGLE POLE SWITCH, MTD +47"		SPECIAL OUTLET - AS REQUIRED
$3	THREE-WAY SWITCH, MTD +47"	B-2	CKT. HOMERUN (B INDICATES PANEL) "2" DESIGNATES CIRCUIT NUMBER
$M	MANUAL STARTER SWITCH		EXIT SIGN; ONE SIDED, OR TWO SIDED
$D	DIMMER SWITCH, MTD +47"		EMERGENCY LIGHTING
$L	SWITCH W/ ILLUM WHEN ON MTD +47"	B	RECESSED MOUNTED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
$O3	THREE-WAY SWITCH W/ OCCU SENSOR MTD. +47"	M	OVERHEAD OCCUPANCY SENSOR
$O	SWITCH W/ OCCU SENSOR. MTD. +47"	B	HIGHBAY HID LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
J	JUNCTION BOX, FLUSH IF POSSIBLE	B / EM	FLUORESCENT LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	TELEPHONE / DATA OUTLET +18"	B / NL	FLUORESCENT LIGHTING NIGHT LIGHT B DESIGNATES FIXTURE TYPE
	DED. COMPUTER TERM. OUTLET +18"	B	FLUORESCENT STRIP LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
DS	DISCONNECT SWITCH W/ STARTER	IG	ISOLATED GROUND
DS	DISCONNECT SWITCH	WP	WEATHER-PROOF
	FLR. MTD. FLUSH DUPLEX RECEPTACLE	BC	BELOW COUNTER
	FLR. MTD. FLUSH QUAD. RECEPTACLE	TC	TIME CLOCK - 24 HOUR
	FLR. MTD. FLUSH PHONE/DATA OUTLET	GFI	GROUND FAULT INTERRUPTER
	FLR. MTD. FLUSH COMPUTER OUTLET	AFF	ABOVE FINISHED FLOOR
SD	AREA SMOKE DETECTOR	EWC	ELECTRIC WATER COOLER
H	HEAT DETECTOR	ASW	ABOVE SHOW WINDOW
D	DUCT SMOKE DETECTOR	BSW	BELOW SHOW WINDOW
F	FIRE ALARM MAN. PULL STATION +47"	FACP	FIRE ALARM CONTROL PANEL
H30	HORN WITH STROBE LIGHT, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING	FAAP	FIRE ALARM ANNUNCIATOR PANEL
L30	STROBE LIGHT ONLY, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING		

NOTE: ALL CEILING RECEPTACLES MUST HAVE TWIST LOCK

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE

PRESCRIPTIVE [X] 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 ____ 5250 VS 8900
- 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:

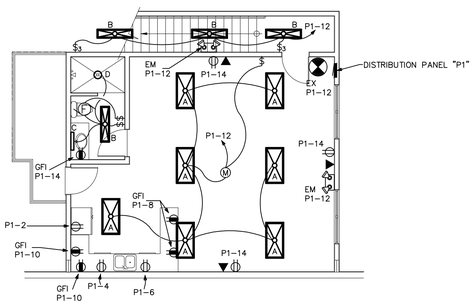
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA ENERGY CODE 2012, CHAPTER 5.

SIGNED: _____

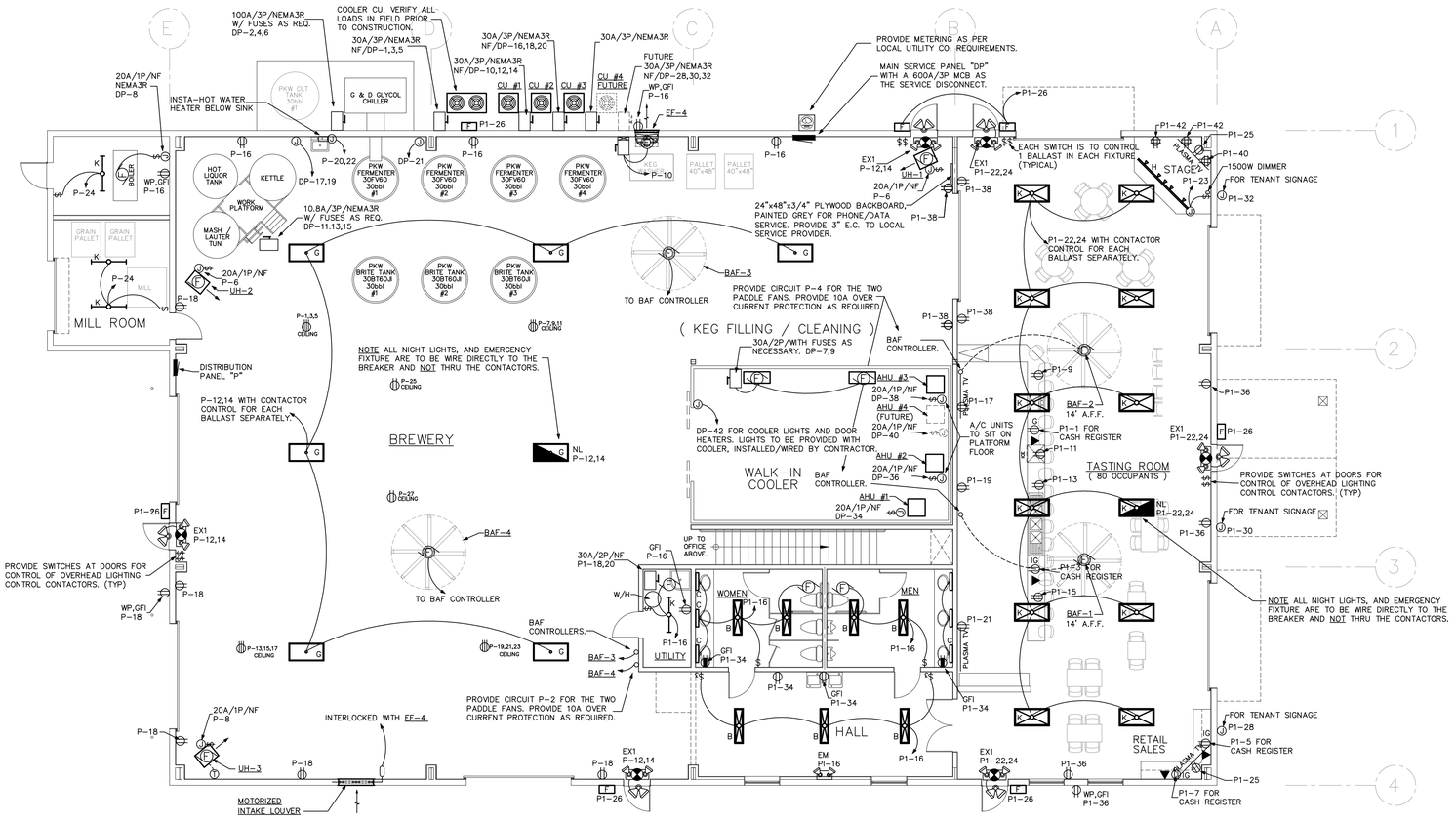
NAME: TODD W. CAREY, P.E.

TITLE: NORTH CAROLINA PROFESSIONAL ENGINEER #9079

NOTE: COMPLIANCE TO NC ENERGY SECTION 506 IS MADE BY LIGHTING LEVEL REDUCTION.



MEZZANINE LEVEL FLOOR PLAN - ELECTRICAL SCALE : 1/8" = 1'-0" 102



GROUND FLOOR PLAN - ELECTRICAL SCALE : 1/8" = 1'-0" 101

E-1

PANEL SCHEDULE P1

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 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	GND	C.	KEYS							KEYS	C.	GND	NEUTRAL	COND.		
1	20/1	#12	#12	#12	1/2	CHAL	CASH REGISTER (I.G.)	180	180	------	------								
3	20/1	#12	#12	#12	1/2	CHAL	CASH REGISTER (I.G.)	900	900	------	------	REFRIGERATOR	CHAL	1/2	#12	#12	#12	20/1	2
5	20/1	#12	#12	#12	1/2	CHAL	CASH REGISTER (I.G.)	180	------	180	------								
7	20/1	#12	#12	#12	1/2	CHAL	CASH REGISTER (I.G.)	1500	------	1500	------	U.C. DISHWASHER	CHAL	1/2	#12	#12	#12	20/1	4
9	20/1	#12	#12	#12	1/2	CHAL	BAR EQUIPMENT OUTLET	180	------	------	180								
11	20/1	#12	#12	#12	1/2	CHAL	ICE MAKER EQUIPMENT	1500	------	------	1500	U.C. DISHWASHER	CHAL	1/2	#12	#12	#12	20/1	6
13	20/1	#12	#12	#12	1/2	CHAL	BAR EQUIPMENT OUTLET	180	180	------	------								
15	20/1	#12	#12	#12	1/2	CHAL	BAR EQUIPMENT OUTLET	360	------	360	------	COUNTER RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	8
17	20/1	#12	#12	#12	1/2	CHAL	BAR EQUIPMENT OUTLET	180	------	------	180								
19	20/1	#12	#12	#12	1/2	CHAL	BAR EQUIPMENT OUTLET	360	------	------	360	COUNTER RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	10
21	20/1	#12	#12	#12	1/2	CHAL	BAR EQUIPMENT OUTLET	180	------	180	------								
23	20/1	#12	#12	#12	1/2	CHAL	STAGE TRACK LIGHTS	960	------	------	960	MEZZANINE LIGHTING	CHAL	1/2	#12	#12	#12	20/1	12
25	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE FOR TV	180	180	------	------								
27							SPACE	720	720	------	------	MEZZANINE RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	14
29							SPACE	180	------	180	------								
31							SPACE	900	------	900	------	TOILET AREA LIGHTING	CHAL	1/2	#12	#12	#12	20/1	16
33							SPACE	180	------	------	180								
35							SPACE	0	------	------	2250								18
37							SPACE	180	180	------	------	WATER HEATER	CHAL	1/2	#10	---	#10	30/2	
39							SPACE	0	2250	------	------								20
41							SPACE	180	------	180	------								
								0	------	1152	------								22
								1250	------	------	1250	TASTING ROOM LIGHTS ✖	CHAL	1/2	#12	---	#12	20/2	
								0	------	------	1152								24
								600	600	------	------								
								360	360	------	------	EXTERIOR DOOR LIGHTING ✖✖	CHAL	1/2	#12	#12	#12	20/1	26
								0	------	0	------								
								1200	------	1200	------	BUILDING SIGNAGE ✖✖	CHAL	1/2	#12	#12	#12	20/1	28
								0	------	------	0								
								1200	------	------	1200	BUILDING SIGNAGE ✖✖	CHAL	1/2	#12	#12	#12	20/1	30
								0	0	------	------								
								1200	1200	------	------	BUILDING SIGNAGE ✖✖	CHAL	1/2	#12	#12	#12	20/1	32
								0	------	0	------								
								720	------	720	------	GENERAL RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	34
								0	------	------	0								
								720	------	------	720	GENERAL RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	36
								0	0	------	------								
								900	900	------	------	GENERAL RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	38
								0	------	0	------								
								360	------	360	------	STAGE OUTLET	CHAL	1/2	#12	#12	#12	20/1	40
								0	------	------	0								
								720	------	------	720	STAGE OUTLETS	CHAL	1/2	#12	#12	#12	20/1	42

WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING			
1 TEMP RATING 2 CONDUIT TYPE 3 INSULATION 4 WIRING TYPE	C-CU WIRE	H-THWN	A-EMT	L-78-86 Deg. F.	8010	6914	10292
					25,216		

PEAK PHASE (C) UNBALANCED NEUTRAL LOAD AMPS = 57.4 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 70. AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES

PANEL NOTES:
✖ - PROVIDE TWO CONTACTORS, ONE FOR EACH BALLAST IN EACH FIXTURE
✖✖ - PROVIDE TIMECLOCK CONTROL FOR THIS CIRCUIT

PANEL P1 DIVERSIFICATION CALCULATIONS

RECEPTACLES (41) -	7440 VA TOTAL	
	FIRST 10 KVA AT 100% -	7440
LIGHTING -	4276 X 125% -	5345
MOTOR LOADS AT 100%	-	250
PLUS 25% OF THE LARGEST MOTOR	-	31
MISC NON-CONTINUOUS LOADS AT 100%	-	8400
MISC CONTINUOUS LOADS AT 125%		
4850 X 1.25	-	6063
TOTAL DIVERSIFIED PANEL LOAD	-	27529
LOAD AT 120/208V/3-PHASE/4-WIRE	-	76.5A

PANEL SCHEDULE P

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 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	GND	C.	KEYS							KEYS	C.	GND	NEUTRAL	COND.		
1								0	3600	------	------								
3	30/3	#10	---	#12	1/2	CHAL	CEILING RECEPTACLE	1920	1920	------	------	(2) PADDLE FANS	CHAL	1/2	#12	#12	#12	20/1	2
5								0	------	3600	------								
7								1920	------	------	3600								
9	30/3	#10	---	#12	1/2	CHAL	CEILING RECEPTACLE	0	3600	------	------	(2) PADDLE FANS	CHAL	1/2	#12	#12	#12	20/1	4
11								832	832	------	------								
13								0	------	3600	------								
15	30/3	#10	---	#12	1/2	CHAL	CEILING RECEPTACLE	1664	------	------	1664	GAS UNIT HEATERS 1 / 2	CHAL	1/2	#12	#12	#12	20/1	6
17								0	3600	------	------								
19								832	832	------	------	GAS UNIT HEATER 3	CHAL	1/2	#12	#12	#12	20/1	8
21	30/3	#10	---	#12	1/2	CHAL	CEILING RECEPTACLE	0	------	3600	------								
23								666	------	666	------	EF-4	CHAL	1/2	#12	#12	#12	20/1	10
								0	------	------	3600								
								0	3600	------	------								
								0	1134	------	------								12
								0	------	3600	------	PRODUCTION AREA LIGHTS ✖	CHAL	1/2	#12	---	#12	20/2	
								0	1134	------	------								14
								0	------	3600	------								
								900	900	------	------	GENERAL USE RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	16
								0	------	------	3600								
								1080	------	------	1080	GENERAL USE RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	18
								0	3600	------	------								
								0	2050	------	------								20
								0	------	3600	------	INSTA-HOT WATER HEATER	CHAL	1/2	#10	---	#10	30/2	
								0	------	2050	------								22
								0	------	------	3600								
								560	------	------	560	LIGHTING	CHAL	1/2	#12	#12	#12	20/1	24
								2400	2400	------	------								
								0	------	0	------								26
								2400	------	2400	------								
								0	------	------	0								28
								0	------	0	------								
								0	------	------	0								30
								0	0	------	------								
								0	------	0	------								32
								0	------	------	0								
								0	------	0	------								34
								0	0	------	------								
								0	------	------	0								36
								0	0	------	------								
								0	------	0	------								38
								0	------	------	0								
								0	------	0	------								40
								0	------	------	0								
								0	------	------	0								42

WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING			
1 TEMP RATING 2 CONDUIT TYPE 3 INSULATION 4 WIRING TYPE	C-CU WIRE	H-THWN	A-EMT	L-78-86 Deg. F.	22736	22336	18838
					63,910		

PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 49.1 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 177.5 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES

PANEL NOTES:
✖ - PROVIDE TWO CONTACTORS FOR LIGHTS. ONE CONTRACTOR FOR EACH BALLAST IN EACH FIXTURE

PANEL P DIVERSIFICATION CALCULATIONS

RECEPTACLES (278) -	49980 VA TOTAL	
	FIRST 10 KVA AT 100% -	10000
	REMAINDER AT 50% -	19990
LIGHTING -	2828 X 125% -	3535
MOTOR LOADS AT 100%	-	7002
PLUS 25% OF THE LARGEST MOTOR	-	240
MISC NON-CONTINUOUS LOADS AT 100%	-	4100
TOTAL DIVERSIFIED PANEL LOAD	-	44867
LOAD AT 120/208V/3-PHASE/4-WIRE	-	124.6A

PANEL SCHEDULE A

600 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 600A. M.C.B., 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	GND	C.	KEYS							KEYS	C.	GND	NEUTRAL	COND.		
1								0	2600	------	------								
3	30/3	#10	---	#10	1/2	CHAL	COOLER CONDENSING UNIT	0	7284	------	------								2
5								0	------	2600	------								
7								0	------	7284	------	PROCESS CHILLER	CHAL	1-1/4	#8	---	#3	100/3	4
9	20/2	#12	---	#12	1/2	CHAL	COOLER AHU UNITS	0	------	------	2600								
11								1581	------	------	7284								6
13	20/3	#12	---	#12	1/2	CHAL	RAKES AND PLOW MOTOR	0	1123	------	------								
15								0	1581	------	------	BOILER BLOWER	CHAL	1/2	#12	#12	#12	20/1	8
17								0	------	1123	------								
19	40/2	#8	---	#12	1/2	CHAL	RAKES,PLOW CONTROL BOX	0	------	1428	------								10
21	20/1	#12	#12	#12	1/2	CHAL	GLYCOL CONTROL CABINET	0	------	------	1296								
23							SPACE	0	1428	------	------	CONDENSING UNIT #1	CHAL	1/2	#12	---	#12	20/3	12
25							SPACE	0	------	1296	------								
27							SPACE	0	------	2088	------								14
29							SPACE	0	------	------	1296								
31							SPACE	0	2088	------	------								
33	200/3	#3/0	#3/0	#6	2	CHAL	PANELBOARD "P"	0	------	4160	------								16
35								0	------	------	2088	CONDENSING UNIT #2	CHAL	1/2	#10	---	#10	30/3	18
37								0	4160	------	------								
39	200/3	#3/0	#3/0	#6	2	CHAL	PANELBOARD "P1"	0	2088	------	------								20
41								2400	------	2400	------								
								0	------	2088	------								22
								0	------	------	0								
								0	------	------	2088	CONDENSING UNIT #2	CHAL	1/2	#10	---	#10	30/3	24
								0	0	------	------								
								0	------	2088	------								26
								0	------	------	0								
								0	------	2088	------								28
								0	------	------	0								
								0	------	------	2088	CONDENSING UNIT #2	CHAL	1/2	#10	---	#10	30/3	30
								2752	5936	------	------								
								0	2088	------	------								32
								3486	------	5536	------								
								1123	------	1123	------	AHU #1	CHAL	1/2	#12	#12	#12	20/1	34
								2744	------	------	3878								
								1581	------	------	1581	AHU #2	CHAL	1/2	#12	#12	#12	20/1	36
								5160	7410	------	------								
								1581	1581	------	------	AHU #3	CHAL	1/2	#12	#12	#12	20/1	38
								5762	------	6914	------								
								0	------	0	------	AHU #4	CHAL	1/2	#12	#12	#12	20/1	40
								6892	------	------	10292								
								900	------	------	900	COOLER LIGHTS / DOOR HEAT	CHAL	1/2	#12	#12	#12	20/1	42

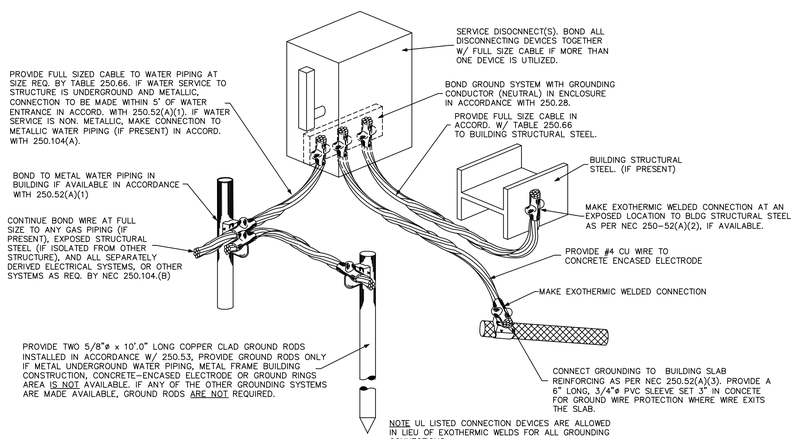
WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING			
1 TEMP RATING 2 CONDUIT TYPE 3 INSULATION 4 WIRING TYPE	C-CU WIRE	H-THWN	A-EMT	L-78-86 Deg. F.	40663	35968	39683
					116,314		

PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 106.4 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 323.1 AMPS

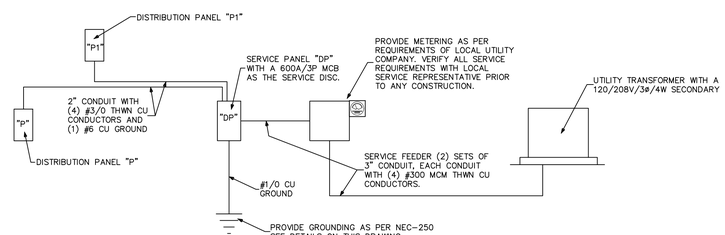
PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES

PANEL A DIVERSIFICATION CALCULATIONS

RECEPTACLES (73) -	13105 VA TOTAL	
	FIRST 10 KVA AT 100% -	10000
	REMAINDER AT 50% -	1553
LIGHTING -	7444 X 125% -	9305
HVAC LOAD AT 100%	-	30876
MOTOR LOADS AT 100%	-	32992
PLUS 25% OF THE LARGEST MOTOR	-	4500
MISC NON-CONTINUOUS LOADS AT 100%	-	27047
MISC CONTINUOUS LOADS AT 125%		
4850 X 1.25	-	6063
TOTAL DIVERSIFIED PANEL LOAD	-	122336
LOAD AT 120/208V/3-PHASE/4-WIRE	-	339.8A



2 GROUNDING DETAIL
NO SCALE



1 ELECTRICAL SERVICE RISER DIAGRAM
NO SCALE

E-2