

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

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	MFR.	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

DESIGNATES LABEL FOR DIFFUSER TYPE		ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.		
DESIGNATES CFM QUANTITY FOR DIFFUSER				
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	TITUS TDC-AA	6"	0 - 125	12X12 LOUVERED FACE
B	TITUS TDC-AA	12"	330 - 450	24X24 LOUVERED FACE
C	TITUS BR	12"	0 - 500	24X24 PERFORATED FACE

RETURN GRILLE SCHEDULE

DESIGNATES LABEL FOR GRILLE TYPE		FILTER SHALL BE PROVIDED AT UNIT.		
DESIGNATES CFM QUANTITY FOR GRILLE				
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	18X18	605 - 1200	LOUVER FACE
2	TITUS 355FL	24X24	1205 - 1450	LOUVER FACE

AIR BALANCE SCHEDULE

OUTSIDE	OUTSIDE AIR	RETURN AIR	SUPPLY AIR	EXHAUST AIR	RESULTING PRESSURES
AHU #1	779	421	1200		+779
AHU #2	425	1575	2000		+425
EF-1 (HOOD 1)				3025	-3025
EF-2 (TLT. RM.)				90	-90
EF-3 (TLT. RM.)				90	-90
SF-1 (HOOD 1)	2496				+2496
TOTAL	3700	1891	3200	3805	+495

OUTSIDE AIR CALCULATIONS

THE FOLLOWING IS BASED ON 2012 NCMC TABLE 403.3 MINIMUM VENTILATION RATES FOR OUTSIDE AIR REQUIREMENTS					
UNIT LABEL	OCCUPANCY CATEGORY	AREA	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	E _z TOTAL
AHU #1&2	KITCHEN	549	0.7 CFM PER SQ. FT.	(N/A) + (549 X .7) = 384 PEOPLE AREA TOTAL	
AHU #1&2	DINING	889	70 PEOPLE PER 1,000 S.F./7.5 CFM PER PERSON	(63X7.5) + (889 X .18) = 579 PEOPLE AREA TOTAL	
				AHU #1/2 TOTAL = 963	0.8 963/0.8 = 1,204

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

AHU #1 = 779 CFM O/A - AHU #2 = 425 CFM O/A

NOTE - SQUARE FOOTAGE AREAS ARE NET AREA AND DO NOT INCLUDE THE AREA FOR THE COOLER OR BATHROOMS.

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
CU #1	CARRIER 25HBC336A005	33,800	25,600	26,480	10.4	1.1	208V/3Ø	20A	13.0	203 lbs.	AHU #1	CARRIER FX4DNF037008	1,200	SEE SCH	0.3" HIGH	1/2 HP	208V/1Ø	144 lbs.	8.0 K.W.	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 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 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.										

FAN SCHEDULE

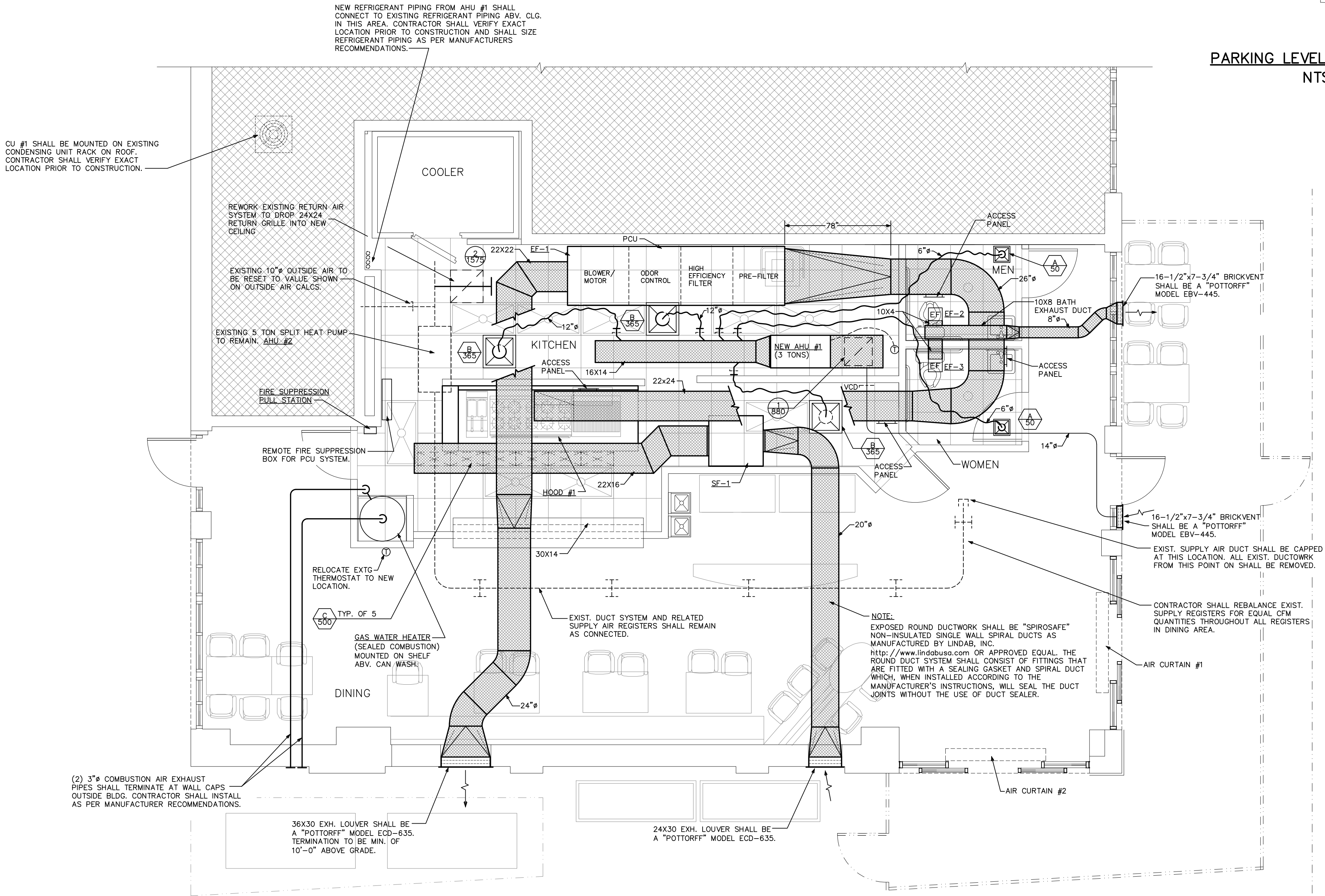
LABEL	TYPE OF UNIT - AREA SERVED	MANUFACTURER & MODEL NO.	CFM	SP	MOUNTING ARRANGEMENT	MOTOR H.P.	ENCLOSURE TYPE	RPM	VOLTAGE	NOTES
EF-2,3	CABINET FAN - REFER TO PLANS	PENN ZEPHYR Z6	90	.125"	CEILING MOUNTED	50 WATTS	OPEN DRIP PROOF	1055	115V/1Ø	1

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

AIR CURTAIN SCHEDULE

LABEL	TYPE OF UNIT - AREA SERVED	MANUFACTURER & MODEL NO.	CFM	MOUNTING ARRANGEMENT	MOTOR H.P.	ENCLOSURE TYPE	RPM	VOLTAGE	NOTES
AIR CURTAIN #1,2	AIR CURTAIN -SLIDING DOOR	MARS MODEL PH1072-2-U-G-PW	5,100	CEILING MOUNTED	(2)Ø1/2 HP	ENCLOSED	1750	120V/1Ø	1,2,3

1.) REFER TO ELECTRICAL PLANS FOR CONTROL.
2.) UNIT PROVIDED WITH CONTROL PANEL.
3.) PRODUCT DATA CUTSHEET FOUND HERE: http://www.marsair.com/sites/default/files/PH10_Unheated_Submittal.pdf



1 FLOOR PLAN - MECHANICAL
SCALE: 1/4"=1'-0"

- GENERAL GAS PIPING NOTES
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 CONNECTOR AT THE MAIN.

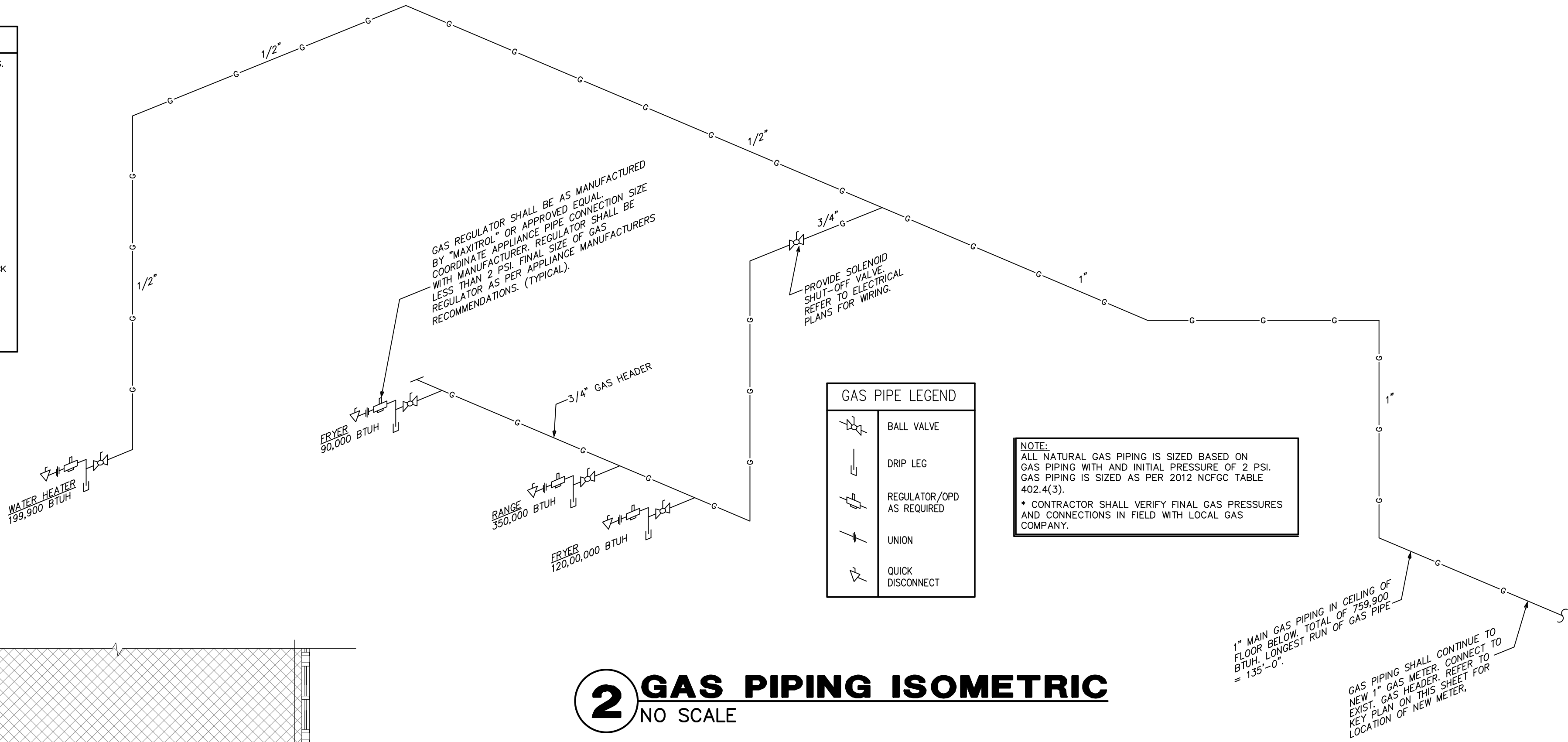
6. A 12" DIRT LEG, AND A GAS COCK, SHALL BE PROVIDED AT ALL GAS APPLIANCES.

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.

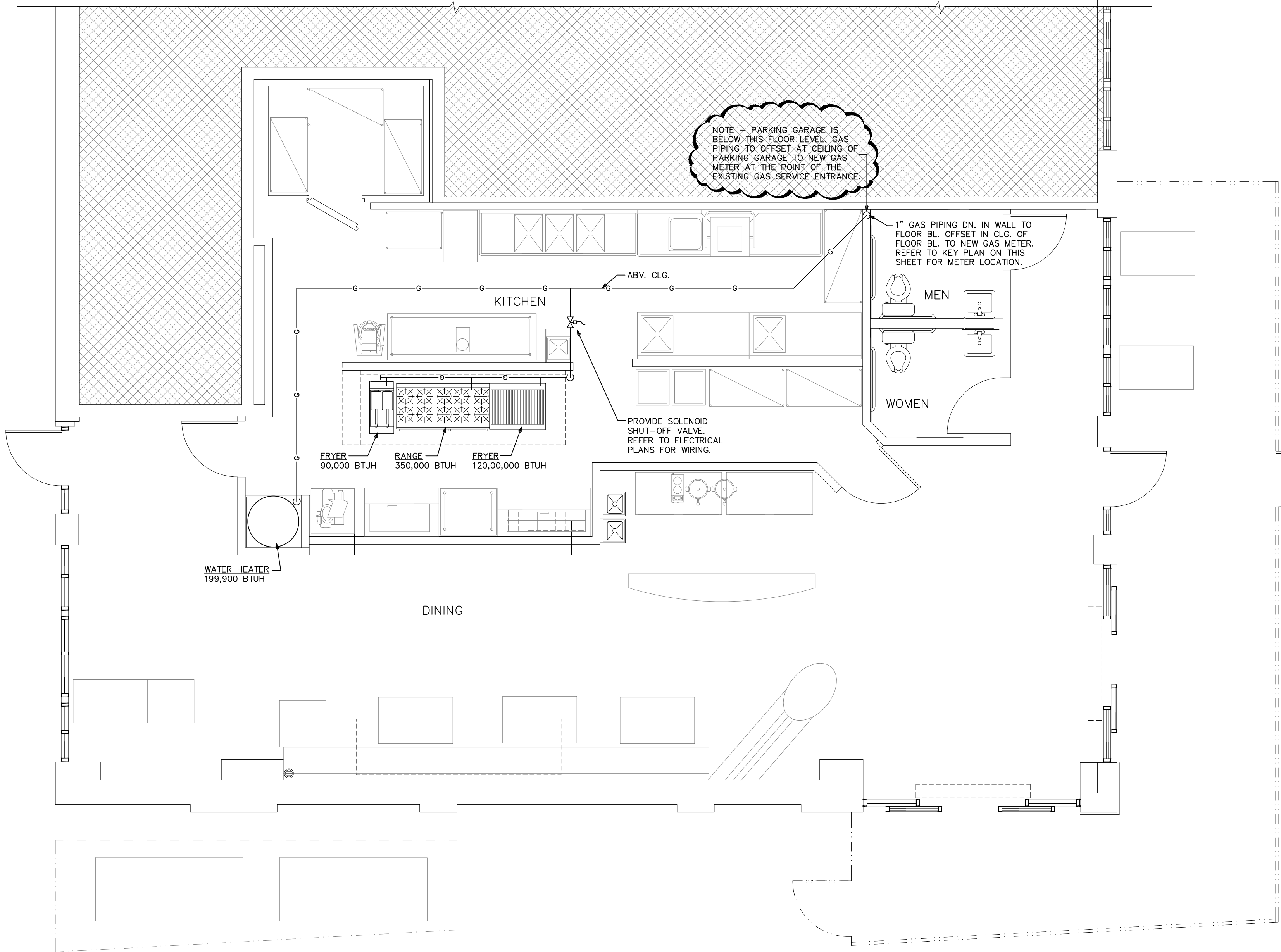
10. GAS CONNECTIONS PER ANSI Z21.69.



2

GAS PIPING ISOMETRIC

NO SCALE

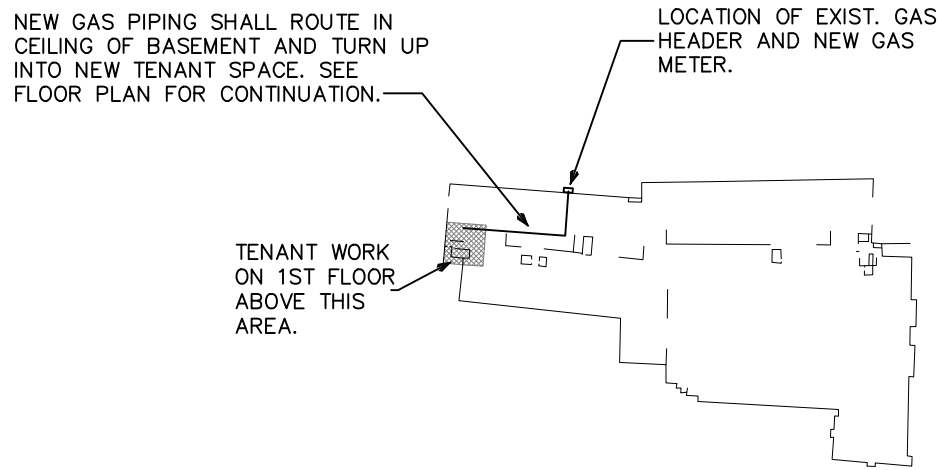


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FLOOR PLAN - GAS PIPING

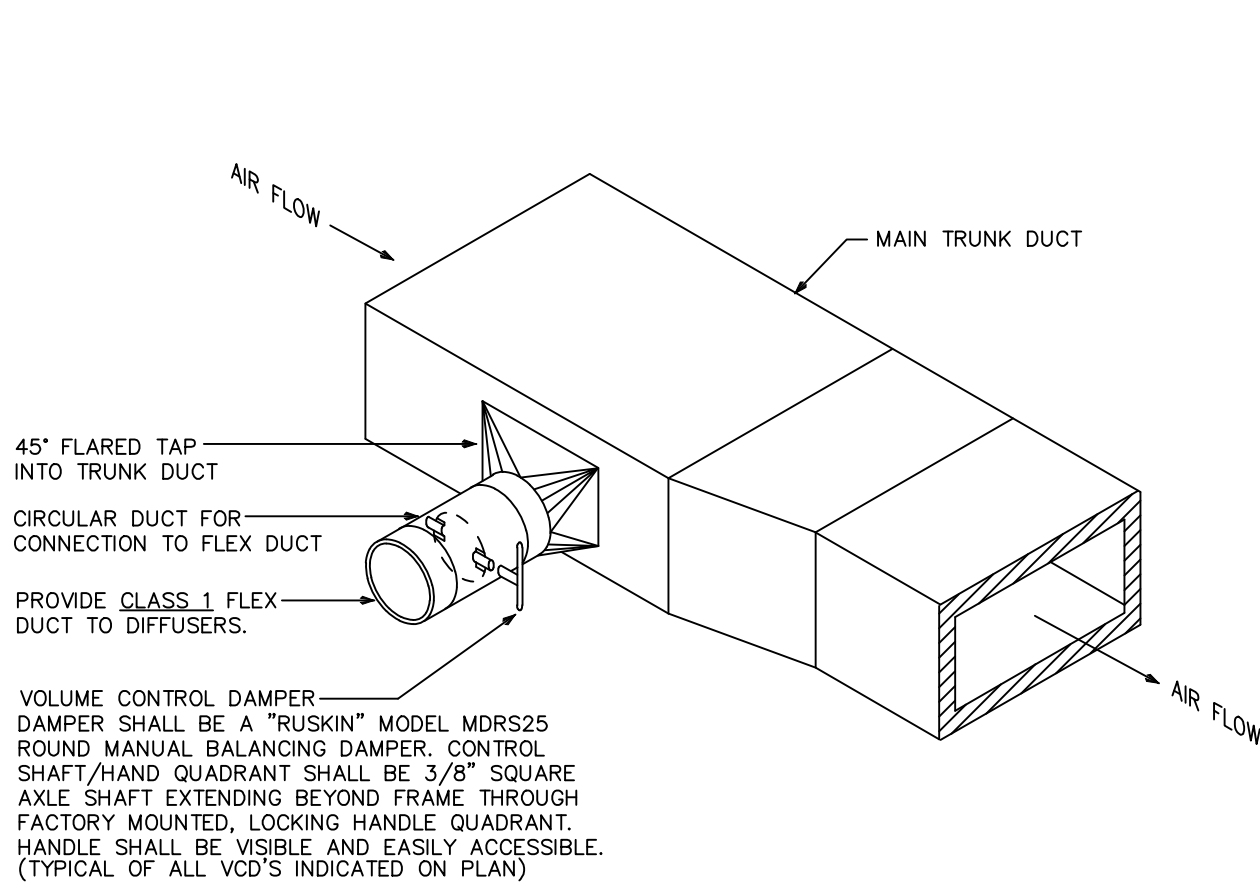
SCALE: 1/4"=1'-0"

APPENDIX B BUILDING CODE SUMMARY (MECHANICAL SUMMARY)	
MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT	
METHOD OF COMPLIANCE:	
Prescriptive	☒ 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	89,100 BTU
Building Cooling Load	94,600 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)	
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 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:	
NAME:	
TITLE:	

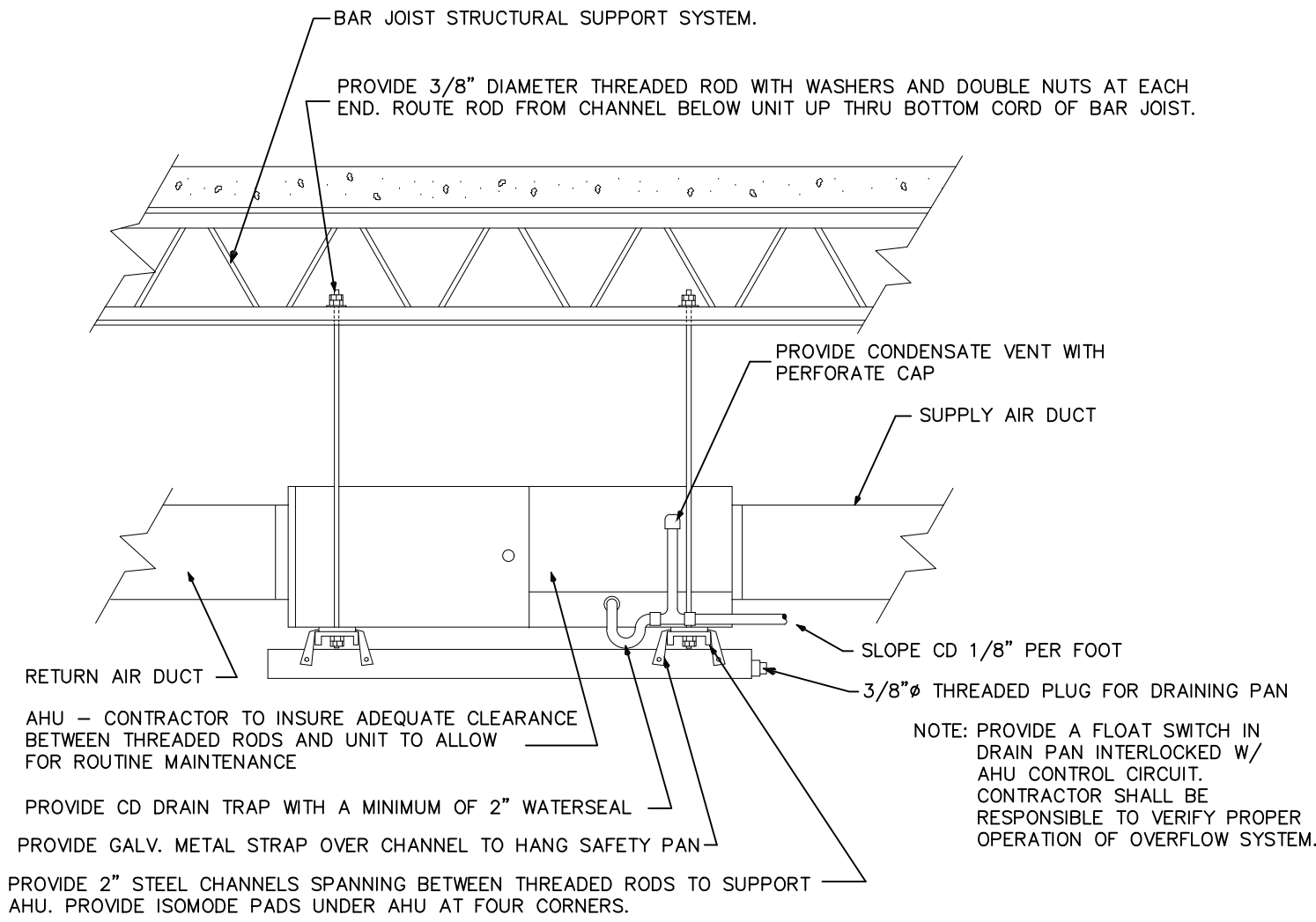


PARKING LEVEL KEY PLAN

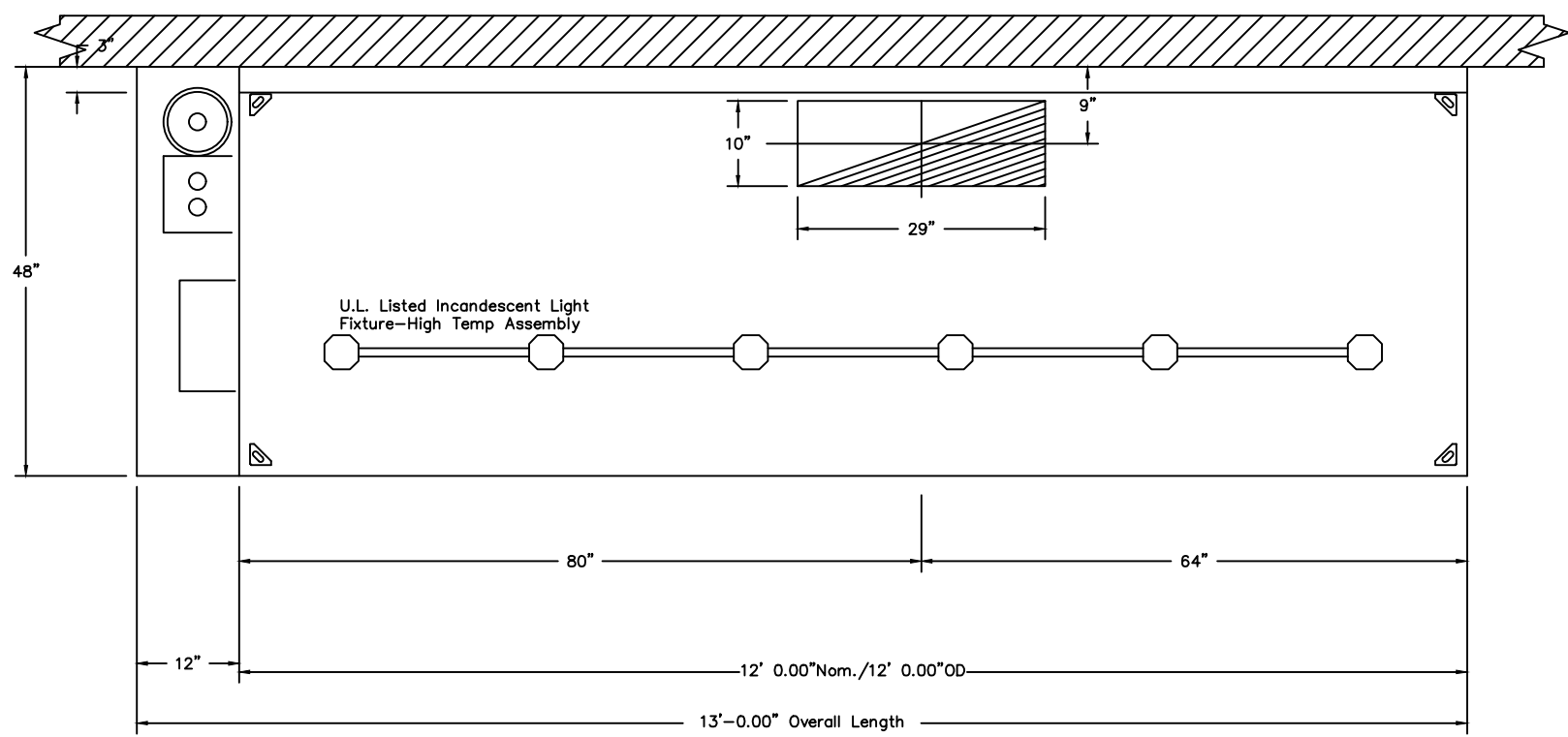
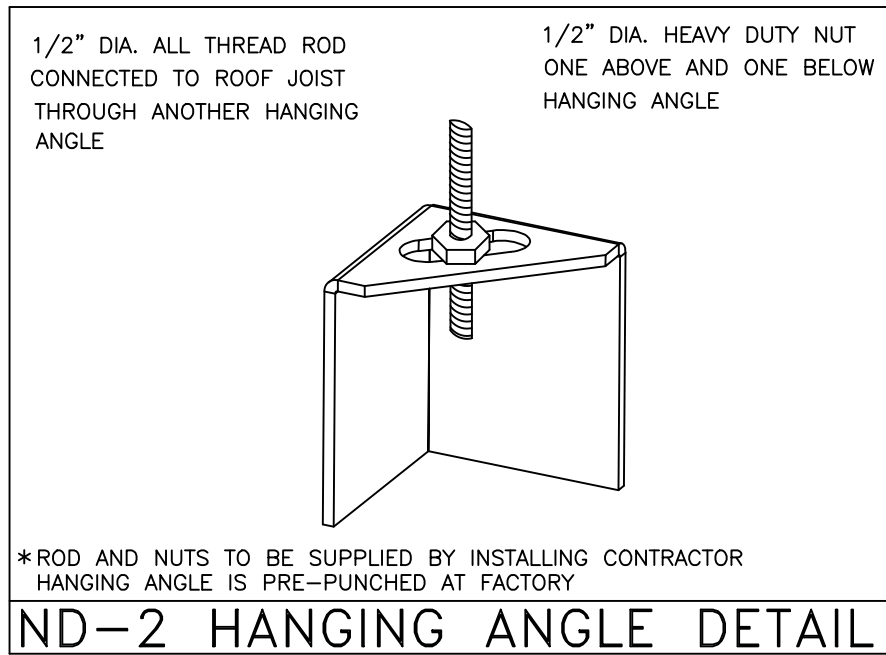
NTS



1 BRANCH DUCT DETAIL
NO SCALE



2 A.H.U. MOUNTING DETAIL
NO SCALE



PLAN VIEW - Hood #1
12' 0.00\"/>

NOTE: Additional hanging angles provided for hoods 12' and longer.

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 EDITION 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 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 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 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.

HOOD INFORMATION - Job#1869346

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)				HOOD CONSTRUCTION	HOOD CONFIG.	
						WIDTH	LENG.	DIA.	S.P.		END TO END	ROW
1		4824 ND-2	12' 0.00"	600 Deg.	3025	10"	29"	3025	-0.818"	430 SS Where Exposed	ALONE	ALONE

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
		TYPE	QTY.	HEIGHT	LENGTH	QTY.	TYPE	WIRE GUARD	LOCATION	FIRE SYSTEM		ELECTRICAL	SWITCHES		
										TYPE	SIZE	MODEL #	QUANTITY		
1		Captrate Solo Filter	4	20"	16"	6	Incandescent	NO						YES	536 LBS
			4	20"	20"	0								NO	185 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION	
1		FIELD WRAPPER 18.00" High	Front, Left, Right
		BACKSLASH 80.00" High X 144.00" Long	430 SS
		RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High	430 SS
		LEFT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High	430 SS

EXHAUST FAN INFORMATION - Job#1869346

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	#	VOLT	FLA	WEIGHT (LBS.)	SONES
1	EF-1	KB18	3025	2.000	1420	5.000	3	208	13.6	1413	18.5
3	EF-2	SIBD100A-CA	600	0.500	1130	0.333	1	115	7.0	140	7.1

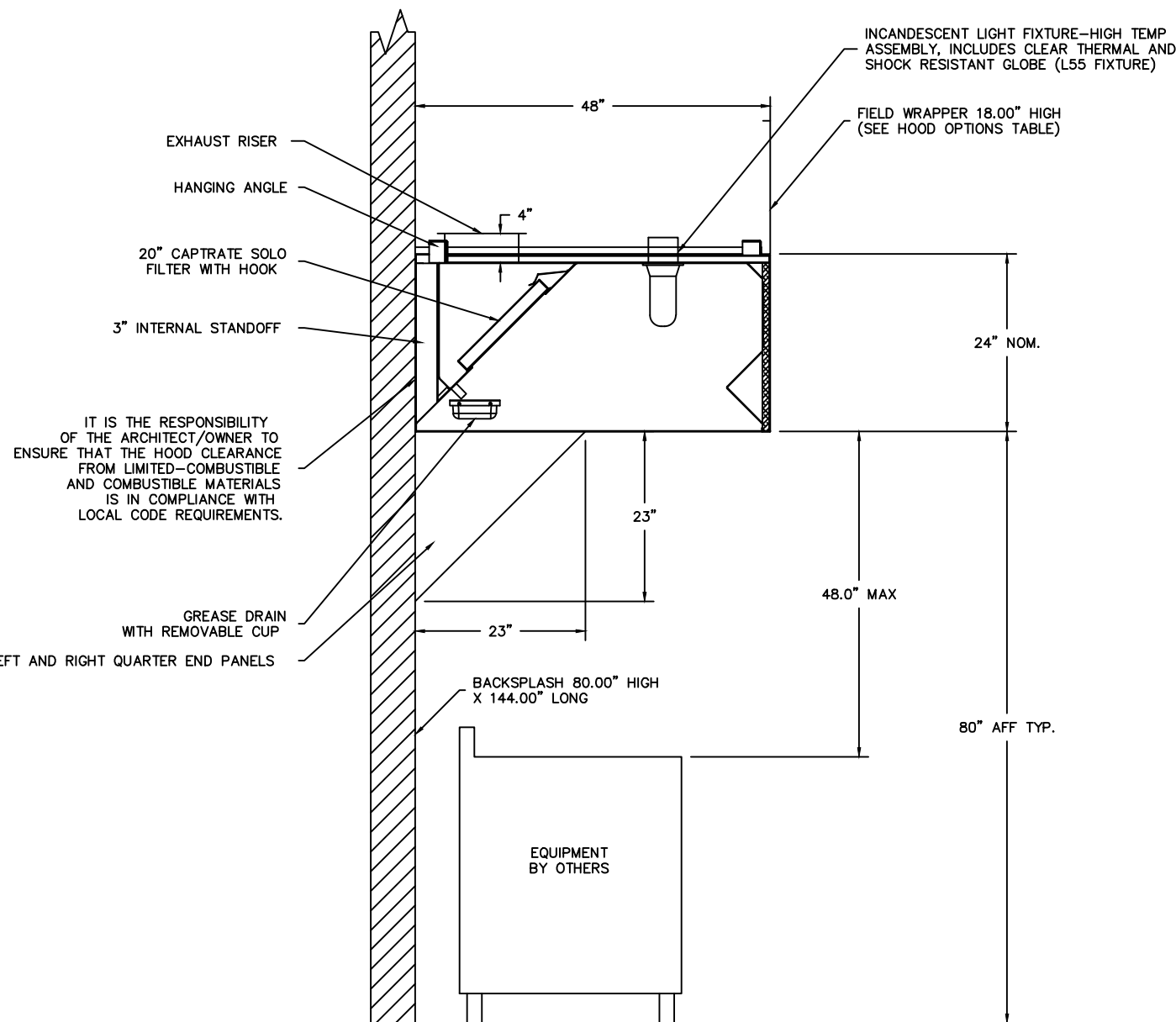
FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)	
1	EF-1	1 - Pollution Control Unit with Prefilter, High Efficiency, and Odor Control with Installed Electrical Detection System.	Size 3
2	SF-1	INLINE2 Indoor Hanging Option - Includes 2 HSA125 Hanging Spring Isolators per Unit-Strut	

FAN ACCESSORIES

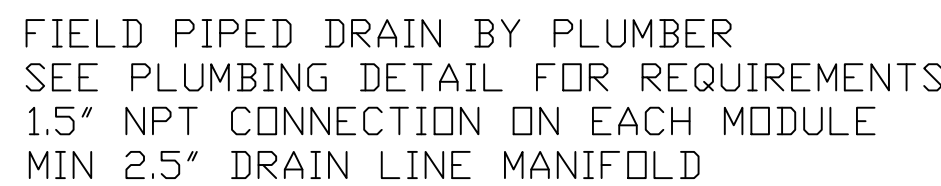
FAN UNIT NO.	TAG	EXHAUST		SUPPLY			
		GREASE CUP	WALL DAMPER	SIDE MOUNT	DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER
2	SF-1			YES			

PCU FILTER SPECIFICATIONS					
DESIGN CFM - 3025					
MODULE	FILTER TYPE	FILTER EFFICIENCY	QTY	SIZE	S.P.(Clean) (in.W.C)
1	Captrate SOLO	MERV 8	8	25x20x2	0.31
2	High Efficiency	MERV 14	8	20x25x4	0.277
3	OC 50/50 Carbon/Permanganate	N/A	8	20x25x4	0.532
TOTAL					1.119



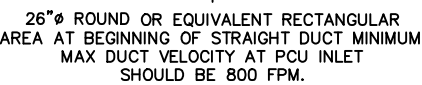
SECTION VIEW - MODEL 4824ND-2
HOOD - #1

FAN #1 KB18 - EXHAUST FAN - POLLUTION CONTROL UNIT WITH CORE PROTECTION FIRE SYSTEM INSTALLED. INCLUDES STEEL PRE FILTER MODULE, HIGH EFFICIENCY MERV 14 FILTER MODULE, AND ODOR CONTROL MODULE PREPARED WITH 17 3070-3/8HH-SS10 NOZZLES AND INCLUDES DOWSTREAM PROTECTION. ELECTRIC FIRE DETECTOR AND NOZZLES ARE INCLUDED.



FAN #1 KB18 - EXHAUST FAN - POLLUTION CONTROL UNIT WITH CORE PROTECTION FIRE SYSTEM INSTALLED. INCLUDES STEEL PRE FILTER MODULE, HIGH EFFICIENCY MERV 14 FILTER MODULE, AND ODOR CONTROL MODULE PREPIPED WITH 17 3070-3/8HH-SS10 NOZZLES AND INCLUDES DOWNSTREAM PROTECTION. ELECTRIC FIRE DETECTOR AND NOZZLES ARE INCLUDED.

NOTE: DUCT ON INLET OF PCU MUST BE
STRAIGHT FOR 78 INCHES MINIMUM.
AT START OF STRAIGHT RUN, THE MINIMUM DUCT SIZE APPROACHING THE
PCU = 26 INCH DIAMETER OR
EQUIVALENT RECTANGULAR AREA.
PLEASE REFER TO ADDITIONAL NOTES 1-3



DUCT MUST BE GRADUALLY TRANSITIONED TO THE INLET OPENING OF THE PCU TO SPREAD AIR OUT ON ALL PCU FILTERS. FAILURE TO DO THIS WILL RESULT IN ODOR AND SMOKE BYPASS

DUCT SHOULD TRANSITION TO 28 1/4" HIGH X 33" WIDE
FINAL DIMENSION AT INLET. FULLY WELD DUCT TO INLET PLATE.



1. LENGTH OF STRAIGHT DUCT ON INLET OF PCU TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER TO AVOID SYSTEM EFFECT.

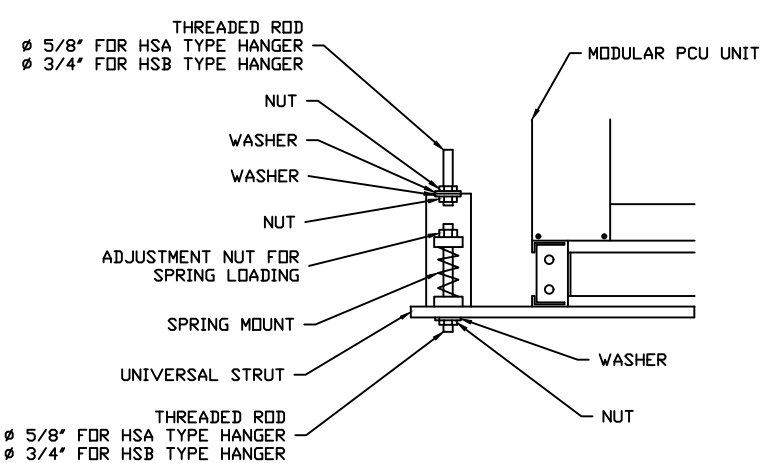
2. MAX INLET DUCT VELOCITY TO BE 800 FPM INTO THE PCU. DUCTWORK SHOULD BE SIZED APPROPRIATELY.

3. DUCT MUST BE GRADUALLY TRANSITIONED TO THE INLET OPENING OF THE PCU TO SPREAD AIR OUT ON ALL PCU FILTERS. FAILURE TO DO THIS WILL RESULT IN ODOR AND SMOKE BYPASS.

4. ACCESS PANELS ARE FOR THE SIDE SHOWN. REVERSE SIDE ACCESS IS NON-STANDARD AND ADDITIONAL CHARGES APPLY. MARK APPROVAL DRAWINGS IF OPPOSITE SIDE ACCESS IS REQUIRED.

FAN #1 KB18 - PCU #1 PCU-PF-HE-DC-CPFS-3
FAN WEIGHT = 1413

NOTE: TWO HANGERS PER UNIVERSAL STRUT

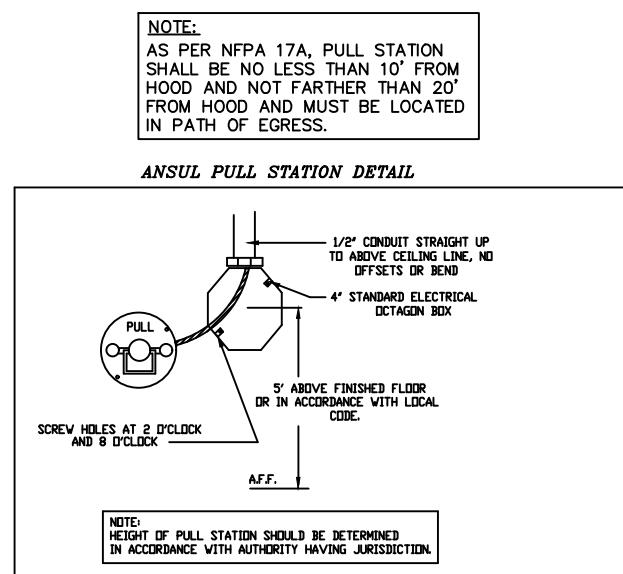


TYPICAL "HS" UNIT SPRING MOUNTING

FAN #2 INLINE2-G12 - SUPPLY FAN
1. INLINE SUPPLY UNIT W/ 12" BLOWER IN SIZE #2 HOUSING. INSULATED HOUSING.
2. SIDE DISCHARGE - AIR FLOW RIGHT -> LEFT
3. INDOOR HANGING CRADLE FOR THE SIZE 2 UNTEMPERED INLINE UNIT. 2 HSA125 HANGING ISOLATORS PER UNI-STRUT INCLUDED.

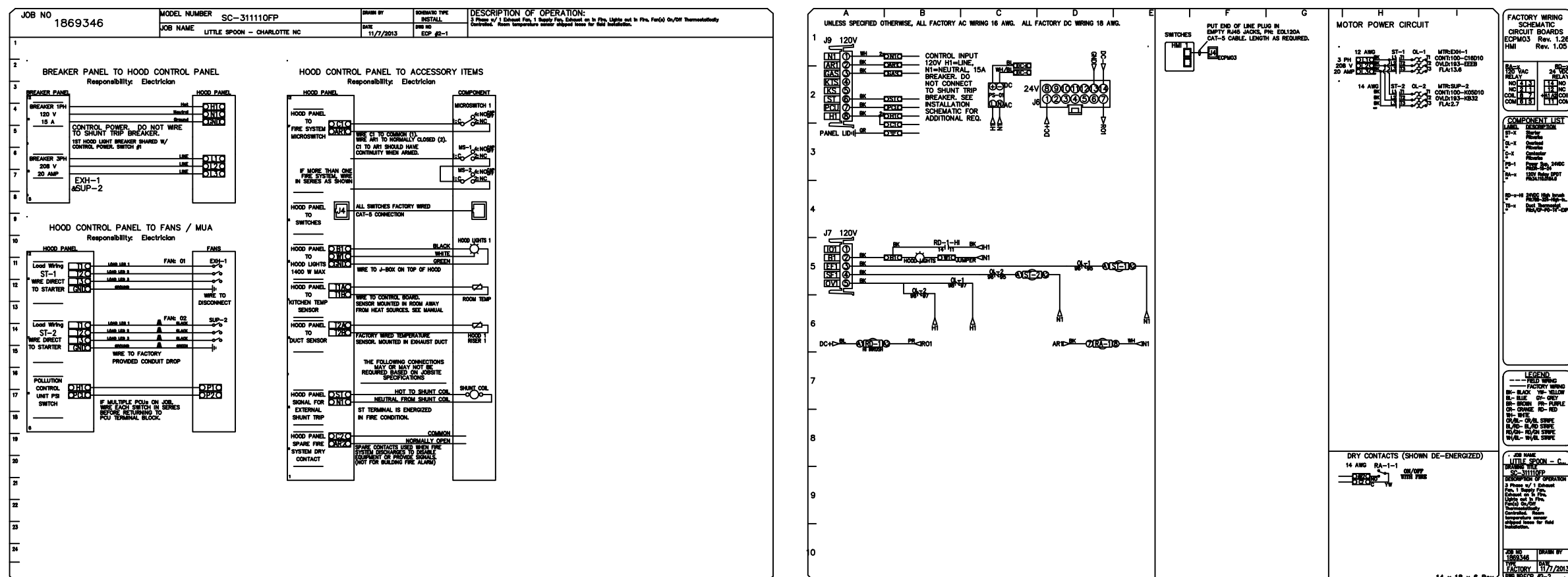
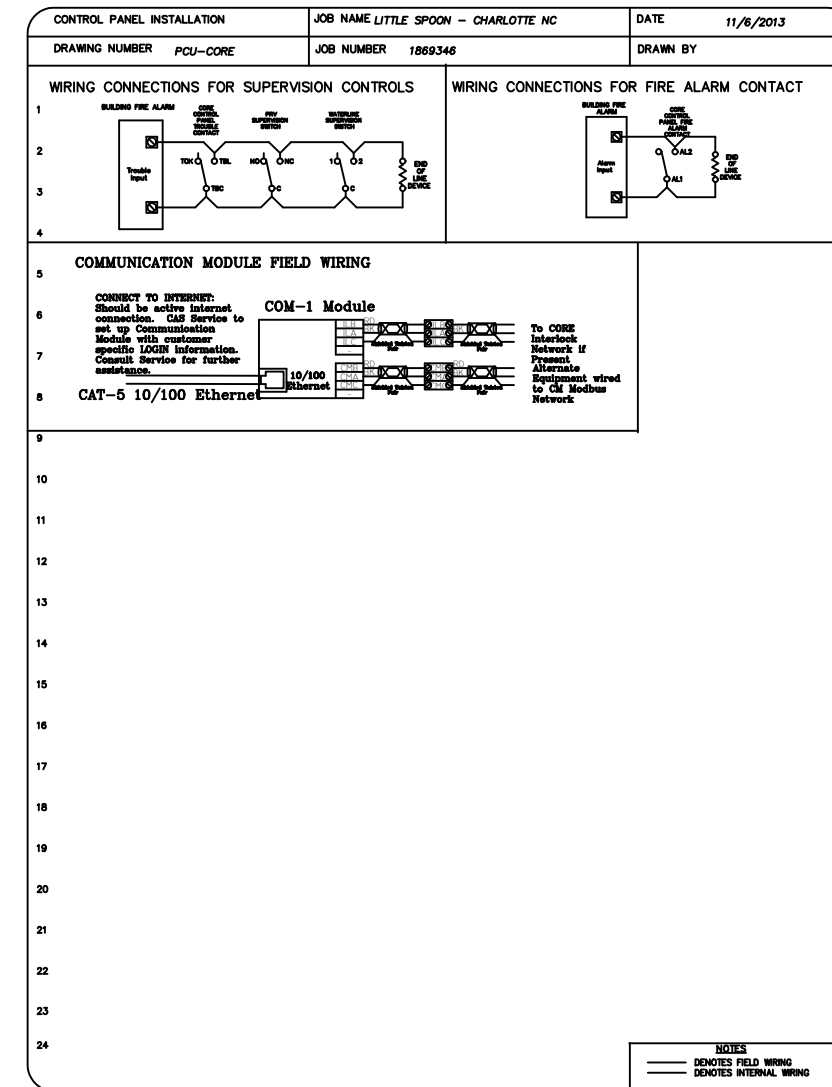
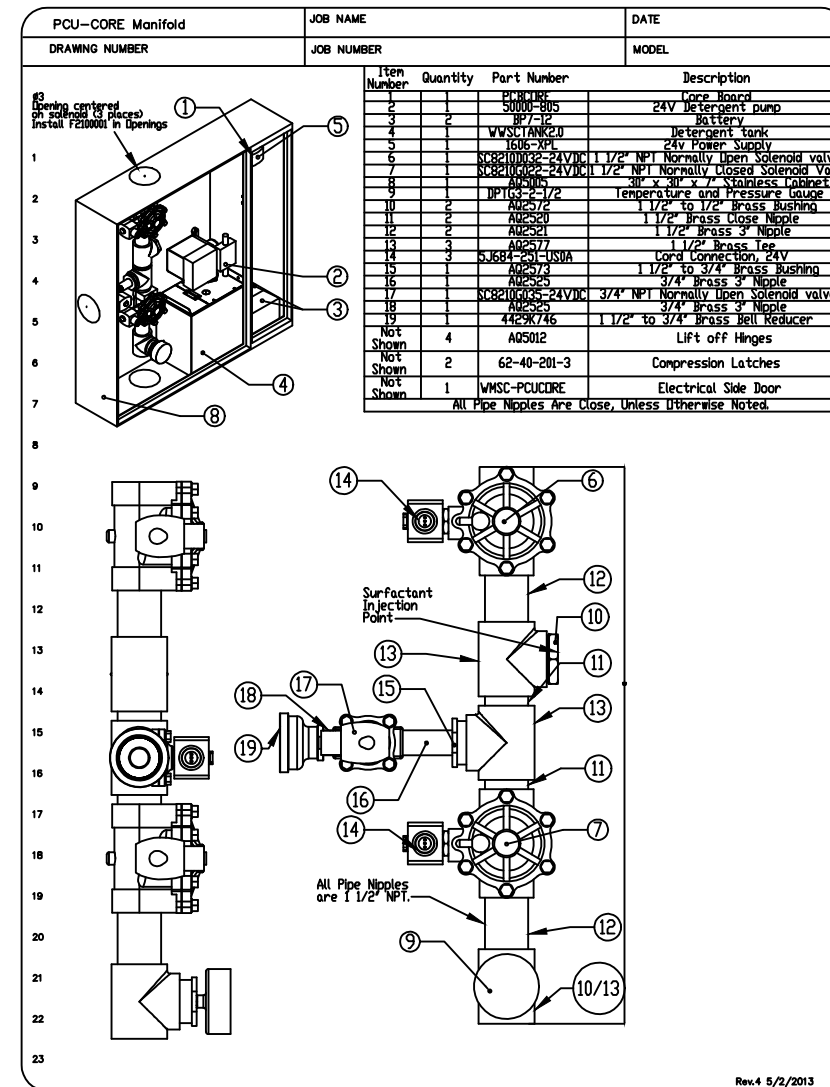


1. EXHAUST HOODS SHALL BE CONSTRUCTED OF 18 GAUGE 430 STAINLESS STEEL FOR ALL SURFACES EXPOSED TO THE AIRSTREAM AND 18 GAUGE GALVANIZED STEEL FOR OTHER SURFACES. ALL SEAMS AND JOINTS SHALL HAVE A LIQUID TIGHT U/L APPROVED CONTINUOUS EXTERNAL WELD.
2. ENTIRE SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH NATIONAL SANITATION FOUNDATION STANDARDS, NFPA-96, NFPA-17-A, AND ALL GOVERNING CODES.
3. EXHAUST HOODS SHALL BE PROVIDED WITH A ANSUL R-102 AUTOMATIC FIRE EXTINGUISHING SYSTEM FOR PROTECTION OF THE EXHAUST HOOD, PLENUM OR GREASE FILTERS, EXHAUST DUCT AND COOKING EQUIPMENT. THE SYSTEM SHALL EMPLOY A LIQUID CHEMICAL EXTINGUISHMENT. THE SYSTEM SHALL BE ARRANGED TO SHUT OFF THE SOURCE OF COOKING HEAT AUTOMATICALLY UPON SYSTEMS FAILURE. THE EXHAUST HOOD SHALL BE PROVIDED WITH NFPA-96, NFPA-17-A AND ACCORDING TO MANUFACTURERS PRINTED INSTALLATION PROCEDURES. EACH HOOD SHALL HAVE A SEPARATE FIRE EXTINGUISHING SYSTEM WHICH WILL OPERATE EFFECTIVELY WITH OR WITHOUT FANS OPERATING.
4. THE INSTALLER OF THE EXHAUST HOOD AUTOMATIC FIRE EXTINGUISHING SYSTEM SHALL BRIEF OWNER IN ITS OPERATION.
5. EXHAUST AND SUPPLY FANS OF EACH HOOD SHALL BE INTERLOCKED. PROVIDE ONE LIGHT SWITCH AND ONE FAN SWITCH ON THE FACE OF EACH GREASE HOOD.
6. GREASE FILTERS TO BE THE GREASE ELIMINATOR SELF BALANCING TYPE U.L. APPROVED.
7. EXHAUST HOOD DUCTWORK OFFSETS TO GREASE EXHAUST FANS FROM HOOD LOCATION SHALL BE MADE WITH (2) - 45° ELBOWS. TRANSITION TO FULL SIZE OF FAN CONNECTION AT CURB.
8. U.L. RANGE HOOD: MATERIAL: 18 GAUGE STAINLESS STEEL CONSTRUCTION ON EXPOSED SURFACES 18 GA. GALV. ON EXH. PLENUM ALL CONTINUOUS EXTERNAL LIQUID TIGHT WELDS, POLISHED. FILTERS U/L CLASSIFIED BAFFLE TYPE. SET IN HOOD @ 45 DEGREE ANGLE. INDEPENDENT LIGHT FIXTURES U/L LISTED FOR USE IN COMMERCIAL COOKING HOODS. GREASE TRAY BELOW FILTERS WITH REMOVE-ABLE GREASE CONTAINER, LIQUID VOLUME LESS THAN 1 QUART. ALL IN COMPLIANCE WITH NFPA #96 AND LOCAL BUILDING CODES.
9. RANGE HOOD EXHAUST DUCTS MATERIAL: 16 GAUGE GALVANIZED STEEL. CONSTRUCTION, ALL CONTINUOUS LIQUID TIGHT EXTERNAL WELDS. DUCTS TO SLOPE TOWARD HOOD. CLEANING ACCESS AT CHANGE IN DIRECTION OF DUCT RUN EXCEPT AT HOOD COLLAR.
10. RANGE HOOD SUPPLY DUCTS MATERIAL: 22 GALVANIZED SHEET METAL. GAUGES, HANGING AND REINFORCING PER SMACNA STANDARDS.



SF-1 SIBD100A-CA - SUPPLY FAN

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	Ø	H.P.	VOLT	FLA
2		SC-311110FP	Wall Mount In SS Box	SS Wall Mount Box	1 Light 1 Fan	Smart Controls Thermostatic Control	Supply	3	0.750	208	2.7

[illegible]

JOB NO 1869346	MODEL NUMBER PCU-CORE	JOB NAME LITTLE SPION - CHARLOTTE NC	JOB NO 1	SCHEDULE TYPE INSTALL	DESCRIPTION OF OPERATION:
			1/9/2023	REV 02 ECP #1-1	

04/10/2023 Rev 12

PCU CORE FIRE PROTECTION ELECTRICAL DETAIL

ELECTRICIAN
1) WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC

ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON RELEVE	VOLTAGE	AMPERAGE	COMMENTS
PCU CORE CONTROL PANEL POWER	H ₂ , N, GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
REMOTE ANSUL AUTOMAN (OPTIONAL)	AUX, AUSE	SOLENOID	120 VAC	< 6 AMPS	120V TO AUX, AUSE TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL.

POLLUTION CONTROL UNIT (PCU)

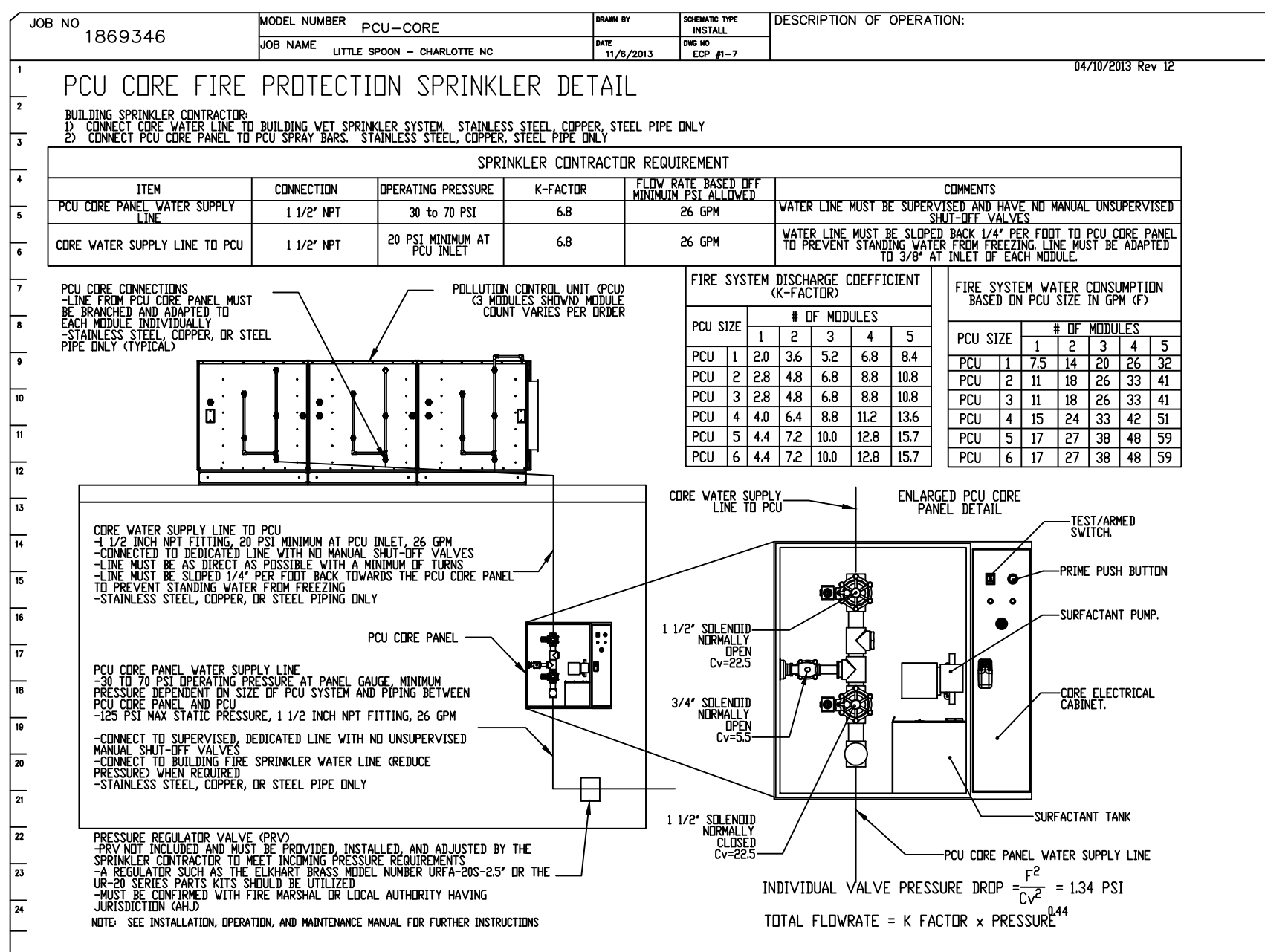
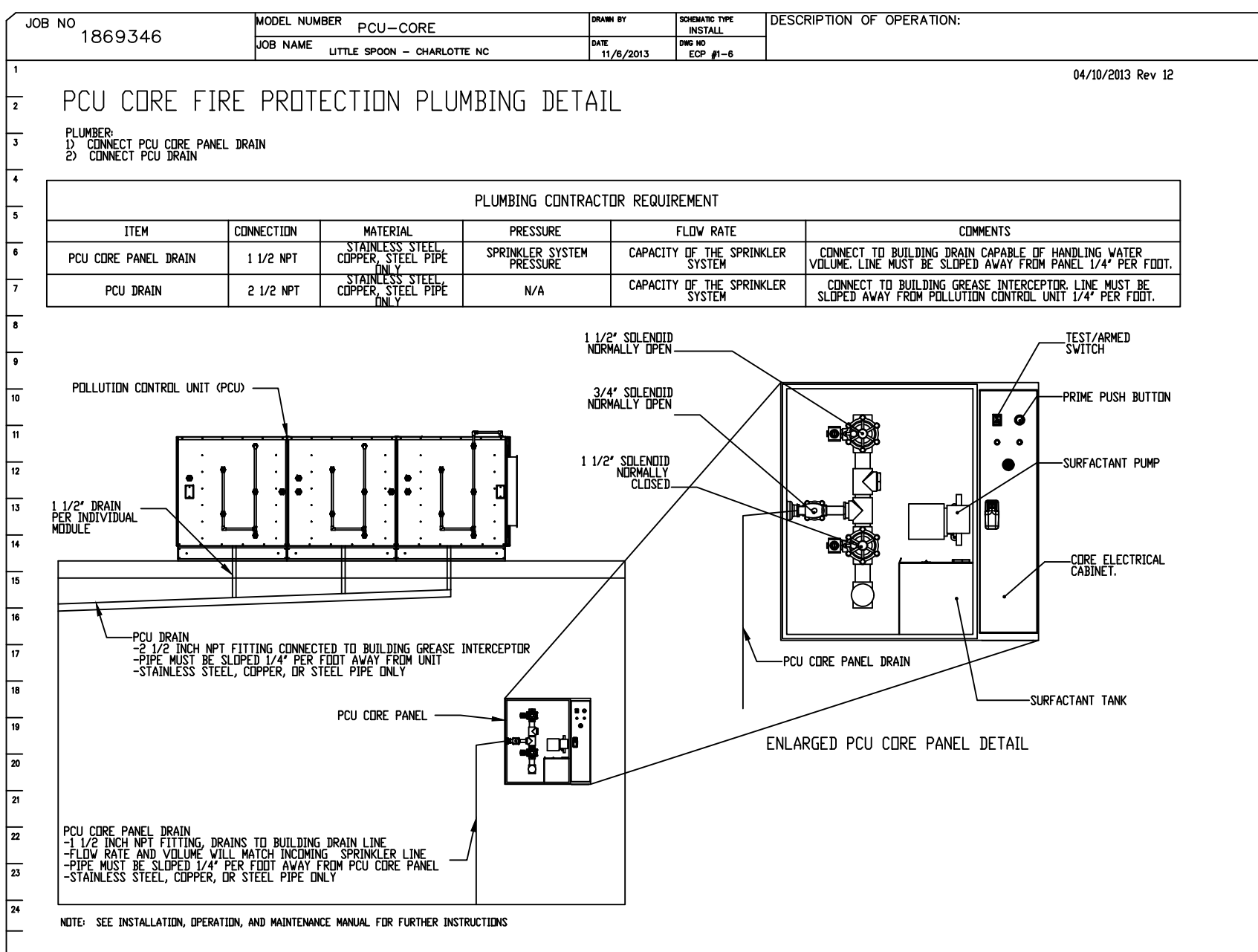
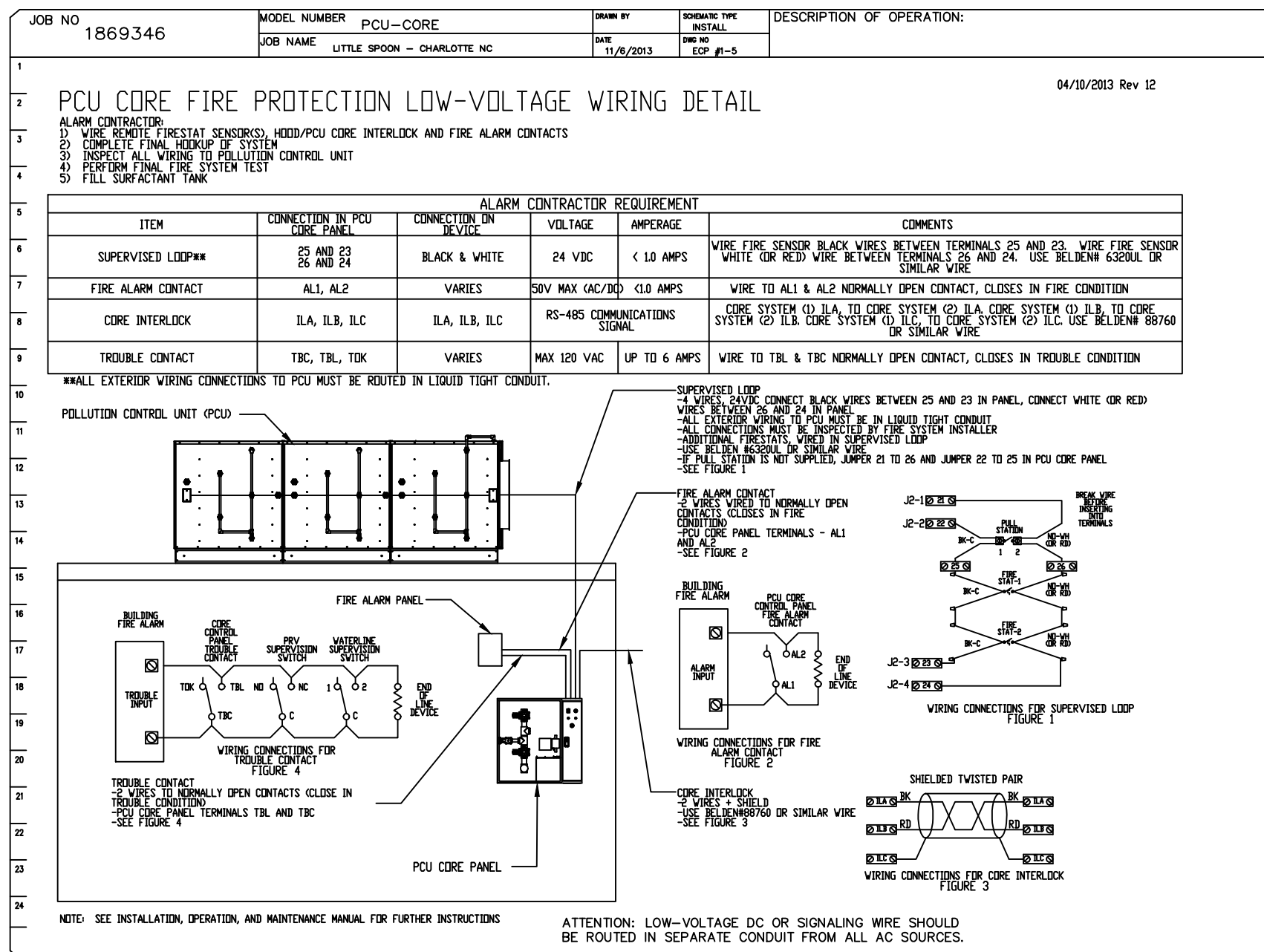
ATTENTION ELECTRICAL CONTRACTOR

MEETS
PCU HAS INTEGRATED EXHAUST. REFER TO EXHAUST FAN WIRING
SCHEMATIC FOR WIRING DETAILS.
IF PCU HAS FUEL PRESSURE MONITORING HARDWARE, REFER TO THE
AL BUILT SCHEMATIC FOR WIRING DETAILS.

PCU CORE PANEL

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES.



Storage Tank Water Heater Sizing Calculator

Developed by the Plan Review Unit of the Environmental Health Services Section
NC Division of Environmental Health

Facility Name:

Address:

EQUIPMENT

Enter the description, and number and size of compartments for each sink below

Description	Number of compartments	(inches)			GPH CALCULATED
		Length	Width	Depth	Gallons Per Hour (GPH)
Largest Sink #1	3 compartment sk	3	24	18	59
Sink #2					0
Sink #3					0
Bar sink					0
Sinks are calculated at 75% capacity					Total 59

Enter type of prep sink and number of sink compartments for each sink below

Prep sink #1	Type of prep sink (vegetable, meat, seafood)	Number of compartments	Gallons Per Hour (GPH)
Prep sink #1	meat	1	5
Prep sink #2	seafood	1	5
Prep sink#3			0
Prep sinks are calculated at 5 gallons per compartment			Total 10

Enter the quantity of equipment below

Quantity	Gallons Per Hour (GPH)
Hand sinks 4	20
Can wash 1	10
Mop sink	0
Hose reel	0
Clothes washer	0

Enter a description and estimated gallon per hour (GPH) usage for other equipment below

Description	Estimated gallons per hour (GPH) usage
Other Equipment	0
Other Equipment	0
Other Equipment	0
Other Equipment	0
Hand sinks and mop sinks are calculated at 5 GPH each, can washes at 10 GPH each. Hose reels are calculated at 5 GPH, clothes washers at 15 GPH, other equipment at the usage entered	
Total	30

Enter the make, model and Final Rinse Usage in gallons per hour (GPH) for dishmachines

Make	Model	Final Rinse Usage (GPH)	Gallons Per Hour (GPH)
Dishmachine #1	Champion	DH-2000	49.5
Dishmachine #2			0

Enter the quantity of pre-rinse units

Pre-rinse	Quantity	Gallons Per Hour (GPH)
Pre-rinse	1	45
Dishmachines are calculated at 70% of the final rinse usage specified by the manufacturer. Pre-rinse are calculated at 45 GPH		Total 79.65

Recovery Rate Needed (GPH):

179

Water Heater Input (BTU or kW) Needed:

Gas Water Heater

Electric Water Heater

157,000 BTU at 80°F rise	35 kW at 80°F rise
176,000 BTU at 90°F rise	39 kW at 90°F rise
196,000 BTU at 100°F rise	44 kW at 100°F rise

GREASE SEPARATOR CALCULATIONS
3 COMP. SINK: (SINK SIZE) 14"x10"x14"x3= 5,880 CU. IN. x 1(GAL)/231 CU. IN. = 25.45 GAL. x .75 (75% ACTUAL WATER VOLUME) = 19.09 GAL. W/ FLOW RATE OF 2 GAL./MIN. (19.1 DIVIDED BY 2) = 9.6 G.P.M.
(2) PREP SINKS: (SINK SIZE) 18"x21"x14"= 5,292 CU IN. X 1(GAL)/231 CU. IN. = 22.9 GAL. X .75 (75 % ACTUAL WATER VOLUME) = 17.1 GAL. W/ FLOW RATE OF 2 GAL./MIN. (17.1 DIVIDED BY 2) = 8.5 G.P.M. X2 = 17 G.P.M.
(1) PRE-RINSE SINK: (SINK SIZE) 18"x21"x14"= 5,292 CU IN. X 1(GAL)/231 CU. IN. = 22.9 GAL. X .75 (75 % ACTUAL WATER VOLUME) = 17.1 GAL. W/ FLOW RATE OF 2 GAL./MIN. (17.1 DIVIDED BY 2) = 8.5 G.P.M.
MOP SINK/CAN WASH: 3'x3'x6" = 7,776 CU.IN. x 1 GAL/231 CU. IN. = 33 GAL. x 75% = 24.75 G.P.M. (NO DRAIN PLUG - OPEN) W/FLOW RATE OF 2 GAL./MIN. (24.75 DIVIDED BY 2) = 12.4 G.P.M.
TOTAL REQUIREMENT = 47.5 G.P.M.

* AS PER NCPB TABLE 1003.3.4.1 47.5 GPM REQUIRES A GREASE RETENTION CAPACITY OF 100 LBS. GREASE SEPARATOR PROVIDED. TRAP SPECIFIED = 249 LBS. GREASY SLUDGE CAPACITY.

GREASE SEPARATOR
GREASE SEPARATOR SHALL BE EQUAL TO A SCHIER PRODUCTS "GREAT BASIN" MODEL GB-50, 50 GPM INTERMITTENT FLOW, 4" TAPPED INLET AND OUTLET WITH A 3" TAPPED INTERNAL VENT CONNECTION. 52 GALLON LIQUID HOLDING CAPACITY WITH 249 LBS GREASY SLUDGE CAPACITY.

NOTE:
A. FLOOR SINK COVER FLUSH WITH TILE OR FLUSH WITH CONCRETE FLOOR IN AREA WITH NO TILE

2 FLOOR SINK CONN. DETAIL

NO SCALE

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

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	M.F.G.R.	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		

1 FLOOR PLAN - PLUMBING

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

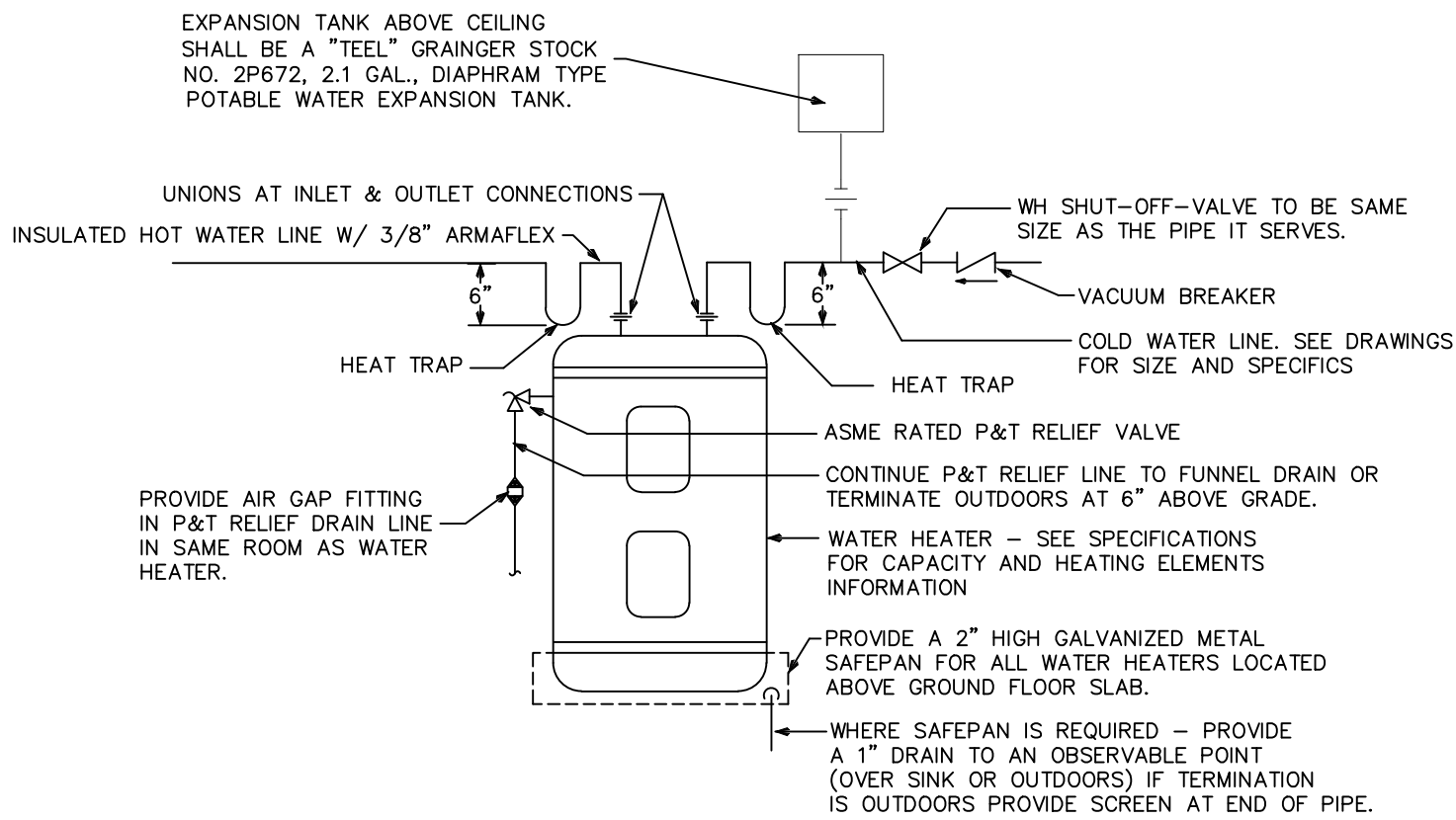
SELWYN AVE.

P-1

PLUMBING FIXTURE SCHEDULE
P-1 (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-2 (HANDICAPPED WALL HUNG LAVATORY) SHALL BE AN AMERICAN STANDARD REGALYN LAVATORY MODEL 4869.001 (CENTER HOLE ONLY), VITREOUS CHINA, WALL MOUNT WITH CONCEALED ARMS SUPPORT. FAUCET SHALL BE A "CHICAGO" MODEL 3300-ABCP METERING FAUCET WITH 4" CENTERS AND BUILT-IN THERMOSTATIC MIXING VALVE TO DELIVER TEMPERED WATER AT A TEMPERATURE NOT TO EXCEED 105 DEGREES. UNIT IS ADA COMPLIANT, 0.5 GPM WITH AN ADJUSTABLE 2-15 SECOND OPERATING CYCLE PRODUCING UNDER 26 GALLONS PER CYCLE. WATER PIPING AND P-TRAP SHALL BE COVERED WITH AN UNDER-SINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (HTTP://WWW.TRUEBRO.COM) OR APPROVED EQUAL. * http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_1476.pdf * http://www.chicagofaucets.com/catalog/catalog.php?part_number=3300-ABCP
P-3 (S.S. HAND SINK) FOR FINAL SPECIFICATIONS COORDINATE WITH OWNER/ARCHITECT AND KITCHEN EQUIPMENT PLANS BY OTHERS PRIOR TO CONSTRUCTION.
P-4 (S.S. PREP SINK) FOR FINAL SPECIFICATIONS COORDINATE WITH OWNER/ARCHITECT AND KITCHEN EQUIPMENT PLANS BY OTHERS PRIOR TO CONSTRUCTION.
P-7 (FLOOR MOUNTED INTERIOR CANWASH/MOP RECEPTOR) SHALL BE A JESAM 30000-WT-A-49 SERIES COATED CAST IRON FLOOR DRAIN. TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEJLOC INVERTIBLE NON- PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET, INSIDE CAULK CONNECTION AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER. * http://www.jesam.com/images/jesammkt/sbmtl/s06_30000-WT-A.pdf FLOOR DRAIN TRAP SEAL SHALL BE A "SURE SEAL" MODEL SS3000 PREASSEMBLED INJUNE 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.thesuresseal.com/Portals/49321/docs/pitch_sheet_ss3000.pdf
P-9 (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-TILING GRATE, WITH HALF GRATE AND ALUMINUM SEDIMENT BUCKET. * http://www.jesam.com/catalog/JOS/pi-FS/49340A
P-10 (GAS WATER HEATER - DIRECT VENT - SEALED COMBUSTION) SHALL BE A STATE "ULTRA FORCE" MODEL SUF-100-NE GAS FIRED COMMERCIAL WATER HEATER. 199,900 BTU INPUT TO PRODUCE 230 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-BDA AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION. * http://www.statewaterheaters.com/lit/spec/comm-gas/SCSS500207.pdf
P-11 (STUDOR VENT - AIR ADMITTANCE VALVE) SHALL BE A IPS CORPORATION "STUDOR MINI-VENT". 2" VENT. * http://www.ipscorp.com/plumbing/studor/minivent WHEN NEEDED:
P-12 (DUMP SINK) FOR FINAL SPECIFICATIONS COORDINATE WITH OWNER/ARCHITECT AND KITCHEN EQUIPMENT PLANS BY OTHERS PRIOR TO CONSTRUCTION.
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.

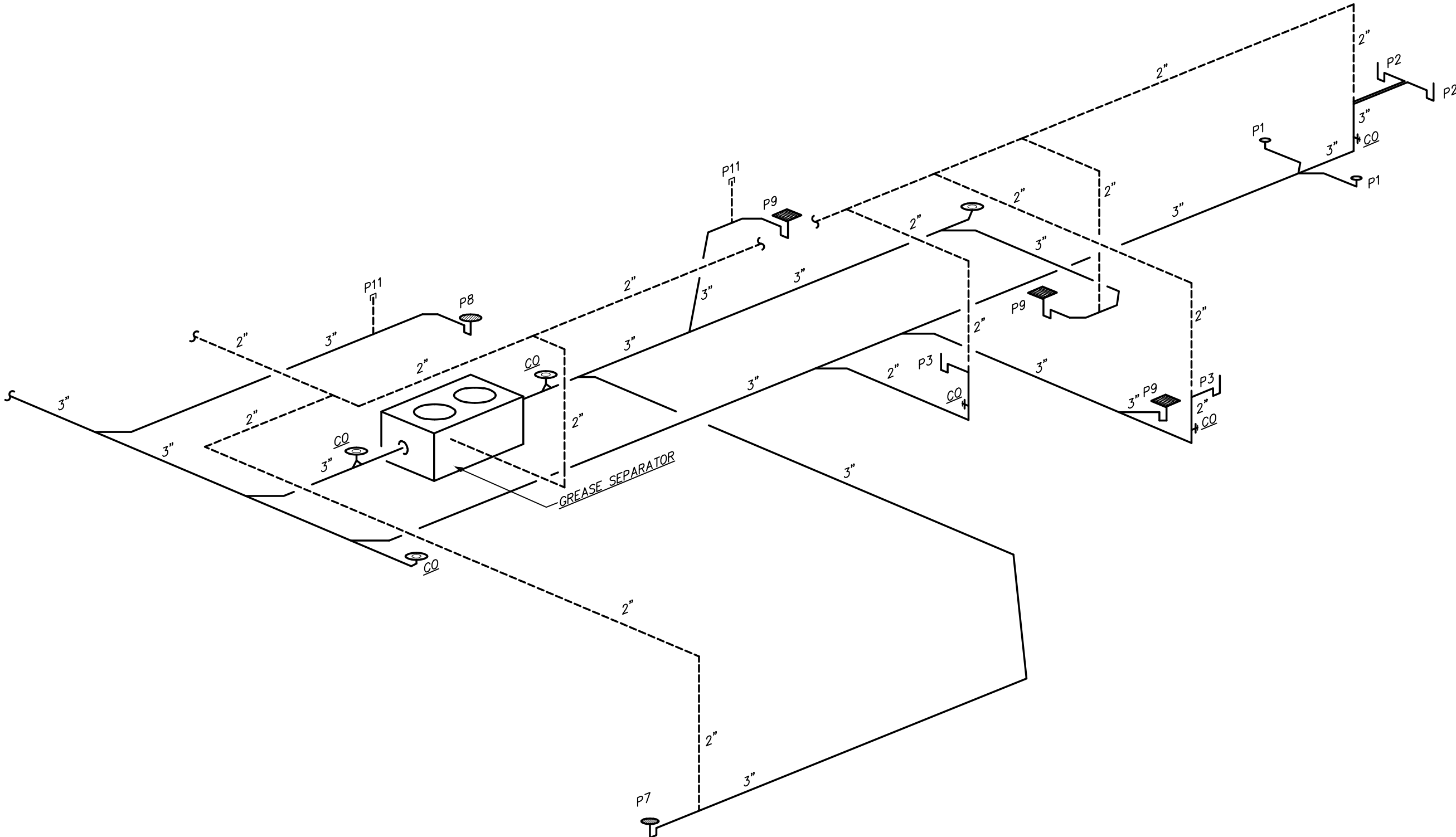
GENERAL PLUMBING NOTES

- 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 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)" INTALLED 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. REIRC. 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.



2 WATER HEATER DETAIL

NO SCALE



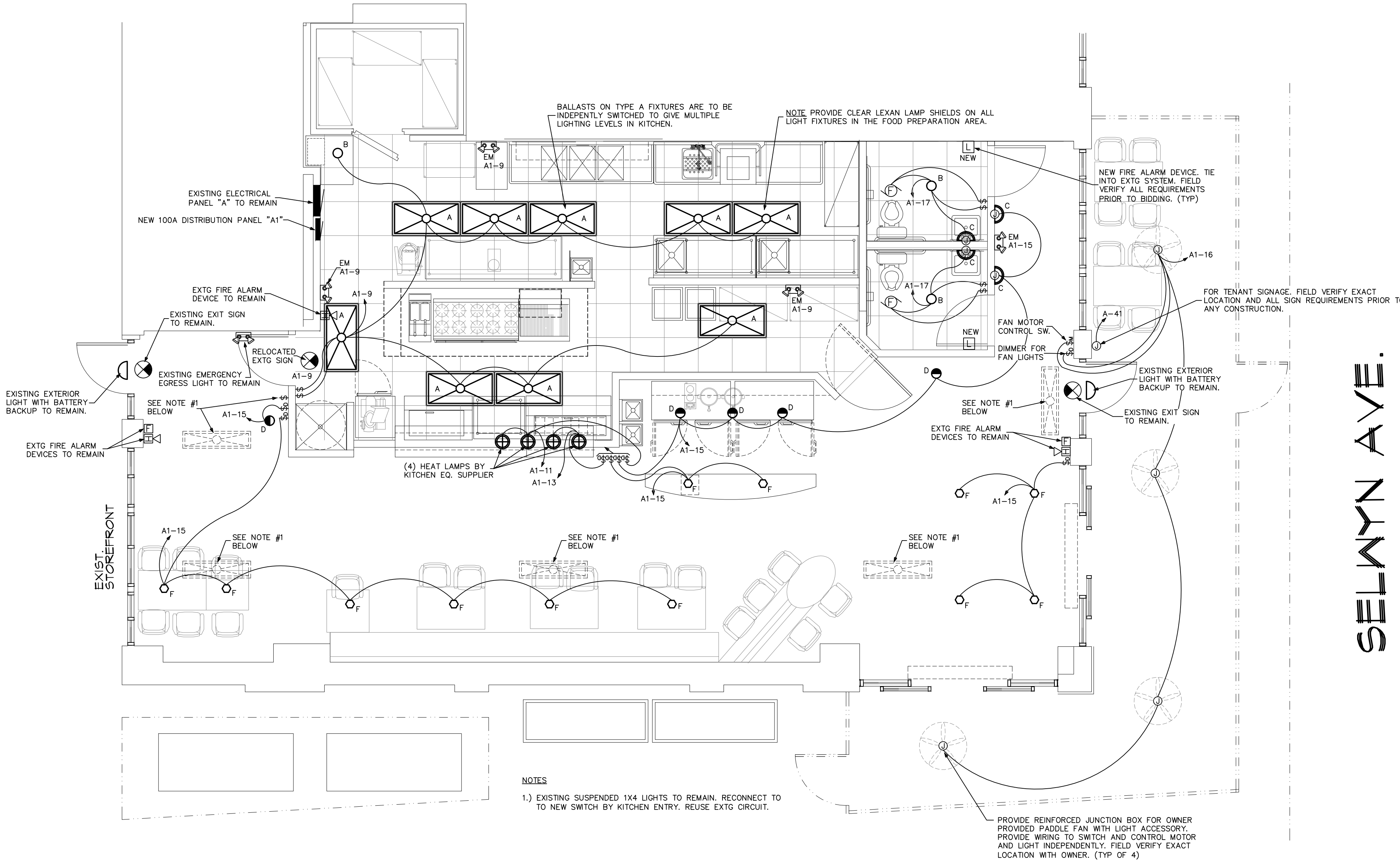
1 SANITARY ISOMETRIC

NO SCALE

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 2470 VS 2550	
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 2009, CHAPTER 5.		
SIGNED: _____		
NAME: _____		
TITLE: _____		

LIGHTING FIXTURE SCHEDULE							
A	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	RECESSED 2'x4' TROFFER	WHITE	PRISMATIC	120	(3) 32W T8	LITHONIA 2SP8C-332-FWA12-MVOLT	PROVIDE DUAL BALLASTS FOR TWO LEVELS OF LIGHTING
B	RECESSED FLUOR. DN LT	WHITE		120	(1) 26W DTT	LITHONIA AFV-26DTT-MVOLT	
C	DECORATIVE WALL SCONCE	BY OWNER	BY OWNER	120	MAX OF 50W	TO BE PROVIDED BY OWNER	
D	LED CAN LIGHT WALL WASH	WHITE		120	LED 2000 LUMENS	PATHWAY C6SPLED20003K-6VLEDWW	WITH PENDENT STEM MOUNT AND WALL WASH TRIM
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP
F	LED PENDENT MTD CAN LIGHT	WHITE		120	LED 2000 LUMENS	PATHWAY C6SPLED20003K	WITH PENDENT STEM MOUNT

ELECTRICAL SYMBOLS LEGEND		NOTE – NOT ALL SYMBOLS MAY BE USED ON PROJECT	
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	DUPLEX RECEPTACLE, MTD. +18" AFF		TRANSFORMER – SIZE AS NOTED
	QUAD VOLT RECEPTACLE (HT. AS REQ.)		PANEL – SIZE AS NOTED
	240 VOLT RECEPTACLE, MTD. +18"		MOMENTARY CONTACT PUSH BUTTON
	COUNTER TOP HT. RECEPTACLE +42"		F-FAN; M-MOTOR; P-PUMP
	SINGLE POLE SWITCH, MTD +47"		SPECIAL OUTLET – AS REQUIRED
	THREE-WAY SWITCH, MTD +47"		CKT. HOMERUN (B INDICATES PANEL) "Z" DESIGNATES CIRCUIT NUMBER
	MANUAL STARTER SWITCH		EXIT SIGN; ONE SIDED, OR TWO SIDED
	DIMMER SWITCH, MTD +47"		EMERGENCY LIGHTING
	SWITCH W/ ILLUM WHEN ON MTD +47"		RECESSED MOUNTED LIGHTING FIXTURE
	THREE-WAY SWITCH W/ OCCU SENSOR MTD. +47"		B DESIGNATES FIXTURE TYPE
	SWITCH W/ OCCU SENSOR, MTD. +47"		OVERHEAD OCCUPANCY SENSOR
	TELEPHONE BOX, FLUSH IF POSSIBLE		HIGHBAY HD LIGHTING FIXTURE
	JUNCTION / DATA OUTLET +18"		B DESIGNATES FIXTURE TYPE
	DISC. COMPUTER TERM. OUTLET +18"		B DESIGNATES FIXTURE TYPE
	DISCONNECT SWITCH W/ STARTER		B DESIGNATES FIXTURE TYPE
	DISCONNECT SWITCH		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH DUPLEX RECEPTACLE		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH QUAD. RECEPTACLE		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH PHONE/DATA OUTLET		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH COMPUTER OUTLET		B DESIGNATES FIXTURE TYPE
	AREA SMOKE DETECTOR		ISOLATED GROUND
	HEAT DETECTOR		WP WEATHER-PROOF
	DUCT SMOKE DETECTOR		BC BELOW COUNTER
	FIRE ALARM MAN. PULL STATION +47"		TC TIME CLOCK – 24 HOUR
	HORN WITH STROBE LIGHT, MTD. +80"		GFI GROUND FAULT INTERRUPTER
	BESIDE DEVICE IS CANDLELLA RATING		AFF ABOVE FINISHED FLOOR
	STROBE LIGHT ONLY, MTD. +80"		EW C ELECTRIC WATER COOLER
	BESIDE DEVICE IS CANDLELLA RATING		ASW ABOVE SHOW WINDOW
			BSW BELOW SHOW WINDOW
			FACP FIRE ALARM CONTROL PANEL
			FAAP FIRE ALARM ANNUNCIATOR PANEL



1 FLOOR PLAN - LIGHTING

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

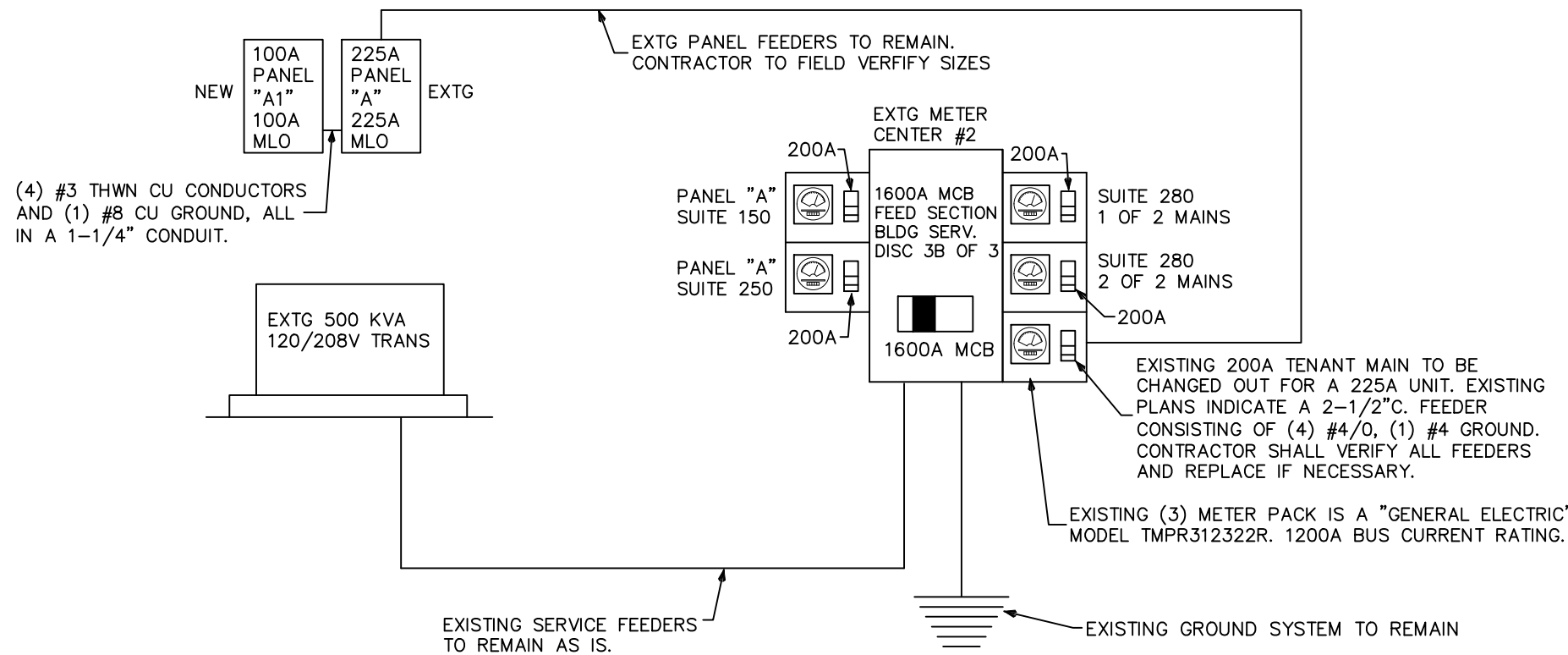
PANEL SCHEDULE A																					
225 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.D., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE																					
#	BKR.	WIRE AND CONDUIT				LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT				BKR.	#				
		COND.	NEUTRAL	GND	C. KEYS							KEYS	C.	GND	NEUTRAL			COND.			
1	90/2	#4	----	#8	1	CHAL	EXTG AHU			0	6416	-----									2
3										0	2640	-----									4
5	20/2	#12	----	#12	1/2	CHAL	WALK IN COOLER SYSTEM			0	6416	-----									6
7										0	2640	-----									8
9	20/1	#12	#12	#12	1/2	CHAL	EXTG LIGHTING			800	0	800	-----	EXPRESSO COFFEE MACHINE	CHAL	1/2	#10	----	#10	30/2	10
11	20/1	#12	#12	#12	1/2	CHAL	EXTG RECEPTACLES			540	0	2500	-----								12
13	20/1	#12	#12	#12	1/2	CHAL	48" REFRIG PREP TABLE			1125	600	0	1125	DISHWASHER	CHAL	1/2	#12	#12	#12	20/1	14
15	20/1	#12	#12	#12	1/2	CHAL	60" REFRIG PREP TABLE			600	0	0	0	SPACE							16
17	20/1	#12	#12	#12	1/2	CHAL	WORKTOP FREEZER			1152	0	1152	1956								18
19	20/1	#12	#12	#12	1/2	CHAL	CHEF BASE *			720	0	720	1956	EXHAUST HOOD FANS	CHAL	1/2	#12	#12	#12	30/3	20
21	20/1	#12	#12	#12	1/2	CHAL	BACK BAR GLASS DR. REFRIG			666	666	1956									22
23	20/1	#12	#12	#12	1/2	CHAL	30" QUART MIXER			600	0	600	450	COOLER DOOR HTS/LIGHTS	CHAL	1/2	#12	#12	#12	20/1	24
25	20/1	#12	#12	#12	1/2	CHAL	SLICER			450	0	450	1920								26
27	20/1	#12	#12	#12	1/2	CHAL	ICE MAKER			0	360	0	1380	NEW HVAC COND. UNIT #1	CHAL	1/2	#12	----	#12	20/3	28
29	20/1	#12	#12	#12	1/2	CHAL	ROBOT COUPE CUTTER/MIXER			1800	0	1800	1380								30
31	20/1	#12	#12	#12	1/2	CHAL	GAS CHARBOILER CONTROLS *			840	0	840	4562	NEW HVAC AHU #1	CHAL	3/4	#10	----	#6	60/2	32
33	20/2	#12	----	#12	1/2	CHAL	CHEESE MELTER/WARM OVEN *			120	120	4562									34
35										0	0	1500	0	SPACE							36
37	20/1	#12	#12	#12	1/2	CHAL	BACK BAR GLASS DR. REFRIG			666	600	600	666	GAS WATER HEATER FAN	CHAL	1/2	#12	#12	#12	20/1	38
39	20/1	#12	#12	#12	1/2	CHAL	EXHAUST HOOD LTG/CONTROLS			780	780	200	200								40
41	20/1	#12	#12	#12	1/2	CHAL	TENANT SIGNAGE **			200	200	5914	5914	PANELBOARD "A1"	CHAL	1/2	#10	#10	#10	30/3	42
42										5914	1500	1500	2654								
WIRE/CONDUIT KEY								24005 27308 23428								PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 91. AMPS					
1234								74,741								NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 207.6 AMPS					
L-TEMP RATING																					
CONDUIT TYPE																					
INSULATION																					
WIRING TYPE																					
PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001																					
REGISTERED TO - TODD V. CAREY AND ASSOCIATES OF THE CARDINAS																					

PANEL NOTES:
* - INTERLOCK WITH ANSUL SYSTEM. SEE HOOD CONTROL DETAIL.
** - PROVIDE TIMECLOCK CONTROL FOR THIS CIRCUIT.

PANEL SCHEDULE A1																					
100 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.D., 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							SPACE		0	0										2	
3	20/1	#12	#12	#12	1/2	CHAL	KITCHEN GFCI RECEPTACLES		360		360									4	
5	20/1	#12	#12	#12	1/2	CHAL	KITCHEN GFCI RECEPTACLES		180		180									6	
7							SPACE		0		0									8	
9	20/1	#12	#12	#12	1/2	CHAL	KITCHEN LIGHTING		920		920									10	
11	20/1	#12	#12	#12	1/2	CHAL	(2) KITCHEN HEAT LAMPS		180		180									12	
13	20/1	#12	#12	#12	1/2	CHAL	(2) KITCHEN HEAT LAMPS		600		600									14	
15	20/1	#12	#12	#12	1/2	CHAL	NEW LED DOWNLIGHTS		350		350									16	
17	20/1	#12	#12	#12	1/2	CHAL	NEW BATH LIGHTING/FANS		1080		1080									18	
19							SPACE		0		0									20	
21	20/1	#12	#12	#12	1/2	CHAL	NEW GENERAL RECEPTACLES		1080		1080									22	
23							SPACE		540		540									24	
25							SPACE		0		0									26	
27	20/1	#12	#12	#12	1/2	CHAL	AIR CURTAIN		1224		1224									28	
29	20/1	#12	#12	#12	1/2	CHAL	AIR CURTAIN		1224		1224									30	
WIRE/CONDUIT KEY								780	5914	2654	PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 49.3 AMPS										
1234											NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 26. AMPS										
L-TEMP RATING																					
CONDUIT TYPE																					
INSULATION																					
WIRING TYPE																					
PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001																					
REGISTERED TO - TODD V. CAREY AND ASSOCIATES OF THE CARDINAS																					

PANEL A DIVERSIFICATION CALCULATIONS	
RECEPTACLES (20) - 3600 VA TOTAL	3600
FIRST 10 KVA AT 100% -	3600
LIGHTING - 2470 X 125X -	3088
HVAC LOAD AT 100% -	34015
MOTOR LOADS AT 100% -	7704
PLUS 25% OF THE LARGEST MOTOR -	1980
MISC NON-CONTINUOUS LOADS AT 100% -	100
MISC CONTINUOUS LOADS AT 125% -	1875
KITCHEN EQUIPMENT (20) -	16478
TOTAL DIVERSIFIED PANEL LOAD -	68846
LOAD AT 120/208V/3-PHASE/4-WIRE -	191.2A

PANEL A1 DIVERSIFICATION CALCULATIONS	
RECEPTACLES (17) - 3060 VA TOTAL	3060
FIRST 10 KVA AT 100% -	3060
LIGHTING - 1470 X 125X -	1838
MOTOR LOADS AT 100% -	1170
PLUS 25% OF THE LARGEST MOTOR -	90
KITCHEN EQUIPMENT (4) -	2918
TOTAL DIVERSIFIED PANEL LOAD -	9076
LOAD AT 120/208V/3-PHASE/4-WIRE -	25.2A



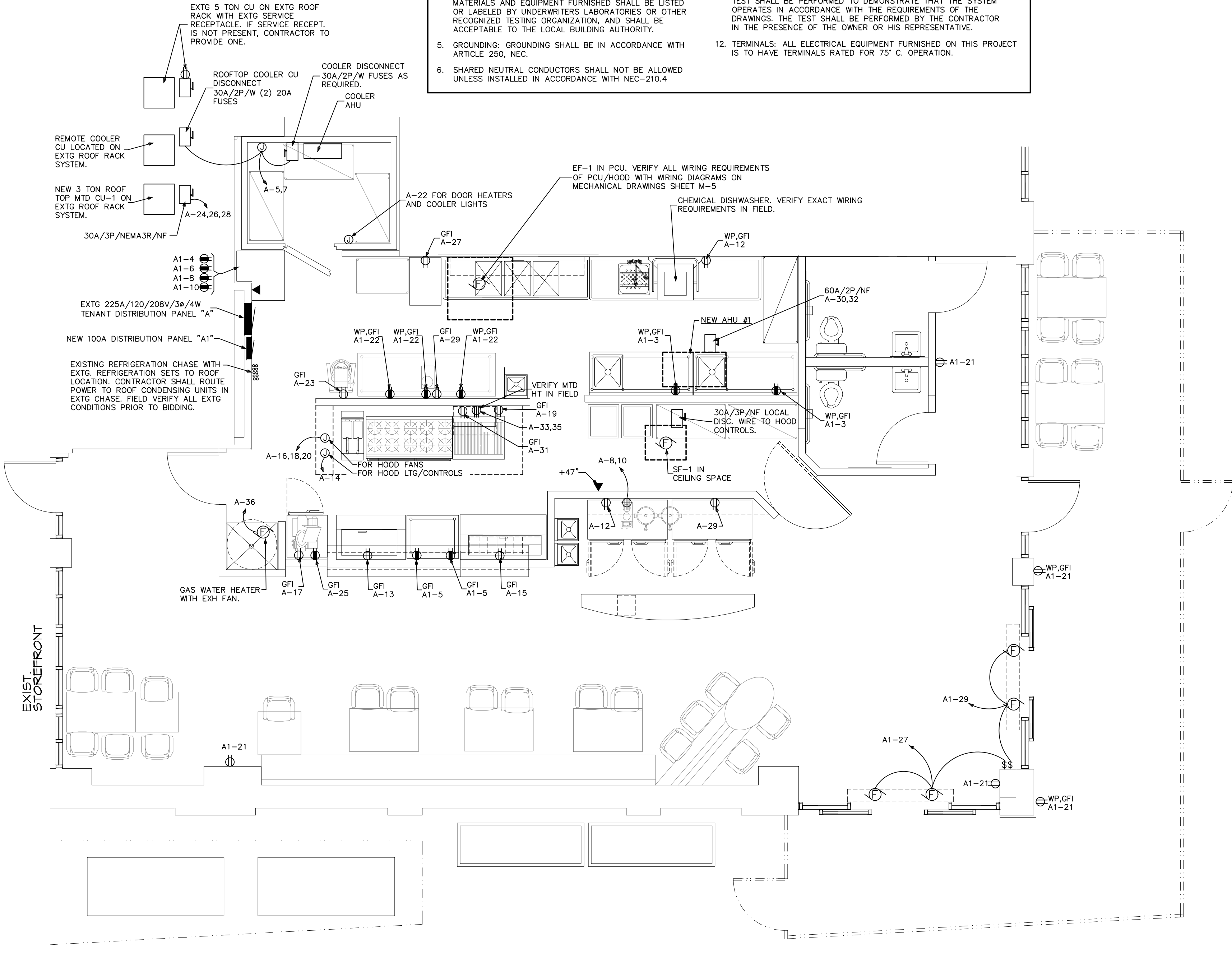
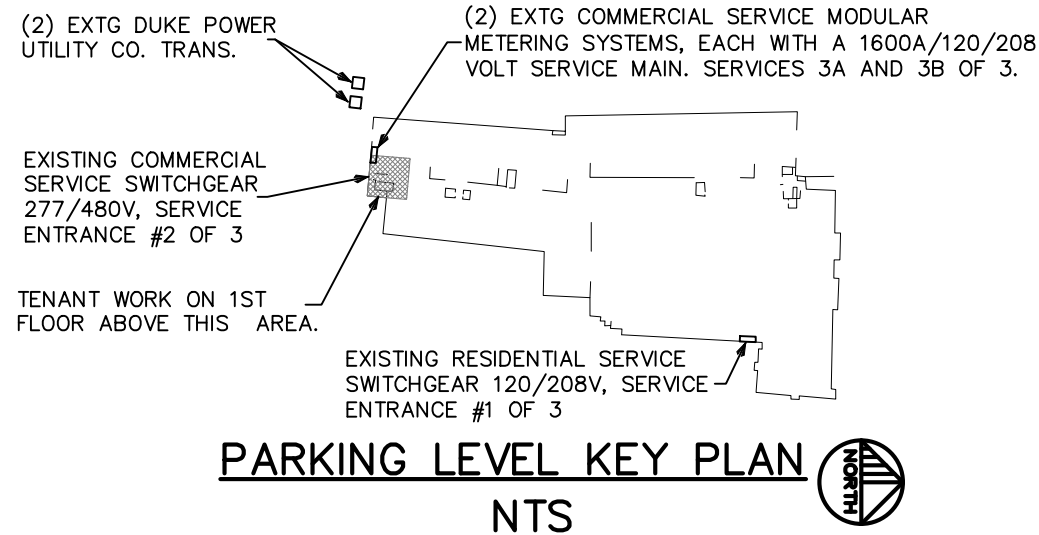
2 ELECTRICAL SERVICE RISER

NO SCALE

ELECTRICAL SERVICE IS EXISTING AND NOT TO CHANGE BY THIS WORK SCOPE.

ELECTRICAL NOTES:

- 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.
- 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.
- 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.
- 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.
- GROUNDING: GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250, NEC.
- SHARED NEUTRAL CONDUCTORS SHALL NOT BE ALLOWED UNLESS INSTALLED IN ACCORDANCE WITH NEC-210.4.
- 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.
- 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 SPICES 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 SPICES, 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 SPICES USED ON CONDUCTORS #10 AWG. AND SMALLER, SHALL BE THE SELF-INSULATED TYPE; OTHER SPICES SHALL BE INSULATED USING 3M #33+ OR #88 PLASTIC TAPE. SPICES IN WET LOCATIONS SHALL BE INSULATED WITH ELECTRICAL TAPE AND ENCAPSULATED WITH SCOTCHCAST OR EQUAL POTTING COMPOUND.
- 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 SPICES ARE TO BE MADE, INSTALL BOXES LARGE ENOUGH TO PROVIDE AMPLE WORK SPACE.
- 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.
- 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.
- TERMINALS: ALL ELECTRICAL EQUIPMENT FURNISHED ON THIS PROJECT IS TO HAVE TERMINALS RATED FOR 75° C. OPERATION.



1 FLOOR PLAN - POWER

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