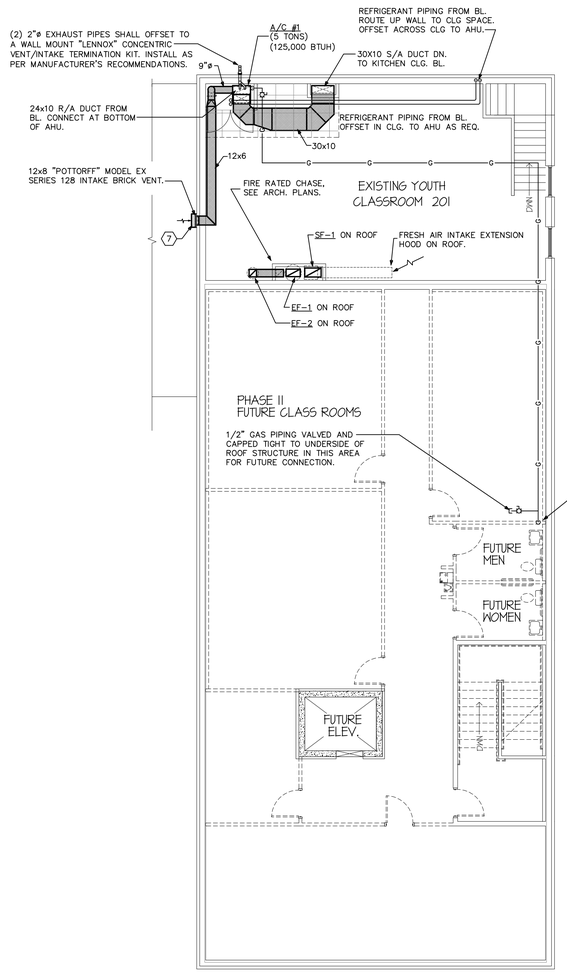
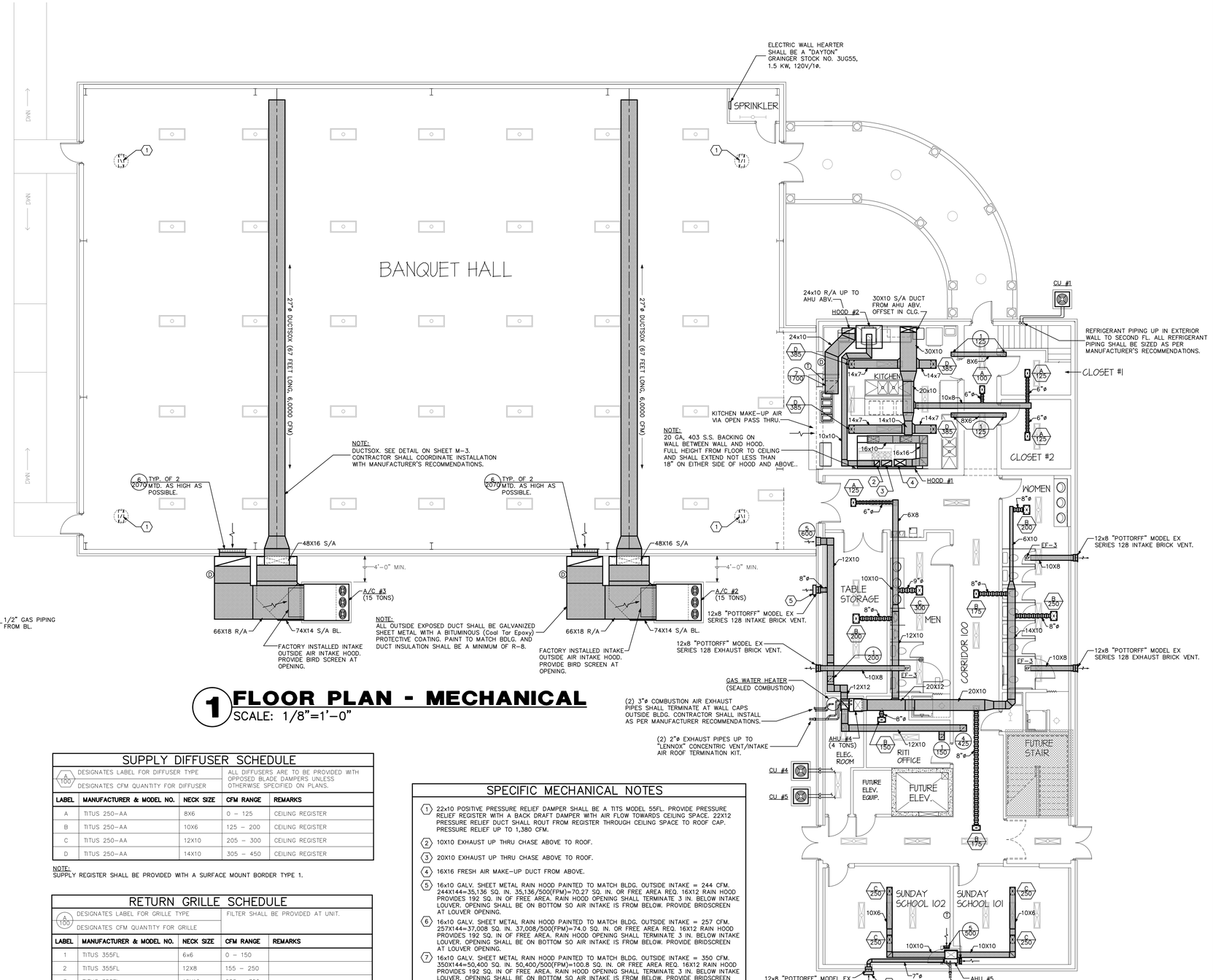
AIR BALANCE SCHEDULE

OUTSIDE	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	RESULTING PRESSURES
A/C #1	2000 (17%)	1650	350		+350
A/C #2	6000 (55%)	4140	1860		+1860
A/C #3	6000 (55%)	4140	1860		+1860
AHU #4	1575 (19%)	1331	244		+244
AHU #5	1000 (17%)	867	133		+133
EF-1 (HOOD 1)				2025	-2025
EF-2 (HOOD 2)				600	-600
EF-3 (TLT RM)				300	-300
EF-4 (TLT RM)				300	-300
EF-5 (TLT RM)				300	-300
SF-1 (HOOD 1)			1620		+1620
GYM PRESSURE RELIEF.				2542	-2542
TOTAL	16575	12,128	6067	6067	-0



2 FUTURE MEZZANINE/SECOND FLOOR PLAN - MECHANICAL

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



1 FLOOR PLAN - MECHANICAL

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

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 - 300	CEILING REGISTER
D	TITUS 250-AA	14X10	305 - 450	CEILING REGISTER

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

RETURN GRILLE SCHEDULE

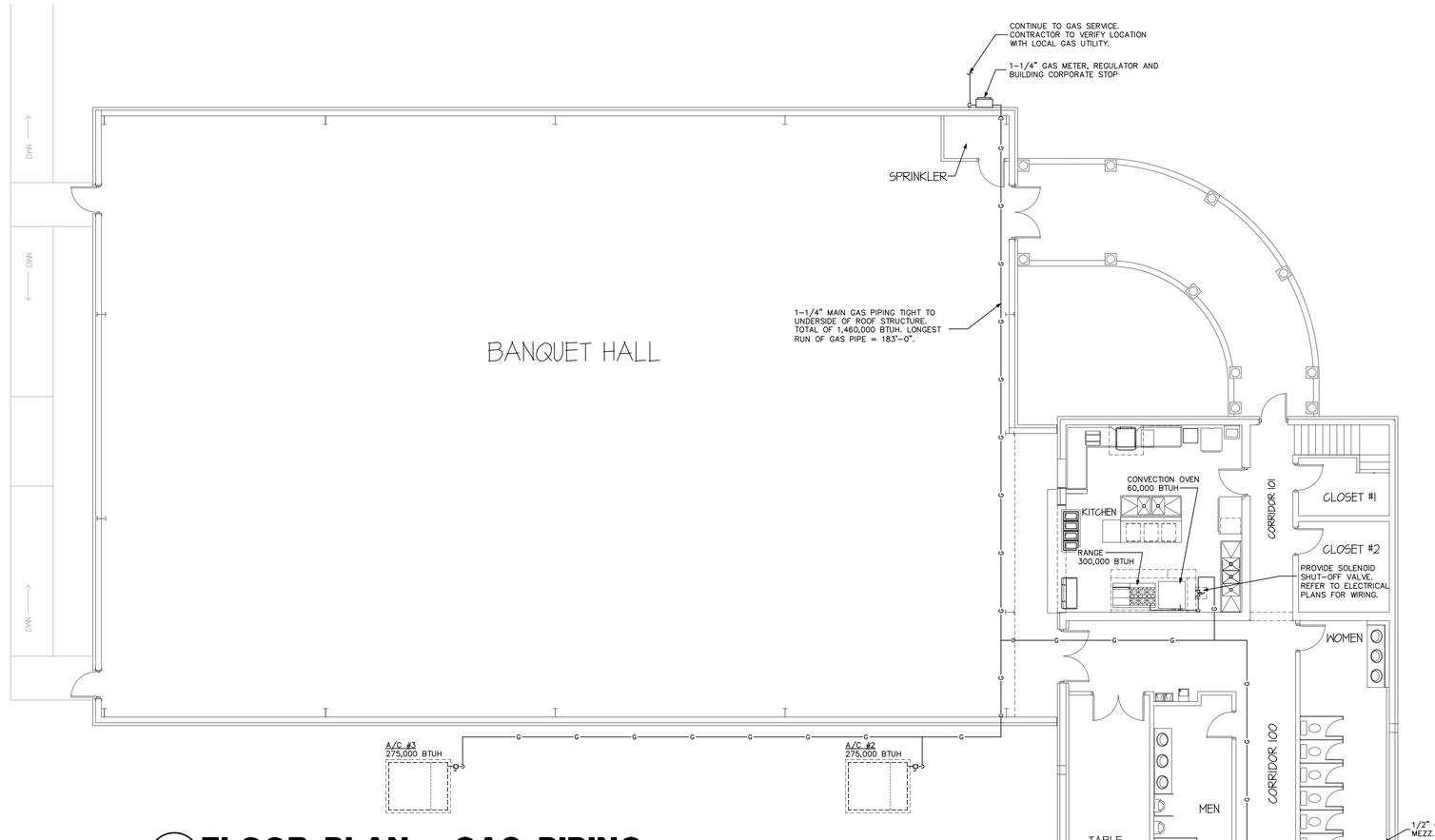
(A/100) DESIGNATES LABEL FOR GRILLE TYPE
DESIGNATES CFM QUANTITY FOR GRILLE
FILTER SHALL BE PROVIDED AT UNIT.

LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	6x6	0 - 150	
2	TITUS 355FL	12X8	155 - 250	
3	TITUS 355FL	12X10	255 - 350	
4	TITUS 355FL	12X12	350 - 450	
5	TITUS 355FL	14X14	400 - 600	
6	TITUS 50F	48X24	0 - 3000	EGGCRATE FACE
7	TITUS 355FL	24x24	0 - 2000	

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

SPECIFIC MECHANICAL NOTES

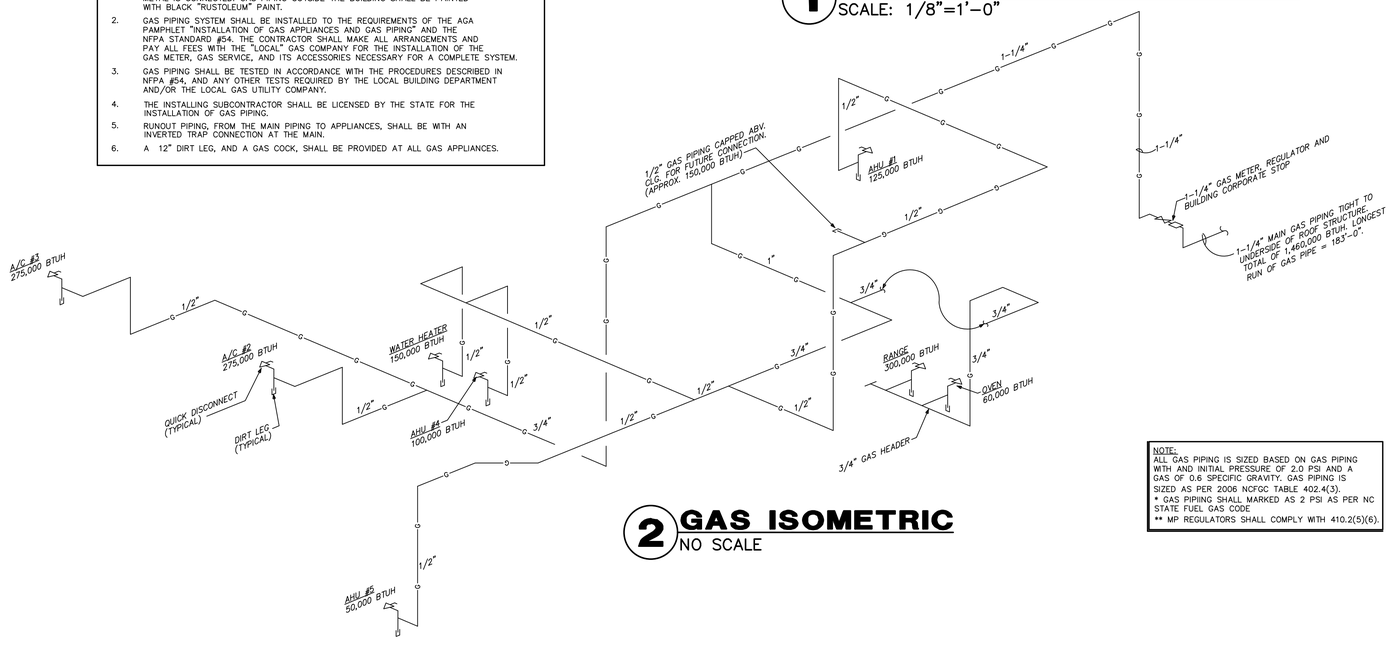
1. 22x10 POSITIVE PRESSURE RELIEF DAMPER SHALL BE A TITS MODEL 55FL. PROVIDE PRESSURE RELIEF REGISTER WITH A BACK DRAFT DAMPER WITH AIR FLOW TOWARDS CEILING SPACE. 22X12 PRESSURE RELIEF DUCT SHALL ROUT FROM REGISTER THROUGH CEILING SPACE TO ROOF CAP. PRESSURE RELIEF UP TO 1,380 CFM.
2. 10X10 EXHAUST UP THRU CHASE ABOVE TO ROOF.
3. 20X10 EXHAUST UP THRU CHASE ABOVE TO ROOF.
4. 16X16 FRESH AIR MAKE-UP DUCT FROM ABOVE.
5. 16x10 GALV. SHEET METAL RAIN HOOD PAINTED TO MATCH BLDG. OUTSIDE INTAKE = 244 CFM. 244X144=35,136 SQ. IN. 35,136/500(FPM)=70.27 SQ. IN. OR FREE AREA REQ. 16X12 RAIN HOOD PROVIDES 192 SQ. IN OF FREE AREA. RAIN HOOD OPENING SHALL TERMINATE 3 IN. BELOW INTAKE LOUVER. OPENING SHALL BE ON BOTTOM SO AIR INTAKE IS FROM BELOW. PROVIDE BRIDSCREEN AT LOUVER OPENING.
6. 16x10 GALV. SHEET METAL RAIN HOOD PAINTED TO MATCH BLDG. OUTSIDE INTAKE = 257 CFM. 257X144=37,008 SQ. IN. 37,008/500(FPM)=74.0 SQ. IN. OR FREE AREA REQ. 16X12 RAIN HOOD PROVIDES 192 SQ. IN OF FREE AREA. RAIN HOOD OPENING SHALL TERMINATE 3 IN. BELOW INTAKE LOUVER. OPENING SHALL BE ON BOTTOM SO AIR INTAKE IS FROM BELOW. PROVIDE BRIDSCREEN AT LOUVER OPENING.
7. 16x10 GALV. SHEET METAL RAIN HOOD PAINTED TO MATCH BLDG. OUTSIDE INTAKE = 350 CFM. 350X144=50,400 SQ. IN. 50,400/500(FPM)=100.8 SQ. IN. OR FREE AREA REQ. 16X12 RAIN HOOD PROVIDES 192 SQ. IN OF FREE AREA. RAIN HOOD OPENING SHALL TERMINATE 3 IN. BELOW INTAKE LOUVER. OPENING SHALL BE ON BOTTOM SO AIR INTAKE IS FROM BELOW. PROVIDE BRIDSCREEN AT LOUVER OPENING.



1 FLOOR PLAN - GAS PIPING
SCALE: 1/8"=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. GAS PIPING OUTSIDE THE BUILDING SHALL BE PAINTED WITH BLACK "RUSTOLEUM" PAINT.
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.



2 GAS ISOMETRIC
NO SCALE

NOTE:
ALL GAS PIPING IS SIZED BASED ON GAS PIPING WITH AND INITIAL PRESSURE OF 2.0 PSI AND A GAS OF 0.6 SPECIFIC GRAVITY. GAS PIPING IS SIZED AS PER 2006 NCFGC TABLE 402.4(3).
* GAS PIPIING SHALL MARKED AS 2 PSI AS PER NC STATE FUEL GAS CODE
** MP REGULATORS SHALL COMPLY WITH 410.2(5)(6).

COMPLIANCE CHECKLIST TO ASHRAE 62.1–2007

SECTION 5	NOTES
5.1 (NATURAL VENTILATION)	N/A
5.2.1 (BALANCING)	BALANCING PROVISIONS MADE, WHERE APPLICABLE
5.2.2 (PLENUM SYSTEMS)	N/A
5.2.3 (TEST AND BALANCE)	TEST AND BALANCING REQUIREMENTS INDICATED
5.3 (EXHAUST DUCT)	EXHAUST DUCT NOT IN HABITABLE AREAS.
5.5 (AIR STREAM SURFACES)	ALL MATERIAL COMPLY WITH REQUIREMENTS
5.6.1 (O/A LOCATION)	ALL LOCATIONS COMPLY WITH REQUIREMENTS
5.6.2 (O/A RAIN ENTRAINMENT)	RAIN HOODS PROVIDED MEETING THE REQUIREMENTS OF 5.6.2(D)
5.6.3 (O/A RAIN INTRUSION)	A/C UNIT IF PROVIDED WITH A FACTORY INSTALLED RAIN HOODS AT OUTSIDE AIR INTAKE LOCATION.
5.6.5 (O/A BIRD SCREENS)	ALL O/A INTAKES ARE PROTECTED, BIRD SCREEN PROVIDED.
5.9 (PART. MATTER REM.)	FILTERS ARE REQUIRED ON ALL SYSTEMS.
5.10 (DEHUMIDIFICATION)	ALL OCCUPIED SPACES ARE DESIGNED FOR 65% MAX.
5.11 (DRAIN PANS)	ALL EQUIPMENT SPECIFIED IS UL LISTED
5.12 (TUBE COILS/ HEAT EX)	N/A
5.13 (HUMIDIFIERS)	N/A
5.14 (ACCESS OF EQUIP)	ALL EQUIPMENT PROVIDED WITH ADEQUATE ACCESS
5.15 (BUILDING EXTERIOR)	BUILDING IS DESIGNED TO PREVENT MOISTURE INTRUSION
5.16 (ATTACHED PARKING)	N/A
5.17 (AIR CLASSIFICATION)	AIR CLASSIFICATIONS ARE 1 AND 2
5.18 (ETS AREAS)	THIS IS A SMOKE FREE BUILIDNG

SECTION 6 NOTES

6.1 GENERAL – MINIMUM OUTSIDE AIR IS BASED ON ASHRAE 62.1–2007
6.2.1 OUTDOOR AIR TREATMENT – NONE REQUIRED – SEE AIR QUALITY STATEMENTS
6.2.1.1 PARTICULATE MATTER – IN COMPLIANCE
6.2.1.2 OZONE – IN COMPLIANCE
6.2.1.3 OTHER OUTDOOR AIR CONTAMINANTS – N/A
6.2.2 ZONE CALCULATIONS – ALL 1.0 (NO VAV SYSTEMS)
6.2.4 100% OUTSIDE AIR STSTEM – N/A
6.2.6 DESIGN FOR VARYING OPERATING CONDITIONS – N/A DESIGNED FOR FULL OCC.
6.2.7 DYNAMIC RESET – N/A
6.2.8 EXHAUST VENTILATION – EXHAUST AIRFLOW IS IN COMPLIANCE WITH TABLE 6–4
6.2.9 VENTILATION IN SMOKING AREAS – N/A THIS IS A NON SMOKING BUILDING

HVAC SPECIFIC NOTES

AHU #1, AHU #4 AND AHU #5
* SHALL BE PROVIDED WITH MERV 6 FILTERS OR GREATER.
* DRAIN PANS SHALL BE DESIGNED TO MEET ALL REQUIREMENTS SET FORTH IN ASHRAE 62.1 2007 SECTION 5.11.

REGIONAL AIR QUALITY STATEMENT

CONTAMINANT	ASHRAE 62.1 Table 4–1 EPA	Mecklenburg County 2007
Particulates (PM 2.5)	15 ug/m3 and 65 ug/m3	
Particulates (PM 10)	50 ug/m3 and 150 ug/m3	31 ug/m3 and 59 ug/m3
Carbon Monoxide – 1hr/8hrs	35 ppm and 9 ppm	2.7 ppm and 2 ppm
Ozone	0.12 ppm	0.127 ppm
Nitrogen Dioxide	0.053 ppm	0.014 ppm
Lead	1.5 ug/m3	0.0 ug/m3
Sulfur Dioxide	0.03 ppm and 0.14 ppm	0.003 ppm and 0.13 ppm

LOCAL AIR QUALITY STATEMENT

Area Surveyed	1915 Oakdale Road, Charlotte, NC. The Building is surrounded by surface parking lots and bordered by high volume urban streets.
Nearby Facilities	None
Odors or Irritants	None
Visible Plumes	None
Nearby Sources of Vehicle Exhaust	Vehicles passing on nearby streets – More than 25 feet away.
Prevailing Winds	Winds SSW 5 to 10 mph
Other Observations	None
Conclusion – Air quality observed to be marginally acceptable to ASHRAE Standard 62.1	

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

METHOD OF COMPLIANCE:
Prescriptive [X] Energy Cost Budget [ ]
Thermal Zone Zone 7A

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 396,000 BTU
Building Cooling Load 455,600 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.

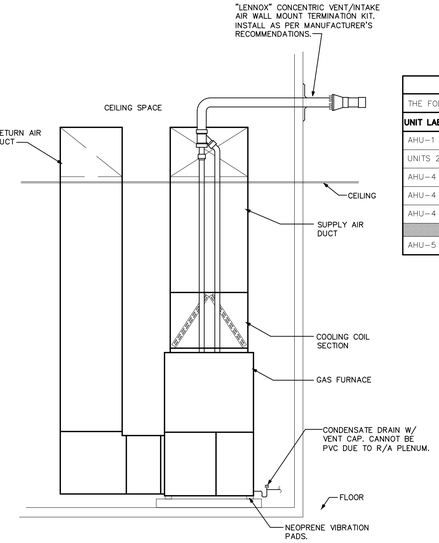
List equipment efficiencies

Equipment schedules with motors (mechanical systems)
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, Chapter 8.
SIGNED:
NAME: TODD W. CAREY
TITLE: N.C. PROFESSIONAL ENGINEER #9079

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, ALL MANUFACTURERS INSTALLATION REQUIREMENTS, 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 MECHANICAL. 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 ENSURE AN ORDERLY PROGRESS OF THIS WORK.
4. ALL MATERIAL SHALL BE NEW OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMAN.
5. ALL NON–EXPOSED SUPPLY AND RETURN AIR DUCTWORK SHALL BE GALVANIZED SHEET STEEL EXTERNALLY WRAPPED WITH 1" INSULATION WITH A 5.0 R VALUE OR HIGHER. ALL FLEX DUCT SHALL BE "THERMOFLEX" OR APPROVED EQUAL AND SHALL HAVE AN R VALUE OF 5.0,
6. ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS.
7. DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
8. 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.
9. 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". * THERMOSTAT FOR AHU #4 IS REQUIRED TO BE SET TO "ON" DURING OCCUPIED TIMES.
10. 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.
11. ARMAFLEX 3/4" INSULATION SHALL BE USED FOR SUCTION LINES. PRE–INSULATED REFRIGERANT LINE KITS ARE ACCEPTABLE.
12. PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
13. 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.
14. 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.
15. PROVIDE ALL NECESSARY CONTACTORS, RELAYS, ETC., FOR A COMPLETE OPERATING A/C UNIT.
16. 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.
17. UPON THE COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL BE RESPONSIBLE TO TEST AND BALANCE THE SYSTEM. ALL TESTING AND BALANCING WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS AS SET FORTH BY NEBB OR AABC.
18. ALL OUTSIDE AIR INTAKES SHALL BE PROVIDED WITH A GALVANIZED METAL BIRD SCREEN TO PROTECT OPENINGS. BIRD SCREEN SHALL HAVE OPENINGS OF LESS THAN 0.5 INCHES.

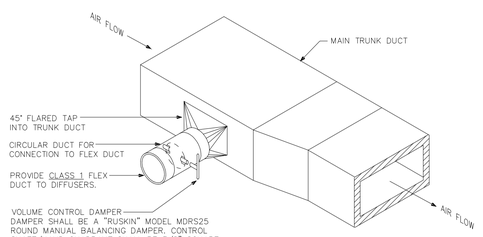


2 COND. UNIT MOUNTING DETAIL
NO SCALE

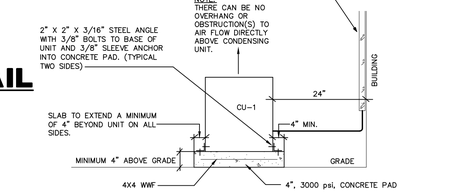
OUTSIDE AIR CALCULATIONS

THE FOLLOWING IS BASED ON ASHRAE STANDARD 62.1–2007 FOR OUTSIDE AIR REQUIREMENTS

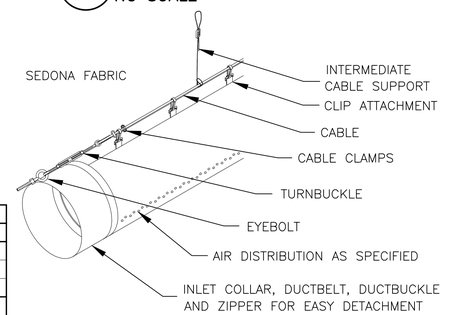
UNIT LABEL	OCCUPANCY CATAGORY	AREA	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	E_Z	TOTAL
AHU–1	KITCHEN (NO CATOGORY)	750	OUTDOOR AIR SET ON EXHAUST HOOD BALANCE REQUIREMENTS	350 CFM TOTAL		
UNITS 2&3	MULTI–USE ASSEMBLY	7,000	440 PEOPLE AS PER ARCH. PLANS	(440 X 7.5) + (7,000 X .06) = 3,720 PEOPLE AREA TOTAL	0.8	3,720/0.8 = 4,650
AHU–4	OFFICE	117	5 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(1 X 5) + (117 X .06) = 12 PEOPLE AREA TOTAL		
AHU–4	STORAGE	236	0.12 CFM PER SQ. FT.	(N/A) + (236 X .12) = 28.3 PEOPLE AREA TOTAL		
AHU–4	CORRIDORS	765	0.06 CFM PER SQ. FT.	(N/A) + (765 X .06) = 45.9 PEOPLE AREA TOTAL		
				AHU–4 TOTAL = 86.2	0.8	86.2/0.8 = 107.75
AHU–5	CLASSROOM (AGE 9+)	555	35 PEOPLE PER 1000 SQ. FT = 19	(19 X 10) + (555 X .12) = 257 PEOPLE AREA TOTAL	0.8	257/0.8 = 322



1 BRANCH DUCT DETAIL
NO SCALE



4 COND. UNIT MTG. DETAIL
NO SCALE



SUSPENSION DETAIL
1 ROW CABLE SUSPENSION AT 12 O'CLOCK

3 DUCTSOX DETAIL
NO SCALE

FAN SCHEDULE

LABEL	TYPE OF UNIT – AREA SERVED	MANUFACTURER & MODEL NO.	CFM	SP	MOUNTING ARRANGEMENT	MOTOR H.P.	ENCLOSURE TYPE	RPM	VOLTAGE	NOTES
EF–1,2	SEE HOOD DETAILS AND SPECIFICATIONS ON SHEET M–4									
EF–3	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z81	300	.125"	CEILING MOUNTED	124 WATTS	OPEN DRIP PROOF	1115	115V/1ø	1
EF–4	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z81	300	.125"	CEILING MOUNTED	124 WATTS	OPEN DRIP PROOF	1115	115V/1ø	1
EF–5	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z81	300	.125"	CEILING MOUNTED	124 WATTS	OPEN DRIP PROOF	1115	115V/1ø	1
SF–1	SEE HOOD DETAILS AND SPECIFICATIONS ON SHEET M–4									

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

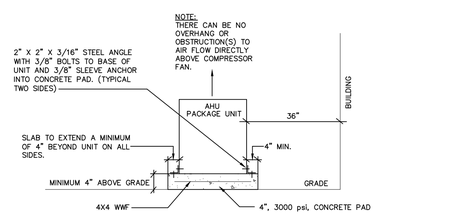
A/C PACKAGE UNIT W/GAS HEAT SCHEDULE

SYS. LABEL	MANUFACTURER	MODEL NO.	TOTAL CAPACITY	SENSIBLE CAPACITY	TOTAL CFM	O/A CFM	E.S.P.	FAN SPEED	COMP. RLA	OUTDOOR FAN FLA	INDOOR FAN HP	HEATER BTU OUTPUT	VOLTAGE	MOCP	EER/SEER	NOTES	HEATER BTU INPUT
A/C #2	CARRIER	48HJD017G–C5	187,000	127,000	5500	SEE SCH.	.3"	914	(1)@32.1 (1)@20.7	(3)@1.7	3 HP	223,000	208V/3ø	110	10.8	1 THRU 11	100,000
A/C #3	CARRIER	48HJD017G–C5	187,000	127,000	5500	SEE SCH.	.3"	914	(1)@32.1 (1)@20.7	(3)@1.7	3 HP	223,000	208V/3ø	110	10.8	1 THRU 11	275,000
																	275,000

GENERAL NOTES:
* ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED.
* PROVIDE VIBRATION ISOLATION FOR UNIT.
* EXTERNAL STATIC PRESSURE DOES NOT INCLUDE COIL OR FILTER PRESSURE DROP.
* APPROVED EQUALS SHALL BE TRANE, LENNOX AND YORK. 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) FACTORY ROOF CURB WITH THRU THE CURB SERVICE CONNECTION.
2) OUTDOOR AIR MANUAL 0% TO 30% DAMPER.
3) ELECTRONIC PROGRAMMABLE THERMOSTAT.
4) COMPRESSOR TIME DELAY.
5) HEAD PRESSURE CONTROL.
6) FILTER DOOR ACCESS PANEL KIT.
8) PROVIDE (1) YEAR WARRANTY ON ALL PARTS AND LABOR AND (5) YEAR WARRANTY ON COMPRESSOR.
9) PROVIDE 1" FARR 30/30 THROWAWAY FILTERS. (1) SET DURING CONSTRUCTION AND (1) SET AFTER FINAL INSPECTION.
10) INSULATE CONDENSATE DRAIN LINE WITH 1/2" ARMAFLEX.
11) PROVIDE ALL NECESSARY CONTACTORS, RELAYS, MOTOR STARTERS, ETC. FOR A COMPLETE OPERATING UNIT.



5 A/C UNIT MTG. DETAIL
NO SCALE

UPFLOW 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	LENNOX HS29–060	58,000	39,300	17.3	1.9	208V/3ø	40A	10.0
CU #4	LENNOX HS29–048	47,000	33,300	13.5	1.9	208V/3ø	30A	10.0
CU #5	LENNOX HS29–030	31,000	27,590	14.7	1.1	208V/1ø	30A	10.0

EVAPORATOR COIL UNIT

MANUFACTURER & MODEL NO.
LENNOX C23–51/65
LENNOX C23–51
LENNOX C23–31

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	LENNOX G26Q4/5–125	2,000	.30"	MED–HIGH	3/4	120V/1ø	125,000	117,000	2"	1 THRU 4
AHU #4	LENNOX G26Q3/4–100	1,575	.30"	MED–HIGH	1/2	120V/1ø	100,000	93,000	2"	1 THRU 4
AHU #5	LENNOX G26Q3–50	1,000	.30"	MED	1/3	120V/1ø	50,000	47,000	2"	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 PROVIDED WITH CONCENTRIC VENT/INTAKE AIR ROOF TERMINATION KIT.

HOOD INFORMATION

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM TOTAL EXH. CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	SUPPLY PLENUM TOTAL SUP. CFM	SUPPLY PLENUM RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	ROW
1	4824 ND-2-PSP-F	9' 0.00"Nom. 9' 0.00"OD	450 Deg.	2025	10"	19"		2025	0.455"	1620						430 SS Where Exposed	ALONE	N/A
2	4224 VHB	4' 0.00"Nom. 4' 0.00"OD	700 Deg.	600	10"	10"		600	0.075"	0						430 SS 100%	ALONE	N/A

HOOD INFORMATION

HOOD NO.	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	LIGHT(S) QTY.	TYPE	WIRE GUARD	LOCATION	UTILITY CABINET(S) FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	LOCATION	FIRE SYSTEM PIPING	HOOD WEIGHT
1	Alum Baffle w/ Handles	3	16"	16"	5	Incandescent Light Fix	NO	Left	Pyrochem	1 tank	31111002	1 Light 1 Fan	Outside	NO	590 LBS.
		3	16"	20"											
2					0									NO	168 LBS.

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	POS.	LENGTH	WIDTH	HEIGHT	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.
1	Front	120"	12"	6"	10"	20"		810	0.124"
					10"	20"		810	0.124"

HOOD OPTIONS

HOOD NO.	OPTION
1	FIELD WRAPPER 17.00" High Front, Left, Right
	BACKSPLASH 80.00" High X 120.00" Long 430 SS
2	FIELD WRAPPER 17.00" High Front, Left, Right

FAN INFORMATION

FAN UNIT NO.	FAN UNIT MODEL #	EXHAUST FAN MODEL	TAG	CFM	S.P.	RPM	H.P.	ø	VOLT	FLA
EF-1	NRTP.B-NSAU1-G10-NCA14FA HOOD 1	NCA14FA	EF-1	2025	0.600"	1070	0.750	3	208	2.7
EF-2	DU30HFA HOOD 2	DU30HFA	EF-2	600	0.400"	1143	0.250	1	115	4.0

FAN UNIT NO.	SUPPLY FAN BLOWER	HOUSING	TAG	CFM	S.P.	RPM	H.P.	ø	VOLT	FLA
SF-1	G10	NSAU.1.B		1620	0.400"	692	0.500	3	208	1.8

FAN OPTIONS

FAN NO.	OPTION (Qty. – Descr.)
1	1 – Grease Box

CURB ASSEMBLIES

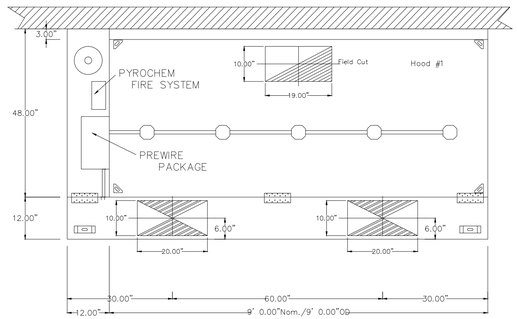
NO.	ON FAN	ITEM	SIZE
1	# 1	Curb	32.500"W x 75.000"L x 20.000/26.000"H Vented Hinged
		Supply Adapter	From 33.250"sq To 23.000"sq x 3.000"H
		Exhaust Adapter	From 33.250"sq To 23.000"sq x 9.000"H
		Rail	6.000"W x 23.000"L x 17.000"HAlong Width,
2	# 2	Curb	19.500"W x 19.500"L x 14.000"H

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

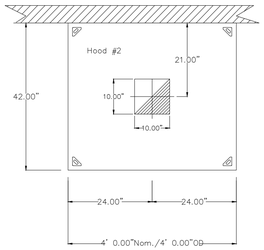
NFPA #96
NSF
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

CAPTIVEAIRE

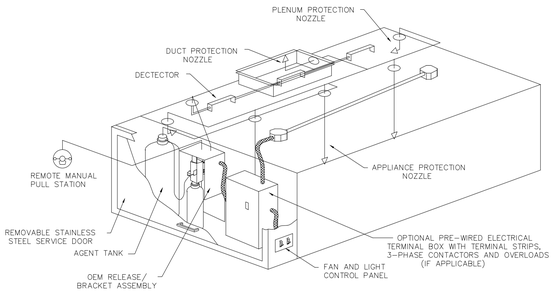
FOR QUESTIONS, CALL THE
PIEDMONT NORTH CAROLINA OFFICE
LONNIE GRANT (REGIONAL MANAGER)
PHONE: 336-996-8484, FAX: 336-996-0418
EMAIL: reg30@captiveair.com



PLAN VIEW – Hood #1 – 9' 0.00" LONG 4824ND-2-PSP-F

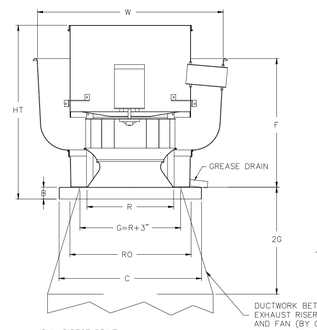


PLAN VIEW – Hood #2 – 4' 0.00" LONG 4224VHB



TYPICAL UL300 LIQUID FIRE SYSTEM LAYOUT

DUHFA SERIES UPBLAST EXHAUST FANS (UL762)



DUH DIRECT DRIVE
CENTRIFUGAL UP-BLAST EXHAUST FANS DIMENSIONAL DATA

FAN MODEL	HT	W	B	C	F	R	RO	WEIGHT LB
DU30HFA	25 1/4	25 1/2	2	21	18 1/2	12 1/8	17 1/2	50

FEATURES:

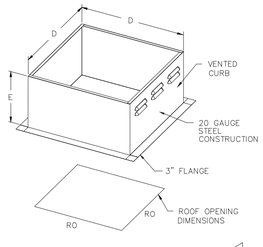
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS:

GREASE BOX
HINGED FAN
PITCHED CURB
INSULATED CURB

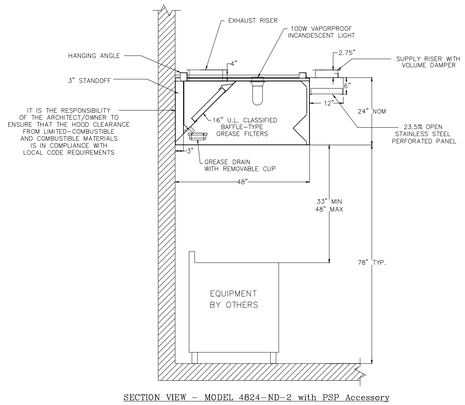


PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

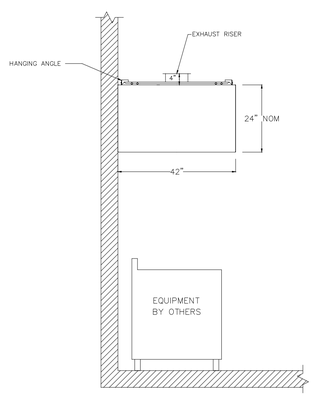
SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

CURB DIMENSIONAL DATA

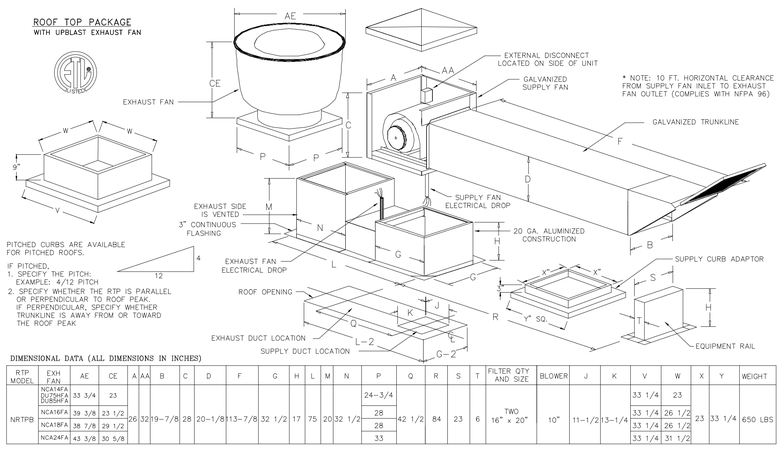
FAN MODEL	D	E
DU30HFA	19 1/2	22



SECTION VIEW – MODEL 4824-ND-2 with PSP Accessory

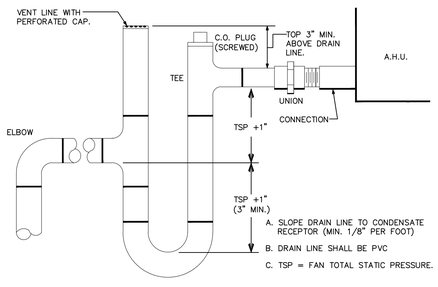


SECTION VIEW – MODEL 4224-VHB

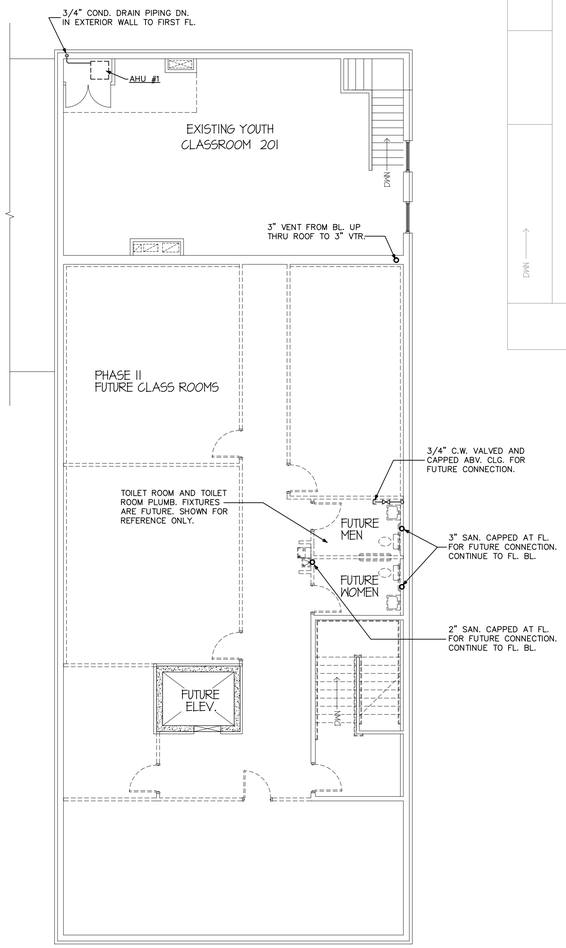


DIMENSIONAL DATA (ALL DIMENSIONS IN INCHES)

RTP MODEL	EXH FAN	AE	CE	A	AA	B	C	D	F	G	H	L	M	N	P	Q	R	S	T	FILTER QTY AND SIZE	BLOWER	J	K	V	W	X	Y	WEIGHT
NRTPB	NCA14FA DU25HFA DU30HFA	33 3/4	23	26	32	19-7/8	28	20-1/8	13-7/8	32 1/2	17	75	20	32 1/2	24-3/4	42 1/2	84	23	6	TWO 16" x 20"	10"	11-1/2	13-1/4	33 1/4	23	23	33 1/4	650 LBS
	NCA16FA	39 3/8	23 1/2												28									33 1/4	26 1/2			
	NCA18FA	38 7/8	29 1/2												28									33 1/4	26 1/2			
	NCA24FA	43 3/8	30 5/8												33									33 1/4	31 1/2			

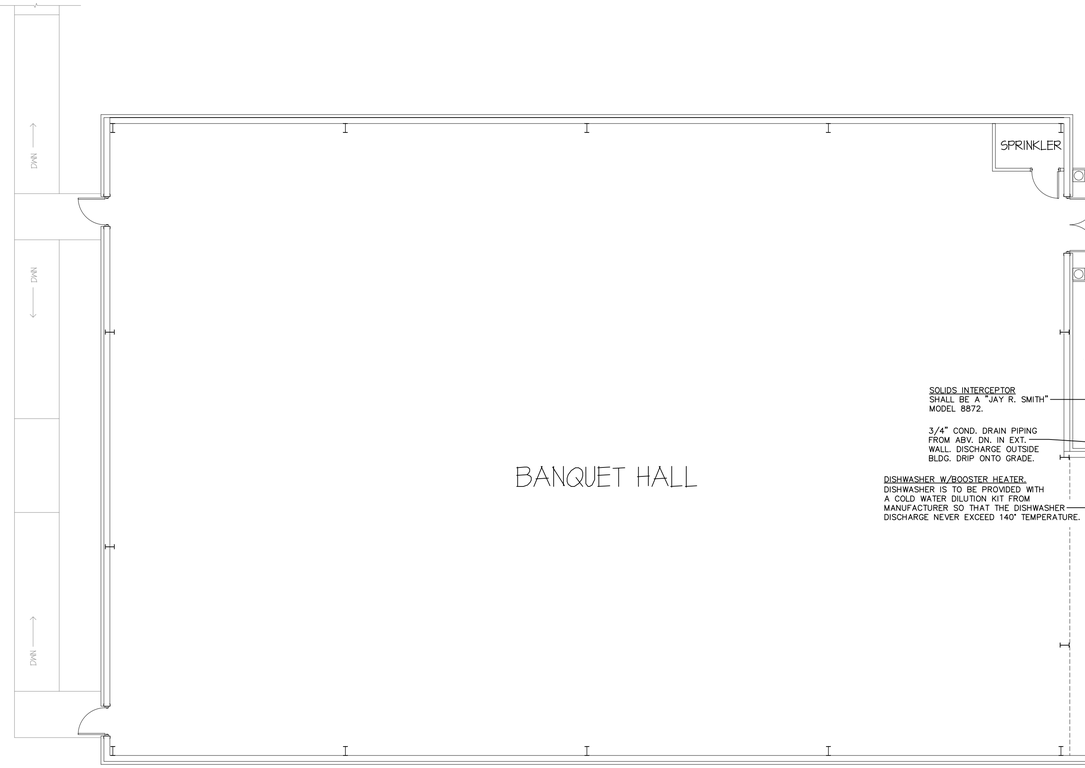


1 CONDENSATE P-TRAP DETAIL
NOT TO SCALE



FUTURE MEZZANINE/SECOND FLOOR PLAN - PLUMBING

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



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
P&T	PRESSURE & TEMP. RELIEF LINE
	CONDENSATE DRAIN LINE
RWL	RAIN WATER LEADER
	GAS LINE
	SAFEWASTE LINE
	FIRE PROTECTION
	SHUT OFF VALVE
SP	SAFEPAN LINE
	FIRE SPRINKLER HEAD
	PIPE TURN UP
	PIPE TURN DOWN
	P-TRAP

1 FLOOR PLAN - PLUMBING

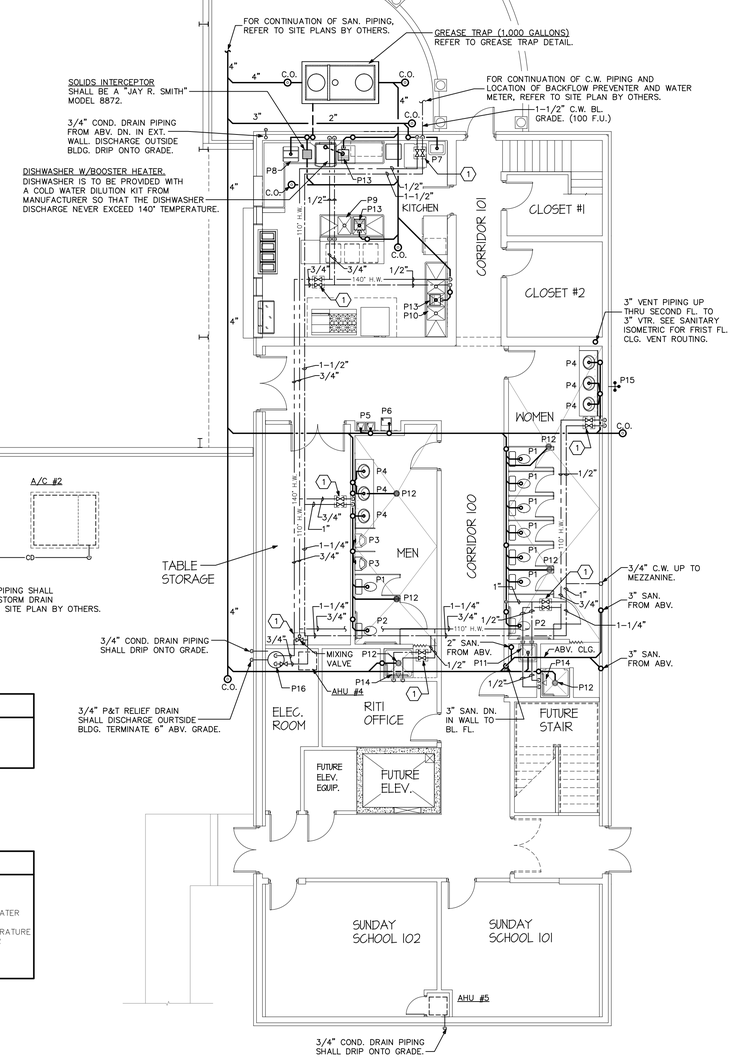
SCALE: 1/8"=1'-0"

SPECIFIC PLUMBING NOTES

(1) 12X12 ACCESS PANEL TO ALLOW PROPER ACCESS TO SHUT-OFF VALVES ABOVE CEILING IN THIS AREA. COORDINATE FINAL INSTALLATION OF ACCESS PANEL WITH ARCHITECT/OWNER PRIOR TO CONSTRUCTION.

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 FIXTURE SCHEDULE

P-1 (WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL CADET 2898.014 ELONGATED 1.6 GPF, VITREOUS CHINA, SIPHON ACTION BOWL, CLOSE-COUPLED TANK, SPEED CONNECT TANK/BOWL COUPLING SYSTEM TOILET AND AN OLSONITE # 95 OPEN FRONT SEAT LESS COVER.

P-2 (HANDICAPPED WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL CADET 2998.012 ELONGATED 18" HIGH, 1.6 GPF, VITREOUS CHINA, SIPHON ACTION BOWL, CLOSE-COUPLED TANK, SPEED CONNECT TANK/BOWL COUPLING SYSTEM TOILET AND AN OLSONITE # 95 OPEN FRONT SEAT LESS COVER. CONTRACTOR TO ORDER LEFT OR RIGHT HAND ACTUATOR LEVER PLACEMENT TO ALLOW LEVER PLACEMENT TO BE ON THE OPEN SIDE OF THE TOILET TO MEET HANDICAP CODE REQUIREMENTS.

P-3 (HANDICAPPED URINAL)
SHALL BE AN AMERICAN STANDARD ALLBROOK MODEL 6541.132. FLUSH VALVE SHALL BE SLOAN ROYAL MODEL 180-YB.

P-4 (HANDICAPPED COUNTER TOP LAVATORY)
SHALL BE AN AMERICAN STANDARD MODEL RONALYN MODEL 0490.011 VITREOUS CHINA SELF-RIMMING. FAUCET SHALL BE A BRADLEY "AERADA 90-75 SERIES METERING FAUCET" MODEL 553-053. UNIT IS ADA COMPLIANT AND 0.5 GPM WITH A 10 SECOND OPERATING CYCLE. PROVIDE A BRADLEY VERNATHERM THERMOSTATIC MIXING VALVE TO DELIVER TEMPERED WATER AT A TEMPERATURE NOT TO EXCEED 105 DEGREES. PROVIDE PROTECTIVE INSULATION ON DRAIN AND HOT WATER LINE TO MEET HANDICAP CODE REQ. ON ALL INSTALLATIONS WHERE THE PIPING IS EXPOSED TO THE USER.

P-5 (HANDICAPED ELECTRIC WATER COOLER COMBINATION HI/LO)
SHALL BE AN OASIS SPLIT LEVEL MODEL PBAMSL, 7.8 GPM, 5.0 FLA AT 120 VOLT WITH A 1/5 HP COMPRESSOR.

P-6 (HANDICAPPED ELECTRIC WATER COOLER)
SHALL BE AN OASIS MODEL PLF8WMEE, 8.0 GPH, 4.8 FLA AT 120 VOLT WITH A 1/5 HP COMPRESSOR.

P-7 (S.S. HAND SINK)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO CONSTRUCTION.

P-8 (S.S. PRE-RINSE SINK W/DESPOSAL)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO CONSTRUCTION.

P-9 (S.S. 2 COMPARTMENT PREP SINK)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO CONSTRUCTION.

P-10 (S.S. 3 COMPARTMENT SINK)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO CONSTRUCTION.

P-11 (MOP RECEPTOR)
SHALL BE A FLORESTONE #MSR-2424 24X24X10" MOLDED MOP BASIN WITH 3" OUTLET. PROVIDE WITH MR-371 FAUCET WITH WALL BRACE, PAIL HOOK AND APPROVED VACUUM BREAKER, MR-370 HOSE & HOSE BRACKET, MR-372 MOP HANGER, MR-373 BUMBER GUARDS AND MR-377 STAINLESS TEEL WALL GUARD.

P-12 (FLOOR DRAIN WITH TRAP PRIMER)
SHALL BE A JOSAM 30000-A-50 SERIES COATED CAST IRON FLOOR DRAIN. TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WE.L.OC INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET, INSIDE CAULK CONNECTION AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER.

P-13 (FLOOR SINK W/SEDIMENT BUCKET)
SHALL BE A JOSAM 44000-3-31 SERIES WITH A "SUPERFLOW 8-1/2" TOP", FLOOR SINK SHALL BE A SQUARE CAST IRON 6-1/4" DEEP SUPERFLOW SEPARATOR FLOOR SINK WITH ACID-RESISTING INTERIOR, DOUBLE DRAINAGE FLANGE. FLOOR SINK SHALL BE PROVIDED WITH AN OPTIONAL STAINLESS STEEL BUCKET AND A HALF GRATE TOP.

P-14 (HANDICAPPED SHOWER MIXING VALVE)
SHOWER SHALL INCLUDE AN SPEAKMAN MODEL SM-3060-VH BALANCED PRESSURE HANDICAP SHOWER COMBINATION INCLUDES: SM-3000 ANTI-SCALD SHOWER VALVE, VS-100 HAND HELD SHOWER WITH 69" RUBBER LINED STAINLESS STEEL HOSE, VS-115 CHROME PLATED BRASS SUPPLY ELL WITH WALL FLANGE, VS-117 IN-LINE VACUUM BREAKER, S-1182 DIVERTER VALVE, VS-124 42" SLIDE BAR, S-2270-AF SHOWERHEAD AND S-2500 ARM & FLANGE. REPLACED VS-1970-AF.
SHOWER STALL COORDINATE FINAL SPECIFICATIONS OF SHOWER STALL WITH ARCHITECT/OWNER PRIOR TO CONSTRUCTION.

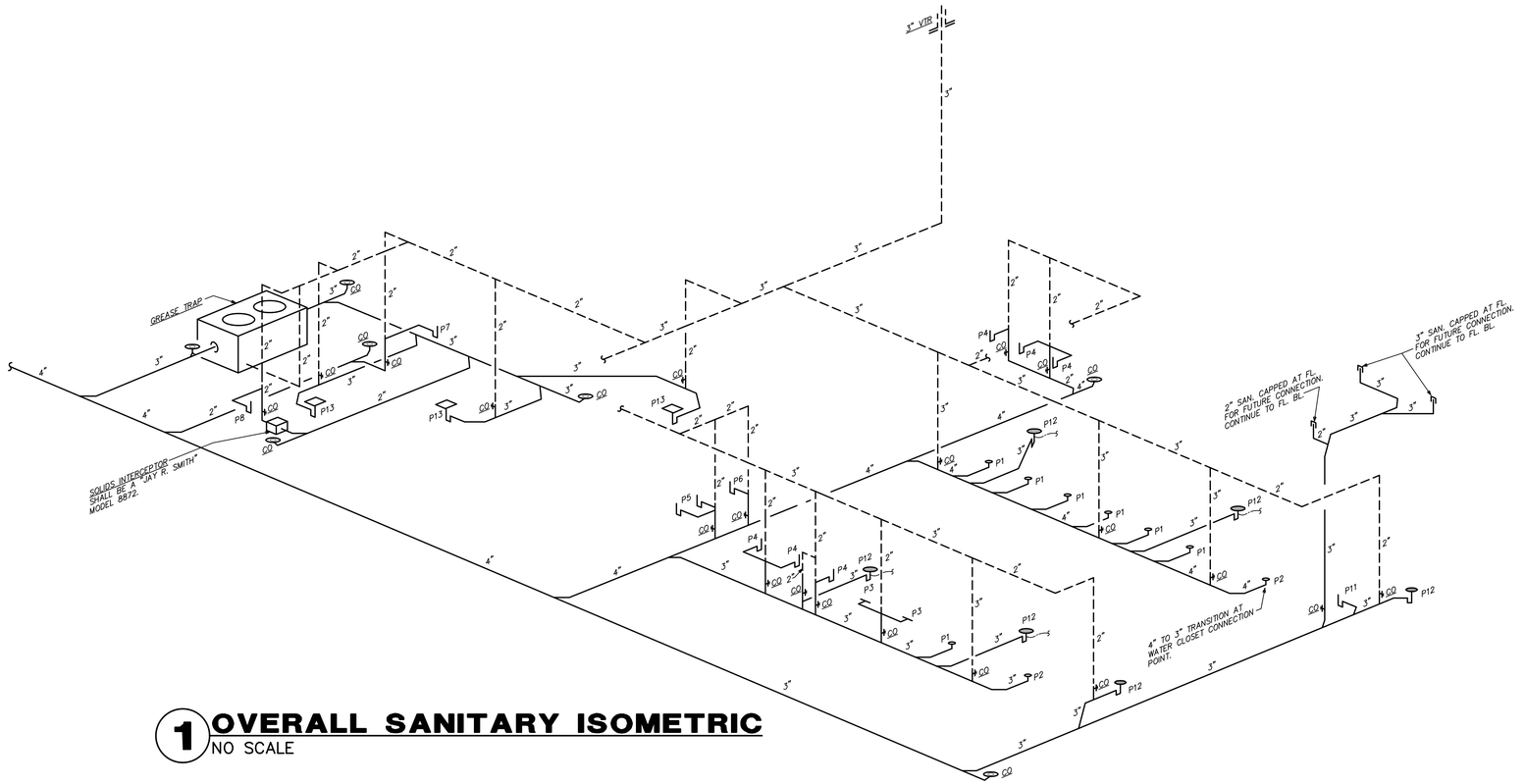
P-15 (HOSE BIBB)
SHALL BE A ZURN Z-1350 NARROW WALL HYDRANT CAST BRONZE BOX, NON-FREEZE WITH COVER AND CONTROL KEY.

P-16 (GAS WATER HEATER - DIRECT VENT)
SHALL BE A LOCHINVAR "CHARGERPOWER DV" MODEL PNR150-080 GAS FIRED COMMERCIAL WATER HEATER. 150,000 BTU INPUT TO PRODUCE 145 GALLONS PER HOUR OF HOT WATER AT 100 DEGREE RISE. INSULATED GLASSLINED 80 GALLON STORAGE TANK. 5 YEAR LIMITED WARRANTY ON STORAGE TANK AGAINST TANK FAILURE. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE SECTIONS 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION.

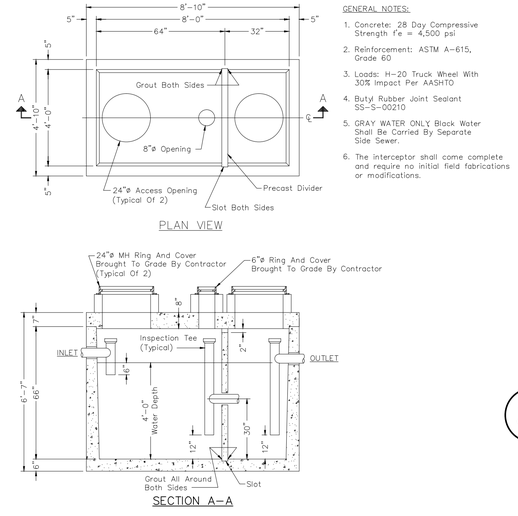
NOTES:
1.) ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL.
2.) PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.

GENERAL PLUMBING NOTES

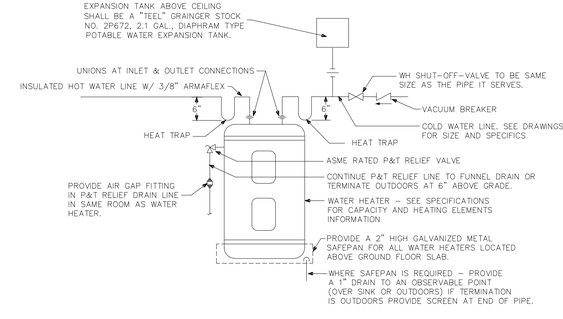
1. Drawings are diagrammatic and shall not be scaled. Refer to architectural plans and elevations for exact location of all plumbing fixtures, equipment, etc.. Plumbing contractor shall furnish and install all items required for a complete and acceptable working installation. Contractor is responsible 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)" installed as per manufacturers recommendations found here: www.Tempritepex.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.
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 air chambers at each plumbing fixture and PDI approved shock arresters on main lines and risers.
16. Provide chrome plated combination covered plate and cleanout plug for all wall cleanouts, Josam 58890.
17. Insulate lines as follows:
    a) Hot and Cold water supply and return: 1" thick armaflex preformed or approved equal.
    b) Condensate piping: 1/2" thick armaflex preformed or approved equal.



1 OVERALL SANITARY ISOMETRIC
NO SCALE



2 GREASE TRAP DETAIL
NO SCALE



3 WATER HEATER PIPING DETAIL
NO SCALE

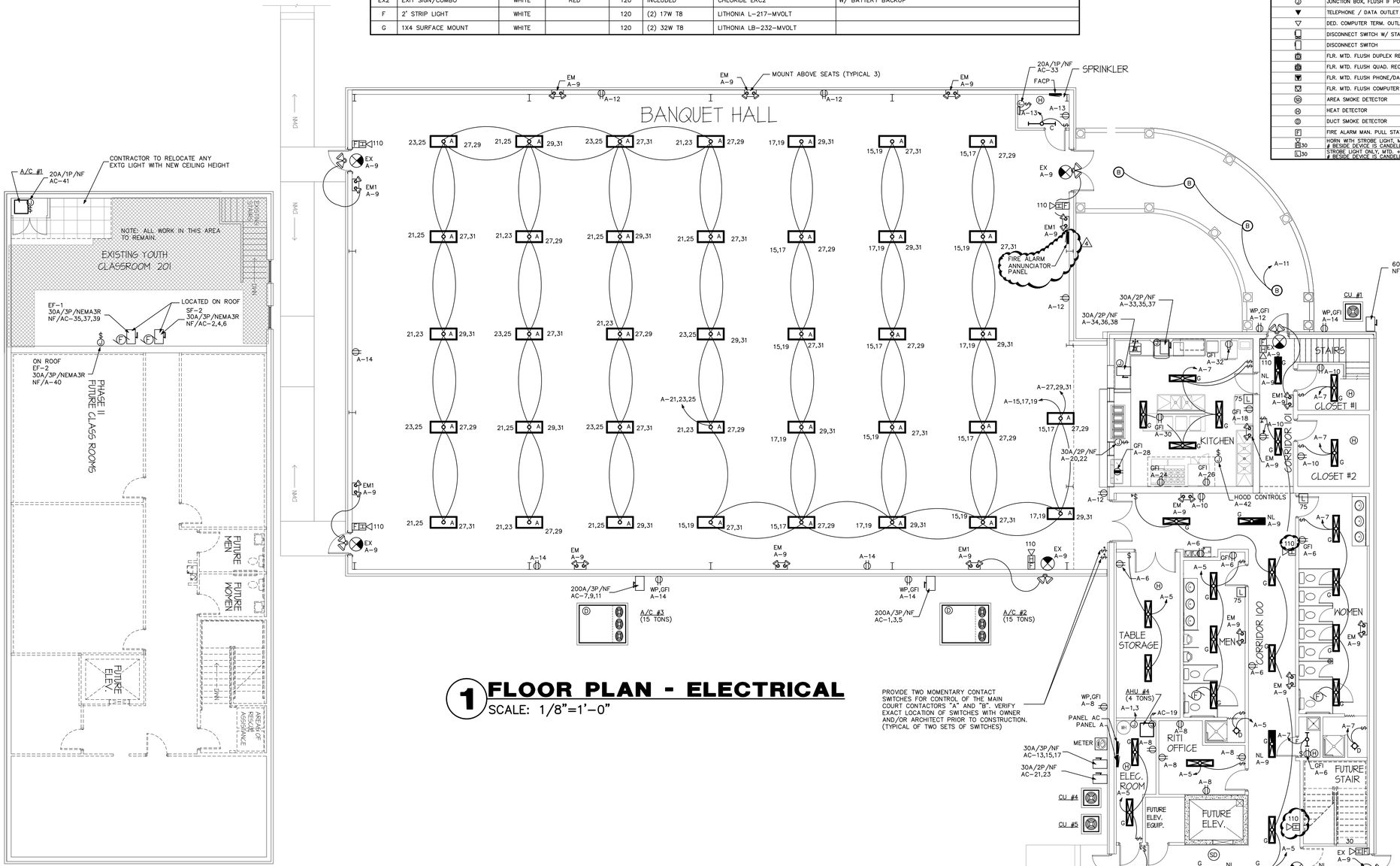
LIGHTING FIXTURE SCHEDULE

LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	SURFACE MTD HI BAY FLUOR.	WHITE	PRISMATIC	208	(6) 54W T5HO	LITHONIA FGB24-6-54T5HO-HVOLT-1/41/2-WG	
B	RECESSED HID	WHITE		120	50W MH	LITHONIA LGH-50M-6-RWFFL-120	WET LOCATION LISTED
C	4' STRIP LIGHT	WHITE		120	(2) 32WT8	LITHONIA L-232-MVOLT	
D	DOWNLIGHT	WHITE		120	100W MAX	LITHONIA A-6AR	WET LOCATON LISTED
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP. PROVIDE CLEAR LEXAN WEATHERSHILED
EX	EXIT SIGN	WHITE	RED	120	INCLUDED	LITHONIA LE-SW2R-120/277-ELN	W/ BATTERY BACKUP
EX1	EXIT SIGN/COMBO W/ REMOTE	WHITE	RED	120	INCLUDED	CHLORIDE ERC2	W/ BATTERY BACKUP AND DUAL REMOTE HEADS
EX2	EXIT SIGN/COMBO	WHITE	RED	120	INCLUDED	CHLORIDE ERC2	W/ BATTERY BACKUP
F	2' STRIP LIGHT	WHITE		120	(2) 17W T8	LITHONIA L-217-MVOLT	
G	1X4 SURFACE MOUNT	WHITE		120	(2) 32W T8	LITHONIA LB-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	OKT. 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 +47"	B	RECESSED MOUNTED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
$OS	THREE-WAY SWITCH W/ OCCU SENSOR WHEN ON +47"	OS	OVERHEAD OCCUPANCY SENSOR
$OS3	SWITCH W/ OCCU SENSOR. WHEN ON +47"	B	HIGHBAY HID LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
J	JUNCTION BOX, FLUSH IF POSSIBLE	B	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
	DISCONNECT SWITCH W/ STARTER	IG	ISOLATED GROUND
	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
30	HORN WITH STROBE LIGHT, MTD. +80" # INSIDE DEVICE IS CANDELLA RATING	FAAP	FIRE ALARM ANNUNCIATOR PANEL
30	STROBE LIGHT ONLY, MTD. +80" # INSIDE DEVICE IS CANDELLA RATING		



1 FLOOR PLAN - ELECTRICAL

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

2 FUTURE MEZZANINE/SECOND FLOOR PLAN - ELECTRICAL

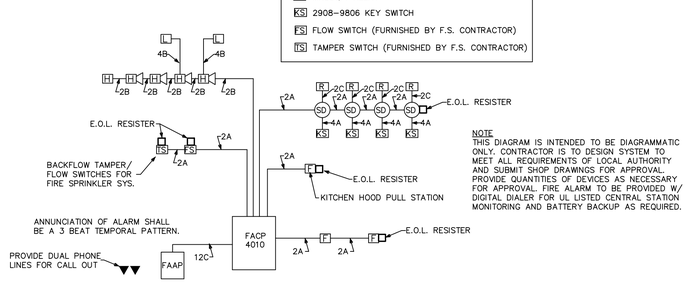
SCALE: 1/8"=1'-0"

FIRE ALARM SYTEM MATRIX	BUILDING SYSTEM OUTPUTS																						CENTRAL COMM			
FIRE ALARM SYSTEM INPUTS	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTIVATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	ACTIVATE EXTERNAL HORN/STROBE	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	SHUT DOWN ALL HVAC UNITS WITH DUCT DETECTORS	MAGNETIC DOOR HOLDERS RELEASE ALL DOORS	SHUT DOWN HOOD SUPPLY AIR FAN	SHOW CHANGE OF STATUS ON ANNUNCIATOR	SHOW CHANGE OF STATUS ON CENTRAL PANEL	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
MANUAL FIRE ALARM PULL BOXES	X	X					X	X	X	X				X	X	X	X	X	X			
SMOKE DETECTOR	X	X					X	X	X	X				X	X	X	X	X	X			
FIRE ALARM A.C. POWER FAILURE					X	X		X				X					X	X				X
FIRE ALARM SYSTEM LOW BATTERY					X	X		X				X					X	X				X
OPEN CIRCUIT					X	X		X				X					X	X				X
GROUND FAULT					X	X		X				X					X	X				X
NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X		X				X					X	X				X
SPRINKLER WATER FLOW	X	X					X	X	X	X	X			X	X	X	X	X	X			
SPRINKLER TAMPER			X	X				X			X			X	X	X	X	X		X		
DUCT SMOKE DETECTORS			X	X				X						X	X	X	X	X		X		
HOOD SUPPRESSION SYSTEM	X	X					X	X	X	X				X	X	X	X	X	X			

WIRE LEGEND
A = 18 AWG. SOLID ALARM
B = 14 AWG SOLID CONTROL
C = 18 AWG SOLID CONTROL

NOTE: ALL WIRING TO BE EXPOSED EXCEPT VERTICAL RUN FROM CEILING TO DEVICE.

LEGEND	
FACP 4010	4010-9101 SIMPLEX POWER LIMITED CONTROL PANEL
FAAP	4010 SERIES REMOTE ANNUNCIATOR PANEL
F	4099-9001 PULL STATION
H	4906-9127 HORN/STROBE
L	4906-9101 STROBE ONLY
SD	4098-9714 DUCT DETECTOR
H	4098-9733 HEAT DETECTOR
R	MRB01/T RELAY
KS	2908-9806 KEY SWITCH
FS	FLOW SWITCH (FURNISHED BY F.S. CONTRACTOR)
TS	TAMPER SWITCH (FURNISHED BY F.S. CONTRACTOR)



5 FIRE ALARM RISER DIAGRAM
NO SCALE

PANEL SCHEDULE AC — PROVIDE FEED THRU LUGS ON PANEL

600 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 600A. M.C.B., 22000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1								0	8220	------	------								2
3	110/3	#2	---	#6	1-1/4	CHAL	RTU 2	0	324	------	------								4
5								0	------	8220	------								6
7								0	------	324	------	SUPPLY FAN	CHAL	1/2	#12	---	#12	20/3	
9	110/3	#2	---	#6	1-1/4	CHAL	RTU 3	0	8220	------	------								8
11								0	0	8220	------	SPACE							10
13								0	------	0	------	SPACE							12
15	30/3	#10	---	#10	1/2	CHAL	CONDENSING UNIT 4	0	1848	------	------	SPACE							14
17								0	------	1848	------	SPACE							16
19	20/1	#12	#12	#12	1/2	CHAL	AIR HANDLER 4	1123	1123	------	------	SPACE							18
21								0	0	1644	------	SPACE							20
23	30/2	#10	---	#10	1/2	CHAL	CONDENSING UNIT 5	0	------	0	------	SPACE							22
25	20/1	#12	#12	#12	1/2	CHAL	AIR HANDLER 5	0	------	1644	------	SPACE							24
27								832	832	------	------	SPACE							26
29	40/3	#8	---	#10	3/4	CHAL	CONDENSING UNIT 1	0	0	2304	------	SPACE							28
31								0	------	0	2304	SPACE							30
33	20/1	#12	#12	#12	1/2	CHAL	FIRE ROOM AC	0	2304	------	------	SPACE							32
35								1500	------	1500	------	SPACE							34
37	20/3	#12	---	#12	1/2	CHAL	EXHAUST FAN	0	------	0	324	SPACE							36
39								0	324	------	0	SPACE							38
41	20/1	#12	#12	#12	1/2	CHAL	AIR HANDLER 1	0	7128	------	------								40
								1581	------	324	------	ELEVATOR	CHAL	3/4	#10	---	#6	60/3	42
									------	7128	1581								

WIRE/CONDUIT KEY 1234 (TEMP RATING / CONDUIT TYPE / INSULATION / WIRING TYPE)	WIRING TYPE C-CU WIRE	INSULATION H-THWN	CONDUIT TYPE A-EMT	TEMP RATING L-78-86 Deg. F.	30323	31512	31593
					93,428		

PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 16.3 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 259.5 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS, PA

PANEL AC DIVERSIFICATION CALCULATIONS

RECEPTACLES (42) - 7560 VA TOTAL	
FIRST 10 KVA AT 100% -	7560
LIGHTING - 17215 X 125% -	21519
HVAC LOAD AT 100% -	70099
PLUS 25% OF THE LARGEST MOTOR -	2889
MISC NON-CONTINUOUS LOADS AT 100% -	42088
KITCHEN EQUIPMENT (11)	
15283 X 0.65 -	9934
TOTAL DIVERSIFIED PANEL LOAD -	154089
LOAD AT 120/208V/3-PHASE/4-WIRE -	428.0A

CIRCUIT BREAKER PANEL SCHEDULE A

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 200A M.C.B., 22000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1								0	2250	------	------								2
3	30/2	#10	---	#10	1/2	CHAL	WATER HEATER	1080	1080	------	------								4
5	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1080	0	2250	------								6
7	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1575	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	
9	20/1	#12	#12	#12	1/2	CHAL	LIGHT/ EMERGENCY LIGHTS	1080	------	------	1575	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	8
11	20/1	#12	#12	#12	1/2	CHAL	OUTSIDE LIGHTS *	1000	1000	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	10
13	20/1	#12	#12	#12	1/2	CHAL	SPRINKLER ROOM LGT/ REC	1080	1080	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	12
15								1080	------	1500	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	14
17	20/3	#12	---	#12	1/2	CHAL	HIGH BAY LIGHTING	1080	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	16
19								600	------	------	600	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	18
21								1080	------	------	1080	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	20
23	20/3	#12	---	#12	1/2	CHAL	HIGH BAY LIGHTING	360	360	------	------								22
25								1080	1080	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	24
27								0	------	1393	------								26
29	20/3	#12	---	#12	1/2	CHAL	HIGH BAY LIGHTING	900	------	900	------	REFRIGEATOR	CHAL	1/2	#12	#12	#12	20/1	28
31								0	------	------	1393	REACH IN REFRIGERATOR	CHAL	1/2	#12	#12	#12	20/1	30
33								1020	------	------	1020								32
35	40/3	#8	---	#10	3/4	CHAL	DISHWASHER	0	1393	------	------								34
37								0	2174	------	------	SERVING LINE	CHAL	1/2	#10	---	#10	25/2	36
39	20/1	#12	#12	#12	1/2	CHAL	FACP	0	------	2174	------								38
41							SPACE	408	------	------	1393	GAS RANGE	CHAL	1/2	#12	#12	#12	20/1	40
								0	1393	------	------								42
								1128	1128	------	------	GAS OVEN	CHAL	1/2	#12	#12	#12	20/1	
								900	------	900	------	MICROWAVE	CHAL	1/2	#12	#12	#12	20/1	
								0	------	------	1393	HEATER CABINET	CHAL	1/2	#12	#12	#12	20/1	
								1900	------	------	1900								
								0	1393	------	------								
								900	900	------	------	REACH IN FREEZER	CHAL	1/2	#12	#12	#12	20/1	
								0	------	4333	------								
								0	------	900	------								
								0	------	------	4333	DISHTABLE DISPOSAL	CHAL	1/2	#12	---	#12	20/3	
								0	------	------	900								
								0	4333	------	------								
								0	900	------	------								
								900	------	900	------								
								720	------	720	------	CONDENSATE HOOD	CHAL	1/2	#12	#12	#12	20/1	
								0	------	------	0								
								360	------	------	360	HOOD CONTROLS	CHAL	1/2	#12	#12	#12	20/1	

WIRE/CONDUIT KEY 1234 (TEMP RATING / CONDUIT TYPE / INSULATION / WIRING TYPE)	WIRING TYPE C-CU WIRE	INSULATION H-THWN	CONDUIT TYPE A-EMT	TEMP RATING L-78-86 Deg. F.	20464	20916	17435
					58,815		

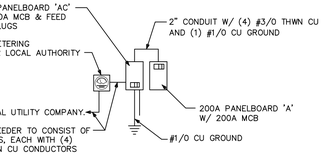
PEAK PHASE (C) UNBALANCED NEUTRAL LOAD AMPS = 66.9 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 163.4 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS, PA

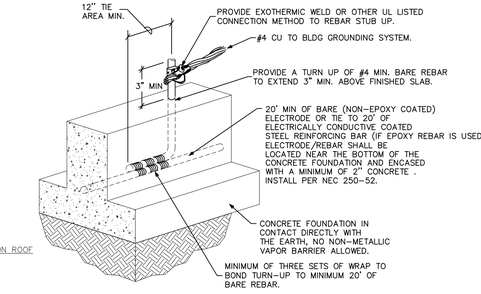
PANEL NOTES:
* - CIRCUIT TO BE CONTROLLED VIA PHOTOCELL

PANEL A DIVERSIFICATION CALCULATIONS

RECEPTACLES (42) - 7560 VA TOTAL	
FIRST 10 KVA AT 100% -	7560
LIGHTING - 17215 X 125% -	21519
MISC NON-CONTINUOUS LOADS AT 100% -	18760
KITCHEN EQUIPMENT (11)	
15283 X 0.65 -	9934
TOTAL DIVERSIFIED PANEL LOAD -	57773
LOAD AT 120/208V/3-PHASE/4-WIRE -	160.5A



1 ELECTRICAL SERVICE RISER
NO SCALE



2 GROUNDING DETAIL
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. 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.

7. 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.

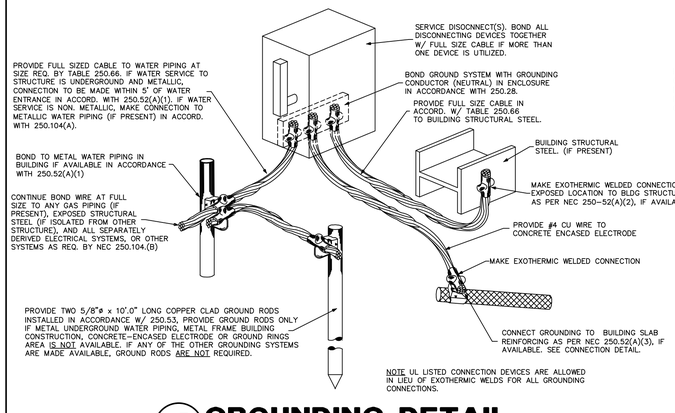
8. PROVIDE AND INSTALL JUNCTION AND PULL BOXES WHERE INDICATED AND WHERE NECESSARY TO TERMINATE, TAP OFF, OR REDIRECT MULTIPLE CONDUIT RUNS, OF SIZE INDICATED OR AS REQUIRED BY NEC. WHERE FEEDER SPLICES ARE TO BE MADE, INSTALL BOXES LARGE ENOUGH TO PROVIDE AMPLE WORK SPACE.

9. 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.

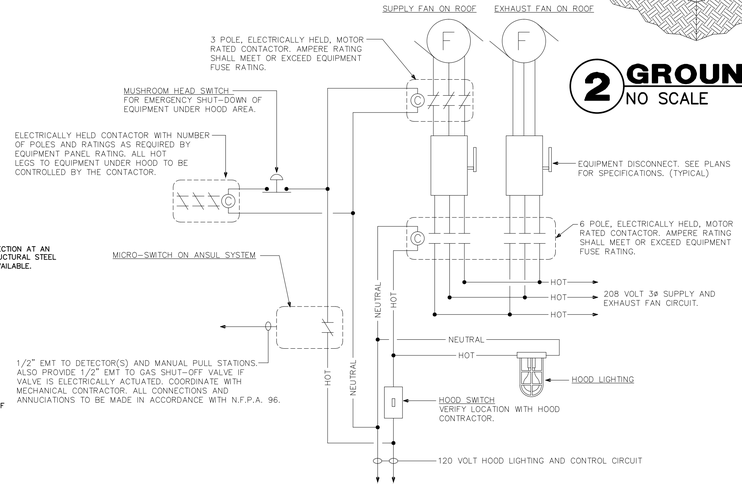
10. TESTS: AFTER EACH SYSTEM HAS BEEN COMPLETED, A FUNCTIONAL TEST SHALL BE PERFORMED TO DEMONSTRATE THAT THE SYSTEM OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS. THE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE.

11. TERMINALS: ALL ELECTRICAL EQUIPMENT FURNISHED ON THIS PROJECT IS TO HAVE TERMINALS RATED FOR 75° C. OPERATION.



NOTE UL LISTED CONNECTION DEVICES ARE ALLOWED IN LIEU OF EXOTHERMIC WELDS FOR ALL GROUNDING CONNECTIONS.

4 GROUNDING DETAIL
NO SCALE



3 HOOD CONTROL WIRING DETAIL
NO SCALE