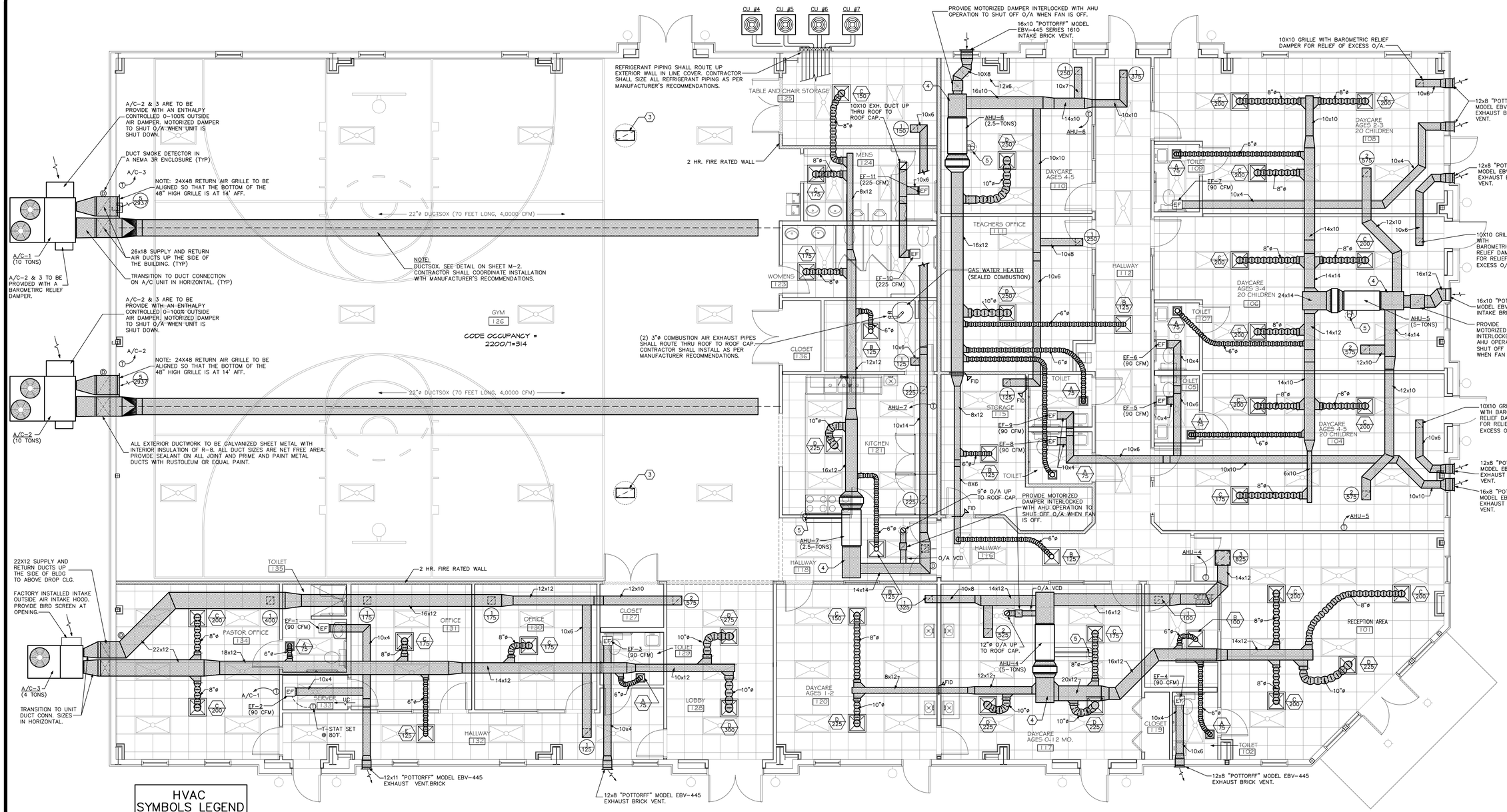


HVAC SYMBOLS LEGEND

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

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 TDC-AA	6"ø	0 - 125	12X12 LOUVERED FACE
B	TITUS TDC-AA	6"ø	0 - 125	24X24 LOUVERED FACE
C	TITUS TDC-AA	8"ø	130 - 200	24X24 LOUVERED FACE
D	TITUS TDC-AA	10"ø	205 - 325	24X24 LOUVERED FACE

RETURN GRILLE SCHEDULE

(1/100) 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	10X10	0 - 400	LOUVER FACE
2	TITUS 355FL	12X12	400 - 600	LOUVER FACE
3	TITUS 355FL	18X18	605 - 1200	LOUVER FACE
4	TITUS 355FL	24X24	1205 - 1450	LOUVER FACE
5	TITUS 355FL	24X48	1500 - 3000	LOUVER FACE

1 FLOOR PLAN - MECHANICAL

SCALE: 3/16"=1'-0"

H.V.A.C. ABBREVIATION LEGEND

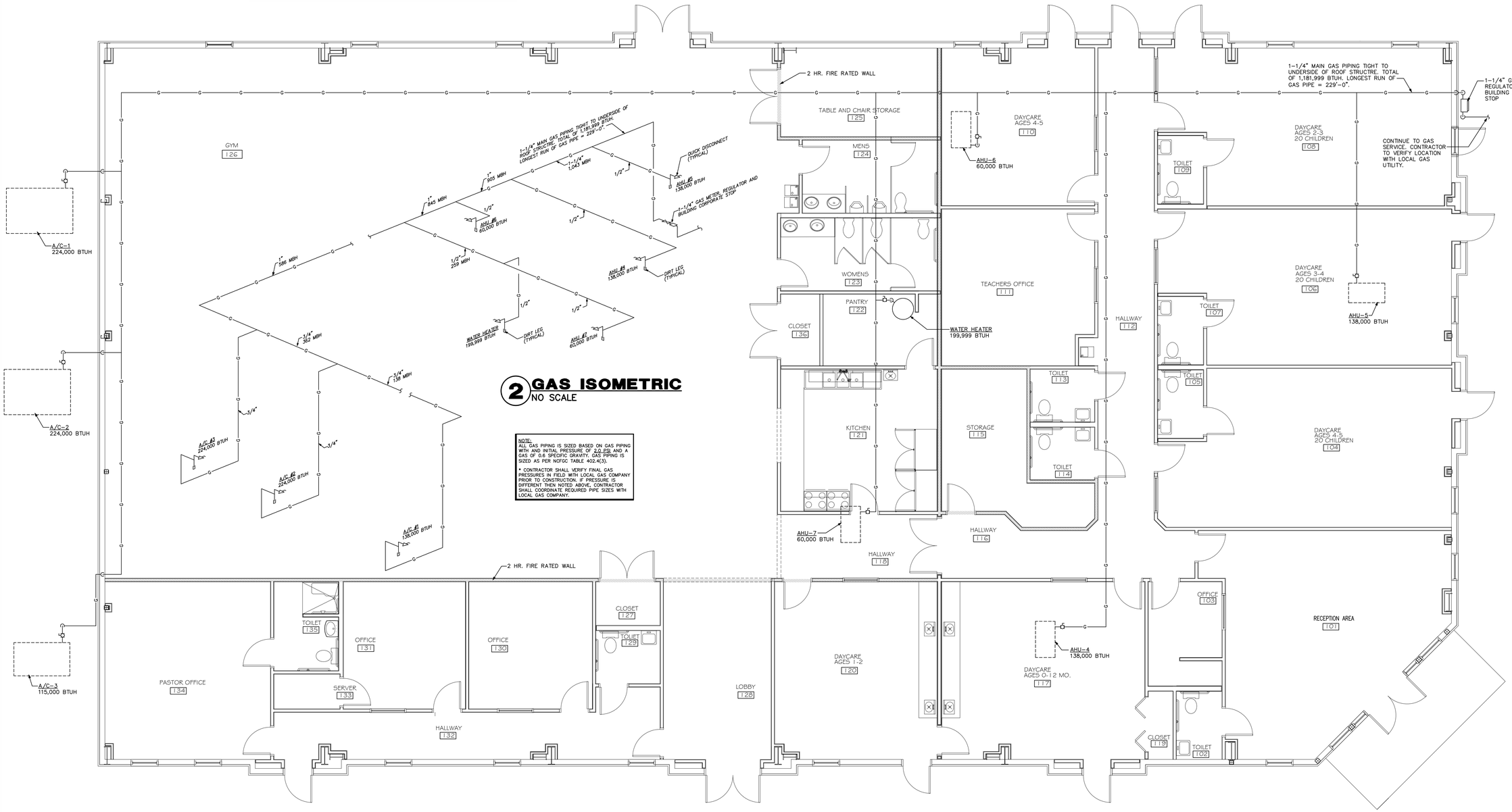
A/C	AIR CONDITIONER	REV.	REVISION	A.H.U.	AIR HANDLING UNIT
DN.	DOWN	N.T.S.	NOT TO SCALE	D.G.	DOOR GRILLE
EXH.	EXHAUST	MFGR.	MANUFACTURER	F.I.D.	FIRE DAMPER
EXT.	EXTERIOR	R/A	RETURN AIR	DISP.	DISPOSABLE
E.F.	EXHAUST FAN	GR.	GRILLE	V.C.D.	VOLUME CONTROL DAMPER
A.F.F.	ABOVE FINISH FLOOR	C.D.	CEILING DIFFUSER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

SPECIFIC MECHANICAL NOTES

1. 16x12 GALV. SHEET METAL RAIN HOOD PAINTED TO MATCH BLDG. OUTSIDE INTAKE = 296 CFM. 296X144=42,624 SQ. IN. 42,624/500(FPM)=85.2 SQ. IN. OF FREE AREA REQ. 16X6 RAIN HOOD PROVIDES 96 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.
2. 20x12 GALV. SHEET METAL RAIN HOOD PAINTED TO MATCH BLDG. OUTSIDE INTAKE = 826 CFM. 826X144=118,944 SQ. IN. 118,944/500(FPM)=237.8 SQ. IN. OF FREE AREA REQ. 20X12 RAIN HOOD PROVIDES 240 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.
3. 24X12 PRESSURE RELIEF DUCT FROM BACKDRAFT DAMPER UP THRU ROOF TO ROOF CAP. 24x12 POSITIVE PRESSURE BAROMETRIC RELIEF DAMPER SHALL BE AN "AIR BALANCE" MODEL BSL. AIR FLOW TOWARDS ROOF FOR POSITIVE PRESSURE RELIEF. PROVIDE NEOPRENE GASKET ALONG FULL LENGTH OF EACH BLADE TO SEAL BLADE SURFACE FOR AN AIR TIGHT APPLICATION. 24X12 RELIEF DUCT SHALL TERMINATE IN JOIST SPACE WITH 1/4" WIRE MESH AT TERMINATION POINT. BACKDRAFT DAMPER LOCATED 12" UPSTREAM FROM DUCT TERMINATION POINT.
4. RETURN AIR DUCT PLENUM SHALL BE FULL SIZE OF AHU RETURN AIR OPENING.
5. (2) 3"ø COMBUSTION AIR VENT/INTAKE PIPES UP TO A "CARRIER" CONCENTRIC VENT/INTAKE AIR ROOF TEMINATION KIT.

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.
7. ALL EXPOSED GAS PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "2.0 PSI GAS" IN BLACK LETTERS. THE MARKERS SHALL BE AT INTERVALS NOT EXCEEDING 5'.



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 NGFGC TABLE 402.4(3).

* CONTRACTOR SHALL VERIFY FINAL GAS PRESSURES IN FIELD WITH LOCAL GAS COMPANY PRIOR TO CONSTRUCTION. IF PRESSURE IS DIFFERENT THEN NOTED ABOVE, CONTRACTOR SHALL COORDINATE REQUIRED PIPE SIZES WITH LOCAL GAS COMPANY.

1 FLOOR PLAN - GAS PIPING
SCALE: 3/16"=1'-0"

M-2

Verona Duct Sox Specification:

PART 1-GENERAL
1.01 DESCRIPTION OF WORK:
A. Extent of non-metal ductwork is indicated on drawings and by requirements of this section.
B. Types of non-metal ductwork required for this project include the following:
1. Fabric Air Dispersion Products.

1.02 QUALITY ASSURANCE:
A. Building Codes and Standards:
1. Product must be Classified by Underwriter's Laboratories in accordance with the 25/50 flame spread / smoke developed requirements of NFPA 90-A and are also classified in accordance with ICC Evaluation Service AC167 and UL 2518. Product must meet UL-C (Canada), BS 5867, part 2, 1980 and GB8624-2006 B-s1, d0, t1 level.
2. All product sections must be labeled with the logo and classification marking of Underwriter's Laboratories.
B. Design & Quality Control
1. Manufacturer must have documented design support information including duct sizing, vent and orifice location, vent and orifice sizing, length, and suspension. Parameters for design, including maximum air temperature, velocity, pressure and fabric permeability, shall be considered and documented.

1.03 SUBMITTALS:
A. Product Data: Submit manufacturer's specifications on materials and manufactured products used for work of this section.
B. Building Code Data: Submit UL file number under which product is Classified by Underwriter's Laboratories NFPA 90, ICC AC167 and UL 2518.

1.04 WARRANTY
A. Manufacturer must provide a 5 Year Product Warranty for products supplied for the fabric portion of this system as well as a Design and Performance Warranty.

1.05 DELIVERY, STORAGE AND HANDLING:
A. Protect fabric air dispersion systems from damage during shipping, storage and handling.
B. Where possible, store products inside and protect from weather. Where necessary to store outside, store above grade and enclose with a vented waterproof wrapping.

PART 2 - PRODUCTS
2.01 MANUFACTURER:
Subject to compliance with requirements, choose one of the following:
A. DuctBox® Corporation
Phone: (866) DUCTSOX or (563) 589-2777
FAX: (866) 398-1646 or (563) 589-2754
www.DuctSox.com

2.02 FABRIC AIR DISPERSION SYSTEM:
A. Verona Fabric: Air diffusers shall be constructed of a woven fire retardant fabric complying with the following physical characteristics:
1. Fabric Construction: 100% Flame Retardant
2. Weight: 6.2 oz. /yd² per AS-STM D3776
3. Color: (white)
4. Fabric Porosity: 2 (+2(-1) cfm/ft² per ASTM D737, Frazier.
5. Temperature Range: 0 degrees F to 180 degrees F
6. Fire Retardancy: Classified by Underwriters Laboratories in accordance with the requirements of NFPA 90-A and AC-167 (noted above).

B. SYSTEMS FABRICATION REQUIREMENTS:
1. Air dispersion accomplished by linear vent and permeable fabric. Linear vents must be sized in 1 CFM per linear foot increments (based on .5" SP), starting a 1 CFM through 90 CFM per linear foot. Linear vent is to consist of an array of open orifices rather than a mesh style vent to reduce maintenance requirements of mesh style vents. Linear vents should also be designed to minimize dusting on fabric surface.
2. Size of and location of linear vents to be specified and approved by manufacturer.
3. Inlet connection to metal duct via fabric draw band with anchor patches as supplied by manufacturer. Anchor patches to be secured to metal duct via zip screw fastener – supplied by contractor.
4. Inlet connection includes zipper for easy removal / maintenance.
5. Lengths to include required zippers as specified by manufacturer.
6. System to include Adjustable Flow Devices to balance turbulence, airflow and distribution as needed. Flow restriction device shall include ability to adjust the airflow resistance from 0.06 – 0.60 in.w.g. static pressure.
7. Fabric system shall include connectors to accommodate suspension system listed below.
8. Any deviation from a straight run shall be made using a gored elbow or an efficiency tee. Normal 90 degree elbows are 5 gores and the radius of the elbow is 1.5 times the diameter of the DuctSox.

C. DESIGN PARAMETERS:
1. Fabric in all diffusers shall be designed from 0.25" water gage minimum to 3.0" maximum, with 0.5" as the standard.
2. Fabric air diffusers shall be limited to design temperatures between 0 degrees F and 180 degrees F (-17.8 degrees C and 82 degrees C).
3. Design CFM, static pressure and diffuser length shall be designed or approved by the manufacturer.
4. Do not use fabric diffusers in concealed locations.
5. Use fabric diffusers only for positive pressure air distribution components or the mechanical ventilation system.

D. SUSPENSION HARDWARE: (include applicable components only)
1. **Tension Cable:** System shall be installed using a tension cable system including a single (1 Row) or double strands (2 Row) of cable located 3" above top-dead-center (1 Row) or 3" above the 10 and 2 o'clock locations of the DuctSox system. 2 Row supports are required for systems of 32" diameter and larger. Hardware to include cable, eye bolts, thimbles, cable clamps and turnbuckle(s) as required. System attachment shall be made using nylon cable clips spaced 24 inches.

Component options include (must specify per area if multiple on same project):
a. Galvanized Steel Cable
b. Stainless Steel Cable
c. Plastic Coated Stainless Steel Cable
d. Adjustable Gripple Mid-Supports – Available lengths: 5', 10', 15', 20' and 30'

2. **3x1 Suspension:** (Available for duct diameters from 10" to 48") System shall include a 3 Row connection to fabric system at 10, 12, and 2 o'clock locations. The powder-coated aluminum hangers are secured and connected to a single (1 Row) tension cable every 3'-0" and connect to the fabric system at the 10 and 2 o'clock locations with detachable D-Clasps. The fabric system will also have intermediate cable clips located at 12 o'clock and between the hangers to attach directly to the single tension cable system located 3" above top-dead-center location of the fabric system. Tension cable hardware to include cable, eye bolts, thimbles, cable clamps, and turnbuckles as required.

Component options include:
a. Galvanized Steel Cable
b. Stainless Steel Cable
c. Adjustable Gripple Mid-Supports – Available lengths: 5', 10', 15', 20' and 30'

3. **4x2 Suspension:** (Available for duct diameters from 50" to 60") System shall include a 4 Row connection to fabric system at 10, 11, 1, and 2 o'clock locations. The powder-coated aluminum hangers are secured and connected to a double (2 Row) tension cable every 3'-0" and connect to the fabric system at the 10 and 2 o'clock locations with detachable D-Clasps. The fabric system will also have intermediate cable clips located at 11 and 1 o'clock and between the hangers to attach directly to the double tension cable system located 1" above top-dead-center location of the fabric system. Tension cable hardware to include cable, eye bolts, thimbles, cable clamps, and turnbuckles as required.

Component options include:
a. Galvanized Steel Cable
b. Stainless Steel Cable
c. Adjustable Gripple Mid-Supports – Available lengths: 5', 10', 15', 20' and 30'

4. **Suspended H-Track:** System shall include a single (1 Row) or double (2 Row) runs of aluminum H-Track system located 1.5" above top-dead-center (1 Row) or 1.5" above the 10 and 2 o'clock (2 Row) locations of DuctSox system. 2 Row supports are required for systems of 32" diameter and larger. Hardware to include 10' sections of track, splice connectors, track endcaps and vertical cable support kits – consisting of a length of cable with a locking stud end and Gripple quick cable connectors. Radius aluminum track must be included for all radius sections.

Fabric / Track attachment
a. Cord in continuous supporting cord (not suggested for systems >24" Dia.)
b. Track tabs are a detachable tab top/bottom every 24" along the length of the system (all diameters).

Hardware components (optional)
a. Provide 316 Stainless Steel components including coupler assembly, vertical cable support and Gripple quick cable connector.

5. **3x1 H-Track Suspension:** (Available for duct diameters from 10" to 48") System shall consist of a 3x1 hanger used in conjunction with an H-track suspension system. System shall include a 3 Row connection to fabric system at 10, 12, and 2 o'clock locations. The powder-coated aluminum hangers are secured and connected to a single (1 Row) aluminum H-track every 3'-0" and connect to the fabric system at the 10 and 2 o'clock locations with detachable D-Clasps. The fabric system will also have intermediate track tabs located at 12 o'clock and between the hangers to attach directly to the H-track suspension system located 3" above top-dead-center location of the fabric system. Hardware to include Hardware to include 10' sections of track, splice connectors, track endcaps and vertical cable support kits – consisting of a length of cable with a locking stud end and Gripple quick cable connectors. Radius aluminum track must be included for all radius sections.

4x2 H-Track Suspension: (Available for duct diameters from 50" to 60") System shall consist of a 4x2 hanger used in conjunction with an H-track suspension system. System shall include a 4 Row connection to fabric system at 10, 11, 1, and 2 o'clock locations. The powder-coated aluminum hangers are secured and connected to a double (2 Row) aluminum H-track every 3'-0" and connect to the fabric system at the 10 and 2 o'clock locations with detachable D-Clasps. The fabric system will also have intermediate track tabs located at 11 and 1 o'clock and between the hangers to attach directly to the H-track suspension system located 1.5" above top-dead-center location of the fabric system. Hardware to include Hardware to include 10' sections of track, splice connectors, track endcaps and vertical cable support kits – consisting of a length of cable with a locking stud end and Gripple quick cable connectors.

1. connectors. Radius aluminum track must be included for all radius sections.

2. **Flush-Mount Track:** System shall include aluminum Flush-Mount system located 1.5" above top-dead-center of DuctSox system. Hardware to include 12' section of track, track tabs, splice connectors and end caps as required. Track tabs must promote easy sliding movement through aluminum track and must be detachable from the fabric. Radius aluminum track for support of the elbows through the corners using either Track tabs or Cord-in.

Fabric / Track attachment
a. Cord in continuous supporting cord (not suggested for systems >24" Dia.)
b. Track tabs are a detachable sliding tab positioned every 24" along the length of the system (all diameters).

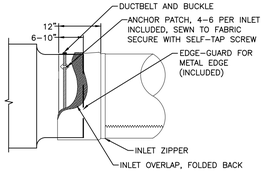
3. **Surface Mount:** System shall include aluminum Flush-Mount system located flush with the top of DuctSox system. Width between mounting points (of the track to the ceiling) shall be 2" wider than the specified diameter of the D-Shape DuctSox. Hardware to include 12' sections of track, splice connections and end caps as required. System attachment shall be made by cord sewn into top side flaps of DuctSox system supported entire length.

END OF SECTION

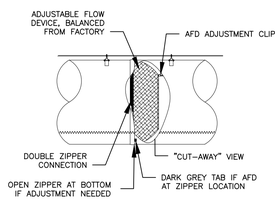
PART 3 - INSTALLATION
3.01 INSTALLATION OF FABRIC AIR DISPERSION SYSTEM:
A. Install chosen suspension system in accordance with the requirements of the manufacturer. Instructions for installation shall be provided by the manufacturer with product.

3.02 CLEANING AND PROTECTION:
A. Clean air handling unit and ductwork prior to the DuctSox system unit-by-unit as it is installed. Clean external surfaces of foreign substance which may cause corrosive deterioration of facing.
B. Temporary Closure: At ends of ducts which are not connected to equipment or distribution devices at time of ductwork installation, cover with polyethylene film or other covering which will keep the system clean until installation is completed.
C. If DuctSox systems become soiled during installation, they should be removed and cleaned following the manufacturers standard terms of laundry.

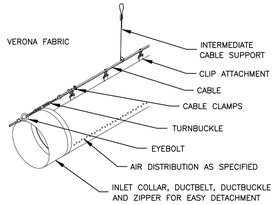
END OF SECTION



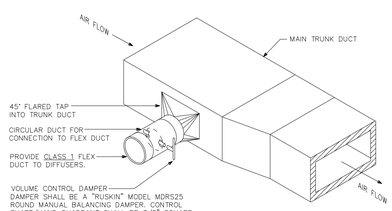
INLET ATTACHMENT DETAIL
SEDONA–XM CONSTRUCTION WITH ZIPPER AND OVERLAP



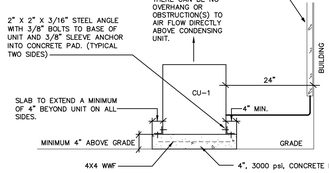
ADJUSTABLE FLOW DEVICE (AFD)
INSTALLED AT ZIPPER LOCATION AT INLET OR AS SPECIFIED IN OTHER LOCAITONS. ZIPPER TO ZIPPER CONNECTION AS SHOWN. EXTERNAL LABEL IDENTIFIES LOCATION



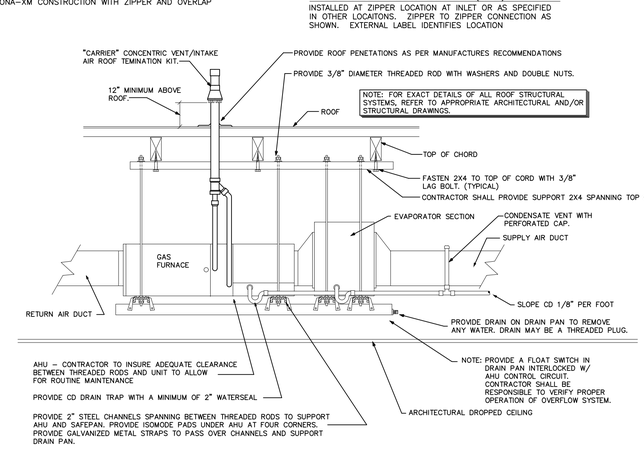
SUSPENSION DETAIL
1 ROW CABLE SUSPENSION AT 12 O'CLOCK



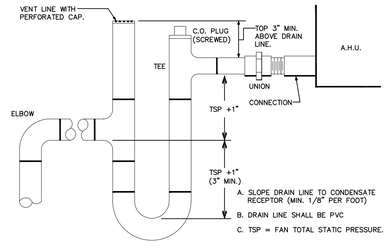
4 BRANCH DUCT DETAIL
NO SCALE



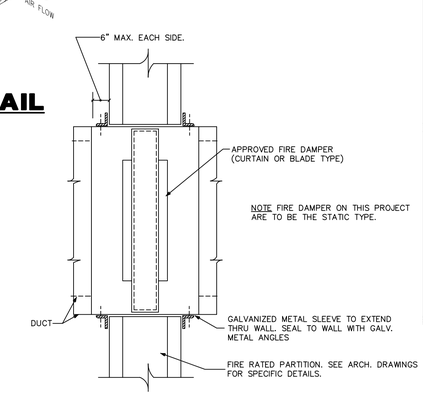
1 COND. UNIT MTG. DETAIL
NO SCALE



2 GAS FURNACE/AHU MOUNTING DETAIL
NO SCALE



3 CONDENSATE P-TRAP DETAIL
NOT TO SCALE



NOTE FIRE DAMPER ON THIS PROJECT ARE TO BE THE STATIC TYPE.

NOTE: ACCESS DOOR MUST BE PROVIDED AT EACH FIRE DAMPER CONSTRUCTED IN ACCORDANCE TO SMACNA STANDARDS.

4 FIRE DAMPER DETAIL
NO SCALE

OUTSIDE AIR CALCULATIONS
THE FOLLOWING IS BASED ON NCMC 2009 FOR OUTSIDE AIR REQUIREMENTS

UNIT NUMBER					TOTAL CFM
A/C #1&2	"GYMNASIUM" CATEGORY = 30 PEOPLE PER 1,000 SQ. FT. & 20 CFM PER PERSON				2,560
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #1&2	4,275	4,275 / 1000 X 30 = 128	128 X 20 = 2,560	
A/C #3	"OFFICE" CATEGORY = 7 PEOPLE PER 1,000 SQ. FT. & 20 CFM PER PERSON				317
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #3	1,450	1,450 / 1000 X 7 = 10	10 X 20 = 200	
	"CORRIDOR" CATEGORY = .05 CFM PER SQ. FT.				
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #3	237	– / 1000 X – = –	237 X .05 = 12	
	"LOBBY" CATEGORY = 30 PEOPLE PER 1,000 SQ. FT. & 15 CFM PER PERSON				
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #3	232	232 / 1000 X 30 = 7	7 X 15 = 105	
				TOTAL O/A FOR A/C #1 = 317	
A/C #4	"LOBBY" CATEGORY = 30 PEOPLE PER 1,000 SQ. FT. & 15 CFM PER PERSON				765
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #4	500	500 / 1000 X 30 = 15	15 X 15 = 225	
	"CLASSROOM" CATEGORY = 50 PEOPLE PER 1,000 SQ. FT. & 15 CFM PER PERSON				
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #4	728	728 / 1000 X 50 = 36	36 X 15 = 540	
				TOTAL O/A FOR A/C #1 = 765	
A/C #5	"CLASSROOM" CATEGORY = 50 PEOPLE PER 1,000 SQ. FT. & 15 CFM PER PERSON				1,170
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #5	1,561	1,561 / 1000 X 50 = 78	78 X 15 = 1,170	
A/C #6	"CLASSROOM" CATEGORY = 50 PEOPLE PER 1,000 SQ. FT. & 15 CFM PER PERSON				305
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #6	289	289 / 1000 X 50 = 14	14 X 15 = 210	
	"STORAGE" CATEGORY = .15 CFM PER SQ. FT.				
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #6	474	– / 1000 X – = –	475 X .15 = 71	
	"CORRIDOR" CATEGORY = .05 CFM PER SQ. FT.				
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #6	487	– / 1000 X – = –	487 X .05 = 24	
				TOTAL O/A FOR A/C #1 = 305	
A/C #7	"STORAGE" CATEGORY = .15 CFM PER SQ. FT.				126
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #7	300	– / 1000 X – = –	300 X .15 = 45	
	"KITCHEN" CATEGORY = 20 PEOPLE PER 1,000 SQ. FT. & 15 CFM PER PERSON				
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #7	270	270 / 1000 X 20 = 5	5 X 15 = 75	
	"CORRIDOR" CATEGORY = .05 CFM PER SQ. FT.				
	UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	
	A/C #7	122	– / 1000 X – = –	122 X .05 = 6	
				TOTAL O/A FOR A/C #7 = 126	

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 THRU 9	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z6	90	.125"	CEILING MOUNTED	50 WATTS	OPEN DRIP PROOF	1055	115V/1ø	1
EF–10 & 11	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z8S	225	.125"	CEILING MOUNTED	68 WATTS	OPEN DRIP PROOF	1640	115V/1ø	1

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

ON GRADE MOUNTED 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 #1	CARRIER	48TCEA12A1	123,300	95,000	4,000	SEE SCH.	.4"	836	30.1	(2) @ 1.4	2.0 HP	184,000	208V/3ø	60	11.0	1 THRU 11	224,000
A/C #2	CARRIER	48TCEA12A1	123,300	95,000	4,000	SEE SCH.	.4"	836	30.1	(2) @ 1.4	2.0 HP	184,000	208V/3ø	60	11.0	1 THRU 11	224,000
A/C #3	CARRIER	48TCEA05A1	47,600	34,200	1,600	SEE SCH.	.4"	941	13.7	1.5	3/4 HP	93,000	208V/3ø	30	13.0	1 THRU 11	115,000

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.

GAS FURNACE W/SPLIT SYSTEM AIR CONDITIONING SYSTEM SCHEDULE

CONDENSING UNIT									EVAPORATOR COIL UNIT	GAS FURNACE										
CU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CAPACITY	SENSIBLE CAPACITY	COMP. RLA	FAN FLA	VOLTAGE	MOCP	EER/SEER	MANUFACTURER & MODEL NO.	AHU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CFM	E.S.P.	BLOWER SPEED	FAN HP	VOLTAGE	INPUT BTUH	OUTPUT BTUH	FLUE SIZE	NOTES
CU #4	CARRIER 24ABB360A005	57,000	44,120	17.7	1.2	208V/3ø	40A	13.0	CARRIER CNPH 060 (HORIZONTAL COIL CONF.)	AHU #4	CARRIER 58MCB12010020	2,000	.30"	HIGH	3/4	120V/1ø	138,000	129,000	3"	1 THRU 5
CU #5	CARRIER 24ABB360A005	57,000	44,120	17.7	1.2	208V/3ø	40A	13.0	CARRIER CNPH 060 (HORIZONTAL COIL CONF.)	AHU #5	CARRIER 58MCB12010020	2,000	.30"	HIGH	3/4	120V/1ø	138,000	129,000	3"	1 THRU 5
CU #6 & 7	CARRIER 24ABB330A005	27,800	21,800	8.3	.77	208V/3ø	20A	13.0	CARRIER CNPH 030 (HORIZONTAL COIL CONF.)	AHU #6 & 7	CARRIER 58MCB–060–100–12	1,000	.30"	LOW	1/3	120V/1ø	60,000	56,000	3"	1 THRU 4

GENERAL NOTES:
* ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED.
* PROVIDE VIBRATION ISOLATION FOR UNITS.
* EXTERNAL STATIC PRESSURE DOES NOT INCLUDE COIL OR FILTER PRESSURE DROP.
* CONTRACTOR MAY SUBSTITUTE MANUFACTURER FOR APPROVED EQUAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ANY CLEARANCE REQUIREMENTS ARE MET FOR ANY SUBSTITUTIONS.

ABBREVIATION LEGEND:
O/A – OUTSIDE AIR
HP – HORSE POWER
RLA – RUNNING LOAD AMPS
FLA – FULL LOAD AMPS
MOCP – MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE)
E.S.P. – EXTERNAL STATIC PRESSURE
EER – ENERGY EFFICIENCY RATIO
SEER – SEASONAL ENERGY EFF. RATIO

SPECIFIC NOTES:
1) SIZE AND RUN REFRIGERANT PIPING AS PER MANUFACTURERS PUBLISHED RECOMMENDATIONS.
2) INSULATE REFRIGERANT SUCTION LINE WITH 2/4" ARMAFLEX OR APPROVED EQUAL.
3) PROVIDE 5 YEAR WARRANTY ON COMPRESSOR AND 1YEAR WARRANTY ON ALL PARTS AND LABOR.
4) FURNACE SHALL BE PROVIDED WITH CONCENTRIC VENT/INTAKE AIR ROOF TERMINATION KIT.
5) DRAIN PANS SHALL BE DESIGNED TO MEET ALL REQUIREMENTS SET FORTH IN ASHRAE 62.1 2007 SECTION 5.11.

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

METHOD OF COMPLIANCE:
Prescriptive [X] Energy Cost Budget [ ]
Thermal Zone Zone 3

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

Interior Design Conditions
winter dry bulb 68° F
summer dry bulb 75° F
relative humidity 52.9%

Building Heating Load 775,000 BTU
Building Cooling Load 436,000 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

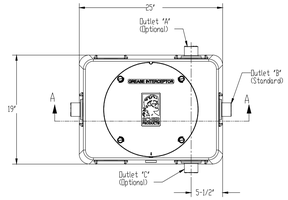
Equipment schedules with motors (mechanical systems) REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
motor horsepower REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
number of phases REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
minimum efficiency REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
motor type REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
# of poles REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.

DESIGNER STATEMENT:†
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 2009.
SIGNED:
NAME:
TITLE:

M-2

SCHIER PRODUCTS
Pioneering Drain Line Purity

Schier Products
9500 Woodend Road
Edwardsville, KS 66111
Tel: 800-827-7119
Fax: 800-827-9664
www.schierproducts.com



TOP VIEW

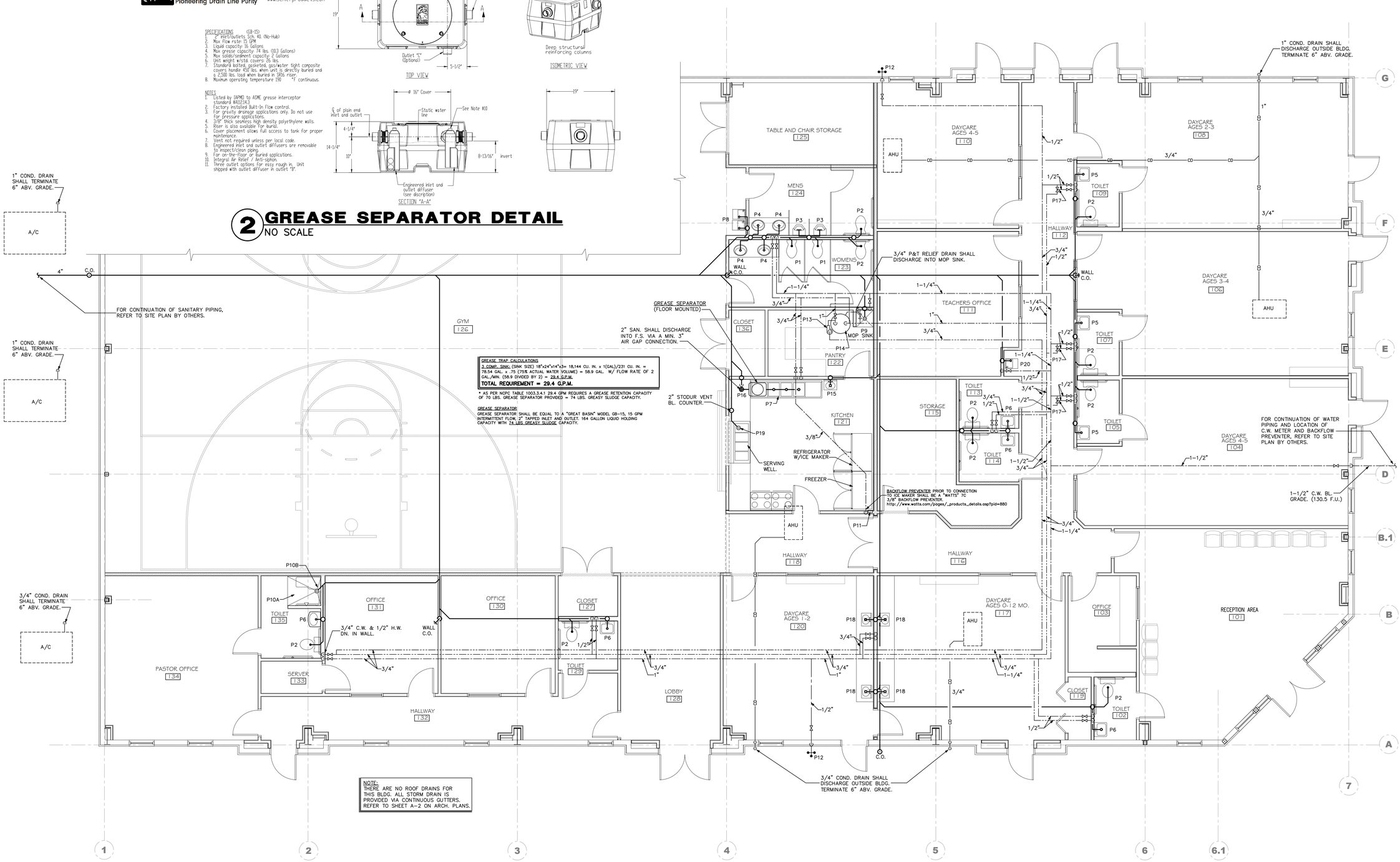
ISOMETRIC VIEW

SPECIFICATIONS (GB-15)
1. 4" Inlet/outlets Sch. 40. (No-Hub)
2. Max Flow rate 15 GPM
3. Liquid capacity 16 Gallons
4. Max grease capacity 74 lbs. (10.3 Gallons)
5. Max solids/sediment capacity 2 Gallons
6. Unit weight w/std covers 26 lbs.
7. Standard bolted, gasketed, gas/water tight composite covers handle 450 lbs. when unit is directly buried and a 2,500 lbs. load when buried in SRS riser.
8. Maximum operating temperature 190 °F continuous.

NOTES
1. Listed by IAPMO to ASME grease interceptor standard #A112.14.3
2. Factory installed Built-In Flow control.
3. For gravity drainage applications only. Do not use for pressure applications.
4. 3/8" thick seamless high density polyethylene walls.
5. Riser is also available for burial.
6. Cover placement allows full access to tank for proper maintenance.
7. Vent not required unless per local code.
8. Engineered inlet and outlet diffusers are removable to inspect/clean piping.
9. For on-the-floor or buried applications.
10. Integral Air Relief / Anti-siphon.
11. Three outlet options for easy rough in. Unit shipped with outlet diffuser in outlet "B".

SECTION "A-A"

2 GREASE SEPARATOR DETAIL
NO SCALE



1 FLOOR PLAN - PLUMBING
SCALE: 3/16"=1'-0"

PLUMBING FIXTURE SCHEDULE

P-1 (FLOOR MOUNTED FLUSH TANK WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL CADET MODEL 2333.100 ELONGATED 1.6 GPF, VITREOUS CHINA, PRESSURE-ASSISTED SIPHON ACTION BOWL, CLOSE-COUPLED TANK, FLOOR MOUNTED, FLOOR OUTLET, SPEED CONNECT TANK/BOWL COUPLING SYSTEM, WITH AMERICAN STANDARD OPEN FRONT SEAT WITH COVER MODEL 5325.024.
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_722.pdf

P-2 (HANDICAPPED FLOOR MOUNTED FLUSH TANK WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL CADET RIGHT HEIGHT 16-1/2" 2377.100 ELONGATED 1.6 GPF, VITREOUS CHINA, PRESSURE-ASSISTED SIPHON ACTION BOWL, CLOSE-COUPLED TANK, FLOOR MOUNTED, FLOOR OUTLET, SPEED CONNECT TANK/BOWL COUPLING SYSTEM, WITH AMERICAN STANDARD OPEN FRONT SEAT WITH COVER MODEL 5325.024.
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_1006.pdf

P-3 (HANDICAPPED URINAL)
SHALL BE AN AMERICAN STANDARD LYNBROOK MODEL 6601.012 TOP SPUD. 0.83 GPF. FLUSH VALVE SHALL BE SLOAN ROYAL MODEL 180-1.
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_190.pdf

P-4 (HANDICAPPED COUNTER TOP LAVATORY W/METERED FAUCET)
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 WITH 4" CENTERS. UNIT IS ADA COMPLIANT AND 0.5 GPM WITH A 10 SECOND OPERATING CYCLE PRODUCING UNDER .25 GALLONS PER CYCLE. PROVIDE A BRADLEY VERNATHERM THERMOSTATIC MIXING VALVE TO DELIVER TEMPERED WATER AT A TEMPERATURE NOT TO EXCEED 105 DEGREES. GRID DRAIN: OFFSET PERFORATED WHEELCHAIR LAVATORY DRAIN ASSEMBLY WITH 1-1/2" TAILPIECE. MCGUIRE #155WC. PROVIDE PROTECTIVE INSULATION ON DRAIN AND HOT WATER LINE TO MEET HANDICAP CODE REQUIREMENTS ON ALL INSTALLATIONS WITH EXPOSED PIPING.
LAVATORY:
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_90.pdf
FAUCET:
* http://www.bradleycorp.com/products/techdata/3000.pdf

P-5 (HANDICAPPED WALL HUNG LAVATORY W/METERED FAUCET)
SHALL BE AN AMERICAN STANDARD MISSOURI LAVATORY MODEL 0436.004US, VITREOUS CHINA, WALL MOUNT WITH CONCEALED ARMS SUPPORT. FAUCET SHALL BE A BRADLEY "AERADA 90-75 SERIES METERING FAUCET" MODEL 553-053 WITH 4" CENTERS. UNIT IS ADA COMPLIANT AND 0.5 GPM WITH A 10 SECOND OPERATING CYCLE PRODUCING UNDER .25 GALLONS PER CYCLE. PROVIDE A BRADLEY VERNATHERM THERMOSTATIC MIXING VALVE TO DELIVER TEMPERED WATER AT A TEMPERATURE NOT TO EXCEED 105 DEGREES. GRID DRAIN: OFFSET PERFORATED WHEELCHAIR LAVATORY DRAIN ASSEMBLY WITH 1-1/2" TAILPIECE. MCGUIRE #155WC. PROVIDE PROTECTIVE INSULATION ON DRAIN AND HOT WATER LINE TO MEET HANDICAP CODE REQUIREMENTS ON ALL INSTALLATIONS WITH EXPOSED PIPING.
LAVATORY:
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_4486.pdf
FAUCET:
* http://www.bradleycorp.com/products/techdata/3000.pdf

P-6 (HANDICAPPED WALL HUNG LAVATORY)
SHALL BE AN AMERICAN STANDARD MISSOURI LAVATORY MODEL 0436.004US, VITREOUS CHINA, WALL MOUNT WITH CONCEALED ARMS SUPPORT. PROVIDE AN AMERICAN STANDARD HERITAGE CENTERSET FAUCET WITH 4" WRIST BLADE HANDLES MODEL 6530.170. WATER PIPING AND P-TRAP SHALL BE COVERED WITH AN UNDERSINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (HTTP://WWW.TRUEBRO.COM) OR APPROVED EQUAL.
LAVATORY:
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_4486.pdf
FAUCET:
* http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_426.pdf

P-7 (STAINLESS STEEL 3 COMPARTMENT SINK)
SHALL BE A "JUST" MODEL SB-345-24RL STAINLESS STEEL 3 COMPARTMENT SINK WITH SIDE DRAIN BOARDS. CONSTRUCTED OF 14 GAUGE TYPE 304, 18-8 STAINLESS STEEL. INTERIOR SURFACES POLISHED WITH A NON-POROUS HAND-BLENDED JUST FINISH. EXPOSED EXTERIOR SURFACES TO HAVE A BRUSH FINISH. SUPPORTED ON (4) 1-5/8" O.D. STAINLESS STEEL TUBULAR LEGS WITH ANGLE GUSSETS AND ADJUSTABLE BULLET FEET. DRAIN PUNCH #35 CENTERED FOR JUST J-35 UNLESS OTHERWISE SPECIFIED. FAUCETS SHALL BE "JUST" MODEL JS-48-TA1-DJ.
* http://www.justmfg.com/PDF/6-24.pdf
* http://www.justmfg.com/PDF/7-73.pdf

P-8 (HANDICAPED ELECTRIC WATER COOLER COMBINATION HI/LO)
SHALL BE AN ELKAY SPLIT LEVEL TWO STATION WATER COOLER WITH BARRIER FREE ACCESS. MODEL EMABFTL8C, 8.8 GPH, 4.0 FLA AT 120 VOLT.
* http://www.elkayusa.com/cps/rde/xbcr/elkay/12-53B_EMABFTL8C_EMABFTLDDC.pdf

P-9 (MOP SINK)
SHALL BE A FLORESTONE #50 36X36X6" MOLDED MOP BASIN WITH 3" OUTLET. PROVIDE WITH MR-371 THREADED FAUCET WITH WALL BRACE, PAIL HOOK AND APPROVED VACUUM BREAKER, MR-370 HOSE & HOSE BRACKET, MR-372 MOP HANGER, MR-373 BUMBER GUARDS AND MR-377 STAINLESS TEEL WALL GUARD.
* http://www.florestone.com/model.php?s=mop_sinks&m=mop_sinks_model_50-70
* http://www.florestone.com/mop_sinks_accessories.php

P-10A (ADA ROLL-IN SHOWER STALL)
SHALL BE AN "ACCESSIBILITY PROFESSIONALS" ADA ROLL-IN SHOWER MODEL APES6334BF75 CENTER, RIGHT OR LEFT AS PER PLAN CONFIGURATIONS. UNIT CONSTRUCTION SHALL BE OF MOLDED REINFORCED FIBERGLASS WITH A 15% MINIMUM FIBERGLASS CONTENT. THE UNIT SHALL HAVE OUTSIDE DEMENSIONS OF 63" X 34" X 78 3/4". THE BASE SHALL BE ATTACHED TO THE SUMP OF THE UNIT IN SUCH A MANNER TO FORM AN INTEGRAL PART WITH AN INNER AND OUTER COATING OF REINFORCED POYESTER RESIN. THE UNIT SHALL MEET ANSI 117.1, ANSI 124.2, ADA, TAS, HUD, NAHB, UPS, AND SHALL MEET THE REQUIREMENTS OF SOUTHERN BUILDING CODE.
* http://www.ada-handicapped-showers.com/ada_shower_pdf/APF6334BF75.pdf

P-10B (ADA ROLL-IN SHOWER MIXING VALVE)
SHOWER SHALL INCLUDE AN SPEAKMAN MODEL SM-3060-WH 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.
* HTTP://WWW.SPEAKMANCOMPANY.COM/PRODUCTS/DETAIL/SM-3060

P-11 (WATER CONNECTION BOX)
SHALL BE A HIGH QUALITY CONNECTION BOX AS SPECIFIED ON PLUMBINGSUPPLY.COM LOCATED ON THIS PAGE "http://www.plumbingsupply.com/icemaker-outlet-boxes.html" SHALL INCLUDE 2 SUPPORT BRACKETS, HIGH IMPACT POLYSTYRENE, 1/4" BRASS BALL VALVE WITH 1/2" SWEAT CONNECTION. OR APPROVED EQUAL.

P-12 (HOSE BIBB - NARROW WALL HYDRANT - MODERATE CLIMATE)
SHALL BE A ZURN Z1350 ENCASED MODERATE CLIMATE WALL HYDRANT FOR NARROW WALL INSTALLATION. COMPLETE WITH BRONZE BODY, ALL BRONZE INTERIOR PARTS, REPLACEABLE SEAT WASHER, SCREWDRIVER OPERATED STOP VALVE IN SUPPLY, KEY OPERATED CONTROL VALVE, AND 3/4 IP FEMALE INLET AND 3/4 MALE HOSE CONNECTION STANDARD. STAINLESS STEEL BOX AND HINGED COVER WITH CYLINDER LOCK AND "WATER" STAMPED ON COVER.
**NOTE: CAULKING OF INSIDE JOINTS BY OTHERS.
* http://www.zurn.com/operations/specdrain/pdfs/specsheets/58877.pdf

P-13 (HOT WATER RECIRCULATING PUMP)
SHALL BE A"BELL & GOSSETT" MODEL #PL-36B, GRAINGER STOCK #4JA88, INLINE CIRCULATOR PUMP, OPEN LOOP SYSTEM, 1/6 HP, SINGLE PHASE, VOLTAGE 115, 2.10 AMPS, INLET/OUTLET FLANGED, HOUSING MATERIAL BRONZE, MAX. TEMP. 225 F, MAX. WORKING PRESSURE 150 PSI, SHUT-OFF 37 FT., 3300 RPM, IMPELLER MATERIAL NON-METALLIC, AUTO THERMAL PROTECTION, MECHANICAL SEAL CARBON/SILICON CARBIDE, WARRANTY LENGTH 1 YEAR.
* http://www.grainger.com/Grainger/BELL-GOSSETT-Circulator-Pump-4JA88?Pid=search

P-14 (GAS WATER HEATER - DIRECT VENT - SEALED COMBUSTION)
SHALL BE A LOCHINVAR "CHARGERPOWER DV" MODEL PNR200-080 GAS FIRED COMMERCIAL WATER HEATER. 199,999 BTU INPUT TO PRODUCE 194 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.
* http://lochinvar.com/_linefiles/PGR.pdf

P-15 (STAINLESS STEEL WALL HUNG HAND SINK)
SHALL BE A "JUST" MODEL A-544-912-T WALL HUNG STAINLESS STEEL HAND SINK. FABRICATED OF 20 GAUGE TYPE 304 STAINLESS STEEL. EXPOSED SURFACES POLISHED WITH A HAND-BLENDED JUST FINISH. INTEGRAL SUPPORT BRACKET AT REAR. INCLUDES ONE 14 GAUGE STAINLESS STEEL WALL CLIP. FAUCET SHALL BE A "JUST" MODEL JS-45-TGA.
* http://www.justmfg.com/PDF/4-15AB.pdf

P-16 (HUB DRAIN - INDIRECT WASTE FUNNEL)
SHALL BE A "ZURN" Z326, 2" PIPE CONNECTION, DURA-COATED CAST IRON BODY AND BOTTOM OUTLET. CONTRACTOR SHALL VERIFY FINAL HEIGHT OF FUNNEL WITH EQUIPMENT THAT IS UTILIZING FUNNEL DRAIN AND VERIFY PROPER CLEARANCE PRIOR TO CONSTRUCTION. COORDINATE WITH EQUIPMENT MANUFACTURER.
* http://www.zurn.com/operations/specdrain/pdfs/specsheets/58975.pdf

P-17 (MIXING VALVE)
SHALL BE A "WATTS" MMV SERIES. H.W. TO BE SET @ 110°F.
* http://www.plumbersurplus.com/pdf/16269.pdf

P-18 (SINGLE BOWL STAINLESS STEEL SINK)
SHALL BE A "JUST" MODEL SL-1921-A-GR, SINGLE BOWL, SEAMLESS DIE-DRAWN CONSTRUCTION OF TYPE 304, 18-8 STAINLESS STEEL. INTERIOR AND TOP SURFACES POLISHED TO A NON-POROUS HAND-BLENDED JUST FINISH WITH HIGHLIGHTED BOWL RIM. FULLY COATED UNDERSIDE INSULATES FOR SOUND, AND ABSORBS CONDENSATION. STRAIGHT-SIDED COMPARTMENT WITH 1 3/4" RADIUS CORNERS PROVIDES GREATER CAPACITY. SELF-RIMMING TOP MOUNT GRIP-RIM PLUS WITH 300 SERIES STAINLESS STEEL MOUNTING CHANNELS. CONFORMS TO ASME/ANSI A11. FAUCET SHALL BE A "JUST" MODEL J-1174-KS WITH 4" WRIST BLADE HANDLES.
* http://www.justmfg.com/PDF/1-128.pdf
* http://www.justmfg.com/PDF/7-29.pdf

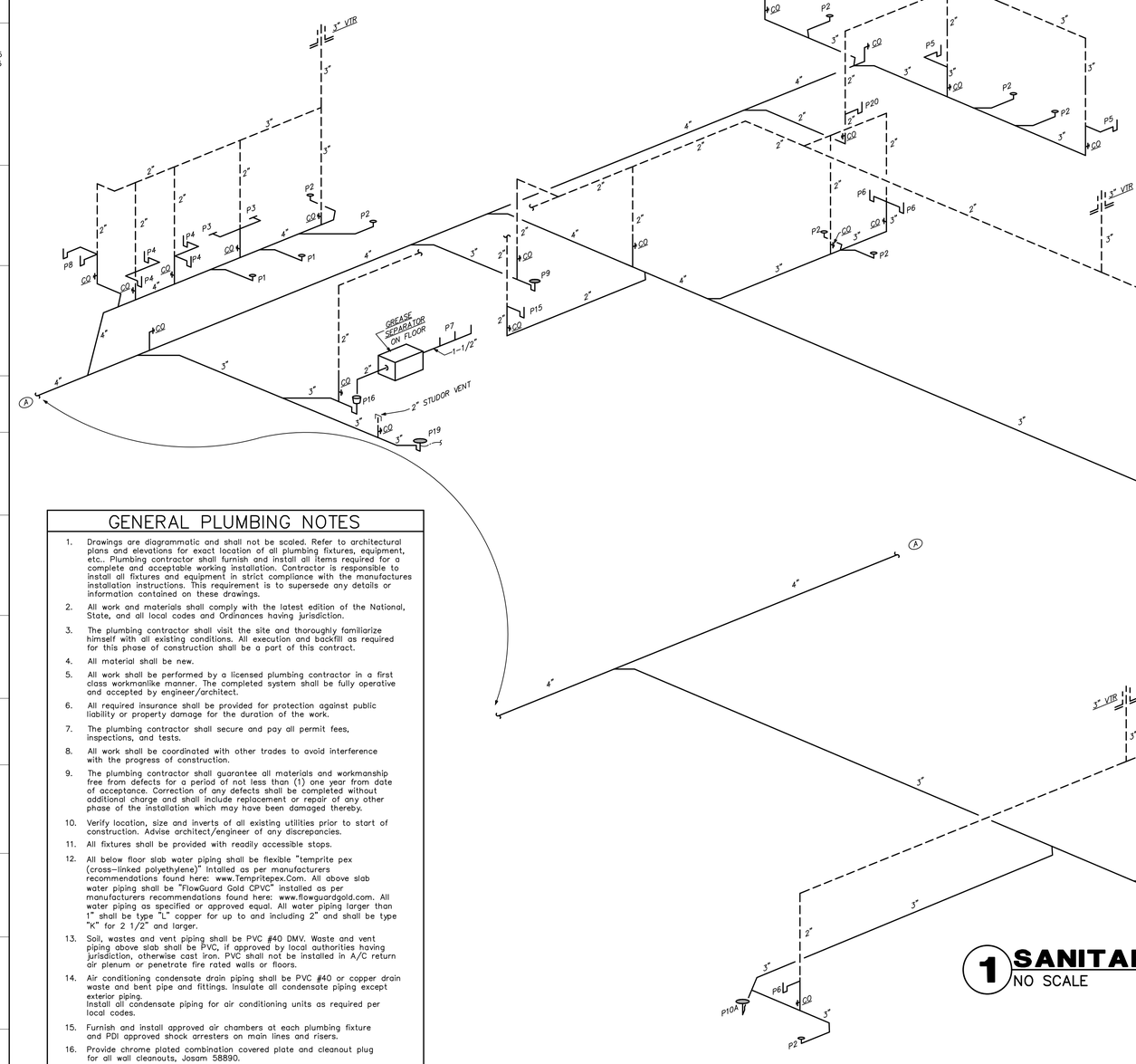
P-19 (FLOOR DRAIN WITH TRAP PRIMER)
SHALL BE A JOSAM 30000-WT-A-49 SERIES COATED CAST IRON FLOOR DRAIN. TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEJLOC INVERTIBLE NON- PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET, INSIDE CAULK CONNECTION AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER.
* http://www.josam.com/images/josammkt/sbmtl/s06_30000-WT-A.pdf

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

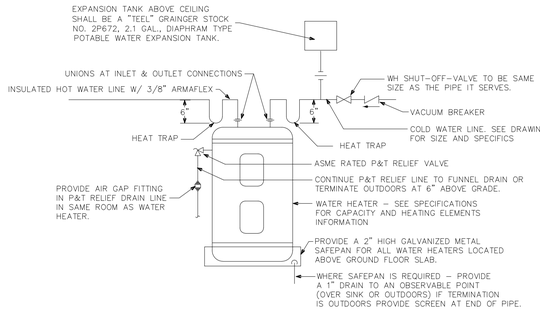
P-20 (HANDICAPPED ELECTRIC WATER COOLER)
SHALL BE AN ELKAY MODEL EZ, 8.0 GPH, 4.0 FLA AT 120V/1ø
* http://www.elkayusa.com/cps/rde/xbcr/elkay/12-23C_EZ__EZS__EZSD__EZD.pdf

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.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. All water piping larger than 1" shall be type "L" copper for up to and including 2" and shall be type "K" for 2 1/2" and larger.
13. Soil, wastes and vent piping shall be PVC #40 DMV. Waste and vent piping above slab shall be PVC, if approved by local authorities having jurisdiction, otherwise cast iron. PVC shall not be installed in A/C return air plenum or penetrate fire rated walls or floors.
14. Air conditioning condensate drain piping shall be PVC #40 or copper drain waste and bent pipe and fittings. Insulate all condensate piping except exterior piping.
Install all condensate piping for air conditioning units as required per local codes.
15. Furnish and install approved 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 SANITARY ISOMETRIC
NO SCALE

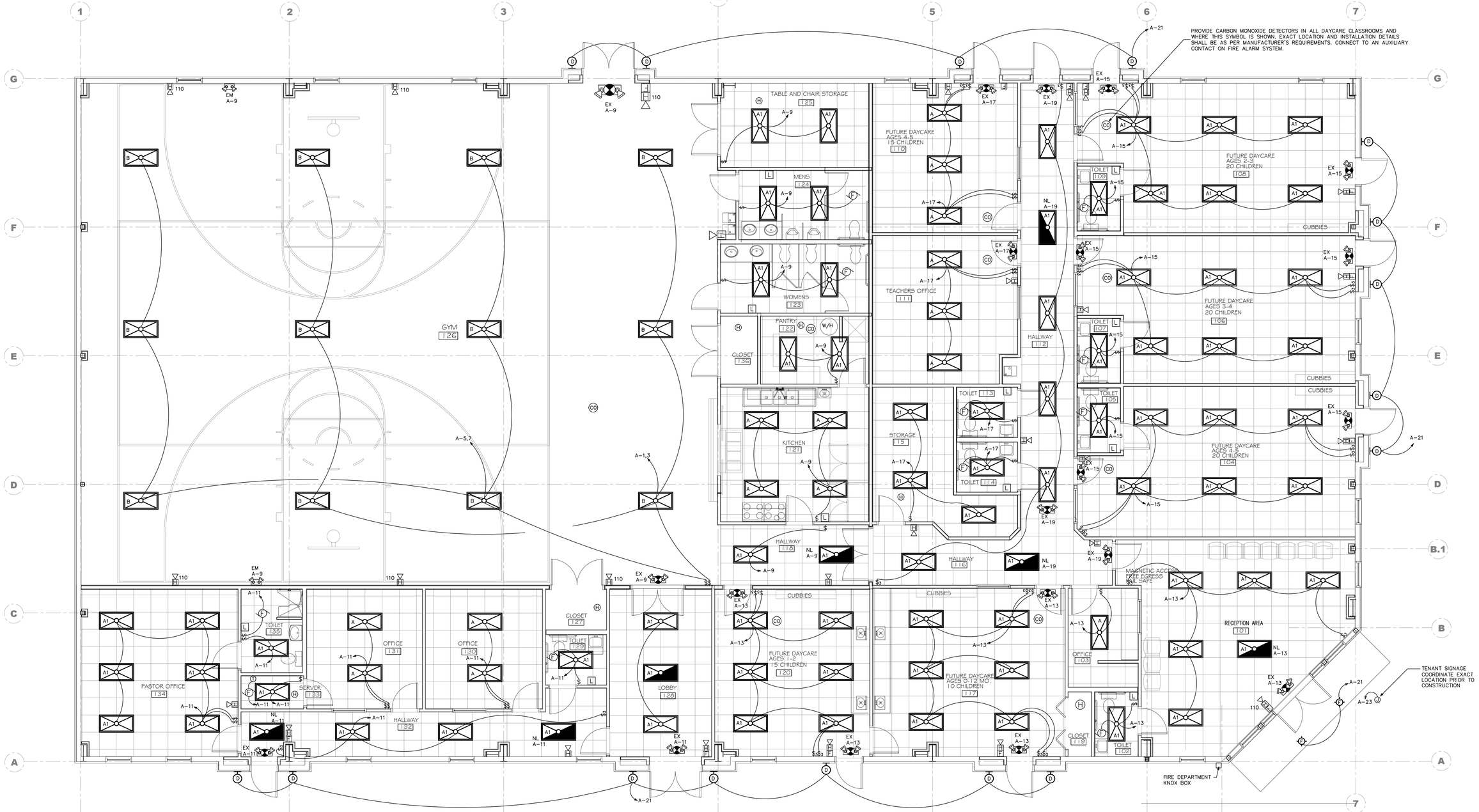


2 WATER HEATER DETAIL
NO SCALE

PLUMBING FIXTURE CONNECTION SIZES

FIXTURE	C.W. CONN. SIZE	H.W. CONNECTION SIZE	SANITARY BRANCH SIZE	F.U. LOAD VALUES
P1, P2	1/2"	–	3"	5.0
P3	3/4"	–	–	5.0
P4, P5, P6	1/2"	1/2"	1-1/4"	2.0
P7	1/2"	1/2"	1-1/2"	4.0
P8	1/2"	–	1-1/4"	0.5
P9	1/2"	1/2"	3"	3.0
P10A	–	–	2"	–
P10B	1/2"	1/2"	–	1.4

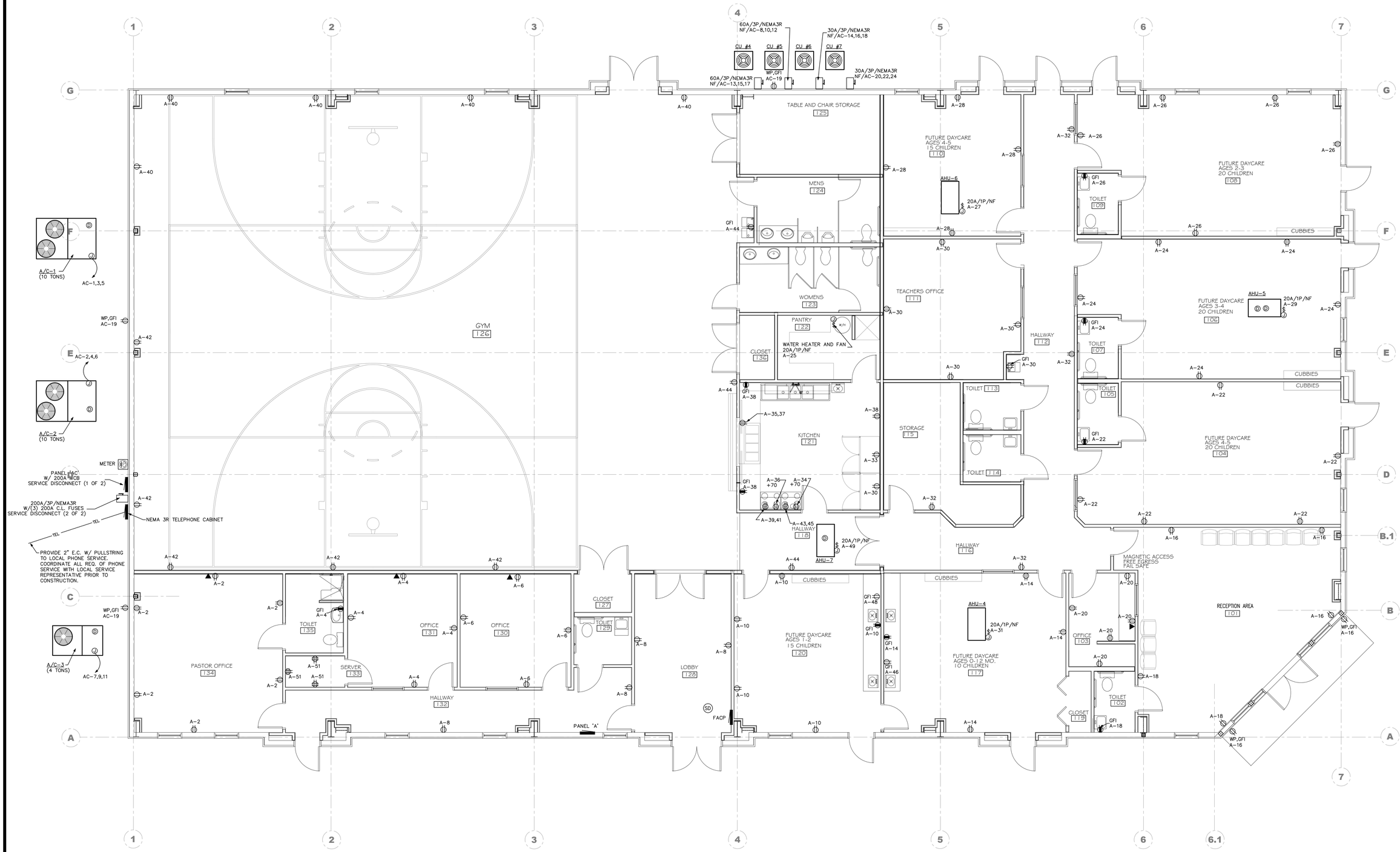
NOTE: F.U. LOAD VALUES BASED ON IPC 2009 - APPENDIX E TABLE E103.3(2)



LIGHTING FIXTURE SCHEDULE

LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(3) 32W T8	LITHONIA 2SP8G-332-A12-MVOLT	
A1	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(2) 32W T8	LITHONIA 2SP8G-232-A12-MVOLT	
B	GYM LIGHTING	WHITE		208	(6) 54WT5HO	LITHONIA FGB24-6-54T5HO-NLWG-MVOLT-2/3	
C	SURFACE MTD 1X4	WHITE	PRISMATIC	120	(2) 32WT8	LITHONIA SB-232-MVOLT	
D	WALL SCONCE			120	(2) 42TRT	LITHONIA WSQ-2/42TRTFT-120-2ELEDW/ EMERGENCY LIGHTING	
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP
EX	EXIT COMBO SIGN	WHITE	RED	120	INCLUDED	LITHONIA LHQM	W/ BATTERY BACKUP
F	FLUORESCENT DOWNLIGHT			120	(1) 32W TRT	LITHONIA AF-1/32TRT-6-MVOLT	
G	INCANDESCENT LIGHT BAR	CHROME		120	(4) 75W	SEAGULL LIGHTING 4701-962	24" POLISHED CHROME W/ 4 LAMPS

E-1


1
2
3
4
5
6
7
6.1
A
B
B.1
C
D
E
F
G
60A/3P/NEMA3R
NF/AC-8,10,12
30A/3P/NEMA3R
NF/AC-14,16,18
CU #4
CU #5
CU #6
CU #7
WP,GFI
AC-19
60A/3P/NEMA3R
NF/AC-13,15,17
30A/3P/NEMA3R
NF/AC-20,22,24
TABLE AND CHAIR STORAGE
125
FUTURE DAYCARE
AGES 4-5
15 CHILDREN
110
AHU-6
20A/1P/NF
A-27
MENS
124
GFI
A-44
WOMENS
123
PANTRY
122
W/H
WATER HEATER AND FAN
20A/1P/NF
A-25
CLOSET
136
TEACHERS OFFICE
111
HALLWAY
112
GYM
126
KITCHEN
121
STORAGE
115
TOILET 113
TOILET 114
A-35,37
A-43,45
HALLWAY
118
20A/1P/NF
A-49
AHU-7
HALLWAY
116
FUTURE DAYCARE
AGES 2-3
20 CHILDREN
108
TOILET
109
CUBBIES
FUTURE DAYCARE
AGES 3-4
20 CHILDREN
106
AHU-5
20A/1P/NF
A-29
TOILET
107
CUBBIES
CUBBIES
TOILET
105
FUTURE DAYCARE
AGES 4-5
20 CHILDREN
104
MAGNETIC ACCESS
FREE EGRESS
FAIL SAFE
RECEPTION AREA
101
FUTURE DAYCARE
AGES 1-2
15 CHILDREN
120
AHU-4
20A/1P/NF
A-31
FUTURE DAYCARE
AGES 0-12 MO.
10 CHILDREN
117
OFFICE
103
TOILET
102
CLOSET
119
CUBBIES
CUBBIES
CLOSET
127
TOILET
129
LOBBY
128
FACP
PANEL 'A'
PASTOR OFFICE
134
TOILET
135
SERVER
133
OFFICE
131
OFFICE
130
HALLWAY
132
A/C-1
(10 TONS)
AC-1,3,5
A/C-2
(10 TONS)
AC-2,4,6
A/C-3
(4 TONS)
AC-7,9,11
METER
PANEL 'AC'
W/ 200A MCB
SERVICE DISCONNECT (1 OF 2)
200A/3P/NEMA3R
W/(3) 200A C.L. FUSES
SERVICE DISCONNECT (2 OF 2)
NEMA 3R TELEPHONE CABINET
TEL
PROVIDE 2" E.C. W/ PULLSTRING
TO LOCAL PHONE SERVICE.
COORDINATE ALL REQ. OF PHONE
SERVICE WITH LOCAL SERVICE
REPRESENTATIVE PRIOR TO
CONSTRUCTION.

E-2

ELECTRICAL NOTES:

1. GENERAL: ALL WORK SHALL CONFORM TO THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL JURISDICTIONAL CODES.

   THE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND ANY APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, THE CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM, AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL THE OWNER HAS DIRECTED THE CORRECTIVE ACTION TO BE TAKEN.

   THE CONTRACTOR SHALL COORDINATE THE PROPOSED LOCATIONS OF ALL ELECTRICAL MATERIALS AND EQUIPMENT WITH THE REPRESENTATIVES OF THE OTHER TRADES INVOLVED BEFORE STARTING INSTALLATION OF THOSE ITEMS.

   COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES, CONDUIT, AND SLEEVES TO BE SET IN CAST-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.

   UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL SPECS ARE NOT INTENDED TO BE PROPRIETARY, SUBSTITUTIONS WILL BE ACCEPTABLE FOR EQUAL RATED AND LISTED UNITS.

2. SCOPE: EXCEPT WHERE OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS BY "FUTURE", "BY OTHERS", OR BY A SIMILAR NOTATION, IT IS THE INTENT THAT THE CONTRACTOR FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS NECESSARY TO PROVIDE ALL SYSTEMS IN COMPLETE AND OPERATING CONDITION.

3. EXCAVATE AS NECESSARY FOR THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT. VERIFY THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES OR STRUCTURES BEFORE EXCAVATING AND EXERCISE CARE TO AVOID DAMAGE TO SUCH ITEMS DURING EXCAVATION. BACKFILL WITH EARTH FREE OF LARGE CLODS, LARGE STONES AND FOREIGN DEBRIS, DEPOSITED IN 6" LAYERS AND COMPACTED TO A DENSITY OF NOT LESS THAN THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

4. MATERIALS: THE MATERIALS AND EQUIPMENT FURNISHED SHALL BE AS INDICATED ON THE DRAWINGS; SUBSTITUTIONS SHALL NOT BE MADE EXCEPT WHERE EXPRESSLY APPROVED BY THE OWNER OR HIS REPRESENTATIVE PRIOR TO STARTING INSTALLATION OF THE ITEMS. THE ELECTRICAL MATERIALS AND EQUIPMENT FURNISHED SHALL BE LISTED OR LABELED BY UNDERWRITERS LABORATORIES OR OTHER RECOGNIZED TESTING ORGANIZATION, AND SHALL BE ACCEPTABLE TO THE LOCAL BUILDING AUTHORITY.

5. GROUNDING: GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250, NEC.

6. SHARED NEUTRAL CONDUCTORS SHALL NOT BE ALLOWED UNLESS INSTALLED IN ACCORDANCE WITH NEC-210.4

7. CONDUITS: PROVIDE CONDUITS WHERE CALLED FOR ON PANEL SCHEDULES: ELECTRICAL METALLIC TUBING (EMT) SHALL BE INSTALLED ONLY IN DRY LOCATIONS, IN CONCRETE ABOVE GRADE, AND WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

   CONDUITS INSTALLED UNDERGROUND SHALL BE POLYVINYLCHLORIDE (PVC) AND SHALL NOT BE SMALLER THAN 3/4" TRADE SIZE. WHERE PVC CONDUIT IS INSTALLED UNDERGROUND, ELBOWS TURNING UP AND CONDUIT EMERGING ABOVE GRADE SHALL BE RSC. THE TOPS OF CONDUITS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE. PVC CONDUIT INSTALLED ABOVE GRADE OR DIRECT-BURIED IN EARTH SHALL BE NEMA TC2 TYPE EPC-40-PVC (SCHEDULE 40) EXCEPT THAT WHERE UNDER AREAS SUBJECT TO HEAVY VEHICULAR TRAFFIC, IT SHALL BE NEMA TC2 TYPE EPC-80-PVC (SCHEDULE 80).

   ALL ARMOR CLAD CABLE (AC CABLE) WIRING SHALL MEET OR EXCEED ALL NEC, OSHA AND HUD STANDARDS.

8. CONDUCTORS: CONDUCTORS SHALL BE AS SCHEDULED ON PANEL SCHEDULES. ALL POWER CONDUCTORS SHALL NOT BE SMALLER THAN #14 AWG (CU), OR #12 AWG (AL), CONTROL CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #18 AWG CU. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET WITHOUT SPLICES EXCEPT WITHIN WIREWAY OR JUNCTION BOXES. MARK CONDUCTORS IN PANELS, PULL BOXES OR WIREWAYS AND TERMINAL STRIP TERMINALS FOR IDENTIFICATION OF CIRCUITS.

   CONDUCTORS SHALL BE JOINED USING COMPRESSION SPLICES, EXCEPT THAT CONDUCTORS #10 AND SMALLER MAY BE JOINED USING WIRE NUT TYPE CONNECTORS. CONDUCTORS SHALL BE TERMINATED USING COMPRESSION OR PRESSURE TYPE TERMINAL LUGS, OR IN PRESSURE TERMINALS. COMPRESSION SPLICES USED ON CONDUCTORS #10 AWG. AND SMALLER, SHALL BE THE SELF-INSULATED TYPE; OTHER SPLICES SHALL BE INSULATED USING 3M #33+ OR #88 PLASTIC TAPE. SPLICES IN WET LOCATIONS SHALL BE INSULATED WITH ELECTRICAL TAPE AND ENCAPSULATED WITH SCOTCHCAST OR EQUAL POTTING COMPOUND.

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

10. LIGHTING FIXTURES: LIGHTING FIXTURES SHALL BE AS INDICATED ON THE DRAWINGS, AND SHALL BE INSTALLED COMPLETE WITH LAMPS.

    FIXTURES WITH ADJUSTMENTS AFFECTING LIGHT DISTRIBUTION SHALL BE SET TO PROVIDE THE REQUIRED LIGHT PATTERNS PRIOR TO THE FINAL DEMONSTRATION TEST.

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

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

ELECTRICAL SYMBOLS LEGEND

NOTE - NOT ALL SYMBOLS MAY BE USED ON PROJECT

SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	DUPLEX RECEPTACLE, MTD. +18" AFF	T	TRANSFORMER - SIZE AS NOTED
	240 VOLT RECEPTACLE (HT. AS REQ.)		PANEL - SIZE AS NOTED
	QUADRUPLEX RECEPTACLE, MTD. +18"		MOMENTARY CONTACT PUSH BUTTON
	COUNTERTOP HT. RECEPTACLE +42"	F	F-FAN; M-MOTOR; P-PUMP
$	SINGLE POLE SWITCH, MTD +47"		SPECIAL OUTLET - AS REQUIRED
$3	THREE-WAY SWITCH, MTD +47"	B-2	CKT. HOMERUN (B INDICATES PANEL) "2" DESIGNATES CIRCUIT NUMBER
$M	MANUAL STARTER SWITCH		EXIT SIGN; ONE SIDED, OR TWO SIDED
$D	DIMMER SWITCH, MTD +47"		EMERGENCY LIGHTING
$L	SWITCH W/ ILLUM. WHEN ON +47"	B	RECESSED MOUNTED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
$O	SWITCH W/ OCCU SENSOR. WHEN ON +47"		OVERHEAD OCCUPANCY SENSOR
$O3	THREE-WAY 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	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
	AREA SMOKE DETECTOR	EWC	ELECTRIC WATER COOLER
	HEAT DETECTOR	ASW	ABOVE SHOW WINDOW
	DUCT SMOKE DETECTOR	BSW	BELOW SHOW WINDOW
	FIRE ALARM MAN. PULL STATION +47"	FACP	FIRE ALARM CONTROL PANEL
30	HORN WITH STROBE LIGHT, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING	FAAP	FIRE ALARM ANNUNCIATOR PANEL
L 30	STROBE LIGHT ONLY, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING		

PANEL SCHEDULE AC

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 200A. M.C.B., 14000 AMPS MINIMUM A.I.C. BRACING, SURFACE MOUNTED, TYPE NEMA 3R 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	CONDUIT	BKR.	##
1								0	4848	------	------								
3	60/3	#6	---	#10	3/4	CHAL	RTU 1	0	------	4848	------								2
5								0	------	------	4848								
7								0	------	------	4848								4
9	30/3	#10	---	#10	1/2	CHAL	RTU 3	0	780	------	------	RTU 2	CHAL	3/4	#10	---	#6	60/3	6
11								0	2268	------	------								8
								0	------	780	------								10
13								0	------	2268	------	CONDENSING UNIT 5	CHAL	3/4	#10	---	#8	40/3	
15	40/3	#8	---	#10	3/4	CHAL	CONDENSING UNIT 4	0	------	------	780								12
17								0	2268	------	------								14
								0	1088	------	------								
								0	------	2268	------	CONDENSING UNIT 6	CHAL	1/2	#12	---	#12	20/3	16
								0	------	1088	------								
19	20/1	#12	#12	#12	1/2	CHAL	SERVICE RECEPTACLES	720	------	------	2268								18
21	20/1	#12	#12	#12	1/2	CHAL	TELEPHONE BOARD	0	1088	------	------								20
23							SPACE	720	------	720	------	CONDENSING UNIT 7	CHAL	1/2	#12	---	#12	20/3	22
25							SPACE	0	------	1088	------								24
27							SPACE	0	0	------	------	SPACE							26
29							SPACE	0	------	0	------	SPACE							28
								0	------	------	0	SPACE							30

WIRE/CONDUIT KEY 1234	WIRING TYPE C-CU WIRE	INSULATION H-THWN	CONDUIT TYPE A-EMT	TEMP RATING L-78-86 Deg. F.	17908	17908	17188
1-TEMP RATING, 2-CONDUIT TYPE, 3-INSULATION, 4-WIRING TYPE					53,004		

PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 6. AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 147.2 AMPS

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

PANEL SCHEDULE A

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	CONDUIT	BKR.	##
1								0	1150	------	------								
3	20/2	#12	---	#12	1/2	CHAL	GYM LIGHTS	1080	1080	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	2
5								0	------	1150	------								
7	20/2	#12	---	#12	1/2	CHAL	GYM LIGHTS	1080	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	4
								0	1150	------	------								6
9	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1080	1080	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	8
11	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1050	------	1050	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	10
13	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1600	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	12
15	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	876	------	------	1600	REFRIGERATOR	CHAL	1/2	#12	#12	#12	20/1	14
17	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1600	1600	------	------								
								1080	1080	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	16
19	20/1	#12	#12	#12	1/2	CHAL	HALL LIGHTING	1325	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	18
21	20/1	#12	#12	#12	1/2	CHAL	OUTSIDE LIGHTS *	1000	1000	------	------								
23	20/1	#12	#12	#12	1/2	CHAL	TENANT SIGNAGE **	1080	1080	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	20
25	20/1	#12	#12	#12	1/2	CHAL	WATER HEATER FAN/PUMP	1500	------	1500	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	22
27	20/1	#12	#12	#12	1/2	CHAL	AHU-4	1080	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	24
29	20/1	#12	#12	#12	1/2	CHAL	AHU-5	360	360	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	26
31	20/1	#12	#12	#12	1/2	CHAL	AHU-6	1581	------	1581	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	28
33	20/1	#12	#12	#12	1/2	CHAL	FREEZER	1581	------	------	1581	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	30
35	20/2	#12	---	#12	1/2	CHAL	HOT WELL	1080	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	32
37								1123	1123	------	------								
								1080	------	1080	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	34
39	50/2	#6	#8	#10	---	RB-L	RANGE / OVEN	360	------	------	360								
41								0	------	------	2080								
								1080	------	------	1080	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	36
43	50/2	#6	#8	#10	---	RB-L	RANGE / OVEN	0	2080	------	------								
45								540	540	------	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	38
								1500	------	------	5540	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	40
47	20/1	#12	#12	#12	1/2	CHAL	FACP	540	------	------	540								
49	20/1	#12	#12	#12	1/2	CHAL	AHU-7	1500	5500	------	------								
51							SPACE	540	------	540	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	42
								1500	------	5500	------								
								540	------	540	------	RECEPTACLES	CHAL	1/2	#12	#12	#12	20/1	44
								1500	------	------	5500								
								900	------	900	------	REFRIGERATOR	CHAL	1/2	#12	#12	#12	20/1	46
								180	180	------	------								
								900	900	------	------	REFRIGERATOR	CHAL	1/2	#12	#12	#12	20/1	48
								1123	------	1123	------								
								1080	------	1080	------	SERVER RM REC	CHAL	1/2	#12	#12	#12	20/1	50
								0	------	------	0								
								0	------	------	0	SPACE							52

WIRE/CONDUIT KEY 1234	WIRING TYPE C-CU WIRE	INSULATION H-THWN	CONDUIT TYPE A-EMT	TEMP RATING L-78-86 Deg. F.	23061	21689	27052
1-TEMP RATING, 2-CONDUIT TYPE, 3-INSULATION, 4-WIRING TYPE					71,802		

PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 137.8 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 199.5 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
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PANEL NOTES:
* - CIRCUIT TO BE CONTROLLED VIA PHOTOCELL
** - CIRCUIT TO BE CONTROLLED VIA TIMECLOCK

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE

PRESCRIPTIVE [X] PERFORMANCE [ ] ENERGY COST BUDGET [ ]

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

LIGHTING SCHEDULE
- LAMP TYPE REQUIRED IN FIXTURE ____SEE SCHEDULE ON DRAWINGS
- NUMBER OF LAMPS IN FIXTURE ____SEE SCHEDULE ON DRAWINGS
- BALLAST TYPE USED IN FIXTURE ____SEE SCHEDULE ON DRAWINGS
- NUMBER OF BALLASTS IN FIXTURE ____SEE SCHEDULE ON DRAWINGS
- TOTAL WATTAGE PER FIXTURE ____SEE SCHEDULE ON DRAWINGS
- TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED ____1.27 VS 1.30
- 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: _____

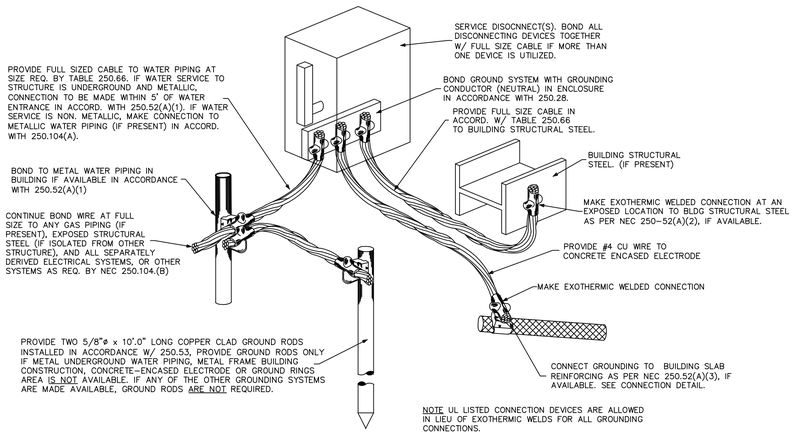
TITLE: _____

PANEL AC DIVERSIFICATION CALCULATIONS

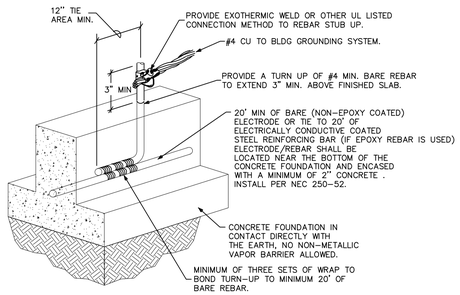
RECEPTACLES (8) - 1440 VA TOTAL		
FIRST 10 KVA AT 100%	-	1440
HVAC LOAD AT 100%	-	51566
PLUS 25% OF THE LARGEST MOTOR	-	2709
TOTAL DIVERSIFIED PANEL LOAD	-	55715
LOAD AT 120/208V/3-PHASE/4-WIRE	-	154.8A

PANEL A DIVERSIFICATION CALCULATIONS

RECEPTACLES (115) - 20700 VA TOTAL		
FIRST 10 KVA AT 100%	-	10000
REMAINDER AT 50%	-	5350
LIGHTING - 14000 X 125%	-	17500
HVAC LOAD AT 100%	-	5866
MOTOR LOADS AT 100%	-	360
MISC NON-CONTINUOUS LOADS AT 100%	-	29376
MISC CONTINUOUS LOADS AT 125%		
1500 X 1.25	-	1875
TOTAL DIVERSIFIED PANEL LOAD	-	76327
LOAD AT 120/208V/3-PHASE/4-WIRE	-	195.4A



2 GROUNDING DETAIL
NO SCALE

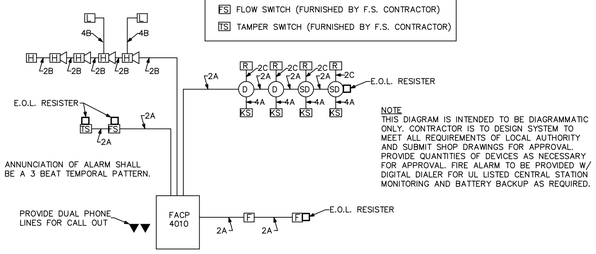


3 GROUNDING DETAIL
NO SCALE

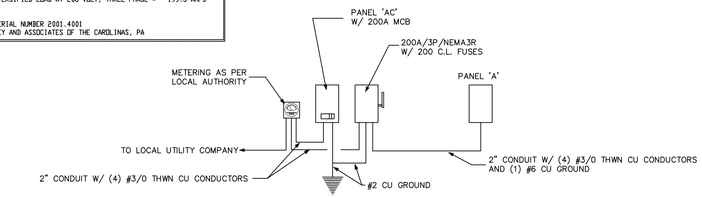
WIRE LEGEND
A = 18 AWG. SOLID ALARM
B = 14 AWG SOLID CONTROL
C = 18 AWG SOLID CONTROL

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

LEGEND
FACP 4010 4010-9101 SIMPLEX POWER LIMITED CONTROL PANEL
F 4099-9001 PULL STATION
H 4906-9127 HORN/STROBE
L 4906-9101 STROBE ONLY
SD 4098-9714 AREA SMOKE DETECTOR
D DUCT DETECTOR
H 4098-9733 HEAT DETECTOR
R MR801/T RELAY
KS 2908-9806 KEY SWITCH
FS FLOW SWITCH (FURNISHED BY F.S. CONTRACTOR)
TS TAMPER SWITCH (FURNISHED BY F.S. CONTRACTOR)



4 FIRE ALARM RISER DIAGRAM
NO SCALE



1 ELECTRICAL SERVICE RISER
NO SCALE

FIRE ALARM SYTEM MATRIX	BUILDING SYSTEM OUTPUTS: 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 COMMON AREA VENTILATION FANS	CENTRAL COMM: 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		
MAIN PANEL SMOKE DETECTOR	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		
SPRINKLER TAMPER			X	X				X			X			X	X		X	