

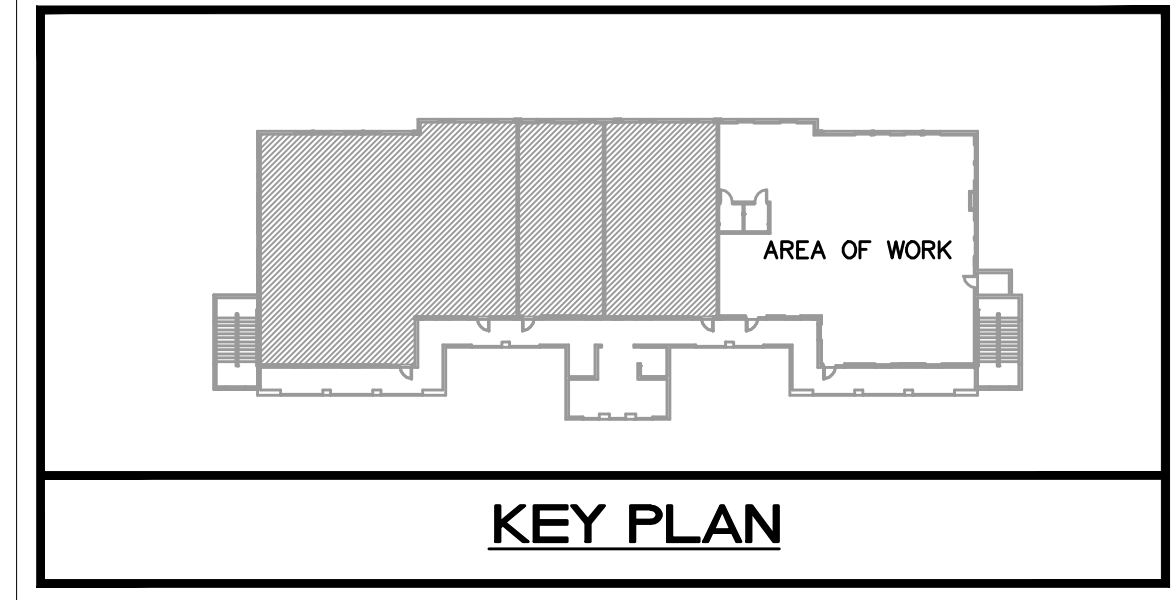
SWITCH BANK 1		
2A-31	2A-31	2A-31
\$ <sup>a</sup>	\$ <sup>b</sup>	\$ <sup>c</sup>

SWITCH BANK 1				
2A-29	2A-29	2A-29	2A-33	2A-29
\$ <sup>a</sup>	\$ <sup>b</sup>	\$ <sup>c</sup>	\$ <sup>d</sup>	\$ <sup>e</sup>
2A-29	2A-29	2A-29	2A-33	2A-29
\$ <sup>f</sup>	\$ <sup>g</sup>	\$ <sup>h</sup>	\$ <sup>i</sup>	\$ <sup>j</sup>

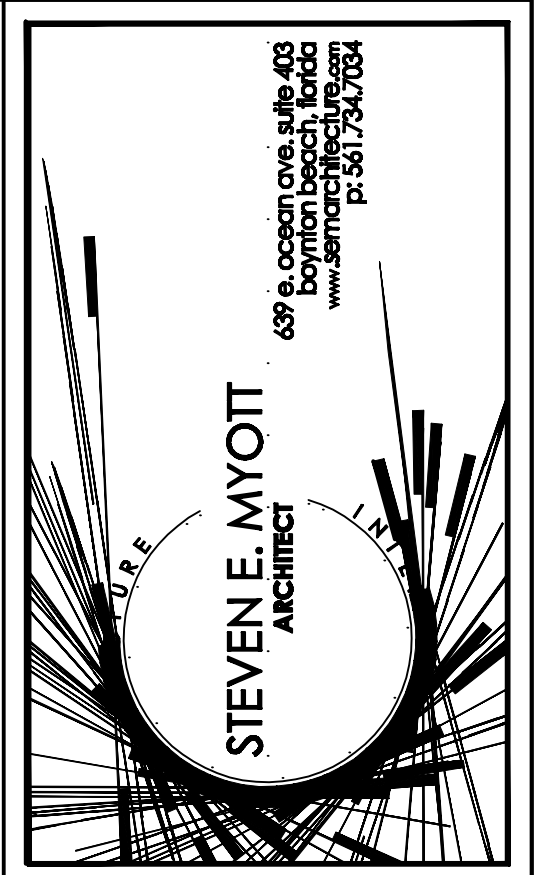
- ### KEY NOTES
1. CIRCUIT THRU SWITCHBANK, SB-1.
  2. SWITCHBANK SB-1 LOCATION, VERIFY EXACT LOCATION IN FIELD.
  3. CIRCUIT THRU SWITCHBANK, SB-2.
  4. SWITCHBANK SB-2 LOCATION, VERIFY EXACT LOCATION IN FIELD.

### GENERAL NOTES

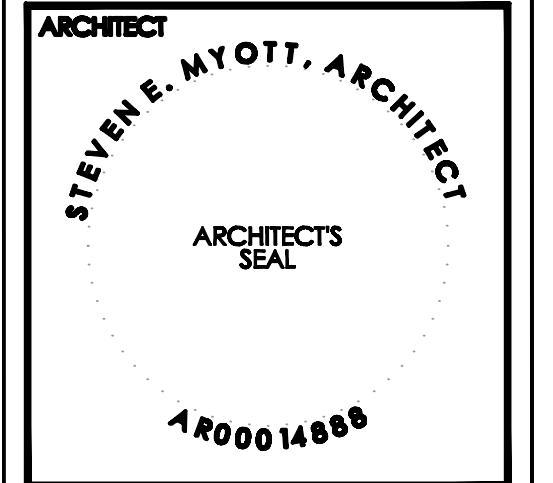
1. SWITCH EACH ROOM AS PER THE SWITCHES INDICATED. VERIFY EXACT SWITCH REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.  
 2. CEILING MOUNTED MOTION DETECTORS IN COMMON AREAS ARE TO FUNCTION AS TIME CLOCK OVER RIDE SWITCHES.



LIGHTING PLAN  
1/4"=1'-0"



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LIGHTING PLAN

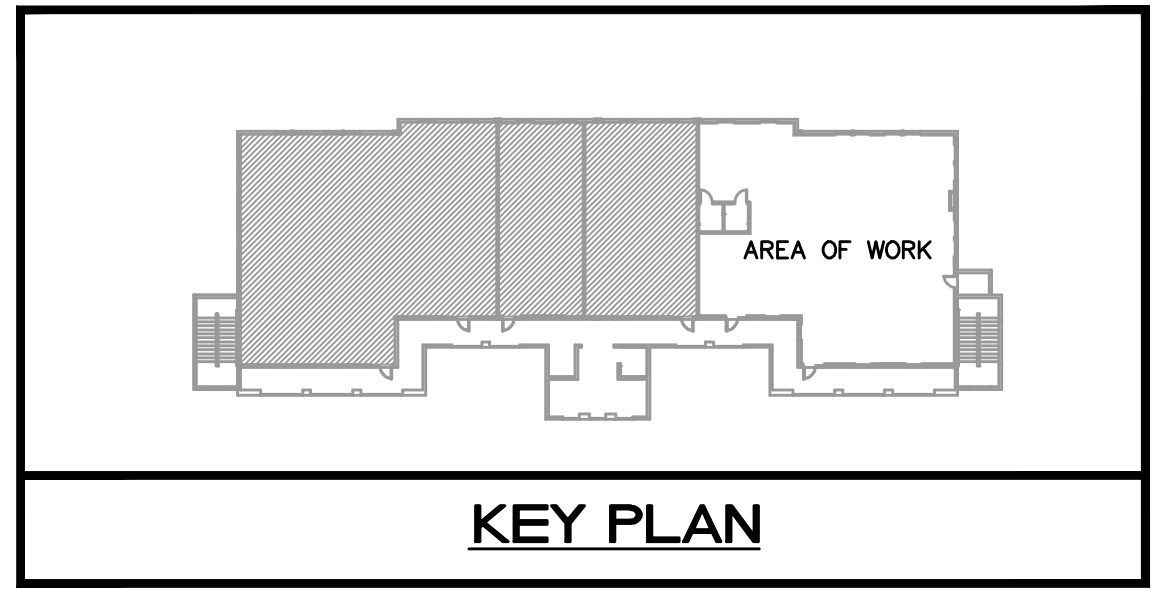
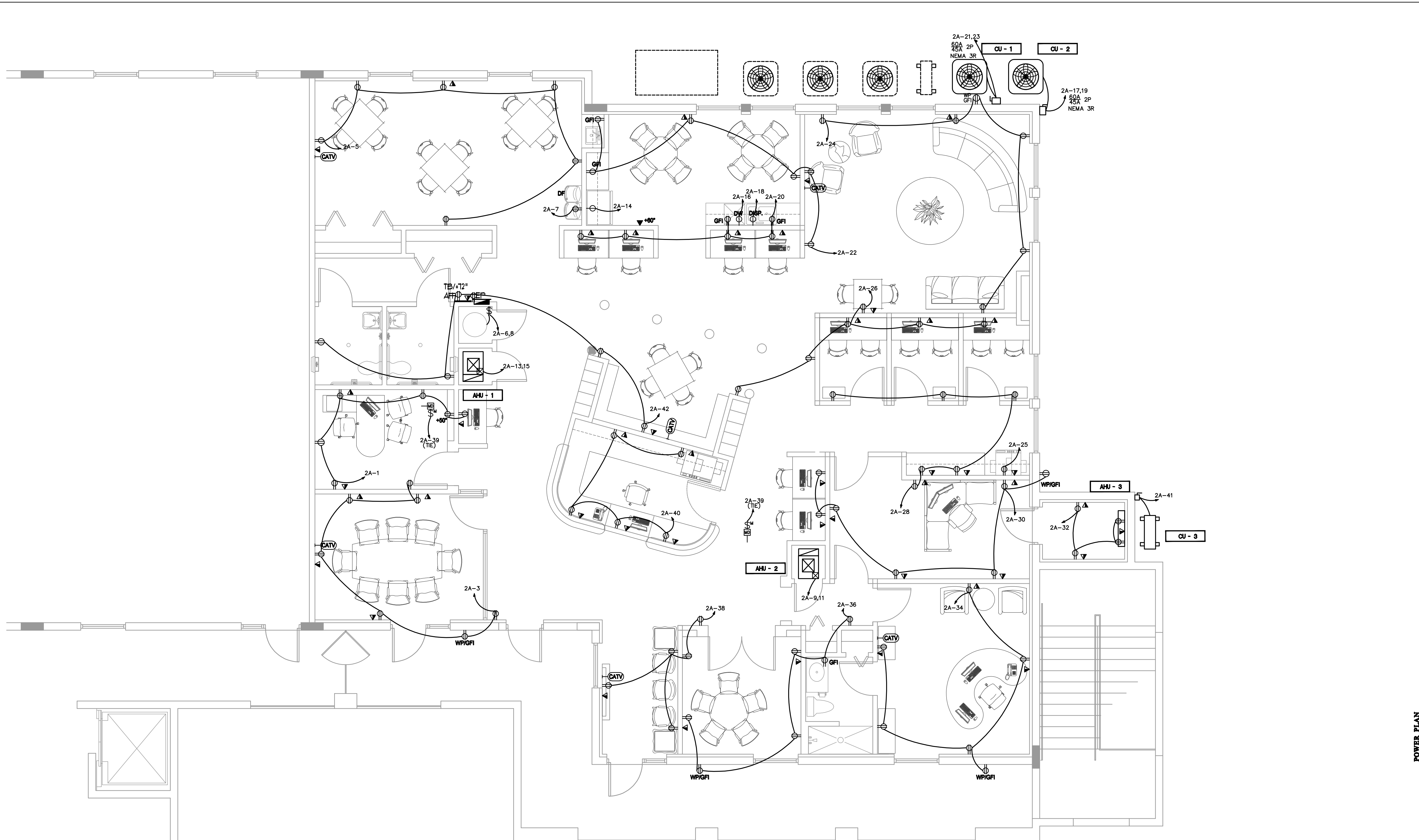
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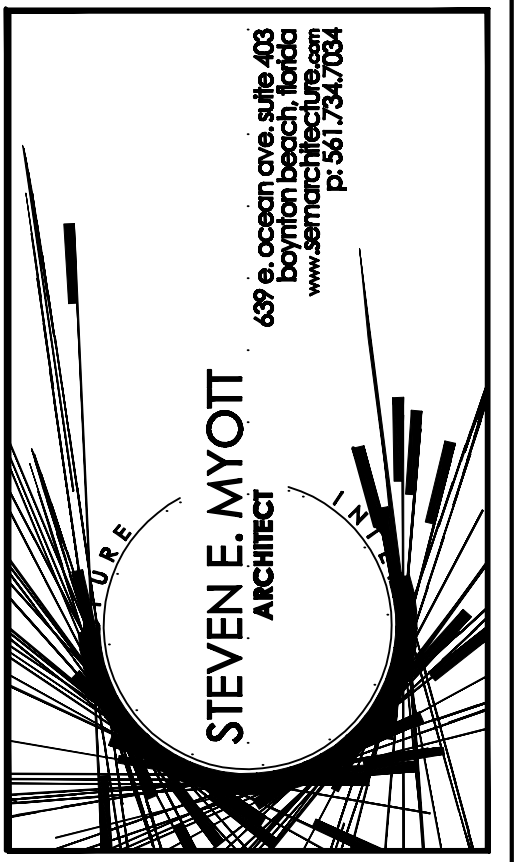
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KAMM CONSULTING PROJECT # 2012-0053  
 PROJECT MANAGER: MIKH PETERSON  
**KAMM CONSULTING**  
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 www.kammconsulting.com  
 Certified Consulting Architect #0118

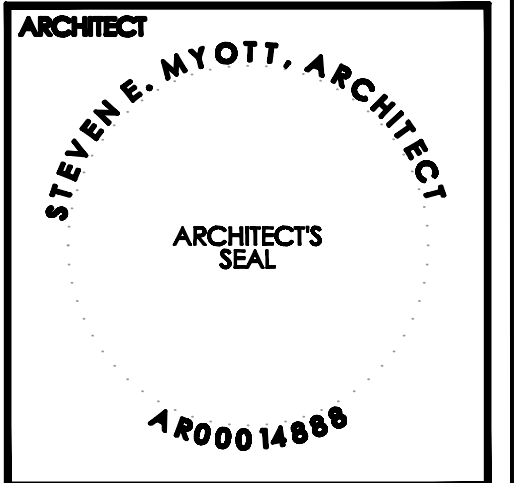
PRINCIPAL: Randy L. Brown Florida License #58252  
 DATE: 01-07-12  
 Title:   
 signed:



**POWER PLAN**  
1/4"=1'-0"



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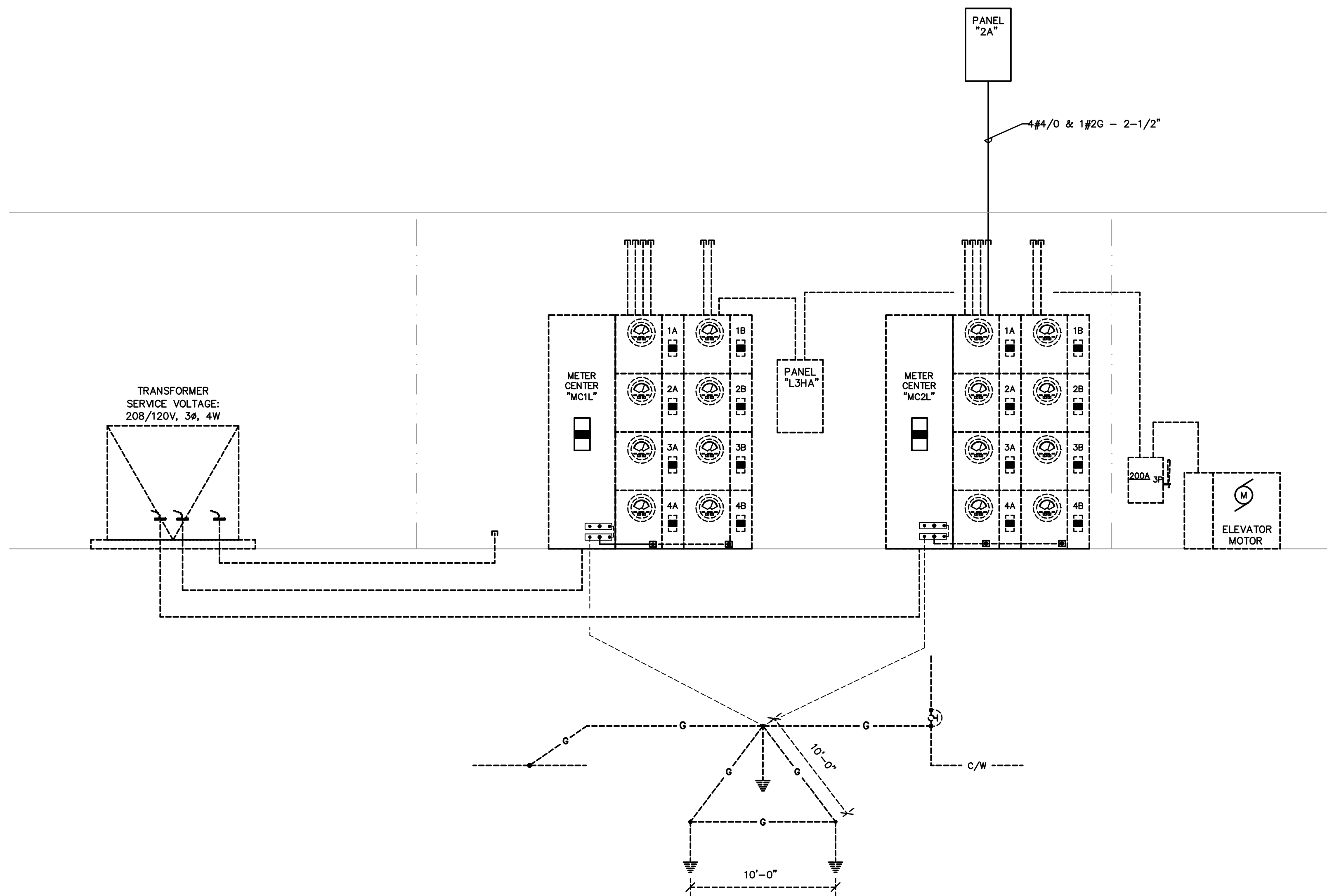
PROJECT NO: 2012-0053  
DRAWN BY: MP  
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POWER PLAN

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KAMM CONSULTING PROJECT #: 2012-0053	PROJECT MANAGER: MIKE FETERSON
<b>KAMM</b> Consulting	1408 Orange Avenue Fort Myers, Florida 34909 Phone: 772-335-1744 Fax: 772-335-1745 www.kamm.com Certification of Accreditation #0119
PRINCIPAL Bobby L. Brown Florida License #58232	DATE 01-07-12





EXISTING ELECTRICAL RISER DIAGRAM

NTS

**EXISTING SCHEDULE OF METER CENTER "MC1L"**

MAIN: 1000 AMP/3POLE "MH" FRAME MAIN CIRCUIT BREAKER VOLTAGE: 208/120V, 3Ø, 4 WIRE  
 SPEC: SQUARE D "EZ METER PACK" OR APPROVED EQUIVALENT AIC SYMM: 65,000

FEEDER DESIGNATION	DESCRIPTION	METER SOCKET		CIRCUIT BREAKER			FEEDER	A PHASE KVA	B PHASE KVA	C PHASE KVA	NOTES
		AMPERE RATING	VOLTAGE	FRAME	TRIP	POLES					
MC1L-1A	PANEL "1A"	225	208/120V, 3Ø, 4W	QG	125	3	FUTURE	11.9	11.9	11.9	1
MC1L-2A	PANEL "2A"	225	208/120V, 3Ø, 4W	QG	125	3	FUTURE	11.9	11.9	11.9	1
MC1L-3A	PANEL "3A"	225	208/120V, 3Ø, 4W	QG	125	3	FUTURE	11.9	11.9	11.9	1
MC1L-4A	PANEL "4A"	225	208/120V, 3Ø, 4W	QG	125	3	FUTURE	11.9	11.9	11.9	1
MC1L-1B	PANEL "5B"	225	208/120V, 3Ø, 4W	QG	200	3	FUTURE	21.2	21.2	21.2	1
MC1L-2B	PANEL "6B"	225	208/120V, 3Ø, 4W	QG	200	3	FUTURE	21.2	21.2	21.2	1
MC1L-3B	PANEL "L3HA"	225	208/120V, 3Ø, 4W	QG	200	3	EXISTING	15.4	15.5	15.2	
MC1L-4B	PROVISION	225	208/120V, 3Ø, 4W	QG		3					
KVA PER PHASE								105.4	105.5	105.2	
KVA SUB-TOTAL								316.1			
DIVERSITY FACTOR (%)								316.1			
TOTAL KVA								316.1			

NOTES:  
 ① LOAD BASED ON 25W \* SQUARE FOOT

$$\left( \frac{1000 \text{ VA}}{1 \text{ KVA}} \right) \left( \frac{316.1 \text{ KVA}}{208 \text{ V} \times \sqrt{3}} \right) = 877 \text{ AMPERES PER PHASE}$$

**EXISTING SCHEDULE OF METER CENTER "MC2L"**

MAIN: 800 AMP/3POLE "MH" FRAME MAIN CIRCUIT BREAKER VOLTAGE: 208/120V, 3Ø, 4 WIRE  
 SPEC: SQUARE D "EZ METER PACK" OR APPROVED EQUIVALENT AIC SYMM: 65,000

FEEDER DESIGNATION	DESCRIPTION	METER SOCKET		CIRCUIT BREAKER			FEEDER	A PHASE KVA	B PHASE KVA	C PHASE KVA	NOTES
		AMPERE RATING	VOLTAGE	FRAME	TRIP	POLES					
MC2L-1A	PANEL "1A"	225	208/120V, 3Ø, 4W	QG	125	3	FUTURE	11.9	11.9	11.9	1
MC2L-2A	PANEL "2A"	225	208/120V, 3Ø, 4W	QG	225	3	4#4/0 & 1#2-2-1/2"	17.8	18.8	16.9	1
MC2L-3A	PANEL "3A"	225	208/120V, 3Ø, 4W	QG	125	3	FUTURE	11.9	11.9	11.9	1
MC2L-4A	PANEL "4A"	225	208/120V, 3Ø, 4W	QG	125	3	FUTURE	11.9	11.9	11.9	1
MC2L-1B	PANEL "5B"	225	208/120V, 3Ø, 4W	QG	200	3	FUTURE	19.0	19.0	19.0	1
MC2L-2B	PANEL "6B"	225	208/120V, 3Ø, 4W	QG	200	3	FUTURE	19.0	19.0	19.0	1
MC2L-3B	PROVISION	225	208/120V, 3Ø, 4W	QG		3					
MC2L-4B	PROVISION	225	208/120V, 3Ø, 4W	QG		3					
KVA PER PHASE								91.5	92.5	90.6	
KVA SUB-TOTAL								274.6			
DIVERSITY FACTOR (%)								274.6			
TOTAL KVA								274.6			

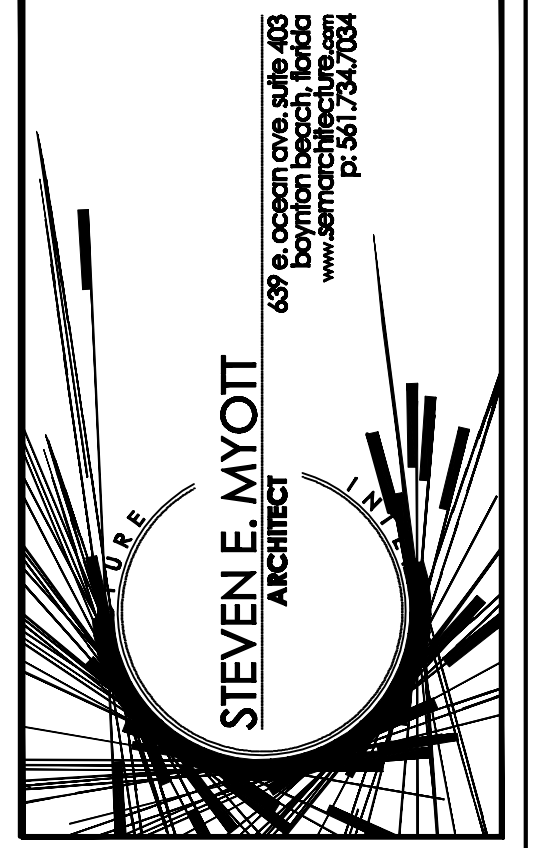
NOTES:  
 ① LOAD BASED ON 25W \* SQUARE FOOT

$$\left( \frac{1000 \text{ VA}}{1 \text{ KVA}} \right) \left( \frac{274.6 \text{ KVA}}{208 \text{ V} \times \sqrt{3}} \right) = 762.7 \text{ AMPERES PER PHASE}$$

**SCHEDULE OF BRANCH CIRCUIT PANEL "2A"**

MAIN: 225 AMP / 3 POLE MAIN CIRCUIT BREAKER VOLTAGE: 208/120V, 3Ø, 4 WIRE  
 SPEC: SQUARE D TYPE "NG" OR APPROVED EQUIVALENT AIC SYMM: 22,000  
 MOUNTING: FLUSH

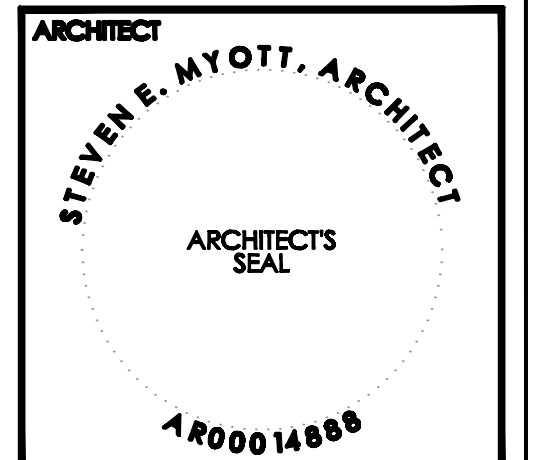
DESCRIPTION	WIRE	GND.	COND.	TRIP	O.K.T.	A PHASE KVA			B PHASE KVA			C PHASE KVA			O.K.T.	TRIP	COND.	GND.	WIRE	DESCRIPTION
						1	2	3	1	2	3	1	2	3						
RECEPTACLES	#12	#12	1/2"	20	1	1.0	1.2							2	20	1/2"	#12	#12	LIGHTING	
RECEPTACLES	#12	#12	1/2"	20	3			0.6	1.2					4	20	1/2"	#12	#12	LIGHTING	
RECEPTACLES	#12	#12	1/2"	20	5					1.2	2.5			6	30	3/4"	#10	#10	WATER HEATER	
WATER FOUNTAIN	#12	#12	1/2"	20	1	0.8	2.5							8	2					
AHU-2	2#6	1#8	1"	50	9			4.9						12	20					SPARE
AHU-1	2#6	1#8	1"	50	11			4.9		4.9				14	20	1/2"	#12	#12	REFRIGERATOR	
AHU-1	2#6	1#8	1"	50	13	4.9	0.8							16	20	1/2"	#12	#12	REFRIGERATOR	
AHU-1	2#6	1#8	1"	50	15			4.9	0.8					18	20	1/2"	#12	#12	REFRIGERATOR	
AHU-1	2#6	1#8	1"	50	17					(2.1)	0.8			20	20	1/2"	#12	#12	DISPOSAL	
AHU-1	2#6	1#8	1"	50	19	(2.1)	1.2							22	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	21			(2.1)	1.2					24	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	23					(2.1)	1.2			26	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	25	0.8	1.2							28	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	27			0.8	1.2					30	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	29					0.8	1.2			32	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	31	0.8	0.8							34	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	33			0.8	1.2					36	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	35					0.8	1.2			38	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	37	0.8	1.0							40	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	39			0.2	1.0					42	20	1/2"	#12	#12	RECEPTACLES	
AHU-1	2#6	1#8	1"	50	41					1.3	1.0			44	20	1/2"	#12	#12	RECEPTACLES	
TOTAL KVA						17.8	18.8	13.1	10.0	16.9	16.9			KVA PER PHASE						
TOTAL KVA						148.3	156.7	140.8	140.8	140.8	140.8			AMPS PER PHASE						
TOTAL KVA						53.5						TOTAL KVA								



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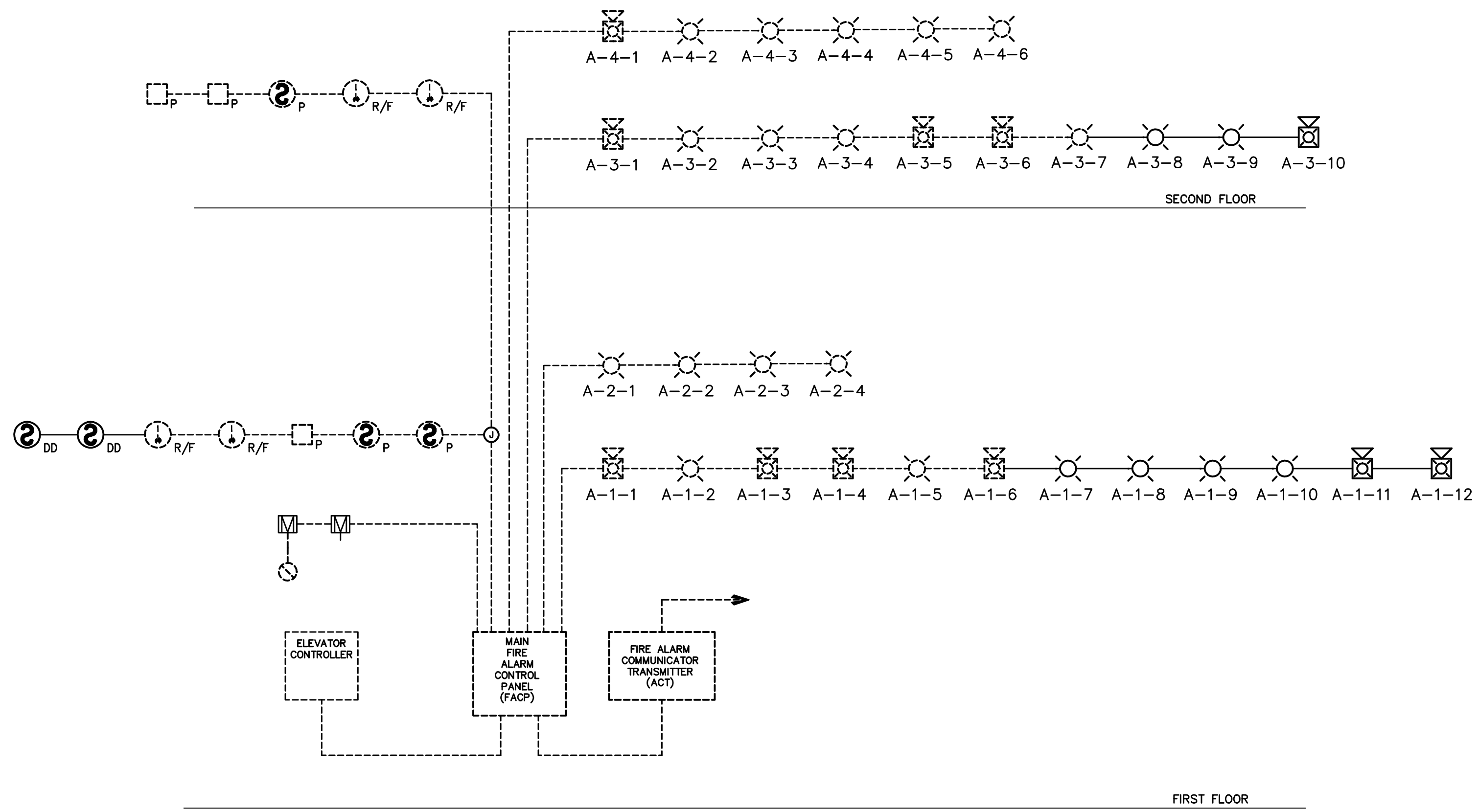
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KAMM CONSULTING PROJECT #: 2015-085  
 PROJECT MANAGER: MIKE PETERSON



PRINCIPAL: Randy L. Brown Florida License #58232 Date: 01-07-12



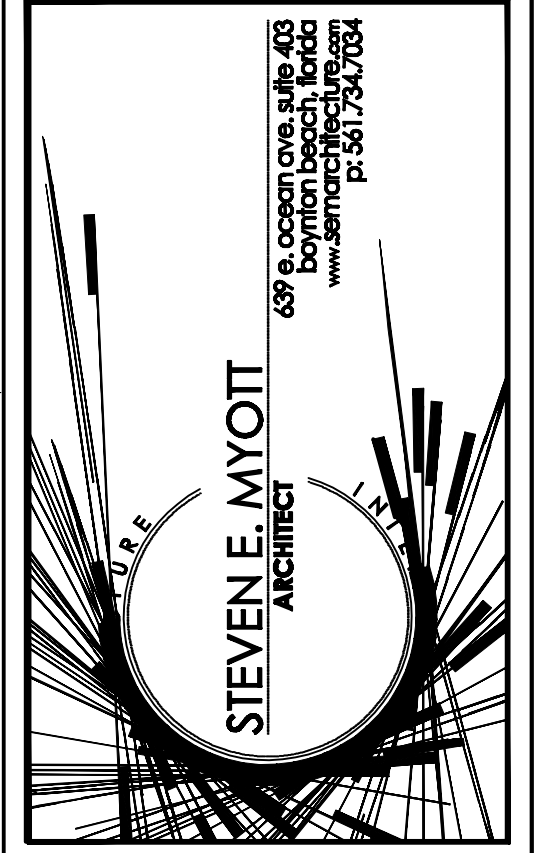


**FIRE ALARM RISER**

FIRE ALARM SHEET INDEX	
SHEET#	DESCRIPTION
FA0.1	FIRE ALARM NOTES, LEGEND & INDEX
FA2.1	FIRE ALARM PLAN

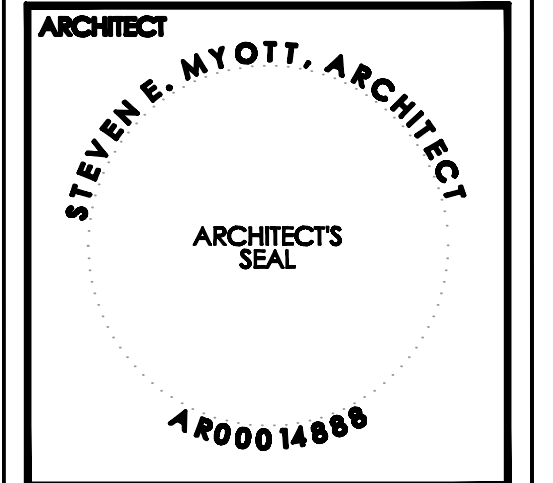
FIRE ALARM SYMBOLS	
	FIRE ALARM MANUAL PULL STATION. NOTIFIER #NBG12LX
	PHOTOELECTRIC SMOKE DETECTOR. NOTIFIER #SDX751/BX501
	HEAT DETECTOR (185° F). COMBINATION - RATE OF RISE AND FIXED TEMPERATURE. NOTIFIER #DX551R
	ADDRESSABLE FIRE ALARM CONTROL PANEL. NOTIFIER #AFP 200
	REMOTE POWER SUPPLY. NOTIFIER #FPCS 24
	ALARM COMMUNICATOR TRANSMITTER. NOTIFIER #411
	FIRE ALARM HORN / STROBE COMBINATION. NOTIFIER #P2415, P2475, & P24110 HWR. NUMERAL ADJACENT TO DEVICE INDICATES CANDELA RATING.
	FIRE ALARM STROBE. NOTIFIER #S2415, S2475 & S24110 HWR. NUMERAL ADJACENT TO DEVICE INDICATES CANDELA RATING.
	FIRE ALARM FLOW SWITCH (FURNISHED BY SPRINKLER CONTRACTOR)
	FIRE ALARM TAMPERSwitch (FURNISHED BY SPRINKLER CONTRACTOR)
	REMOTE TEST. NOTIFIER #RTS451
	CONTROL RELAY MODULE. NOTIFIER #CMX-2 (FAN SHUT DOWN)
	MONITOR MODULE. PROVIDE ONE FOR EACH FLOW SWITCH, TAMPERSwitch AND AIR DUCT SMOKE DETECTOR. NOTIFIER #MMX-101.
	BUILDING KNOX BOX. FLUSH MOUNTED +60" AFG. KNOX COMPANY 4400 SERIES.

- ### FIRE ALARM NOTES
1. THE MAIN FIRE ALARM CONTROL PANEL SHALL BE A MICROPROCESSOR BASE SYSTEM WITH ADDRESSABLE, INTELLIGENT DETECTORS, ADDRESSABLE CONTROL RELAY AND MONITOR MODULES, VISIBLE AND AUDIBLE SYSTEM ANNUCIATORS AND OTHER SYSTEM CONTROLLED DEVICES AS REQUIRED.
  2. PROVIDE REMOTE POWER SUPPLY AS INDICATED FOR EACH FLOOR FOR FUTURE TENANT BUILDOUT. THE FIRE THE FIRE ALARM SHALL BE CAPABLE OF FUTURE EXPANSION AS REQUIRED IN THE TENANT TENANT SPACES.
  3. ALL WIRING AND CONDUIT TO CONFORM TO N.F.P.A. 72 AND N.E.C. ARTICLE 760. WIRING SHALL BE SOLID COPPER OR STRANDED COPPER WITH A MAX. OF 7 STRANDS FOR 16 GA AND 18 GA, STRANDED COPPER WITH A MAX. OF 19 STRANDS FOR SIZES 14 AND LARGER AS REQUIRED BY N.E.C. 760 AND N.F.P.A. 70.
  4. ALL FIRE STOP PENETRATIONS SHALL BE MADE WITH APPROVED (NEC) METALLIC CONDUIT AND SHALL BE SEALED WITH A U.L. APPROVED FIRE STOP MATERIAL. (SEE FIRE STOP DETAIL)
  5. ROUTING OF THE FIRE ALARM SYSTEM CONDUIT IS DIAGRAMMATIC ONLY, VERIFY EXACT LOCATIONS PRIOR TO STARTING WORK.
  6. ALL FIRE ALARM NOTIFICATION APPLIANCES SHALL ACTIVATE UPON INITIATION OF THE GENERAL ALARM.
  7. ALL FIRE ALARM AUDIBLE SIGNALS SHALL HAVE A THREE PLUS TEMPORAL PATTERN.
  8. ALL FIRE ALARM AUDIBLE SIGNALS SHALL HAVE A SOUND LEVEL OF AT LEAST 15 dba ABOVE THE AVERAGE AMBIENT SOUND LEVEL.
  9. MANUAL STATIONS SHALL BE INSTALLED AT 48" INCHES A.F.F.
  10. WALL MOUNTED FIRE ALARM SYSTEM AUDIBLE/VISUAL SIGNALS (COMBINATION DEVICES) SHALL BE MOUNTED SUCH THAT THE ENTIRE STROBE LENS IS 80" A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER.
  11. WALL MOUNTED FIRE ALARM SYSTEM VISUAL SIGNALS (STROBES) SHALL BE MOUNTED SUCH THAT THE ENTIRE STROBE LENS IS 80" A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER.
  12. SMOKE DETECTORS TO BE INSTALLED AS REQUIRED BY N.F.P.A. 72.
  13. THE FIRE ALARM PANEL SHALL HAVE AN EARTH GROUND CONNECTION AS REQUIRED BY THE SYSTEM MANUFACTURER, AND N.E.C. ARTICLE 760, MINIMUM WIRE SIZE IS #8 AWG FOR GROUND CONNECTION. (NOTE PANEL NEUTRAL OR CONDUIT GROUND IS NOT ACCEPTABLE).
  14. A GENERAL ALARM SHALL BE ANNUNCIATED UPON ACTIVATION OF ANY PULL STATION, FLOW SWITCH OR DETECTION DEVICE.
  15. A TROUBLE SIGNAL SHALL BE ANNUNCIATED UPON FAILURE OR REMOVAL OF ANY DETECTION OR MANUAL DEVICE.
  16. A SUPERVISORY SIGNAL SHALL BE ANNUNCIATED UPON ACTIVATION OF ANY FIRE SPRINKLER SYSTEM TAMPERSwitch.
  17. HVAC DUCT SMOKE DETECTORS SHALL BE CONNECTED TO THE FIRE ALARM CONTROL PANEL AND SHALL INITIATE A SUPERVISORY SIGNAL ONLY.
  18. FIRE ALARM SYSTEM SHALL BE U.L. CERTIFIED.
  19. ALL FIRE ALARM INITIATING DEVICES SHALL BE ADDRESSABLE AND ALL FIRE ALARM CIRCUITS SHALL BE CLASS "B", STYLE "C".
  20. SECURITY LOCK SYSTEM (BY OTHERS) SHALL BE TIED INTO FIRE ALARM SYSTEM. EMERGENCY EXITS SHALL UNLOCK UPON RECEIPT OF ANY FIRE SIGNAL OR LOSS OF PRIMARY POWER.
  21. PROVIDE CERTIFICATE OF COMPLETION AT THE FINAL INSPECTION OF THE FIRE ALARM SYSTEM.
  22. FIRE ALARM CONTRACTOR SHALL PROVIDE A DETAILED SET OF SHOP DRAWINGS (INCLUDING DEVICE CUT SHEETS), A COMPLETE POINT TO POINT WIRING DIAGRAM, FLOOR PLAN DRAWINGS INDICATING ALL DEVICE LOCATIONS AND NUMBERS, COMPLETE BATTERY CALCULATIONS AND COMPLETE NOTIFICATION APPLIANCE CIRCUIT CALCULATIONS (FOR THE SYSTEM TO BE INSTALLED) TO THE BUILDING DEPARTMENT (AUTHORITY HAVING JURISDICTION) AT THE TIME OF APPLICATION FOR BUILDING PERMIT.
  23. PROVIDE THE OWNER WITH A COMPLETE FIRE ALARM SYSTEM AND INSTALLATION MANUAL COVERING MANUAL COVERING ALL SYSTEM EQUIPMENT INSTALLED FOR THIS PROJECT. KEEP AT THE MAIN FIRE ALARM CONTROL PANEL.



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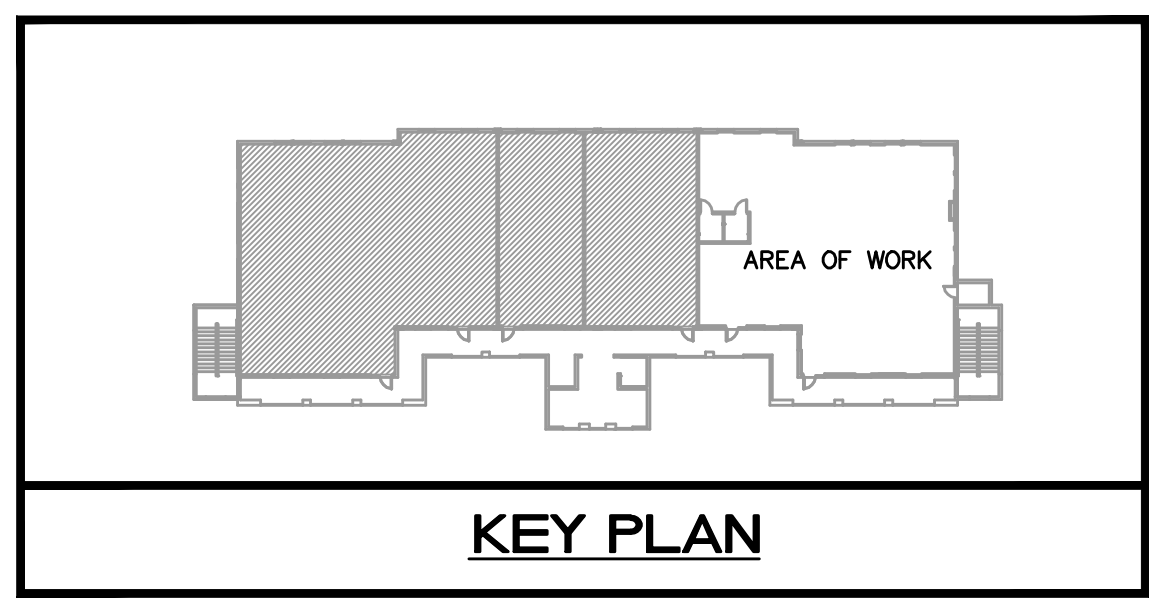
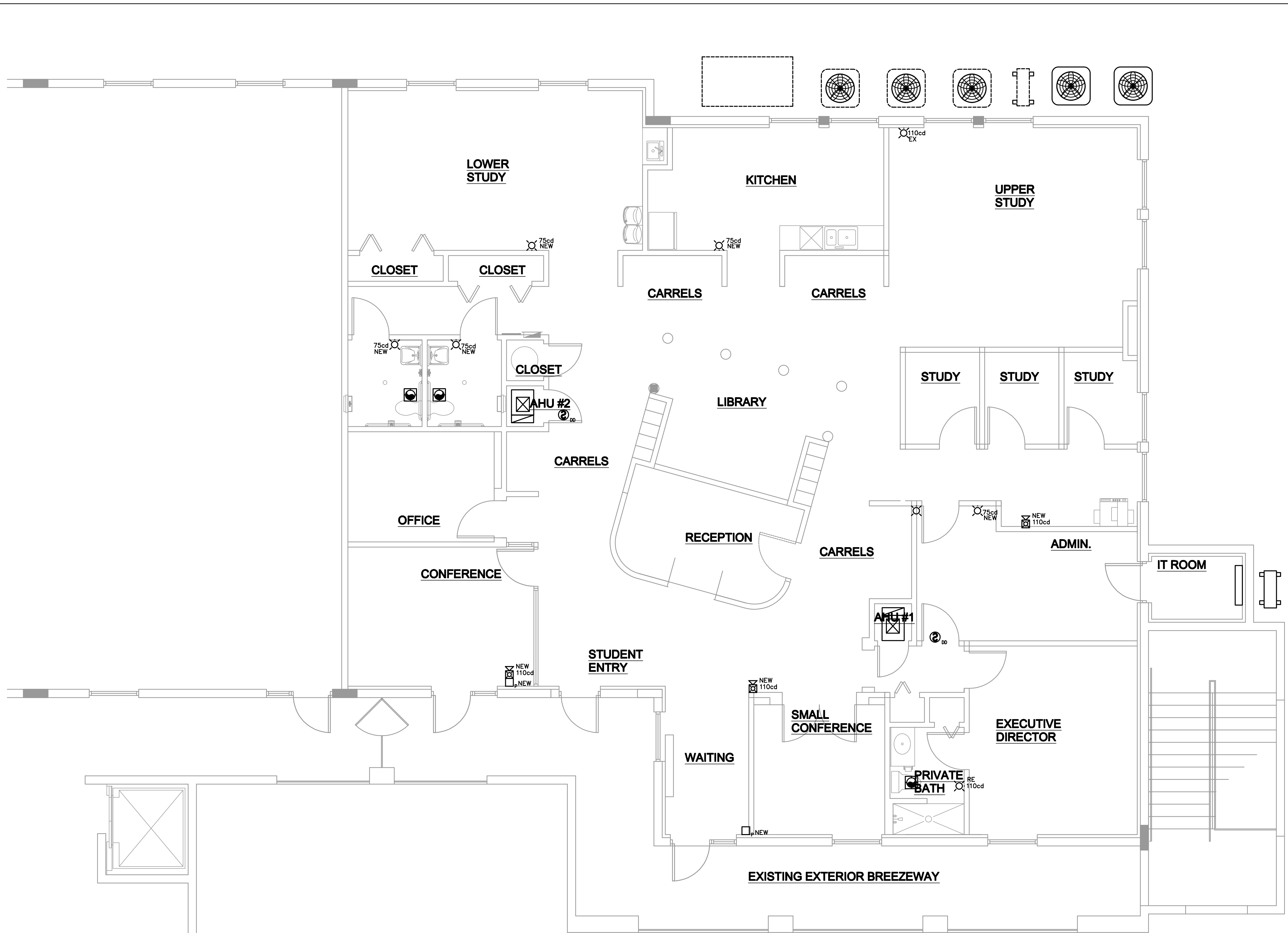
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KAMM CONSULTING PROJECT #: 2012-0053  
PROJECT MANAGER: MIKE PETERSON

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Fort Lauderdale, Florida 33309  
Phone 772-551-1744 Fax 772-551-1745  
www.kammconsulting.com  
Certification of Accreditation #0119

PRINCIPAL: Randy L. Brown Florida License #58232  
date: 01-07-12  
signature: [Signature]



### FIRE ALARM PLAN

1/4"=1'-0"

- GENERAL NOTES**
1. NEW FIRE ALARM DEVICES ARE TO MATCH BUILDING STANDARD.
  2. NEW FIRE ALARM DEVICES TO BE TIED INTO EXISTING FIRE ALARM CONTROL PANEL.
  3. VERIFY EXACT LOCATION OF EXISTING FIRE ALARM CONTROL PANEL IN FIELD.

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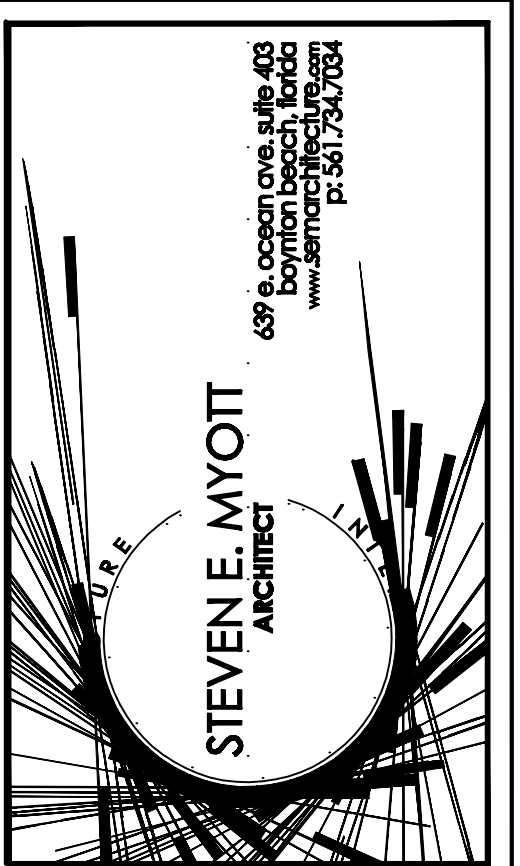
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 PROJECT MANAGER: MIKE PERROWSON

**KAMM** Consulting

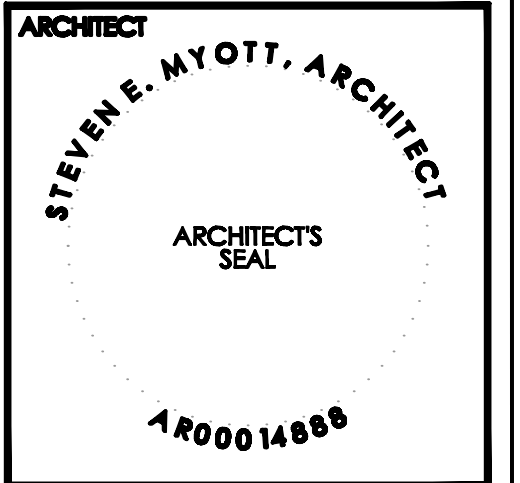
1408 Orange Avenue  
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 Phone: 772-233-1744 Fax: 772-593-1745  
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 VILLAGE OF WELLINGTON, FLORIDA 33421

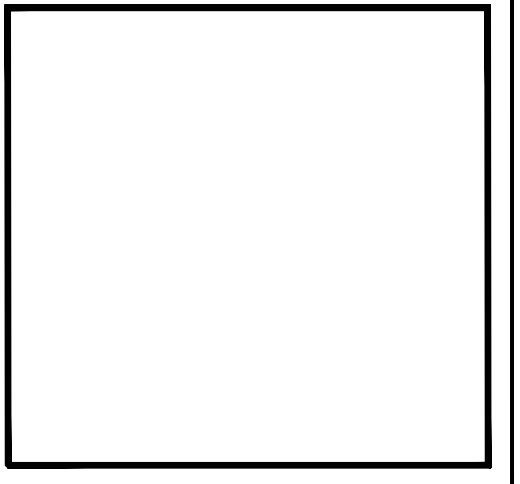


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PROJECT NO: 2012-0053  
 DRAWN BY: MP  
 CHECKED BY: BB

**FIRE ALARM PLAN**

NO.	DATE	ISSUED FOR
1	02/12	PER/IT GET



**FA2.1**

## MECHANICAL NOTES

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE FLORIDA BUILDING CODE 2007 AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST EDITION OF THE FOLLOWING PUBLICATIONS; SMACNA-85, 92, 95; ASHRAE 15-01, 34-01, 62-04; NFPA 70-02, 72-02, 90A-02, 90B-02, 91-99, 96-01; ANSI Z10.1-98, Z10.3-98, Z11.8-94, Z21.83-98.
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.
4. THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH "AS-BUILT" DRAWINGS.
5. CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE (5) COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT.
6. ALL MATERIAL SHALL BE NEW OF U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED. ALL INSTALLATIONS SHALL COMPLY WITH FMC 2007, CH. 3, GENERAL REGULATIONS. BUILDINGS LOCATED WITHIN 3,000 FT FROM THE OCEAN SHALL UTILIZE NON-FERROUS MATERIALS FOR ALL OUTDOOR EXPOSED SUPPORTS, STANDS, FASTENERS, ETC.
7. DUCTWORK:
  - A. ALL AIR CONDITIONING DUCT WORK SHALL BE OF 1-1/2" (R-6) HEAVY DUTY FOIL REINFORCED FIBERGLASS WITH MANUFACTURER'S LOGO PRINTED ON VAPOR BARRIER
  - B. ALL FLEX DUCT SHALL BE RATED CLASS I, UL-181 LISTED WITH METALLIZED INNER AND OUTER FOIL LINERS. MIN. R-6 WITH A MAX. TOTAL LENGTH NOT TO EXCEED 15 FT. FLEXIBLE DUCTWORK ELBOW SUPPORTS AT EACH DIFFUSER, GRILLE, AND REGISTER EQUAL TO "FLEXFLO ELBOW" AS MANUFACTURED BY "THERMAFLEX".
  - C. ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS. ALL OUTSIDE AIR DUCT SHALL BE INSULATED WITH EXTERNAL BLANKET INSULATION R-6 MIN.

ALL METAL EXHAUST, MAKE-UP OR OTHERWISE DUCTS INSTALLED IN LOCATIONS WHERE DEWPOINT CONDITIONS CAN OCCUR INSIDE THE DUCT SHALL BE EXTERNALLY INSULATED WITH R-6 MIN. THE CONTRACTOR SHALL PROVIDE ALL SHEETMETAL DUCTWORK, HANGERS, AUX. SUPPORT STEEL, ETC. ALL METAL DUCTS SHALL BE FABRICATED IN ACCORDANCE WITH LATEST EDITION OF S.M.A.C.N.A.












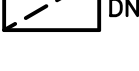










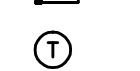





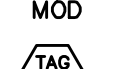
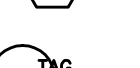


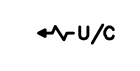
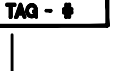
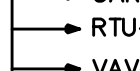
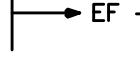






**SPECIAL NOTE:**  
SMACNA DUCT PRESSURE CLASSES BASED ON OPERATING PRESSURE ARE: 1/2", 1", 2", 3", 4", 6", AND 10". EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC DUCT PRESSURE CLASS SHOWN ON PLANS.  
WHERE NO PRESSURE CLASS IS SPECIFIED FOR CONSTANT VOLUME SYSTEMS, 1" W.G. PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THE SMACNA STANDARDS REGARDLESS OF VELOCITY. WHERE NO PRESSURE CLASS IS SPECIFIED FOR VARIABLE VOLUME SYSTEMS, 2" W.G. PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THE SMACNA STANDARDS FOR DUCTWORK UPSTREAM OF VAV BOXES.  
ALL DUCTWORK SHALL BE SEALED TO SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" FOR ITS PRESSURE CLASS SEALING METHODS.
9. OUTSIDE AIR INTAKES SHALL BE SCREENED WITH A CORROSION RESISTANT MATERIAL NOT LARGER THAN 1/2" MESH. O/A INTAKES SHALL NOT BE TAKEN FROM A LOCATION CLOSER THAN 10 FT. FROM ANY CHIMNEY, VENT OUTLET OR SANITARY SEWER VENT OUTLET, UNLESS SUCH VENT IS NOT LESS THAN 24 INCHES ABOVE THE OUTSIDE AIR VENT.  
OUTSIDE AIR INTAKE VENTS LOCATED ON ROOFS WILL BE PROPERLY MARKED WITH A UNIVERSAL MARKING "INTAKE", PERMANENTLY ATTACHED PER FMC 2007, SEC. 401.5.1
10. DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
11. 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 AS SPECIFIED OR EQUAL TO TITUS OR METALAIR. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS AS INDICATED ON PLANS. PROVIDE BALANCING DAMPERS FOR ALL SUPPLY AND RETURN DIFFUSERS AND REGISTERS TO ENSURE COMPLIANCE WITH FMC 2007, PAR. 601.4 AND PAR. 603.15 FOR BALANCED AIR FLOW.
12. TEMPERATURE CONTROLS/THERMOSTAT:
  - A. SHALL BE COMBINATION COOLING/HEATING, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. PROVIDE PROGRAMMABLE TYPE AS RECOMMENDED BY MANUFACTURER, HONEYWELL OR EQUAL. PROVIDE TAMPER PROOF COVERS.
13. THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION. INSTALL THERMOSTAT 48" TO 54" A.F.F. PER A.D.A. REQUIREMENTS WHERE APPLICABLE. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR ALL REQUIREMENTS FOR JUNCTION BOXES, CONDUITS, CONTROL WIRING, POWER, ETC. AND DEFINE RESPONSIBILITIES AND SCOPE OF WORK FOR EACH TRADE PRIOR TO ANY PURCHASING OR INSTALLATION. WHENEVER THERE ARE MORE THAN ONE SENSOR OR THERMOSTAT, SIDE BY SIDE, THEY SHALL BE GANGED TOGETHER WITHIN THE SAME COVER PLATE WHEREVER POSSIBLE. CONTRACTOR SHALL COORDINATE THIS ISSUE WITH ARCHITECT/OWNER PRIOR TO INSTALLATION AND SHALL BRING ANY DISCREPANCY TO THE ENGINEER'S ATTENTION.
14. REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER BRAZING-JOINT TYPE FITTINGS, USE BRAZING MATERIALS FOR HIGH PRESSURE PIPING PER AWS A5.8: BCuP SERIES COPPER-PHOSPHORUS ALLOY OR BA91 SILVER ALLOY. REFRIGERANT LINES SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATIONS. SOFT COPPER TYPE "M" SHALL BE ALLOWED FOR RISER PIPING INSIDE CHASE TO LIMIT NUMBER OF JOINTS. COORDINATE WITH ENGINEER FOR PRIOR APPROVAL. ALL EXPOSED INSULATION SHALL BE PROTECTED WITH UV RESISTANT PAINT OR ALUMIN. SHIELD.
15. ARMAFLEX INSULATION SHALL BE USED FOR SUCTION LINES (1/2" FOR ABOVE 40° F AND 1" FOR BELOW 40° F) PER FLORIDA ENERGY CODE TABLE 4-11 FOR PIPING INSULATION. FILTER/DRYER AND SIGHT GLASS SHALL BE PROVIDED AT LIQUID LINES.
16. ALL BRANCH TAKE-OFFS TO BE PROVIDED W/ MANUAL VOLUME DAMPERS. PROVIDE RADIUS ELBOWS WHERE FEASIBLE, SQUARE ELBOWS AND TEE'S SHALL BE FURNISHED W/SINGLE FOIL TURNING VANES. PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL FLEX TAKE-OFFS. PROVIDE REMOTE, CABLE OPERATED VOLUME DAMPERS IN INACCESSIBLE AND HARD CEILING AREAS, "YOUNG REGULATOR" OR EQUAL.
17. PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE START-UP, REPLACE PRIOR TO FINAL ACCEPTANCE BY OWNER.
18. PROVIDE SMOKE DETECTORS WITH SERVICE ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON PLENUM OF 2000 CFM OR ABOVE. FOR SMOKE DETECTORS NOT VISIBLE, IN CONCEALED SPACES, PROVIDE REMOTE ANNUNCIATION/TEST STATION AS REQUIRED BY AUTHORITY HAVING JURISDICTION, COORDINATE PRIOR TO INSTALLATION. DETECTORS SHALL BE BY ONE MANUFACTURER. COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
19. PROVIDE TYPE "B" DYNAMIC FIRE DAMPERS WITH SERVICE ACCESS DOORS IN ALL DUCTS AND OPENINGS PENETRATING FIRE RATED WALLS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, TENANT SEPARATION, PARTITIONS, FLOOR OR ROOF SLABS AND AT OUTSIDE AIR INTAKES AS REQUIRED. PROVIDE RADIATION DAMPERS IN RATED CEILING FOR ALL CEILING OPENINGS, CEILING FANS, DIFFUSERS OR GRILLES RATED FOR USE IN THE CEILING ASSEMBLY. PROVIDE LOW-LEAKAGE CLASS DAMPERS FOR ALL SITUATIONS WHERE THE AIRFLOW CFM HAS TO BE CONTROLLED. VERIFY AND REPLACE AS REQUIRED FOR EXISTING SYSTEMS.
20. HVAC CONTRACTOR SHALL PROVIDE A T & B REPORT PER F.B.C. 2007, CH. 13, 410.1.ABCD.4 (THE T & B REPORT SHALL BE INDEPENDENT FOR SYSTEMS OVER 15 TONS) FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHU'S AND FANS. THE TEST AND BALANCE REPORT SHALL BE IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY GRILLES, RETURN GRILLES AND EXHAUST GRILLES AND THE LEAVING AND ENTERING AIR TEMPERATURE (°F) FROM SUPPLY GRILLES AND EVAPORATORS. FOR (EXISTING) SMOKE EVACUATION SYSTEMS HVAC CONTRACTOR SHALL PROVIDE A T & B REPORT PRIOR TO ANY NEW WORK, PROVING THAT THE SMOKE EVACUATION SYSTEM PERFORMS PER ORIGINAL DESIGN DOCUMENTS AND IS COMPLIANT WITH LOCAL CODE REQUIREMENTS.
21. RUN INSULATED FIRE RATED CONDENSATE DRAINS AS REQUIRED.
22. ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
23. MECHANICAL EQUIPMENT ON ROOF OR ELEVATED STRUCTURES SHALL COMPLY WITH FBC 2007 PAR. 306.5 IF INSTALLED HIGHER THAN 16 FEET A.F.F. MECHANICAL EQUIPMENT INSTALLED IN ATTIC SHALL MEET THE REQUIREMENTS OF FBC 2007 PAR. 306.3 IF THE EQUIPMENT CAN NOT BE SERVICED/REMOVED THROUGH REQUIRED OPENING. MECHANICAL EQUIPMENT SHALL BE PROTECTED WITH MECHANICAL BARRIERS IF EXPOSED TO MECH. DAMAGE. ALL EQUIPMENT SHALL BE INSTALLED ON 6" CONCRETE PAD AT GRADE LEVEL.
 

**SPECIAL NOTE:**  
ALL WIND LOAD AND OTHER COMPLIANCE CALCULATIONS AND/OR INSTALLATION DETAILS FOR ROOF MOUNTED EQUIPMENT AS REQUIRED BY FBC 2007, SEC. 1509, 1522 AND CHAPTER 16, SHALL BE PROVIDED BY STRUCTURAL ENGINEER/ARCHITECT.
24. PROVIDE A MIN. OF 36" CLEARANCE IN FRONT OF ALL 120-208 VOLT PANELS AND MIN. 42" CLEARANCE IN FRONT OF ANY 240-480 VOLT PANEL. PROVIDE ADEQUATE SIDE CLEARANCE PER NEC.
25. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, FIRE SPRINKLER, AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS SHALL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES IN DUCTWORK SIZE AND ROUTE WILL BE REQUIRED TO AVOID STRUCTURAL, PLUMBING, FIRE SPRINKLER AND ARCHITECTURAL BUILDING FEATURES. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IF DUCT AREA WILL NOT FIT.
26. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT, IN ORDER TO PROVIDE A FULLY INTEGRATED MECHANICAL AND CONTROLS SYSTEMS WITH THE EXISTING ONES. ANY DISCREPANCY BETWEEN EXISTING CONDITIONS AND PLANS, OR ADDITIONAL CLARIFICATION REQ'D SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER PRIOR TO FINAL BIDDING AND WORK.
27. NO COMBUSTIBLE MATERIALS ARE ALLOWED IN RETURN AIR PLENUMS OR ABOVE CEILING USED AS RETURN AIR PLENUM. IF SPACE WITH RETURN AIR PLENUM HAS ANY DECK TO DECK PARTITIONS, AIR TRANSFER DUCTS MUST BE INSTALLED. WHEN CPVC PIPING IS USED FOR FIRE SPRINKLER SYSTEMS, THE R/A GRILLES LAYOUT SHALL BE (FIELD) COORDINATED WITH SUCH PIPING SO THAT NO PORTION OF THE GRILLES WILL BE DIRECTLY BELOW THE CPVC PIPING.
28. CONDENSATE DRAIN PIPING TO BE AS SPECIFIED PER PLUMBING PLANS, IF NOT SPECIFIED TO BE TYPE "L" COPPER OR PVC WHERE ALLOWED BY CODE WITH 1/2" ARMAFLEX INSULATION. PROVIDE APPROVED WATER LEVEL DETECTOR OR FLOAT SWITCH TO AUTOMATICALLY SHUT DOWN THE AIR COND. UNIT, AS A SECONDARY DRAIN SYSTEM TO COMPLY WITH FMC 2007, SEC. 307 SUPPLY CONDENSATE PUMP WHERE NECESSARY AS IMPOSED BY FIELD CONDITIONS OR INSTALLATION CHANGES AND PIPE TO CONDENSATE DRAIN PER PLUMBING PLANS.
29. MANUFACTURER'S WARRANTY: CONTRACTOR SHALL PROVIDE WARRANTY FOR A PERIOD OF (1) ONE YEAR AFTER BUILDING C.O. FOR ALL MECHANICAL SYSTEMS, DUCTWORK, CONTROLS ACCESSORIES AND ALL OTHER EQUIPMENT, PARTS AND LABOR UNDER THESE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE WARRANTY FOR COMPRESSORS FOR (5) FIVE YEARS. ANY REPAIRS REQUIRING SYSTEM SHUTDOWN WILL BE DONE DURING NON-OPERATIONAL PERIODS OR AS AGREED WITH OWNER.

## MECHANICAL SHEET INDEX

SHEET#	DESCRIPTION
M0.1	MECHANICAL NOTES, LEGEND & INDEX
M2.1	MECHANICAL FLOOR PLAN
M6.1	MECHANICAL SCHEDULES
M7.1	MECHANICAL DETAILS

## MECHANICAL LEGEND

 SUPPLY AIR CEILING DIFFUSER  RETURN AIR CEILING GRILLE  WALL LOUVER / WALL DIFFUSER.  LINEAR DIFFUSER  MANUAL VOLUME CONTROL DAMPER  MOTORIZED DAMPER  FIRE DAMPER  REDUCER OR INCREASER  FLEX DUCT  EXISTING FLEX DUCT  EXISTING DUCTWORK  SUPPLY & OUTSIDE AIR SECTION (UP)  SUPPLY & OUTSIDE AIR SECTION (DN)  RETURN OR EXHAUST DUCT SECTION (UP)  RETURN OR EXHAUST DUCT SECTION (DN)  ROUND UP  SHOE TAP DAMPER  ROOFTOP UNIT  SOLENOID VALVE.  RELOCATE	 CEILING OR IN-LINE EXHAUST FAN  STANDARD SINGLE DUCT VAV BOX (3'0" SERVICE CLEARANCE)  THERMOSTAT  HUMIDISTAT  REFRIGERANT SENSOR  STATIC PRESSURE SENSOR  DUCT SMOKE DETECTOR  AP - ACCESS PANEL  AD - ACCESS DOOR  VCD VOLUME CONTROL DAMPER  MOD MANUALLY OPERATED DAMPER  SUPPLY AIR DIFFUSER OR GRILLE DESIGNATION  RETURN/EXHAUST AIR DIFFUSER OR GRILLE DESIGNATION  VARIABLE FREQ. DRIVE CONTROL PANEL  SUPPLY AIR  RETURN AIR  DOOR UNDER CUT  TAG - E EQUIPMENT TAG  OARTU- OUTSIDE AIR ROOF TOP UNIT  RTU- ROOF TOP UNIT  VAV- VARIABLE VOLUME BOX  EF - EXHAUST FAN
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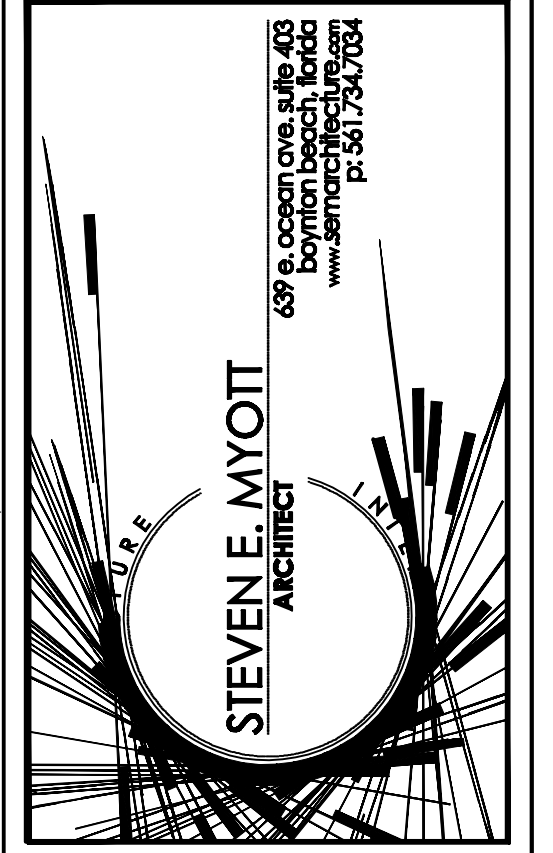
NOT ALL SYMBOLS MAY APPLY TO THESE PLANS

## HVAC ABBREVIATION LEGEND

AC AIR CONDITIONING AFF ABOVE FINISH FLOOR BDD BACK DRAFT DAMPER CD CONDENSATE DRAIN COP COEFFICIENT OF PERFORMANCE DB DRY BULB DIA. DIAMETER E EXISTING TO REMAIN EER ENERGY EFFICIENCY RATIO EDH ELECTRIC DUCT HEATER EF EXHAUST FAN ESP EXTERNAL STATIC PRESSURE F FILTER FD FIRE DAMPER FLA FULL LOAD AMPS. FMS FLOW MEASURING STATION IPLV INTEGRATED PART-LOAD VALUE.	MCA MINIMUM CIRCUIT AMPS (FOR WIRE SIZING) MOD MANUALLY OPERATED DAMPER MOCP MAXIMUM OVERCURRENT PROTECTION DEVICE AMPS NC NOISE CRITERIA O/A OUTSIDE AIR OBD OPOSITE BLADE DAMPER PD PRESSURE DROP. R EXISTING TO BE RELOCATED R/A RETURN AIR RLA RATED LOAD AMPS. SEER STANDARD ENERGY EFFICIENCY RATIO TSP TOTAL STATIC PRESSURE VD VOLUME CONTROL DAMPER VFD VARIABLE FREQUENCY DRIVE WB WET BULB
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NOTE: NOT ALL SYMBOLS MAY APPLY TO THESE PLANS.

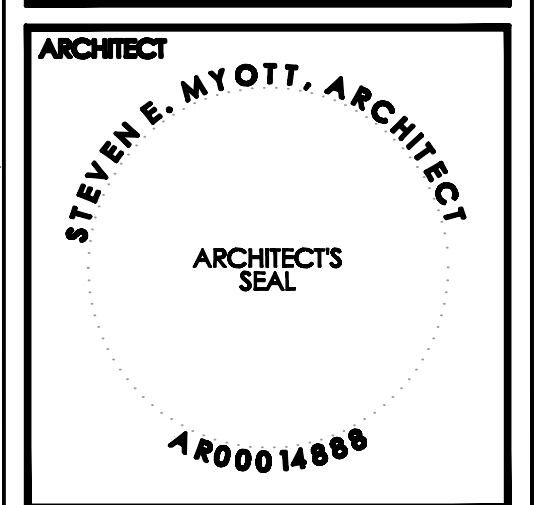
**NOTE:** EXISTING AIR CONDITIONED BUILDING, ENERGY CALCULATIONS NOT REQUIRED PER FLORIDA ENERGY CODE 101.5.1.



PRIVATE TUTORING SERVICES  
AT WELLINGTON

- TENANT BUILD OUT -

PROFESSIONAL CENTER AT WELLINGTON  
13421 SOUTH SHORE BOULEVARD  
VILLAGE OF WELLINGTON, FLORIDA 33421



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PROJECT NO: 2012-0053  
 DRAWN BY: MP  
 CHECKED BY: EB

NO: DATE: ISSUED FOR:  
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KAMM CONSULTING PROJECT #: 2012-0053  
 PROJECT MANAGER: MIKE PETERSON

KAMM  
Consulting

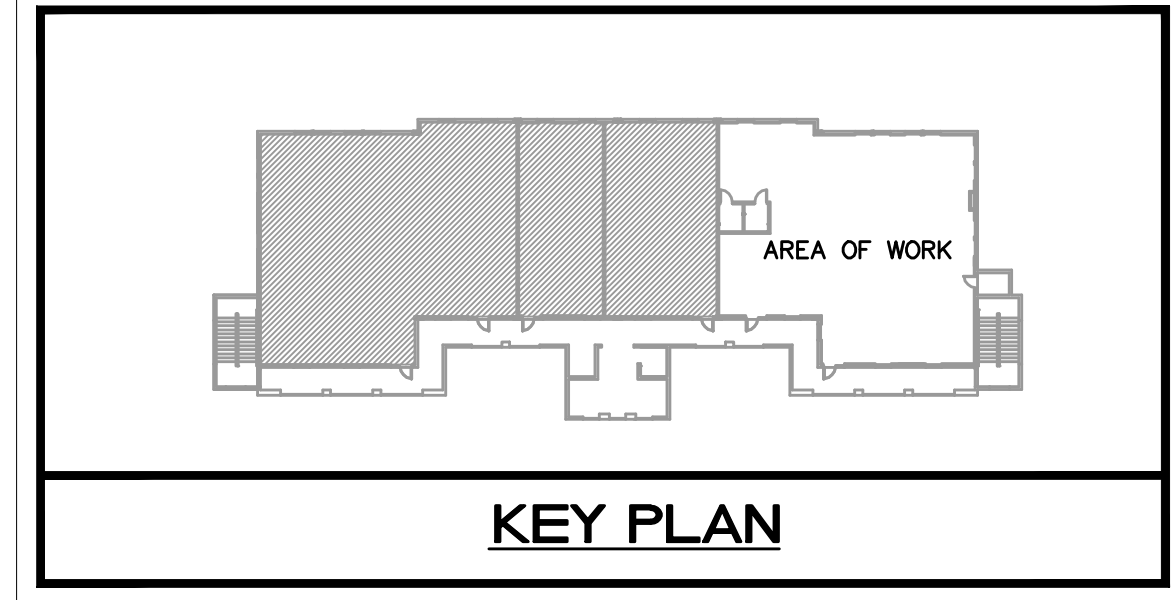
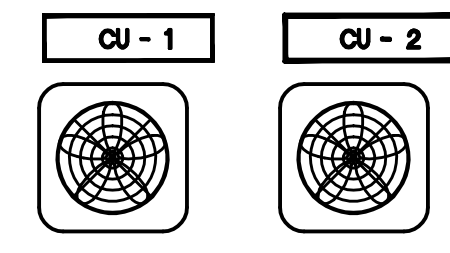
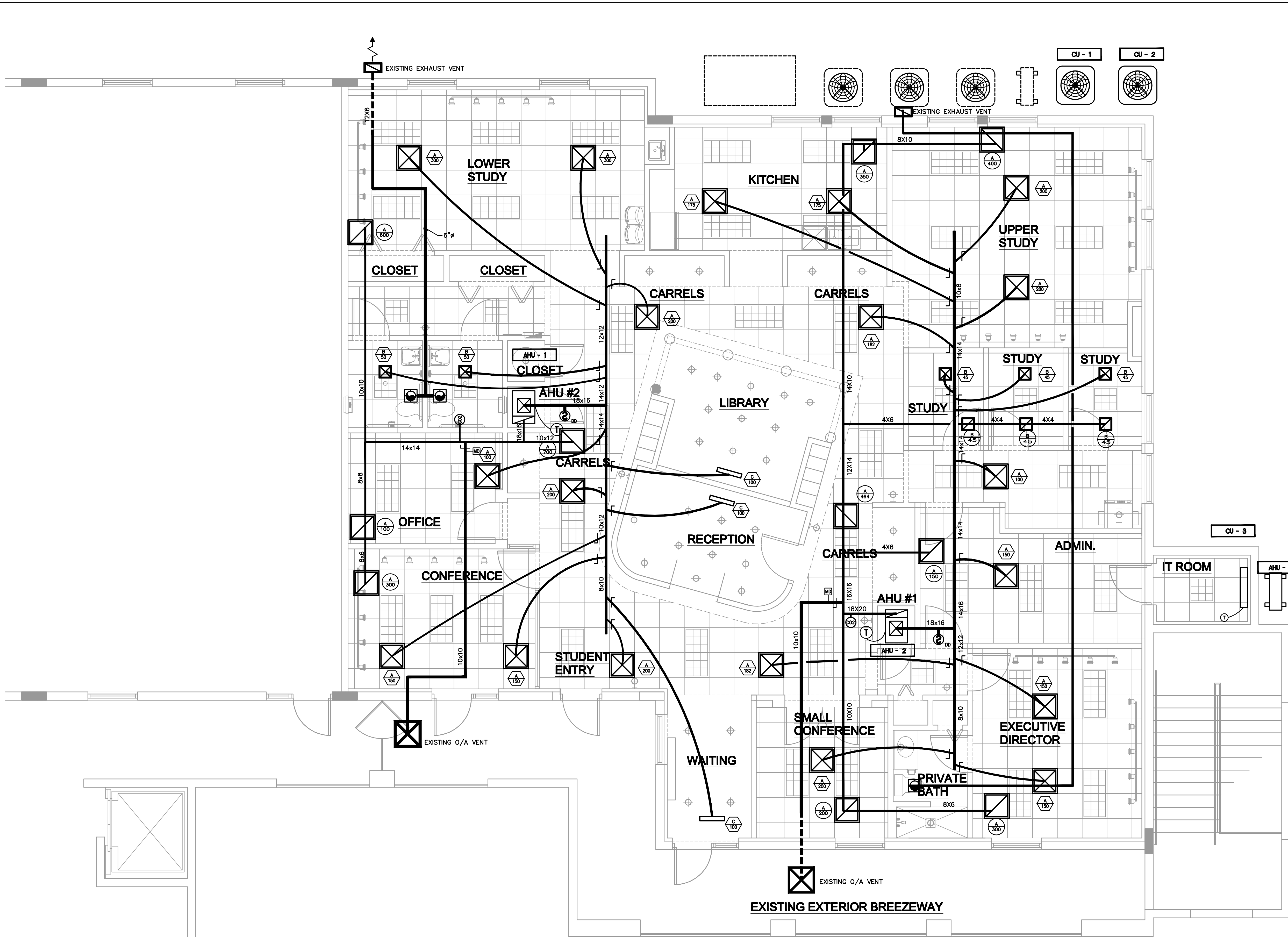
1408 Orange Avenue  
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 Continuation of Accreditation #0119

01-07-12

PRINCIPAL: Randy L. Brown Florida License #58232  
 date: \_\_\_\_\_

M0.1





MECHANICAL PLAN  
1/4"=1'-0"

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**STEVEN E. MYOTT  
ARCHITECT**

**PRIVATE TUTORING SERVICES  
AT WELLINGTON**  
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3421 SOUTH SHORE BOULEVARD  
VILLAGE OF WELLINGTON, FLORIDA 33421

ARCHITECT

**STEVEN E. MYOTT, ARCHITECT**

ARCHITECTS  
SEAL

A R00014888

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PROJECT NO: 2012-0053  
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1 2/2/12 PER-IT GET


MECHANICAL PLAN

ISSUED FOR PERMIT 01-07-12

KAMM CONSULTING PROJECT #: 2015-0053  
PROJECT MANAGER: MIKHAYLO PETRUSON

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PRINCIPAL: Randy L. Brown Florida License #58232  
DATE: 01-07-12  
SCALE: 1/4" = 1'-0"

**M2.1**

### AIR CONDITIONING SPLIT SYSTEM EQUIPMENT SCHEDULE

CONDENSING UNIT														
CU TAG	MANUFACTURER & MODEL	NOMINAL TONNAGE	CAP. STAGES	(S)EER/(PL)V	REFRIG./LBS LIQ./SUCT. LINES	NO. FANS	FAN FLA(EA)	NO. COMP.	COMP.RLA(EA)	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
CU-1 & 2	YORK YCJD60S41S1	5.0	1	13	R410A	-	1	-	1	208/1/60	21.1/35	173	29X29X30	1-9

AIR HANDLING UNIT																
AHU TAG	MANUFACTURER & MODEL	TOTAL MBH	SENSIBLE MBH	TOTAL CFM	O/A CFM	E.S.P.("WG.)	ENT. DB/WB	LEAV. DB/WB	ROWS/FPI	FAN HP/FLA	HEATER KW	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
AHU-1 & 2	YORK AHP 60DJKH21	55.8	42.5	2000	SEE SCHEDULE	0.45	76.8/64.1	55.3/53.1	-	-	7.2	208/1/60	47.6/50	179	21.5X24.5X57	1-9

**NOTES:**

- UNITS RATED PER ARI 210, 240 AND 270, APPROVED EQUAL.
- PROVIDE WITH ELECTRIC EXPANSION VALVES, LIQUID LINE FILTER DRYER AND MULTI-USE SERVICE VALVES
- PROVIDE COMPRESSOR WITH CRANKCASE HEATER AND MIN. 5-YEAR WARRANTY
- PROVIDE HIGH AND LOW PRESSURE CONTROL AND OVER TEMPERATURE PROTECTION.
- PROVIDE WEATHERPROOF ELECTRIC CONTROLS AND SINGLE SIDE SERVICE ACCESS
- PROVIDE DISCONNECT BY ELECTRICAL CONTRACTOR FOR C.U., COORDINATE PRIOR TO PURCHASING
- PROVIDE REFRIGERANT LINES SIZE AS RECOMMENDED BY MANUFACTURER, NOT TO EXCEED 50 FT. EQUIV. LENGTH FOR LONGER RUNS COORDINATE WITH MANUFACTURER PRIOR TO PURCHASE OR ANY WORK.
- CONTRACTOR TO COORDINATE WITH ELECTRICAL TO INSURE THAT THE CONDENSING UNIT AND RACK ARE TIED TO THE LIGHTNING PROTECTION SYSTEM ON THE ROOF.
- PROVIDE WITH CONDENSATE LINE SHUT OFF SWITCH.

**COORDINATION NOTE:**

MECHANICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS AND ACCESSORIES WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASING AND INSTALLATION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF ENGINEER

### FAN SCHEDULE

SELECTION DATA				FAN DATA				MOTOR DATA				GENERAL DATA				
TAG	SERVICE AREA	MANUF.(*)	MODEL	CONFIG.	CFM	ESP ("WG)	SONES	HP	RPM	DRIVE	VOLTAGE	WEIGHT (LBS)	DIMENSIONS L"xW"xH"	OPENING L"xW"	CONTROL	ACCESSORIES
EF-1	BATHROOMS	GREENHECK	SP-B70	CEILING	50	.2	1.1	45 WATT	563	DIRECT	120/1/60	10	14X12X8	*	LIGHT INTERLOCK	1-7

(\*) APPROVED EQUAL MANUFACTURER: COOK, TWIN-CITY, ACME, PENN

**ACCESSORIES NOTES:**

- PROVIDE GRILLE COLOR PER ARCH. SPECS
- PROVIDE BACK DRAFT DAMPER
- LOCATE BACK DRAFT DAMPER AT DISCHARGE
- PROVIDE FACTORY MOUNTED DISCONNECT SWITCH AND INTEGRAL THERMAL OVERLOAD PROTECTION, COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ANY PURCHASING.
- PROVIDE BIRD SCREEN
- SUPPORT FROM STRUCTURE COMPLETE WITH VIBRATION ISOLATORS
- PROVIDE WEATHERHOOD DRAIN AND CORROSION COATING.
- PROVIDE WITH MOTORIZED DAMPER.
- PROVIDE MOTOR SIDE GUARD
- PROVIDE SPARK RESISTANCE CONSTRUCTION FAN

**GENERAL FAN NOTES:**

- MOTOR STARTERS, DISCONNECTS (IF NOT FACTORY PROVIDED) AND ALL EQUIPMENT NORMAL POWER AND EMERGENCY POWER WIRING BY ELEC. CONTRACTOR
- ALL CONTINUOUS-DUTY MOTORS SHALL BE PROVIDED WITH OVERLOAD PROTECTION ACCORDING TO NATIONAL ELECTRICAL CODE PAR. 430-32.
- FIELD ADJUST OPENINGS WITH STRUCTURE.
- ALL OUTDOOR EQUIPMENT SHALL COMPLY WITH LOCAL ZONING NOISE ORDINANCE OR NOT EXCEED A NOISE LEVEL OF 65dB AS MEASURED RADIALLY 30 FT. FROM THE EQUIPMENT IN ALL DIRECTIONS.
- COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE BIDDING OR ORDERING ANY EQUIPMENT.
- SEE PROJECT PLANS AND SPECIFICATIONS FOR OTHER FIELD SUPPLIED ITEMS AND ADDITIONAL INFORMATION.
- ALL FANS ON ROOF SHALL BE PAINTED AS PER ARCHITECTURAL SPECS.

### AIR CONDITIONING SPLIT SYSTEM EQUIPMENT SCHEDULE

CONDENSING UNIT															
CU TAG	MANUFACTURER & MODEL	NOMINAL TONNAGE	CAP. STAGES	(S)EER/(PL)V	REFRIG./LBS LIQ./SUCT. LINES	NO. FANS	FAN FLA(EA)	NO. COMP.	COMP.RLA(EA)	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES	
CU-3	SANYO CL1271	1.0	1	17	R410A	3/8" / 5/8"	1	-	1	16.2	120/1/60	10.9/20	75.0	29X22X11	1-9

AIR HANDLING UNIT																
AHU TAG	MANUFACTURER & MODEL	TOTAL MBH	SENSIBLE MBH	TOTAL CFM	O/A CFM	E.S.P.("WG.)	ENT. DB/WB	LEAV. DB/WB	ROWS/FPI	FAN HP/FLA	HEATER KW	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
AHU-3	SANYO	11.9	-	294	-	-	-	-	-	-	-	-	FROM CU	19.8	33X12X8	1-9

**NOTES:**

- UNITS RATED PER ARI 210, 240 AND 270, APPROVED EQUAL: SANYO
- PROVIDE WITH ELECTRIC EXPANSION VALVES, LIQUID LINE FILTER DRYER AND MULTI-USE SERVICE VALVES
- PROVIDE COMPRESSOR WITH CRANKCASE HEATER AND MIN. 5-YEAR WARRANTY
- PROVIDE HIGH AND LOW PRESSURE CONTROL AND OVER TEMPERATURE PROTECTION.
- PROVIDE WEATHERPROOF ELECTRIC CONTROLS AND SINGLE SIDE SERVICE ACCESS
- PROVIDE DISCONNECT BY ELECTRICAL CONTRACTOR FOR C.U., COORDINATE PRIOR TO PURCHASING
- PROVIDE REFRIGERANT LINES SIZE AS RECOMMENDED BY MANUFACTURER, NOT TO EXCEED 50 FT. EQUIV. LENGTH FOR LONGER RUNS COORDINATE WITH MANUFACTURER PRIOR TO PURCHASE OR ANY WORK.
- CONTRACTOR TO COORDINATE WITH ELECTRICAL TO INSURE THAT THE CONDENSING UNIT AND RACK ARE TIED TO THE EXISTING LIGHTNING PROTECTION SYSTEM ON THE ROOF.
- PROVIDE WITH CONDENSATE LINE SHUT OFF SWITCH (SAFE-T-SWITCH SSI).

**COORDINATION NOTE:**

MECHANICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS AND ACCESSORIES WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASING AND INSTALLATION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF ENGINEER

### OUTSIDE AIR CALCULATIONS

(PER TABLE 6-1, ASHRAE 62.1-2004)

AREA SERVED OR UNIT TAG	NET OCCUPIABLE AREA SQ.FT.	AREA OUTDOOR AIR RATE (RA) CFM/FT <sup>2</sup>	TOTAL NO. OF PEOPLE	PEOPLE OUTDOOR AIR RATE (RP) CFM/PERSON	DEFAULT VALUES OCC. DENS. P/1000FT <sup>2</sup> FL. AR.	TOTAL NO. OF PEOPLE FROM DEFAULT VALUES	COMBINED OUTDOOR AIR RATE CFM/PERSON	TOTAL CFM O/A REQUIRED	TOTAL CFM O/A PROVIDED	NOTES
AHU-1	1515	0.12	32	5	-	-	182+160	342	342	SEE NOTES
AHU-2	1930	0.12	35	5	-	-	232+175	407	407	SEE NOTES
TOTAL	3445.0	-	-	-	-	-	-	749.0	749.0	-

**NOTES:**

- CALCULATIONS ARE BASED ON ESTIMATED MAX. OCCUPANCY RATES PER ARCHITECTURAL PLANS AND ASHRAE 62.1-2004. VENTILATION RATES PER ASHRAE 62.1-2004.
- FOR OFFICE AND OTHER SIMILAR AREAS CALCULATIONS ARE BASED ON CONTINUOUS OCCUPANCY

### SUPPLY AIR GRILLE SCHEDULE

TAG	MANUF. & MODEL	FACE SIZE	NECK SIZE	MATERIAL	FRAME	FINISH	DAMPER	THROW	NC	CFM RANGE	NOTES
A	TITUS/ TDCA-AA	24X24	SEE SCH.	ALUM.	NOTE #3	OFF WHITE	OBD	4-WAY	MAX. 30	SEE SCH.	1-6
B	TITUS/ TDCA-AA	12X12	SEE SCH.	ALUM.	NOTE #3	OFF WHITE	OBD	4-WAY	MAX. 30	SEE SCH.	1-6
C	TITUS	LINEAR	SEE SCH.	ALUM.	NOTE #3	OFF WHITE	OBD	4-WAY	MAX. 30	SEE SCH.	1-6

(\*) EQUIVALENT MANUFACTURER: METALAIR, PRICE, CARNES, T & B, NAILOR

**GENERAL NOTES:**

- PROVIDE SPIN-IN COLLAR AT TRUNK TO FLEX DUCT CONNECTION.
- PROVIDE TYPICAL 4-WAY DIFFUSION, 2-WAY OR 3-WAY ONLY WHERE INDICATED ON PLAN
- REFER TO ARCHITECT PLANS FOR CEILING TYPE.
- FINAL COLOR SELECTION SUBJECT TO ARCHITECT APPROVAL.
- FLEX DUCT SIZE TO BE SAME AS DIFFUSER NECK SIZE.
- PROVIDE INSULATION ON THE BACK OF DIFFUSER IF IN UNCONDITIONED SPACE.

FLEX SCHEDULE	
6"	50-125 CFM
8"	130-200 CFM
10"	205-330 CFM
12"	335-450 CFM
14"	455-600 CFM
16"	605-700 CFM

CONTRACTOR SHALL VERIFY WITH ARCHITECT AND TENANT/OWNER, PRIOR TO ANY PURCHASING OR INSTALLATION, IF A BUILDING STANDARD HAS TO BE FOLLOWED REGARDING A SPECIFIC MODEL OR MANUFACTURER AND SHALL BRING ANY DISCREPANCY TO THE ATTENTION OF ENGINEER.

### RETURN AIR GRILLE SCHEDULE

TAG	MANUF. & MODEL	FACE SIZE	NECK SIZE	MATERIAL	FRAME	FINISH	DAMPER	THROW	NC	CFM RANGE	NOTES
A	TITUS/ PAR-AA	24X24	SEE SCH.	ALUM.	NOTE #1	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	2-3
A	TITUS/ PAR-AA	12X12	SEE SCH.	ALUM.	NOTE #1	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	2-3
A	TITUS	LINEAR	SEE SCH.	ALUM.	NOTE #1	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	2-3

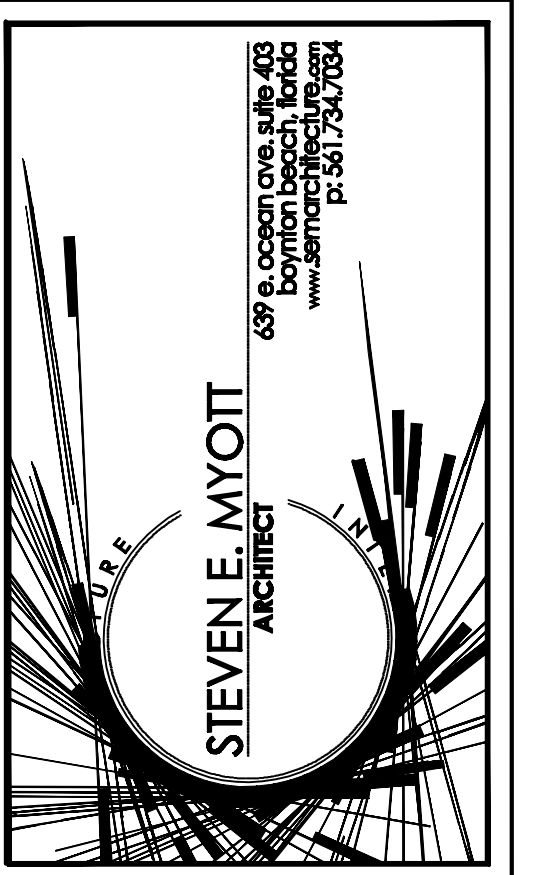
(\*) EQUIVALENT MANUFACTURER: METALAIR, PRICE, CARNES, T & B, NAILOR

**GENERAL NOTES:**

- REFER TO ARCHITECT PLANS FOR CEILING TYPE.
- FINAL COLOR SELECTION SUBJECT TO ARCHITECT APPROVAL.
- PROVIDE INSULATION ON THE BACK OF DIFFUSER IF IN UNCONDITIONED SPACE
- CONTRACTOR TO PROVIDE ALTERNATE TO PROVIDE AND INSTALL SOUND BOOTS ON RETURN AIR AT ALL PRIVATE OFFICES. SEE DETAIL SHEET M7.1.

NECK SIZE	CFM RANGE	NECK SIZE	CFM RANGE
6X6	0-150 CFM	15X15	0-900 CFM
8X8	0-250 CFM	18X18	0-1350 CFM
10X10	0-400 CFM	22X22	0-2000 CFM
12X12	0-600 CFM		

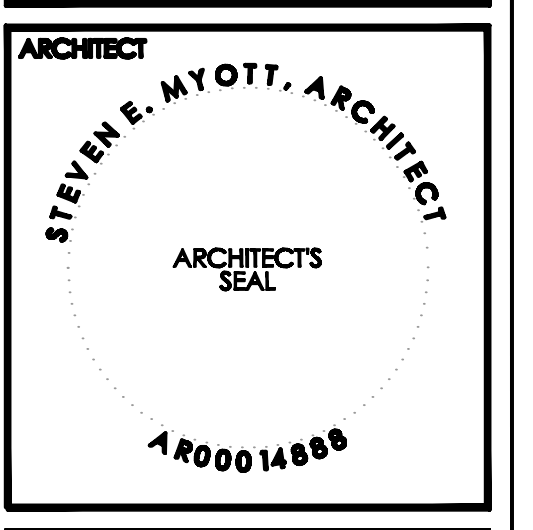
CONTRACTOR SHALL VERIFY WITH ARCHITECT AND TENANT OR OWNER, PRIOR TO ANY PURCHASING OR INSTALLATION, IF A BUILDING STANDARD HAS TO BE FOLLOWED REGARDING A SPECIFIC MODEL OR MANUFACTURER AND SHALL BRING ANY DISCREPANCY TO THE ATTENTION OF ENGINEER.



**PRIVATE TUTORING SERVICES  
AT WELINGTON**

- TENANT BUILD OUT -

PROFESSIONAL CENTER AT WELINGTON  
3421 SOUTH SHORE BOULEVARD  
VILLAGE OF WELINGTON, FLORIDA 33421



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PROJECT NO: 2012-0053  
DRAWN BY: MP  
CHECKED BY: EB

NO.	DATE	ISSUED FOR:
1	02/12	PER-IT GET

**MECHANICAL SCHEDULES**

ISSUED FOR PERMIT      01-07-12

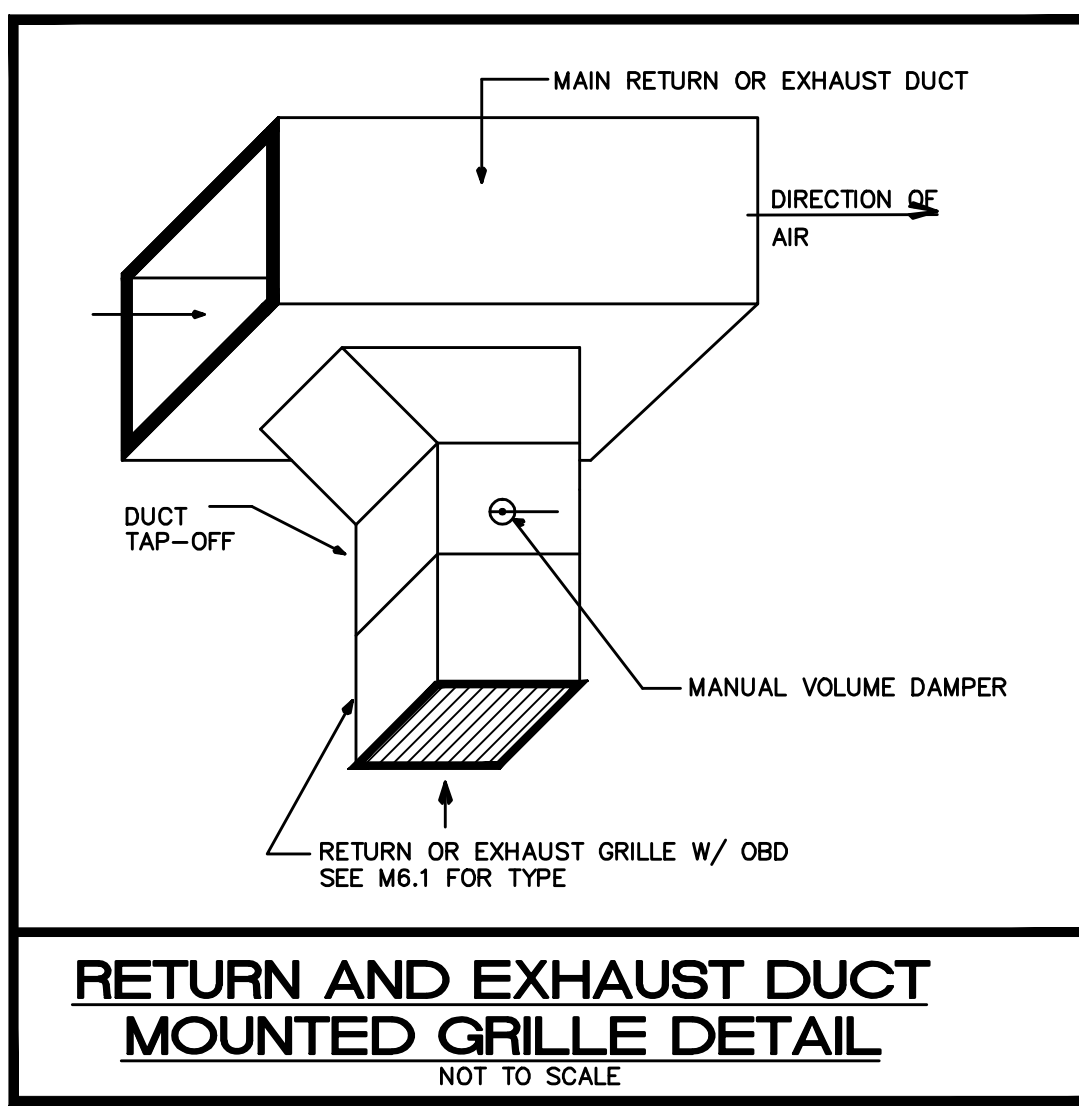
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KAMM CONSULTING PROJECT #: 2012-0053  
PROJECT MANAGER: MIKE FETTERSON

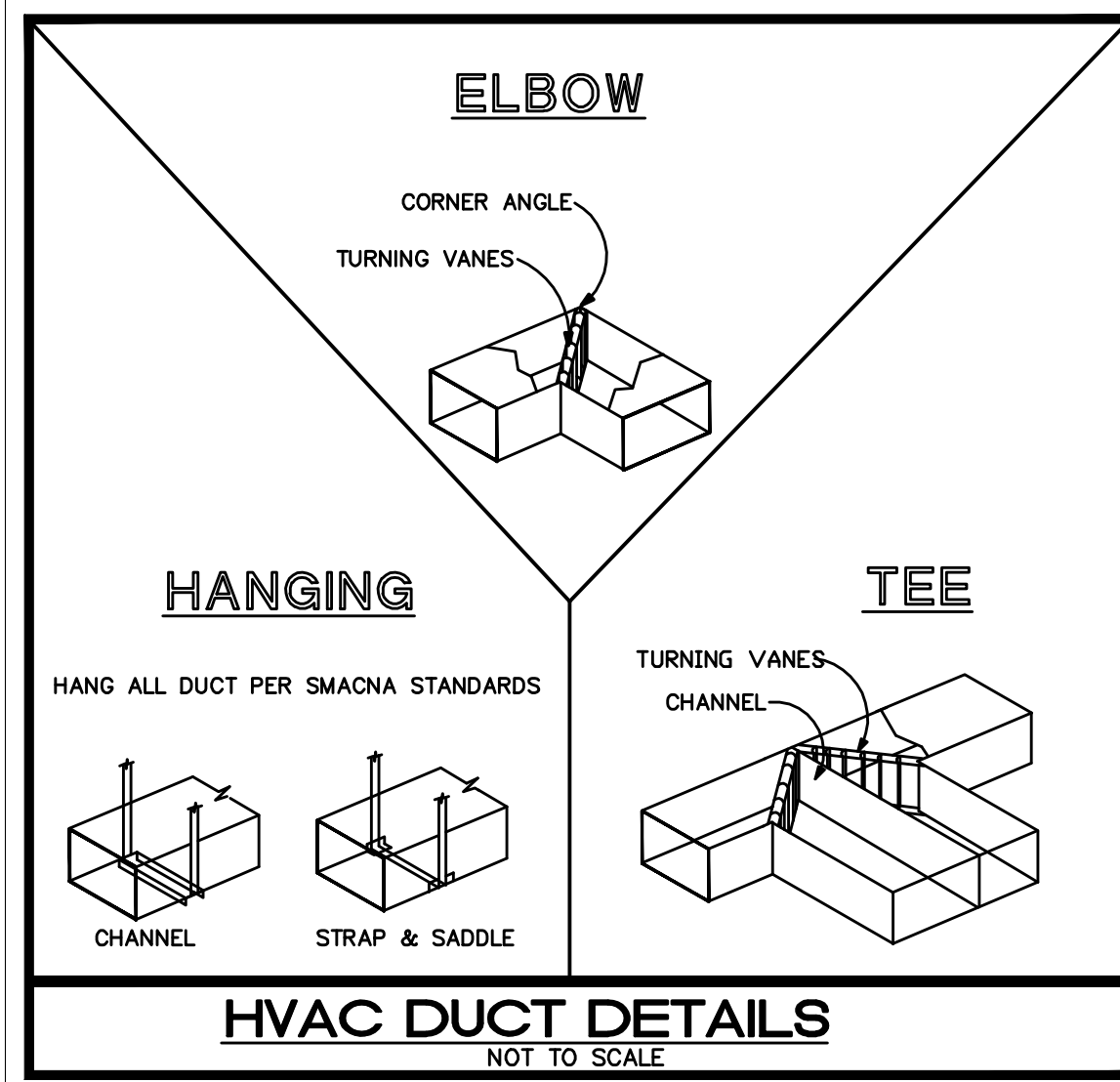
**KAMM Consulting**  
Principal  
Buddy L. Brown      Florida License #58232

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Fort Myers, Florida 34909  
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www.kamm.com

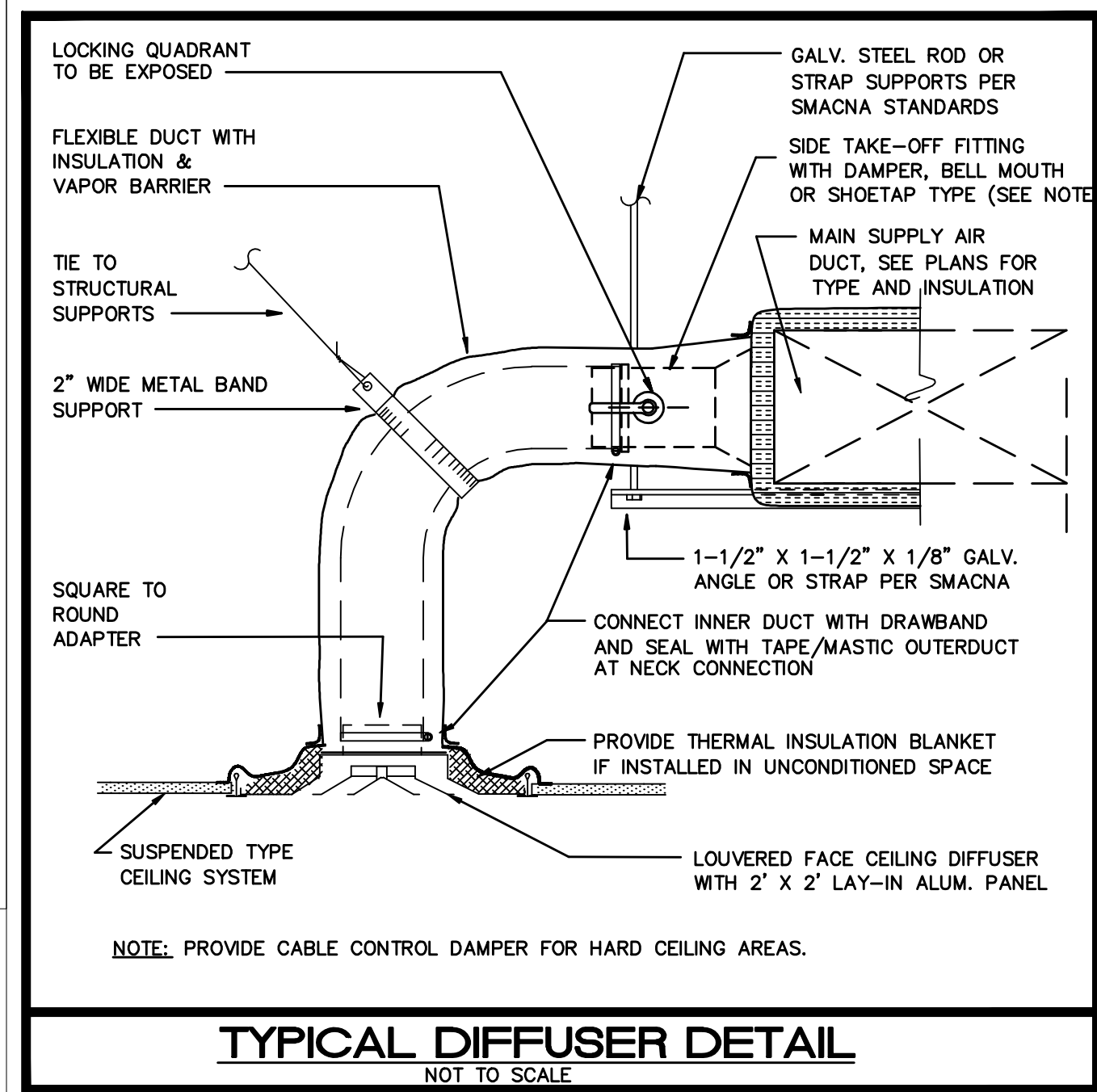
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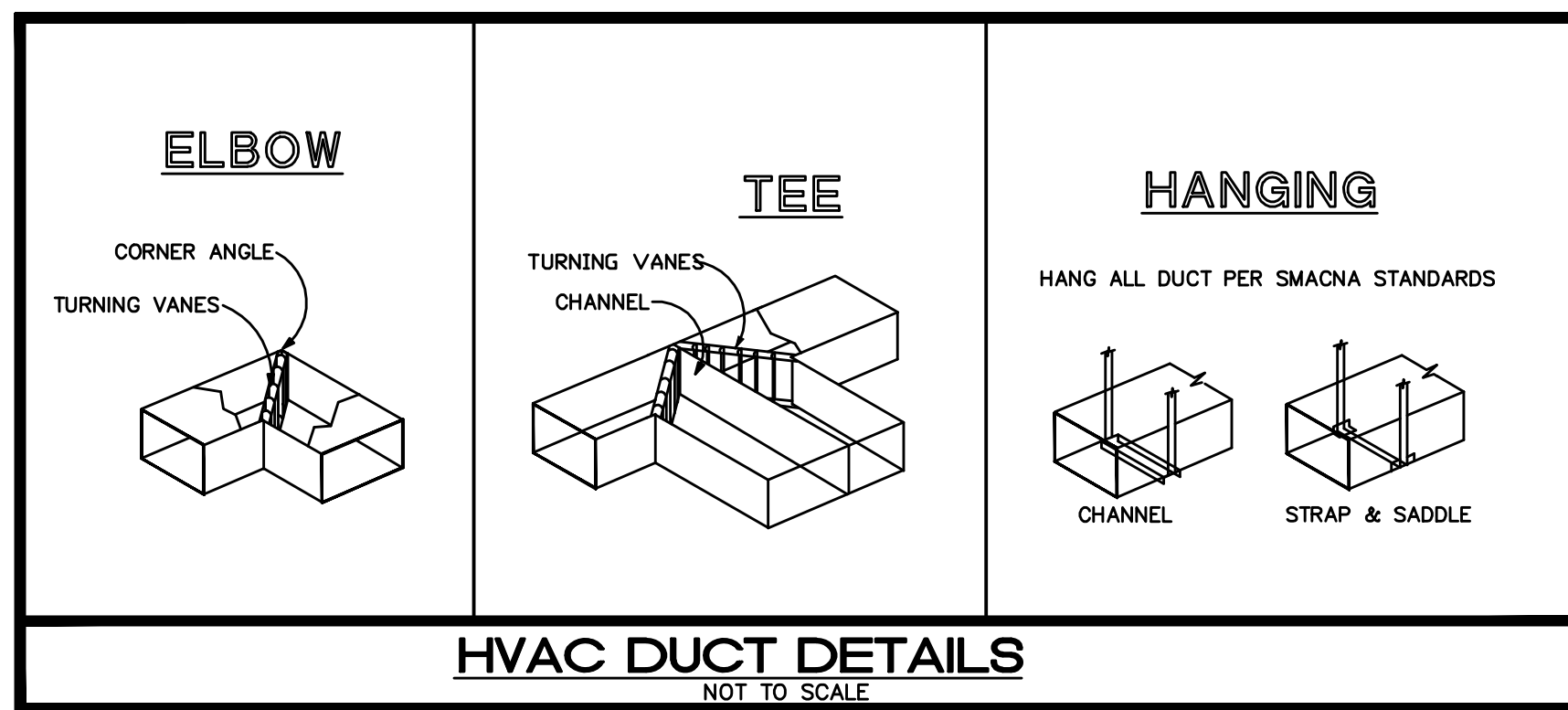
**RETURN AND EXHAUST DUCT MOUNTED GRILLE DETAIL**  
NOT TO SCALE



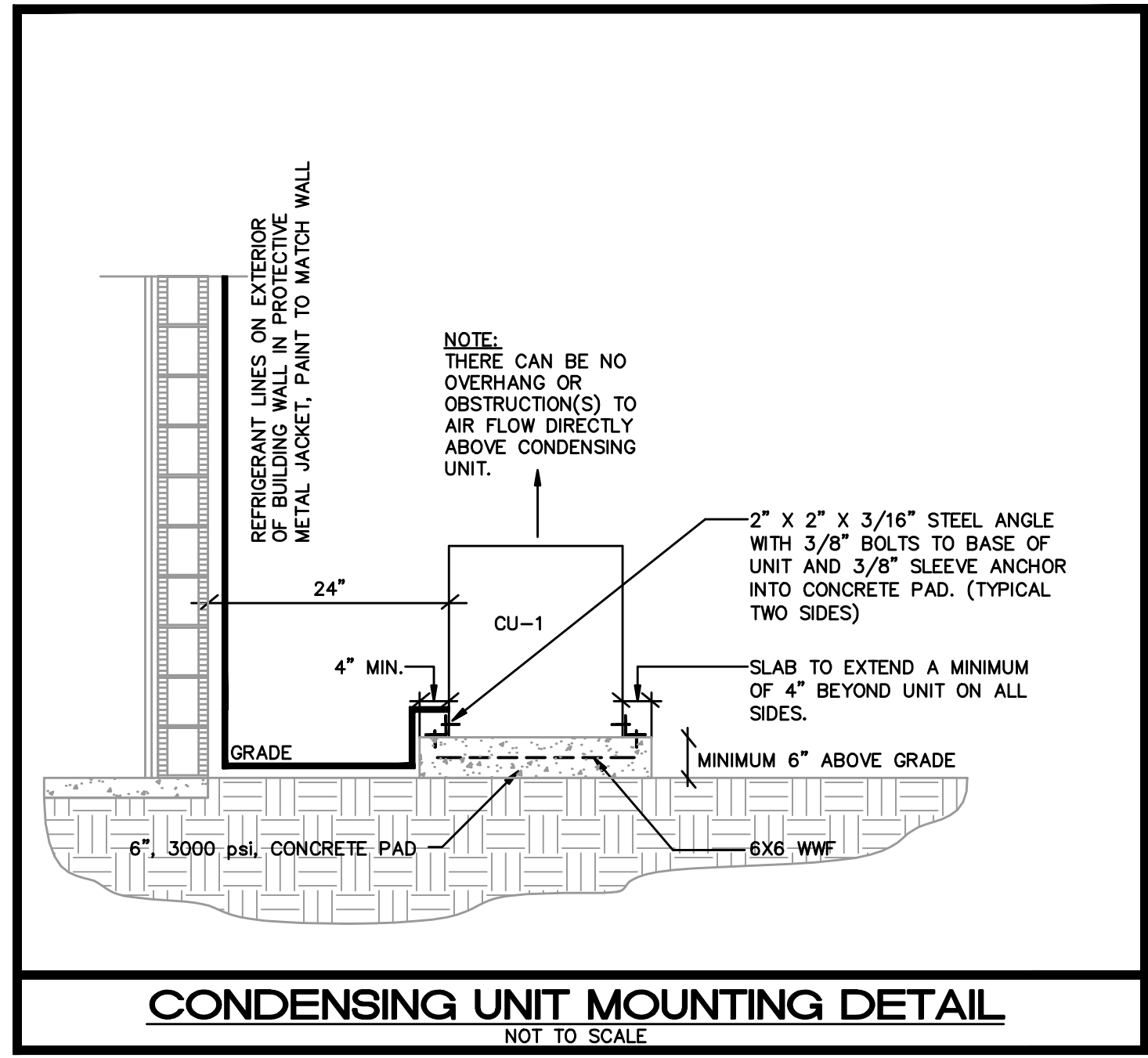
**HVAC DUCT DETAILS**  
NOT TO SCALE



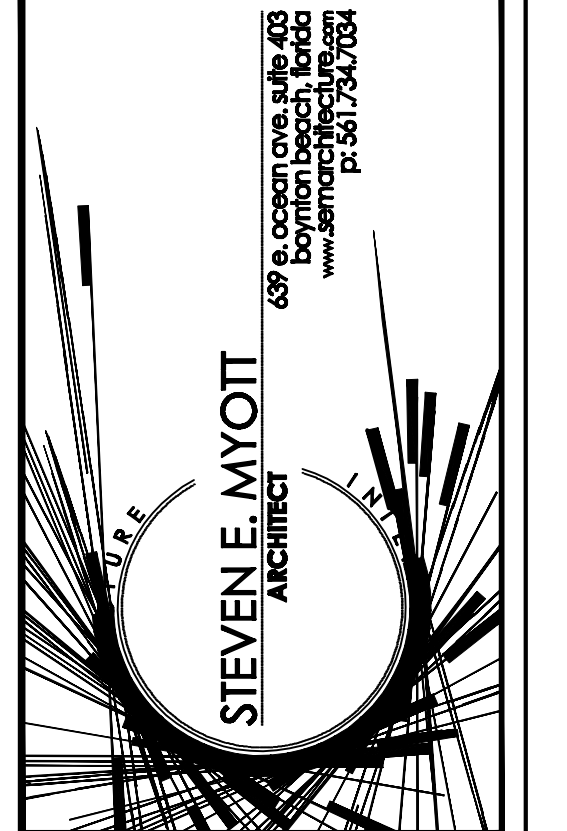
**TYPICAL DIFFUSER DETAIL**  
NOT TO SCALE



**HVAC DUCT DETAILS**  
NOT TO SCALE

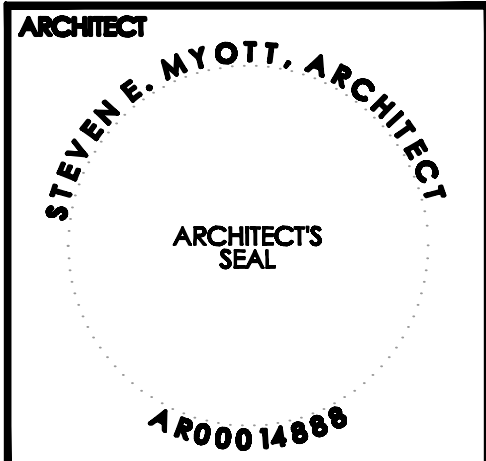


**CONDENSING UNIT MOUNTING DETAIL**  
NOT TO SCALE



**PRIVATE TUTORING SERVICES AT WELLINGTON**  
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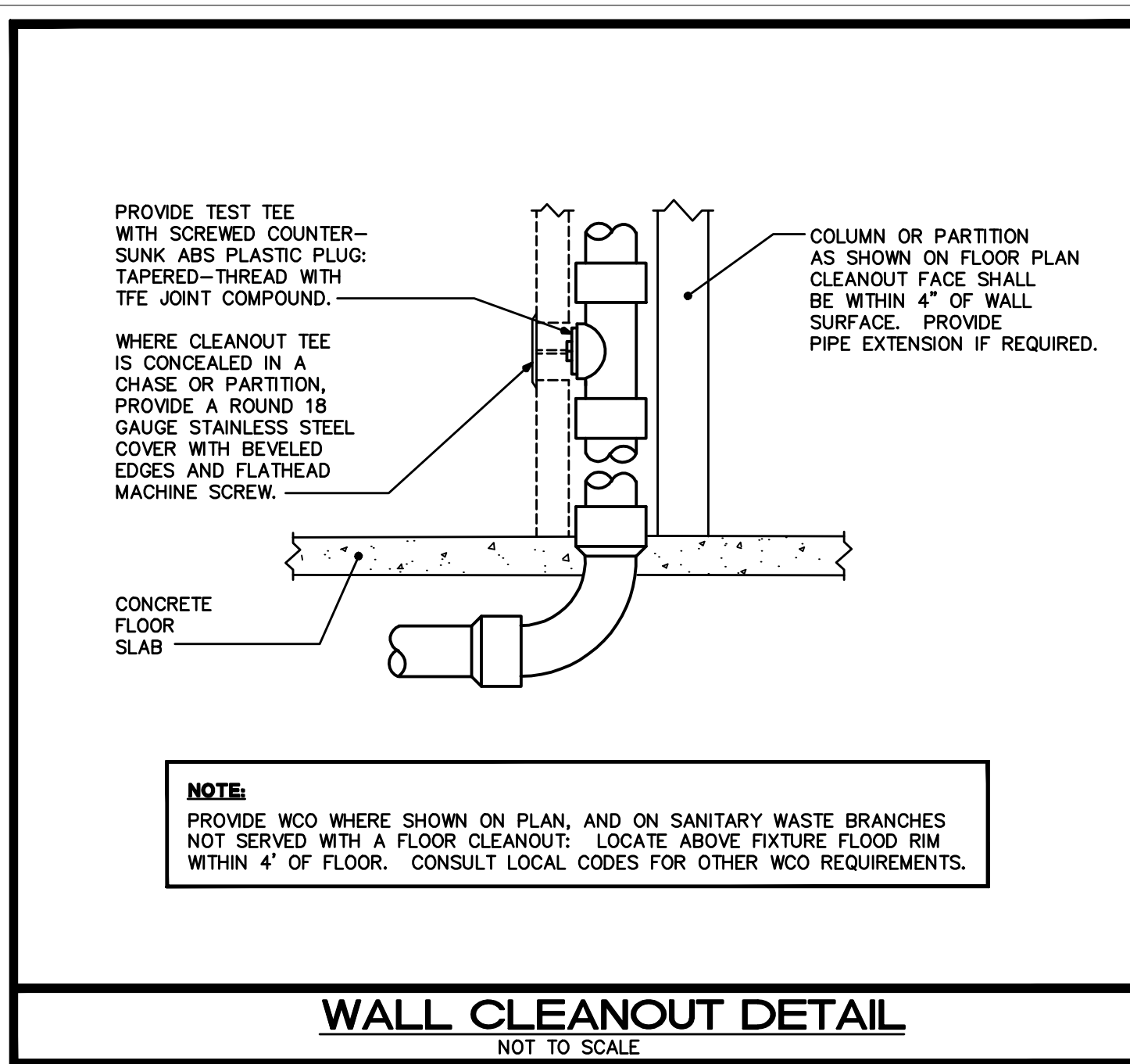
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1	02/12	PER-IT GET

MECHANICAL DETAILS

ISSUED FOR PERMIT	01-07-12
KAMM CONSULTING PROJECT # 2013-005 PROJECT MANAGER: MIKE PETERSON  1408 Orange Avenue Fort Myers, FL 33902 Phone: 772-335-1744 Fax: 772-995-1745 www.kammconsulting.com Certified Consultant of Architecture No. 1189	
PRINCIPAL	01-07-12
Buddy L. Brown Florida License #58232	date

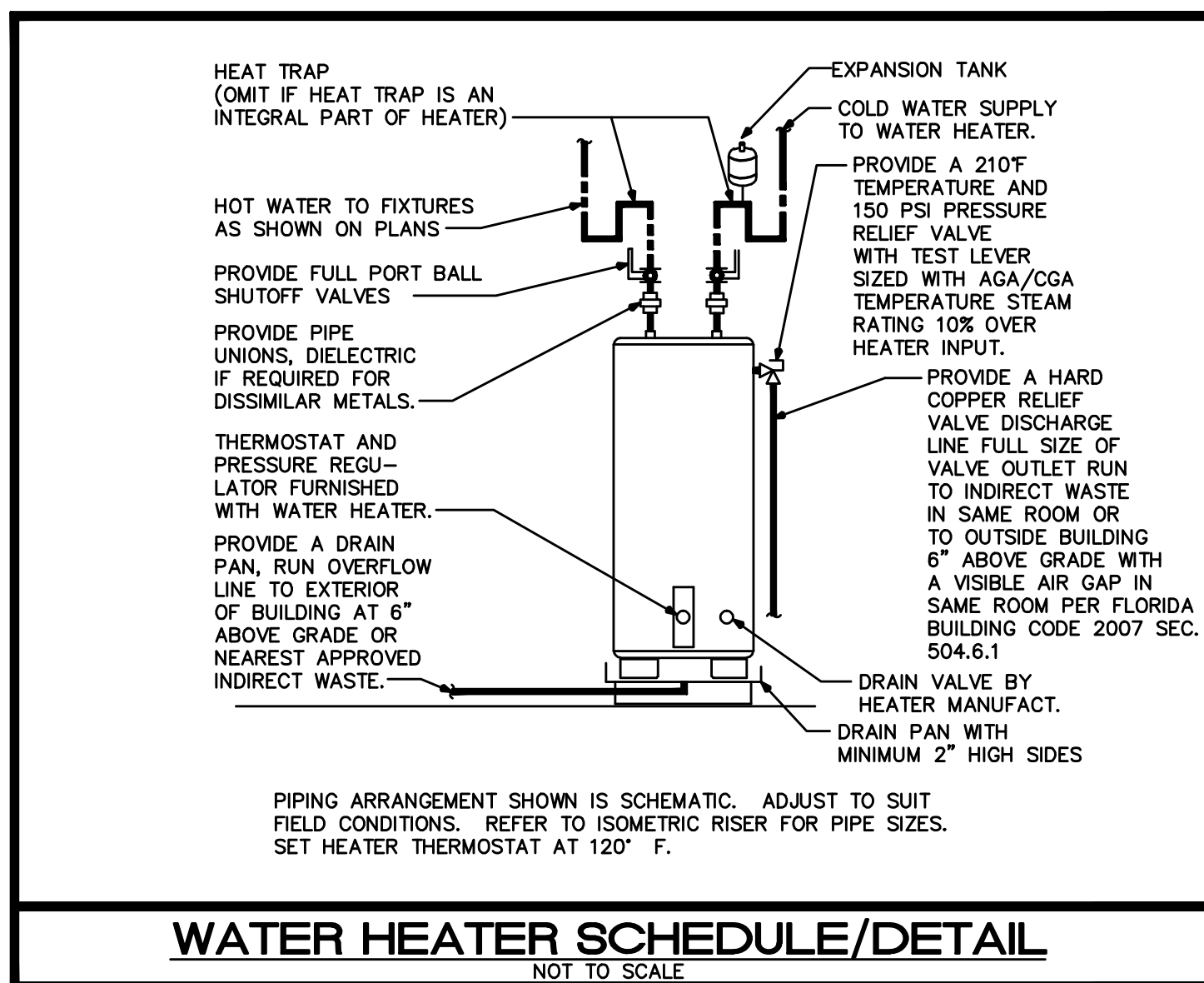
M7.1





**NOTE:**  
PROVIDE WCO WHERE SHOWN ON PLAN, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT. LOCATE ABOVE FIXTURE FLOOR RIM WITHIN 4\"/>

**WALL CLEANOUT DETAIL**  
NOT TO SCALE



PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO ISOMETRIC RISER FOR PIPE SIZES. SET HEATER THERMOSTAT AT 120° F.

**WATER HEATER SCHEDULE/DETAIL**  
NOT TO SCALE

**PLUMBING LEGEND**

CO	CLEAN OUT	— — — — —	SANITARY SEWER PIPING
S.O.V.	SHUT-OFF VALVE	— — — — —	VENT PIPING
COTC	CLEAN OUT TO GRADE	— — — — —	DOMESTIC COLD WATER PIPING
FS	FLOOR SINK	— — — — —	HOT WATER PIPING (110°)
CW	DOMESTIC COLD WATER	— — — — —	HOT WATER PIPING (140°)
HW	DOMESTIC HOT WATER	— — — — —	HOT WATER RECIRCULATING PIPING
HWR	DOMESTIC HOT WATER RECIRCULATING	— CD —	CONDENSATE PIPING
HB	HOSE BIBB	— CA —	COMPRESSED AIR PIPING
VTR	VENT THRU ROOF	— T&P —	TEMPERATURE AND PRESSURE RELIEF
X	GATE VALVE	— SD —	STORM DRAIN PIPING
Z	GLOBE VALVE	— G —	GAS PIPING
Z	CHECK VALVE	— C —	PIPE RISE UP
Z	GAS SOLENOID VALVE	— D —	PIPE DOWN OR DROP
Z	GAS COCK	— T —	CAPPED END OF PIPE
Z	WATER HAMMER ARRESTER (PDI No.)	— P —	POINT OF CONNECTION
FD	FLOOR DRAIN	— — — — —	P—TRAP

**PLUMBING FIXTURE SCHEDULE**

LAV	LAVATORY, AMERICAN STANDARD #0491.019 RONDALYN COUNTER TOP, FAUCET, SLOAN POLARIS SL-2711 SINGLE LEVER HANDLE W/ETP 460 A GRID DRAIN.
HLAV	HANDICAP LAVATORY, AMERICAN STANDARD, DECLYN WALL HUNG LAVATORY MODEL #0321.075. WHITE, WITH SLOAN POLARIS FAUCET #SL-2711. CONTRACTOR TO SUPPLY CONCEALED ARM SUPPORT CARRIER FOR MOUNTING OF LAV. WADE MODEL # 520-M36. SUPPLY PLUMBEREX MODEL # 4333 INSULATION KIT. MUST MEET A.D.A. CODE.
WC	WATER CLOSET, AMERICAN STANDARD 2333.100 FLOOR MOUNTED, WHITE, CENTOCO SEAT # 500CC, OPEN FRONT WITH COVER. A.D.A EL 1.6 ELONGATED OR EQUAL.
HWC	HANDICAP WATER CLOSET, AMERICAN STANDARD #2377.100 FLOOR MOUNTED, WHITE, CENTOCO SEAT #500CC, OPEN FRONT WITH COVER. A.D.A EL 1.6 ELONGATED 18" HIGH OR EQUAL.
SH	SHOWER, MIXING VALVE HOT AND COLD WATER, SHOWER MIXING VALVE SHALL BE A SYMONS TEMPTROL 2000 MODEL #25-1-X ANTI-SCALD PRESSURE BALANCED SHOWER VALVE TO INCLUDE A 2.5 GPM FLOW RESTRICTOR AND INTEGRAL SERVICE STOPS.
FD	FLOOR DRAIN, WADE MODEL # 1103-TY-STD5.
SK	SINGLE STAINLESS STEEL SINK, 25 X 22 DAYTON MODEL #K-12522 WITH A SLOAN POLARIS FAUCET # SL-2865 KITCHEN 5-9/16" SPREAD GOOSENECK WITH 4" WRIST BLADE FAUCET HANDLES.
SK-2	(2) COMPARTMENT SINK DAYTON BY ELKAY #D23322 S/S SINK, SLOAN POLARIS FAUCET # SL-2866 KITCHEN 5 9/16" SPREAD GOOSENECK WITH 4" BLADE HANDLES.
HDF/DF	HANDICAP/DRINKING FOUNTAIN, SUNROC BI-LEVEL WALL MOUNTED BARRIER FREE MODEL # ADA-8-BL-SG-WF1, 7.8 GPH, WADE 440-AM11-M36 CARRIER AS REQUIRED. 115V, 4.5 A, MUST MEET A.D.A. CODE.
EWI	WATER HEATER SHALL BE 30 GAL. ELECTRIC 208V, 1 PHASE, 4.5 KW. LOCHINVAR TALL MODEL ETJ-030-KK.

- GENERAL NOTES:**
- (1) - FIXTURES SHALL BE AS SHOWN OR EQUAL.
  - (2) - ALL FIXTURES SHALL COMPLY WITH TABLE 604.4 OF FBC 2007
  - (3) - ALL FIXTURE TRIM PACKAGES INCLUDING BUT NOT LIMITED TO TRAP, ANGLE STOP, FLUSH VALVE, SUPPLY TUBES, AND CLEANOUT COVER PLATES SHALL BE OF THE SAME FINISH AS THE ABOVE SPECIFIED FAUCET AND PER ARCHITECTURAL FINISH SCHEDULE.
  - (4) - ALL FIXTURES SHALL BE ROUGHED IN PER MANUFACTURER CUT SHEET TO MAINTAIN UNIFORMITY.

**SHOCK ARRESTOR SCHEDULE**

P.D.I. DESIGNATION	MANUF. & MODEL	FIXTURE UNITS	CONNECTION
A	SIoux CHIEF 652-A	1-11	1/2"
B	SIoux CHIEF 653-B	12-32	3/4"
C	SIoux CHIEF 654-C	33-60	1"

SIoux CHIEF SHOCK ARRESTORS APPROVED FOR INSTALLATION WITH NO ACCESS DOOR REQUIRED. CONFORMS TO ANSI/ASSE 1010 STANDARDS.

**SLOPE OF HORIZ. DRAINAGE PIPE**

SIZE (Inches)	MINIMUM SLOPE (Inch per foot)
2-1/2 or less	1/4
3 to 6	1/8
8 or larger	1/16

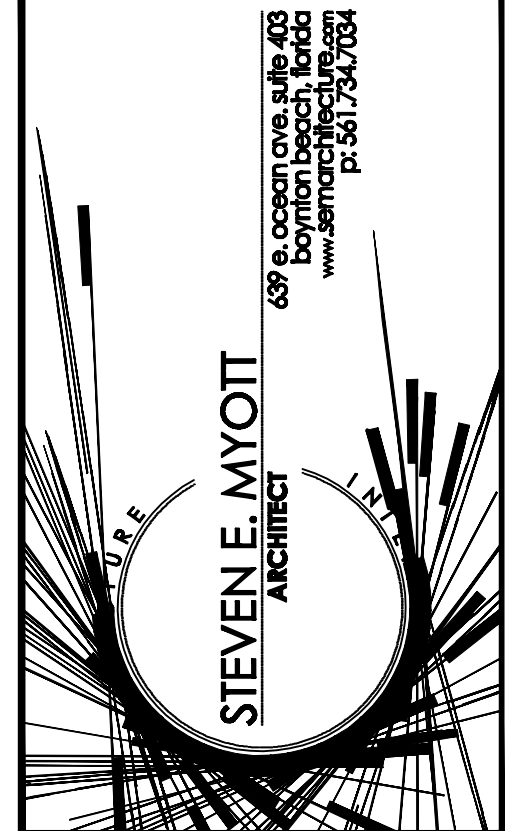
TABLE 704.1 OF THE FLORIDA PLUMBING CODE 2007

**PLUMBING SHEET INDEX**

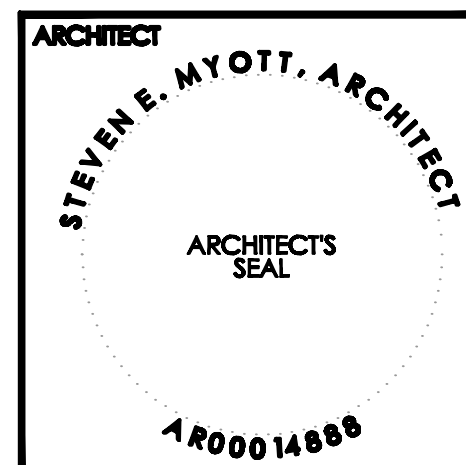
SHEET#	DESCRIPTION
P0.1	PLUMBING NOTES, LEGENDS, AND DETAILS
P2.1	SANITARY PLAN
P3.1	DOMESTIC WATER PLAN
P5.1	PLUMBING ISOMETRICS

**PLUMBING NOTES**

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH FBC 2007, APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
2. PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS.
3. ALL MATERIALS SHALL BE NEW.
4. ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE. ALL EXCAVATION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
5. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
6. PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS. PLUMBING CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
7. DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
8. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
9. VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
10. WATER DISTRIBUTION PIPING ABOVE AND BELOW GROUND SHALL BE TYPE "L" COPPER. COORDINATE WITH LOCAL JURISDICTION FOR ADDITIONAL REQUIREMENTS. PROVIDE ALTERNATE FOR CPVC PIPING EQUAL TO BFGOODRICH "FLOWGUARD GOLD" FOR WATER KNOWN OR DETERMINED TO HAVE ACIDIC CHARACTERISTICS. CONTRACTOR SHALL PERFORM A WATER TEST TO DETERMINE WATER CHEMISTRY PRIOR TO ANY WORK OR PIPING INSTALLATION AND SHALL SUBMIT TEST RESULTS TO ENGINEER FOR REVIEW AND APPROVAL.
11. SOIL, WASTE, VENT AND RAINWATER PIPING SHALL BE CAST IRON OR PVC, WHERE CODE ALLOWS. PVC MAY NOT BE USED THRU RATED ASSEMBLIES OR IN PLENUMS.
12. ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
13. FURNISH AND INSTALL APPROVED WATER HAMMER ARRESTORS FOR ALL (GROUP) PLUMBING FIXTURES, SIZED AND LOCATED PER MANUF.'S INSTALLATION INSTRUCTIONS AND WH-PDI 201.
14. DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS.
15. ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PADS OR MATERIAL.
16. ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN PIPE AND WALL/FLOOR SLEEVES WITH FIRE RATED FOAM, TO ACHIEVE THE SAME RATING AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
17. PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER. 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.
18. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND ALL WATER HAMMER ARRESTORS. ACCESS PANELS IN RATED WALLS MUST MAINTAIN THE SAME RATING AND MUST MATCH THE FINISH OF THE WALL IN WHICH IT IS INSTALLED.
19. PROVIDE COMBINATION COVER PLATE AND CLEANOUT PLUG OR ACCESS PANEL FOR ALL WALL CLEANOUTS FINISH TO MATCH FIXTURE TRIM.
20. NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
21. NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
22. ALL CONTROL VALVES SHALL BE TAGGED AND MARKED. A REPRODUCIBLE DIAGRAM LOCATING ALL VALVES SHALL BE PROVIDED FOR OWNER/OPERATOR.
23. ALL CONDENSATE DRAIN PIPING SHALL BE TYPE "L" COPPER WITH ARMAFLEX INSULATION PER TABLE 4-11 F.B.C. 2007 WHERE USED IN A RETURN AIR PLENUM. PVC PIPING WITH ARMAFLEX INSULATION MAY BE USED IN LOCATIONS WHERE ALLOWED BY LOCAL CODES. SEE PLUMBING DRAWINGS FOR SIZE AND LOCATION OF PIPING.
24. CONDENSATE LINES SHALL NOT DRAIN ON THE ROOFING SYSTEM OR ANY OF ITS COMPONENTS AND CONDENSATE LINES NEED NOT COMPLY WITH MIN. CLEARANCE REQUIREMENTS PER FBC 2007, PAR. 1522.3.5
25. PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
26. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS, FLOOR SINKS, AND HUB DRAINS SHOWN ON PLANS. IF SPECIFICATION IS NOT PROVIDED, SUPPLY PRECISION PLUMBING PRODUCTS MODEL #PR-500. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
27. WATER PIPING INSULATION SHALL BE ARMAFLEX OR EQUAL INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR ALL HOT WATER PIPING. WHERE DOMESTIC WATER TEMPERATURES CAN CAUSE SWEATING ALL COLD WATER PIPING SHALL BE INSULATED WITH ARMAFLEX INSULATION, THICKNESS AS PER TABLE 4-11 OF FLORIDA ENERGY CODE.
28. STUDOR MINI/MAXI AIR ADMITTANCE VALVES MAY BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF WHERE ACCEPTABLE BY THE PLUMBING OFFICIAL AND LOCAL CODES. INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
29. ALL HORIZONTAL RAINWATER PIPING THAT RECEIVES CONDENSATE DISCHARGE FROM AIR CONDITIONING EQUIPMENT SHALL BE INSULATED WITH 1" THK. ARMAFLEX.
30. PLUMBING PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, FIRE SPRINKLER, STRUCTURAL AND CIVIL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. PIPING MODIFICATIONS SUCH AS OFFSETS, BENDS, TRANSITIONS, AND SIZES SHALL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES IN PIPE SIZES AND ROUTING SHALL BE REQUIRED BY THE CONTRACTOR TO AVOID CONFLICTS AND TO ADAPT TO EXISTING FIELD CONDITIONS PROVIDED THAT INSTALLATION MEETS ALL APPLICABLE CODES.
31. SUPPLY TRAP PRIMER FOR ALL FLOOR DRAINS, FLOOR SINKS, HUB DRAINS, ETC. SHOWN ON PLANS.



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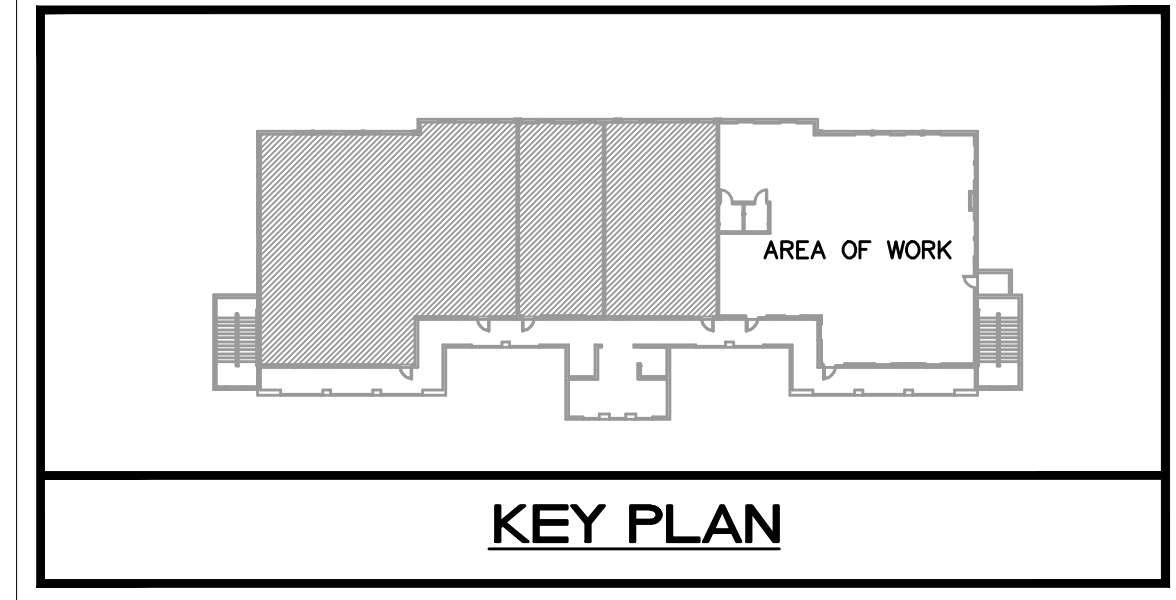
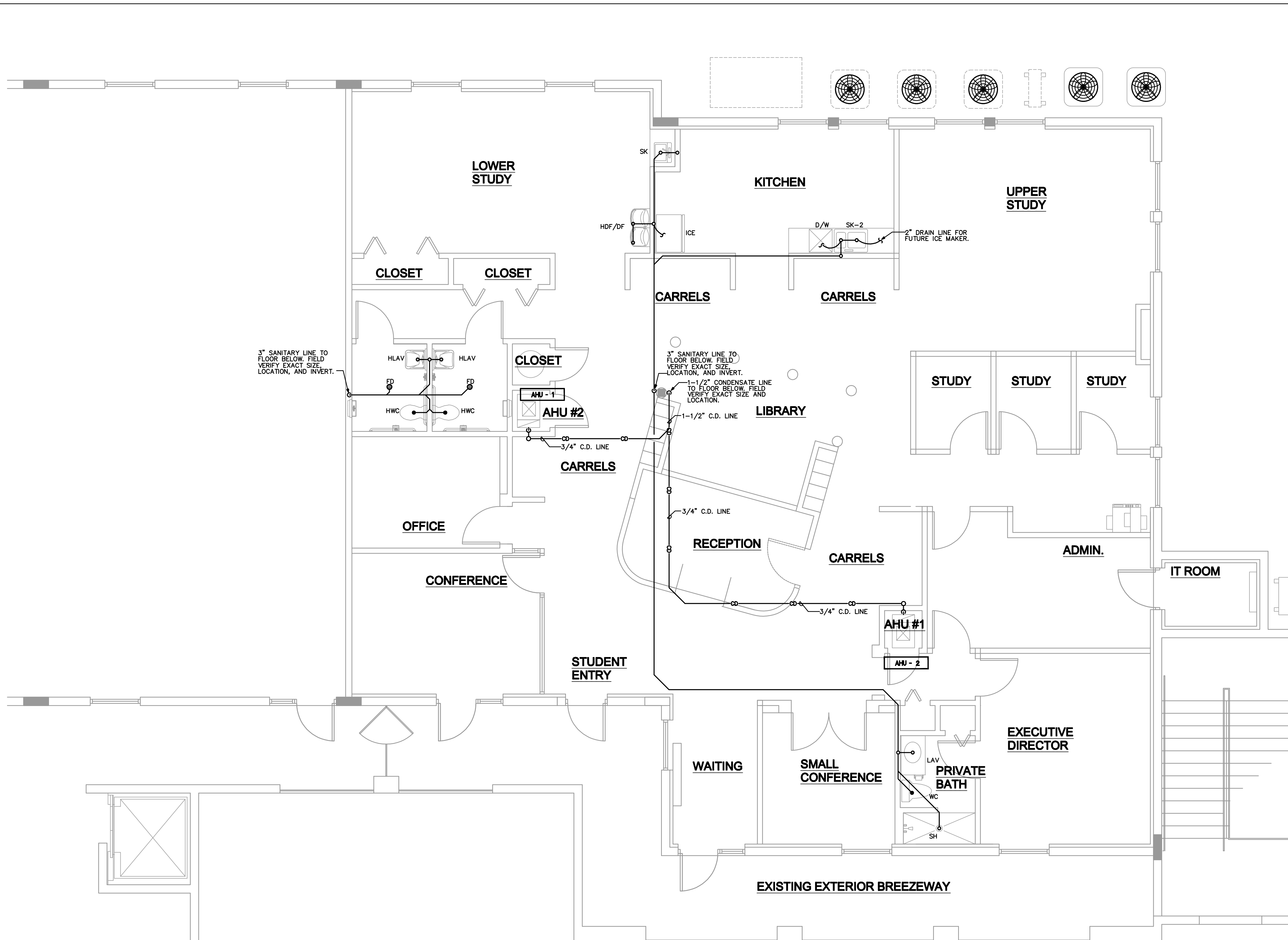
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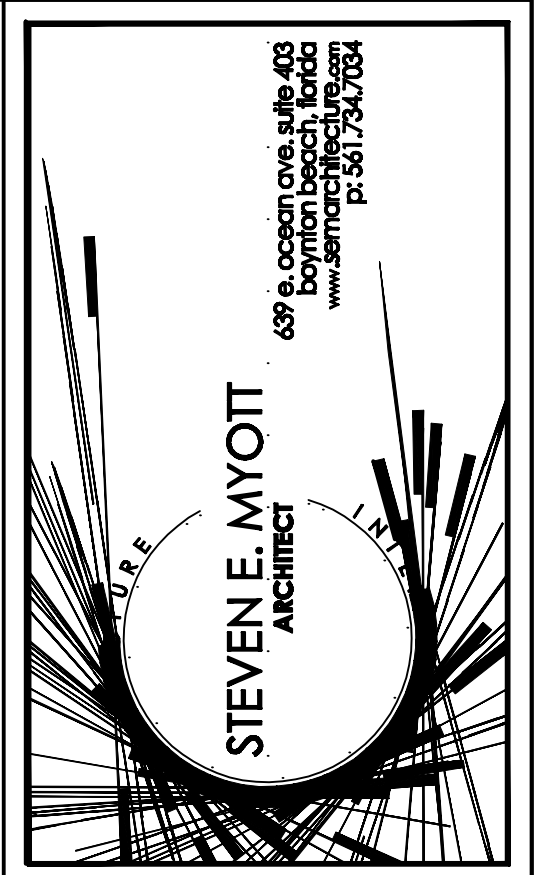
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PROJECT MANAGER: MIKE FETTERSON

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www.kammconsulting.com  
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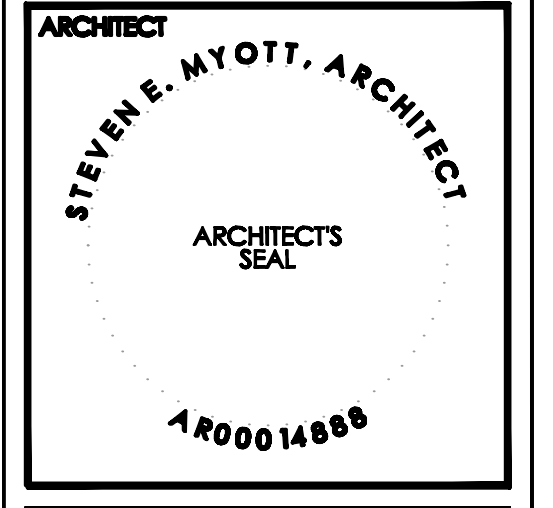
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**SANITARY PLAN**  
1/4"=1'-0"



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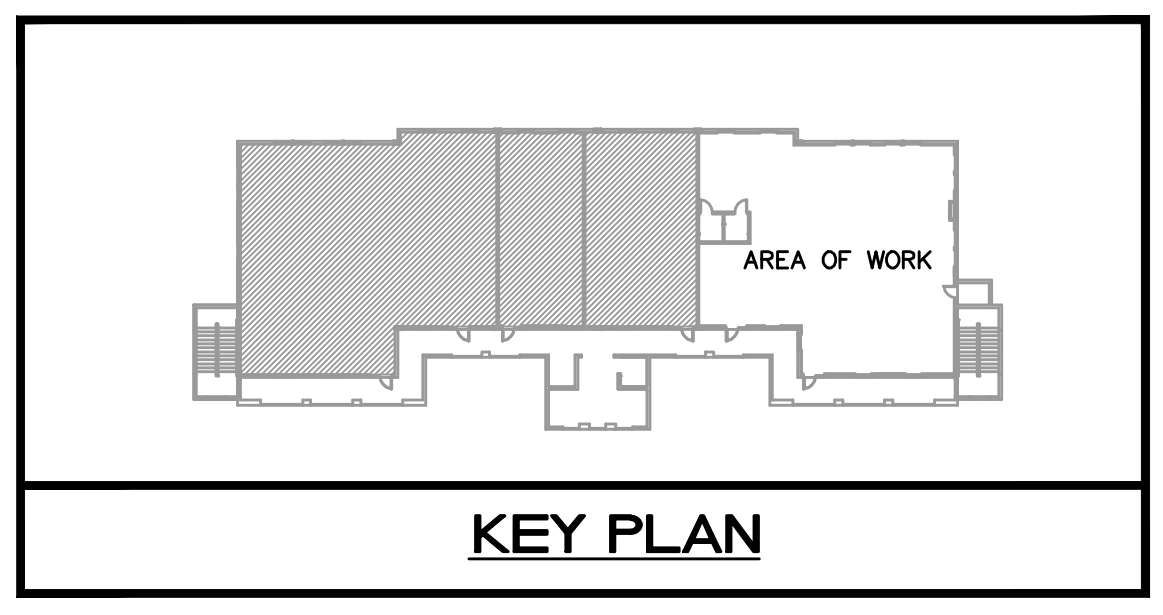
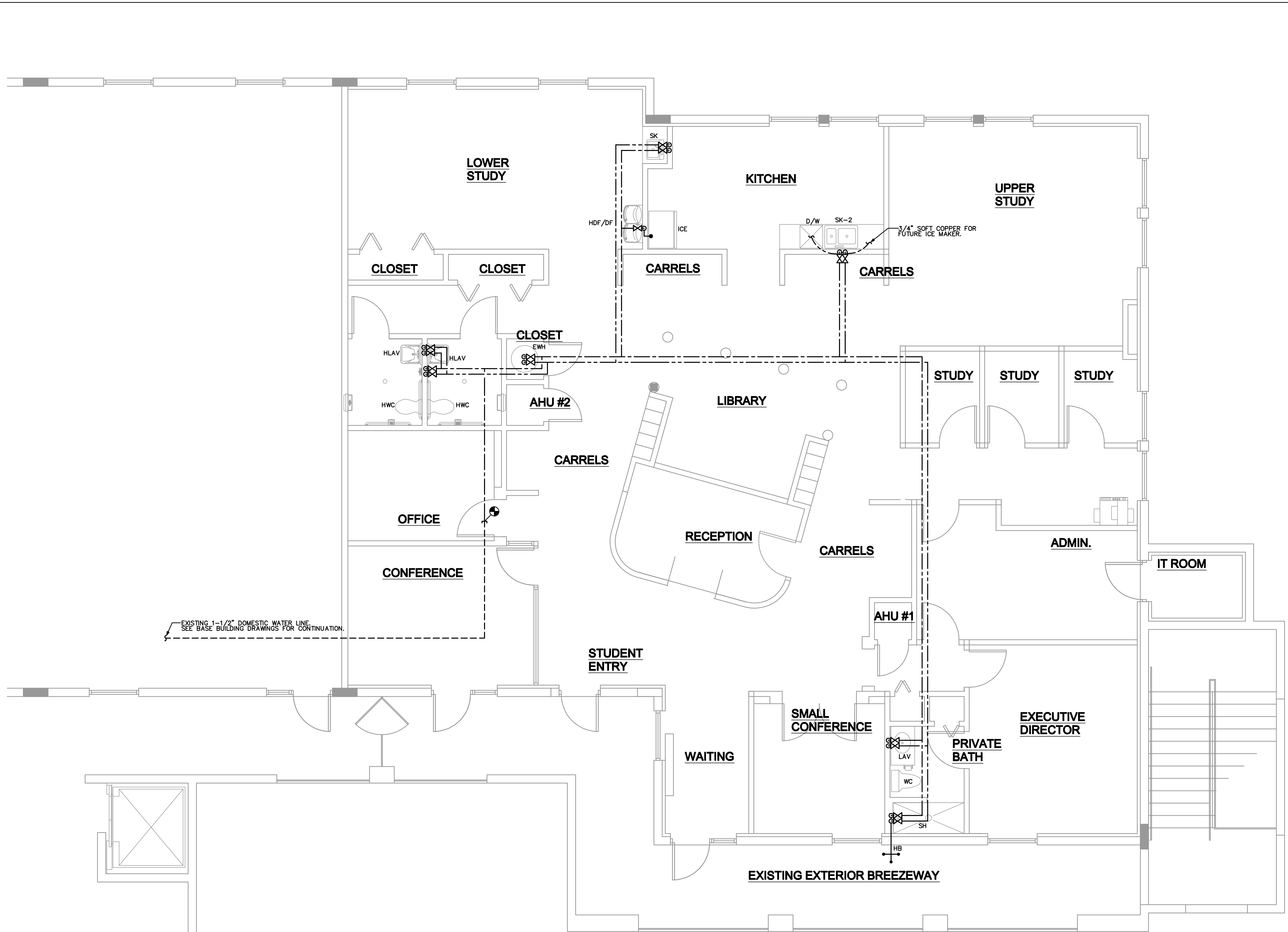
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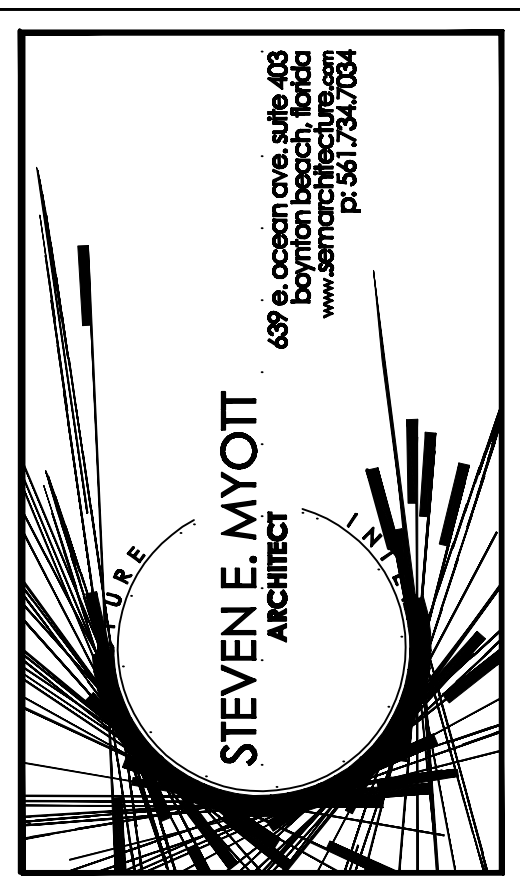
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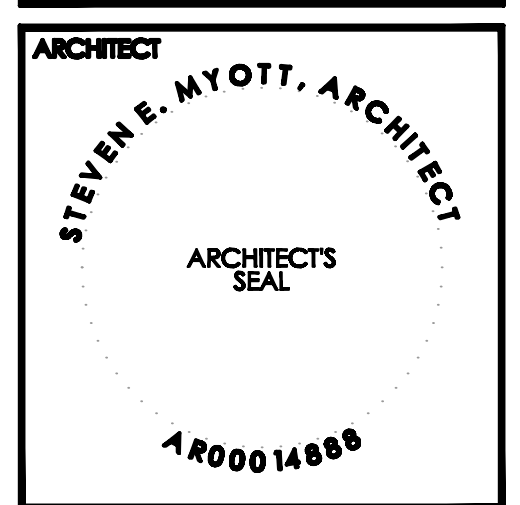
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PRINCIPAL Brendy L. Brown Florida License #58232	DATE 01-07-12



**DOMESTIC WATER PLAN**  
1/4"=1'-0"



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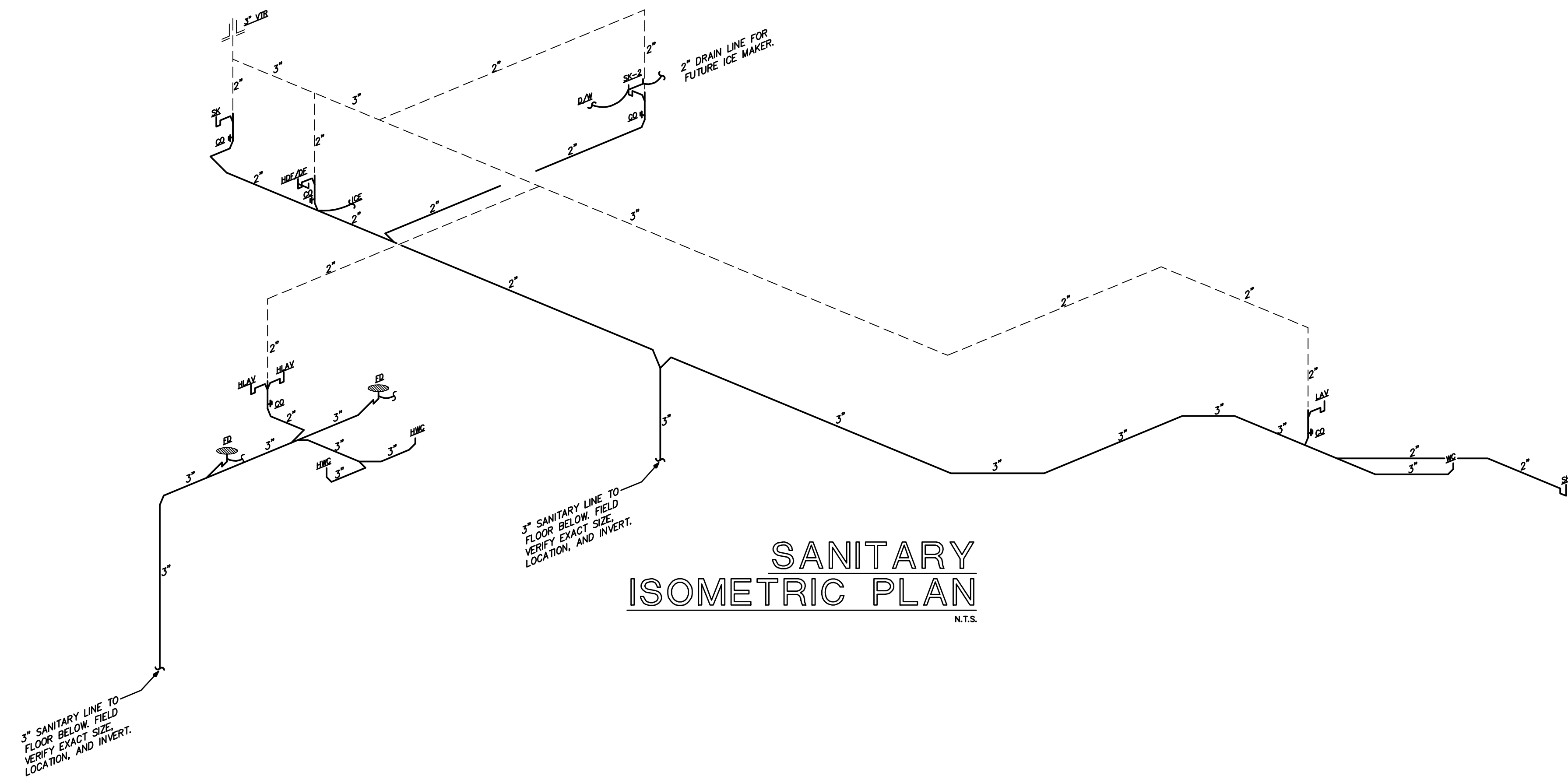
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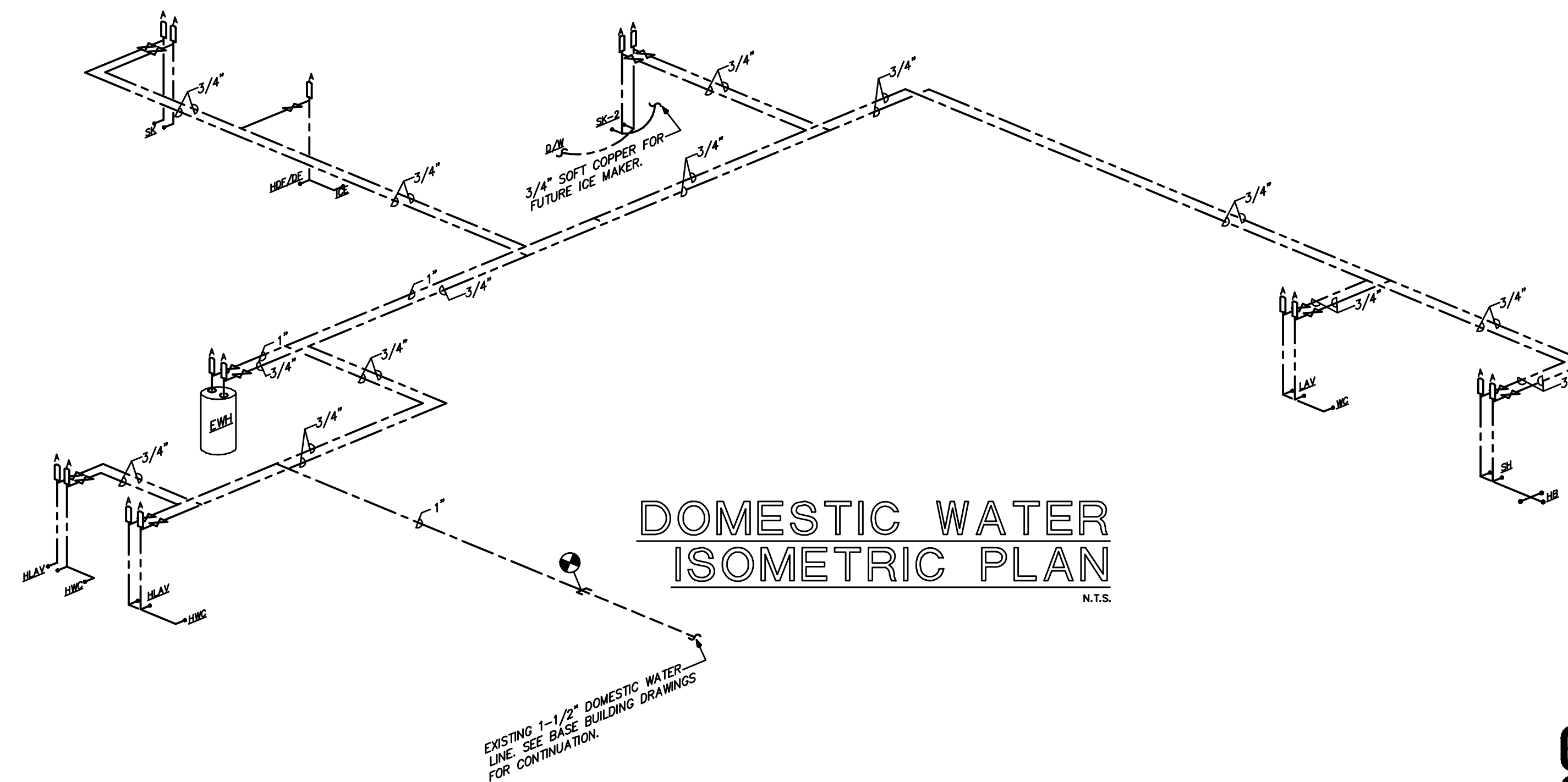
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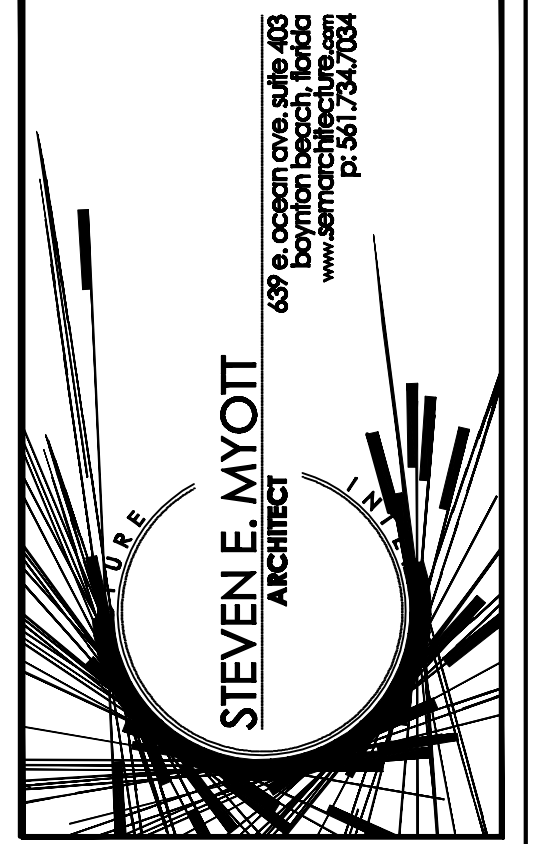
## SANITARY ISOMETRIC PLAN

N.T.S.



## DOMESTIC WATER ISOMETRIC PLAN

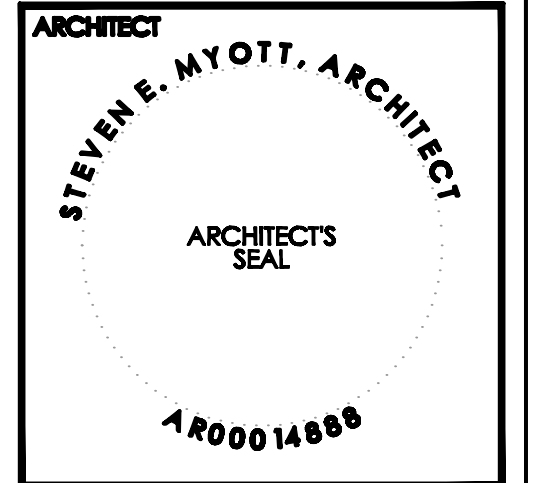
N.T.S.



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signed \_\_\_\_\_

**P5.1**