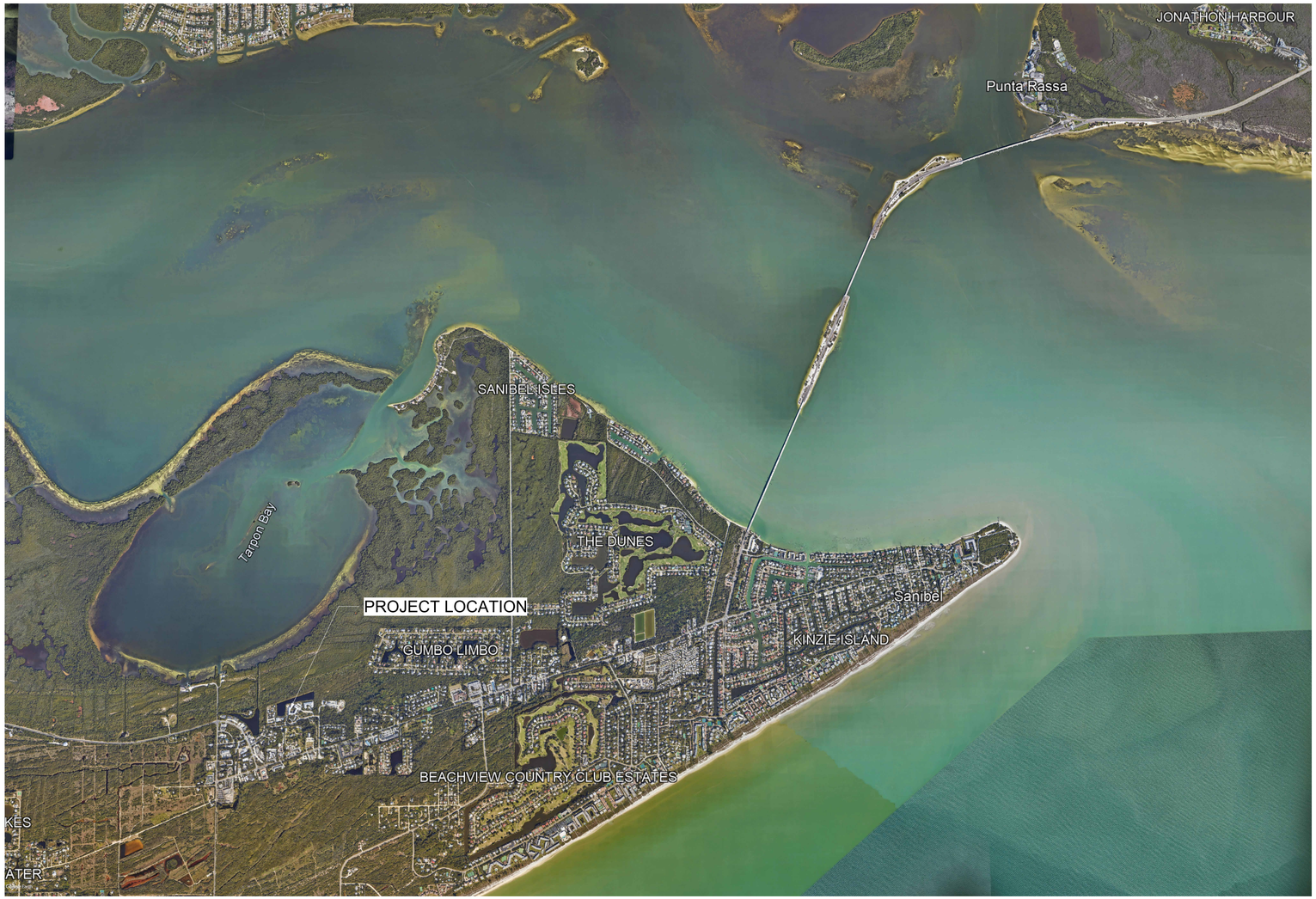
CITY OF SANIBEL

CITY HALL HVAC REPLACEMENT
800 DUNLOP RD, SANIBEL, FL 33957



Location Map

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Issue Date: 8/8/2025

Issued For: BIDS

HVAC SYMBOLS

- DIFFUSER TAG: A / CFM — DIFFUSER TYPE / CFM
- T — THERMOSTAT
- EXHAUST FAN
- CEILING DIFFUSER (SUPPLY)
- CEILING DIFFUSER (RETURN)
- WALL MOUNTED DIFFUSER, GRILLE, OR LOUVER (SUPPLY)
- WALL MOUNTED DIFFUSER, GRILLE, OR LOUVER (RETURN)
- SPIN-IN, SADDLE TAP FITTING WITH DAMPER
- SPIN-IN, SADDLE TAP FITTING WITHOUT DAMPER
- # — REVISION SYMBOL
- # — KEY NOTE (SEE KEY NOTES ON PLANS SHEETS)
- REFR — REFRIGERANT LINE

	SINGLE LINE DUCTWORK	DOUBLE LINE DUCTWORK
HORIZONTAL DUCT		
SUPPLY DUCT, TURNING UP		
RETURN DUCT, TURNING UP		
CONCENTRIC DUCT TRANSITION		
ECCENTRIC DUCT TRANSITION		
RECTANGULAR DUCT ELBOW WITH TURNING VANES		
RECTANGULAR DUCT TEE WITH TURNING VANES		
DUCT SMOKE DETECTOR		
VOLUME DAMPER		
MOTORIZED VOLUME DAMPER		
FLEXIBLE DUCT		

ABBREVIATIONS

Ø	DIAMETER
A/C	AIR CONDITIONING
AFF/G	ABOVE FINISH FLOOR/GRADE
AHU	AIR HANDLING UNIT
AHJ	AUTHORITY HAVING JURISDICTION
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
Cu	COPPER
CU	CONDENSER UNIT
DWG	DRAWING
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
FC	FAN COIL
HGT	HEIGHT
HTR	HEATER
HP	HORSE POWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
KW	KILOWATT
MFR	MANUFACTURER
MAX	MAXIMUM
MBH	BTU X 1,000
MECH	MECHANICAL
MIN	MINIMUM
LV	LOW VOLTAGE
MS	MOTION SWITCH
OA	OUTSIDE AIR
O/H	OVER HEAD
REQ'D	REQUIRED
RTU	ROOF TOP UNIT
SBCCI	SOUTHERN BUILDING CODE CONGRESS INTERNATIONAL
SMACNA	SHET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
SS	STAINLESS STEEL
TC	TIME CLOCK
TSTAT	THERMOSTAT
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORIES
VAV	VARIABLE AIR VOLUME
W/	WITH
W/O	WITH OUT

FLEX DUCT RUNOUT NOTES

1. TYPICAL FOR ALL RUN OUTS FROM MAIN SUPPLY (OR RETURN) DUCT TO DIFFUSER. PROVIDE WITH ROUND SPIN-IN WITH DAMPER AT DUCT CONNECTION. RUN DUCT IN EXTERNALLY INSULATED GALVANIZED SHEET METAL SNAP-LOK UP TO WITHIN 5' OF DIFFUSER. MAKE FINAL CONNECTION TO DIFFUSER WITH INSULATED FLEX DUCT. NO MORE THAN 5' OF FLEX DUCT MAY BE USED. ROUND DUCT AND FLEXIBLE DUCT SHALL MATCH DIFFUSER NECK SIZE (WHERE ROUND). FOR ALL OTHER GRILLES WITHOUT ROUND NECK, SIZE SHALL BE PER FOLLOWING RUN OUT SCHEDULE:
   - 4" – 0 TO 50 CFM
   - 6" – 51 TO 125 CFM
   - 8" – 126 TO 225 CFM
   - 10" – 226 TO 350 CFM
   - 12" – 351 TO 600 CFM
2. ALL DIFFUSER CONNECTIONS LARGER THAN 600 CFM SHALL BE MADE FULL DUCT SIZE AS INDICATED ON PLANS TO DIFFUSER.

GENERAL NOTES AND SPECIFICATIONS

1. THE MECHANICAL CONTRACTOR SHALL COMPLY WITH THE 2023 FLORIDA BUILDING CODE (8TH EDITION), THE STATE OF FLORIDA ENERGY CODE, AND ALL LOCAL CODES AS MAY BE APPLICABLE.
2. MECHANICAL PLANS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO INDICATE CAPACITY, SIZE, LOCATION, DIRECTION, AND GENERAL ARRANGEMENT, BUT NOT EXACT DETAILS OF CONSTRUCTION. THE FACT THAT ONLY CERTAIN FEATURES OF THE INSTALLATION ARE INDICATED MUST NOT BE TAKEN TO MEAN THAT OTHER SIMILAR OR DIFFERENT FEATURES WILL NOT BE REQUIRED. ALL RISES AND DROPS IN PIPING AND DUCTWORK NOT NECESSARILY SHOWN.
3. WORK SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS AND OTHER COSTS AS ARE NECESSARY FOR THE INSTALLATION OF A COMPLETE AND SATISFACTORY OPERATIONAL AIR CONDITIONING SYSTEM.
4. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT THAT IS TO BE USED ON THIS PROJECT WHETHER OR NOT THE EQUIPMENT IS SPECIFICALLY SPECIFIED IN THESE DOCUMENTS. THIS INCLUDES (BUT IS NOT LIMITED TO) HVAC EQUIPMENT & SUPPORTS, DIFFUSERS/GRILLES/LOUVERS, DUCT WORK & SUPPORTS, REFRIGERANT LINES, INSULATION, HVAC SPECIALTIES (COLLARS, FIRE DAMPERS, BALANCING DAMPERS ETC.) CONTROLS & CABLING, ETC.. SHOP DRAWINGS SHALL BE REQUIRED PRIOR TO ORDERING OR ANY INSTALLATION OF EQUIPMENT. ANY EQUIPMENT NOT INCLUDED IN THE SHOP DRAWING SUBMITTALS, SHALL BE PROVIDED PER THE PLANS AND SPECIFICATIONS.

   SUBMITTALS ARE TO BE TOTAL & COMPLETE. INCOMPLETE OR PIECEMEAL SHOP DRAWINGS WILL NOT BE REVIEWED UNTIL ALL SUBMITTALS ARE PROVIDED. ALL EQUIPMENT (INCLUDING ANY/ALL OPTIONS) SHALL BE CLEARLY SELECTED/INDICATED ON THE CUTSHEETS INCLUDED IN THE SUBMITTAL.

   SUBMITTALS SHAL BE PROVIDED IN PDF FORMAT.

   SHOP DRAWINGS SUBMITTED BY WAY OF AN ELECTRONIC PROJECT MANAGEMENT SYSTEM ARE NOT ACCEPTABLE.
5. THIS CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS TO INSURE THAT EACH TRADE SHALL HAVE SUFFICIENT SPACE TO INSTALL THEIR EQUIPMENT (DUCTWORK, PIPING, ELECTRICAL, ETC.).
6. VERIFY ALL DIMENSIONS FROM ARCHITECTURAL PLANS OR FIELD DIMENSIONS.
7. UNLESS NOTED, ALL MATERIALS SHALL BE NEW, COMPLETE, INCLUDE MANUFACTURER'S WARRANTY, AND BE U.L. APPROVED IF APPLICABLE. ALL WORK SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.
8. CONTRACTOR SHALL FURNISH AND INSTALL CURBS AND BASES FOR ALL EQUIPMENT AS SHOWN ON PLAN. THIS CONTRACTOR SHALL CONFIRM ALL CURB REQUIREMENTS AND THEIR SIZES.
9. PROVIDE INSULATION FOR REFRIGERANT LINES SIMILAR TO ARMAFLEX. WEATHER-EXPOSED INSULATION TO BE PROVIDED WITH WEATHER PROOF COATING AS RECOMMENDED BY MANUFACTURER. EXPOSED CONDENSATE LINES THOSE CONCEALED IN WALLS AND CEILINGS TO BE PROVIDED WITH SAME TYPE OF INSULATION.
10. EQUIPMENT AS PER SCHEDULED LIST OF ACCEPTABLE MANUFACTURERS:
    A/C EQUIPMENT: TRANE, DAIKIN
    A/C GRILLES: CLEAN AND REUSE EXISTING
    FANS: CLEAN AND REUSE EXISTING
    LOUVERS: CLEAN AND REUSE EXISTING
11. ALL EQUIPMENT SHALL BE STARTED, TESTED, ADJUSTED AND BALANCED FOR AIR DELIVERY AS INDICATED ON THE PLANS, AND PLACED IN SATISFACTORY OPERATIONAL CONDITION BY A TEST AND BALANCE COMPANY WHOSE SOLE BUSINESS IS THE TESTING, ADJUSTING AND BALANCING OF SYSTEMS OF SIMILAR SIZE AND TYPE. THIS CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. THIS IS IN ADDITION TO ANY WARRANTY OR GUARANTEE FROM THE EQUIPMENT MANUFACTURER. FURNISH THE OWNER WITH THE MANUFACTURER'S WRITTEN WARRANTEE CERTIFICATES. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ONE BELT AND SHEAVE CHANGE ON ALL BELT DRIVEN EQUIPMENT FOR BALANCING PURPOSES.
    ALL CONTROLS ARE TO BE TESTED AND CALIBRATED SO AS TO BE OPERATING WITH THE MANUFACTURER'S SPECIFICATIONS. ANY DEFECTIVE UNITS ARE TO BE REPLACED.
12. ALL EQUIPMENT SHALL BE PROPERLY SUPPORTED AND ISOLATED TO PREVENT NOISE AND VIBRATION TRANSMISSION. ALL AIR HANDLING EQUIPMENT SHALL BE SUPPORTED WITH SPRING ISOLATORS. ALL CONNECTIONS BETWEEN AIR HANDLING EQUIPMENT AND DUCTWORK SHALL BE CANVAS FLEXIBLE CONNECTORS FOR ALL SYSTEMS ABOVE 5 NOMINAL TONS IN SIZE.
13. PROVIDE SPRING ISOLATORS FOR ALL TRUSS MOUNTED EXHAUST FANS.
14. ALL EQUIPMENT SHALL BE LOCATED WITHIN THE MECHANICAL ROOM AND CEILING SPACES WITH ADEQUATE CLEARANCES FOR REPAIR AND MAINTENANCE. ALL PIPING AND DUCTWORK SHALL BE INSTALLED TO PROVIDE ADEQUATE CLEARANCE FOR ACCESS TO ALL EQUIPMENT. CONTRACTOR SHALL ENSURE THAT NO TRANSGRESSION OF THIS SPACE IS MADE BY OTHER CONTRACTORS.
15. ALL CONTROL WIRING SHALL BE IN CONDUIT. WHERE CONTROL WIRING IS CONCEALED BY CEILING STRUCTURE, WIRING MAY BE PLENUM RATED CABLE. ALL CONTROL WIRING SHALL BE SECURELY ATTACHED TO THE STRUCTURE AT A MAXIMUM SPACING OF EVERY FOUR FEET.
16. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. IN GENERAL, ALL PIPING AND DUCTWORK SHALL BE RUN CONCEALED IN CEILING SPACES PROVIDED UNLESS NOTED OR INDICATED OTHERWISE. ROUTING SHALL BE COORDINATED WITH OTHER TRADES. DO NOT INSTALL ANY DUCTWORK OR PIPING OF ANY KIND ABOVE ELECTRICAL PANEL.
17. ALL DUCTWORK, INSTALLATION AND EQUIPMENT SHALL MEET THE LATEST ADOPTED EDITION OF THE STATE OF FLORIDA ENERGY CODE.
18. METAL DUCTWORK SHALL BE FABRICATED, SUPPORTED AND INSTALLED IN STRICT ACCORDANCE WITH THE LATEST EDITION OF SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE" TO A MINIMUM OF 2" PRESSURE CLASSIFICATION AND CLASS B SEAL. SQUARE DUCTWORK WITHIN 5' OF DISCHARGE AND THE ENTIRE RETURN DUCTWORK SHALL BE INTERNALLY INSULATED WITH 1 1/2" FIBERGLASS INSULATION EQUAL TO JOHNS MANVILLE "PERMACOUSTIC". THE REST OF THE DUCTWORK SHALL BE EXTERNALLY INSULATED WITH 2" THICK DUCTWRAP WITH FOIL FACING. .
19. RIGID FIBERGLASS DUCTBOARD WITH ANTIMICROBIAL COATING AND 1-1/2" R-6 INSULATION IN ACCORDANCE WITH SMACNA "FIBROUS GLASS DUCT CONSTRUCTION STANDARDS".
20. HVAC SUPPLY DIFFUSERS AND RETURN GRILLES SHALL BE TITUS WITH WHITE FINISH, ALUMINUM CONSTRUCTION. SEE PLANS FOR THROAT CONNECTION SIZES.
21. CONTRACTOR TO PROVIDE ENERGY MANAGEMENT SYSTEM FOR MONITORING OF ALL HVAC EQUIPMENT. SEE SEQUENCE OF CONTROLS NOTES FOR MORE DETAILS OF SYSTEM.
22. THESE CONTRACT DOCUMENTS REPRESENT A PORTION OF A COMPLETE DESIGN WHICH, TO THE BEST OF OUR KNOWLEDGE HAVE BEEN PREPARED IN COMPLIANCE WITH APPLICABLE BUILDING CODE REQUIREMENTS. THE USE OF THESE PLANS WITHOUT THE CONSENT OF THE ENGINEER OF RECORD IS PROHIBITED. ALTERATIONS TO THE DESIGN AS SHOWN ON THESE PLANS ARE ONLY ALLOWED BY WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD.
23. H.V.A.C. CONTRACTOR SHALL PROVIDE ONE SET OF CUTSHEETS OF ALL SELECTED EQUIPMENT TO ELECTRICAL CONTRACTOR TO ADJUST CIRCUIT REQUIREMENTS (IF REQUIRED) BASED ON ACTUAL SELECTED MANUFACTURER'S DATA.
24. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES. REFERENCE ENTIRE SET OF CONSTRUCTION DOCUMENTS IN INSTALLATION OF MECHANICAL SYSTEMS INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND FIRE SPRINKLERS.
25. CONTRACTOR SHALL INSTALL DUCT SMOKE DETECTOR IN SUPPLY WHERE INDICATED ON PLANS OR AS REQUIRED BY CODE AND AUTHORITY HAVING JURISDICTION. DUCT SMOKE DETECTOR SHALL BE COMPATIBLE WITH FIRE ALARM MONITORING SYSTEM.
26. THESE PLANS MAKE REFERENCE TO EXISTING CONDITIONS. CONTRACTOR SHALL VISIT SITE WITH RESPECT TO PROPOSED CONSTRUCTION PRIOR TO BID. NOTIFY ENGINEER OF ANY DISCREPANCIES.
27. CONTRACTOR MAY USE SALVAGEABLE PORTIONS OF EXISTING RIGID DUCTWORK.
28. PROVIDE 1 HOUR FIRE DAMPER AT ALL PENETRATIONS THROUGH RATED WALL ASSEMBLIES.

TEMPORARY COOLING REQUIREMENTS

1. THE MECHANICAL CONTRACTOR SHALL WORK ON ONE OF THE MAIN HVAC SYSTEMS WITHIN THE IT ROOM AND FINANCE DEPARTMENT SPACE AT A TIME. THE OTHER SYSTEMS SHALL REMAIN IN OPERATION AT ALL TIMES TO PROVIDE COOLING TO THE SPACES.
2. CONTRACTOR SHALL PLAN AND SCHEDULE WORK FOR WEEKEND CHANGEOVER OF AHU-1/2, SUCH THAT AT LEAST ONE OF THE UNITS IS OPERATIONAL FOR NORMAL BUSINESS HOURS. UNITS SHALL OPERATE ON UNIT CONTROLS UNTIL ENERGY MANAGEMENT SYSTEM CAN BE INSTALLED TO TAKE OVER CONTROL OF UNITS.
3. CONTRACTOR SHALL PLAN AND SCHEDULE WORK FOR IT ROOM AIR CONDITIONER REPLACEMENT, SUCH THAT THE EXISTING OPERATIONAL A/C SYSTEM IN THE SPACE CONTINUES IN OPERATION WHILE 1 OF THE NEW UNITS IS INSTALLED. AFTER THE NEW UNIT IS UP AND OPERATIONAL, THE SECOND REDUNDANT SYSTEM, CONTROLS AND ENERGY MANAGEMENT SYSTEM SHALL BE INSTALLED.
4. CONTRACTOR SHALL PROVIDE A MINIMUM OF (6) TEMPORARY ROOM/SPACE AIR CONDITIONING UNITS IN THE WORKING ARE DURING DEMOLITION AND CONSTRUCTION. TEMPORARY UNITS MAY BE A COMBINATION OF WINDOW UNITS FOR INDIVIDUAL OFFICES WITH EXTERIOR WINDOWS AND FREE STANDING PORTABLE UNITS. TEMPORARY UNITS' TONNAGE SHALL MATCH OR EXCEED THAT OF REMOVED UNITS BEING REPLACED. CONDENSATE REMOVAL, HOSES, AND FLEXIBLE EXHAUST DUCT SHALL BE PROVIDED TO AN EXTERIOR OPENING.
5. COORDINATE CIRCUITS USED WITH AREA SO AS NOT TO SHUT SYSTEMS OFF WITH CITY OF SANIBEL PROJECT MANAGER.
6. ADEQUATE TEMPORARY COOLING SHALL ALSO BE PROVIDED FOR ALL OTHER AREAS DURING HVAC SYSTEM REPLACEMENT.
7. CONTRACTOR WILL BE REQUIRED TO SUBMIT A PHASED WORK PLAN, INCLUDING PROVISIONS FOR TEMPORARY AIR CONDITIONING UNITS (INCLUDING PROPOSED TYPE OF TEMPORARY UNITS) FOR ENGINEER AND OWNER APPROVAL PRIOR TO COMMENCEMENT OF WORK.

FAN SCHEDULE

MARK	MANUFACTURER	MODEL	CFM	ESP	HP	VOLT	RPM / WATTS	SONES	WEIGHT	REMARKS
EF-1	COOK	GC-148	100	0.38	–	120/1	966/41	0.2	14.0	1, 2, 3

REMARKS

1. PROVIDE WITH BACKDRAFT DAMPER
2. ELECTRONIC SPEED CONTROL MOUNTED IN CABINET
3. ACTIVATE VIA MOTION SENSOR.

SPLIT SYSTEM HEAT PUMP SCHEDULE

GENERAL			AIR HANDLER										CONDENSING UNIT						SYSTEM DATA				
NO.	LOCATION SERVED	MFG	MARK	MODEL	CFM		FAN		HEATER		ELECTRICAL			MARK	MODEL	ELECTRICAL			COMPRESSOR		COOL CAPACITY		HSPF2	SEER2	REMARKS
					TOTAL	OA	ESP	FLA	MODEL	MBTUH	VOLTS	MCA	MOP			VOLTS	MCA	MOP	NO	TONS	TMBH	SMBH			
1	LOUNGE 021	DAIKIN	AHU-3	FTXM24WVJU9	475	–	–	–	HEATPUMP	–	230/1	–	–	CU-3	RXM24WVJU9	230/1	22.0	30	1	2.0	21.6	–	10.0	22.0	1 – 4
2	IT RM	DAIKIN	AHU-4/5	FTXM24WVJU9	475	–	–	–	HEATPUMP	–	230/1	–	–	CU-4/5	RXM24WVJU9	230/1	22.0	30	1	2.0	21.6	–	10.0	22.0	1 – 4

REMARKS

1. DUCTLESS SPLIT SYSTEM HEAT PUMP POWERED FROM THE CONDENSING UNIT VIA THE INDOOR CEILING MOUNTED AIR HANDLER.
2. THE UNIT IS EQUIPPED TO OPERATE AT LOW AMBIENT COOLING DOWN TO 0 TO 115 DEGREE (F) AND LOW AMBIENT HEATING DOWN TO –13 TO 75 DEGREE (F).
3. PROVIDE UNIT WITH BACNET COMMUNICATION CARD FOR INTERCONNECTION CAPABILITY TO ENERGY MANAGEMENT SYSTEM AND TEMPERATURE CONTROLLER ON WALL IN SPACE.
4. PROVIDE CONDENSER FIN COATING,7500 HOUR SALT SPRAY COATING BY BLYGOLD OR EQUAL PRIOR TO INSTALLATION.

SPLIT SYSTEM SCHEDULE

GENERAL			AIR HANDLER										CONDENSING UNIT							SYSTEM DATA				
NO.	LOCATION SERVED	MFG	MARK	MODEL	CFM		FAN		HEATER			ELECTRICAL			MARK	MODEL	ELECTRICAL			COMPRESSOR		CAPACITY		EER	REMARKS
					TOTAL	OA	ESP	FLA	MODEL	KW	VOLTS	MCA	MOP				VOLTS	MCA	MOP	NO	TONS	TMBH	SMBH		
1	OFFICES	TRANE	AHU-1/2	TWE072K3BAA	2,200	250	1	6.8	BAYHTRR315	11.24	208/3	48.00	50	CU-1/2	TTA072K3DAA	208/3	33.0	45	2	6.0	74.0	56.0	11.5	1, 2

REMARKS

1. HORIZONTAL DISCHARGE AIR HANDLER. PROVIDE WITH TX VALVE. FACTORY MOUNTED ELECTRIC HEATER WITH SINGLE POINT POWER CONNECTION. PROVIDE TIME DELAY RELAY, SUMP HEATER AND START ASSIST CAPACITOR FOR CONDENSING UNITS. REFRIGERANT LINE SIZES PER MANUFACTURER'S RECOMENDATIONS BASED ON ACTUAL RUN LENGTH. PROVIDE WITH 2" FLAT FILTER INSTALLED IN UNIT. PROVIDE AND INSTALL AIR PLUS CLEANER MODEL FM-6000, INSTALLATION PER MANUFACTURER'S INSTRUCTION.
2. CONDENSING UNITS TO BE PROVIDED WITH 7500 HOUR SALT SPRAY BY BLYGOLD OR EQUAL. AIR HANDLER TO BE PROVIDED WITH STAND-ALONE DDC CONTROLS WITH BACNET COMMUNICATION FOR COMMUNICATION WITH ENERGY MANAGEMENT SYSTEM. PROVIDE WITH SINGLE ZONE VAV CONTROLLER, WALL SENSORS AND REMOTE SENSOR FOR AVERAGING.

MARK A. BRANT LICENSE NO. 54692 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MARK A. BRANT, PE, ON 8/5/2025.

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Project:
CITY HALL HVAC REPLACEMENT

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KCPS 01

Revisions:

No.	Date	Description

COA:

Seal:
THIS DRAWING UTILIZES A DIGITAL SIGNATURE LOCATED ON G-1

Issued For:
BIDS

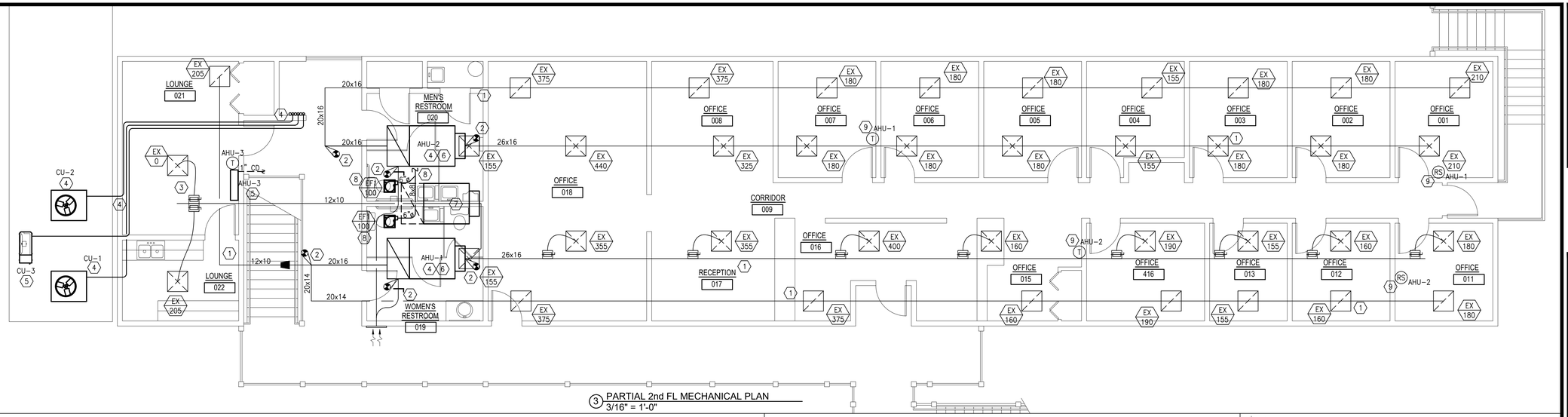
Scale:

Date: 8/8/2025
Drawn By: BBCE STAFF
Reviewed By: JWB/MAB
Approved By: JWB/MAB

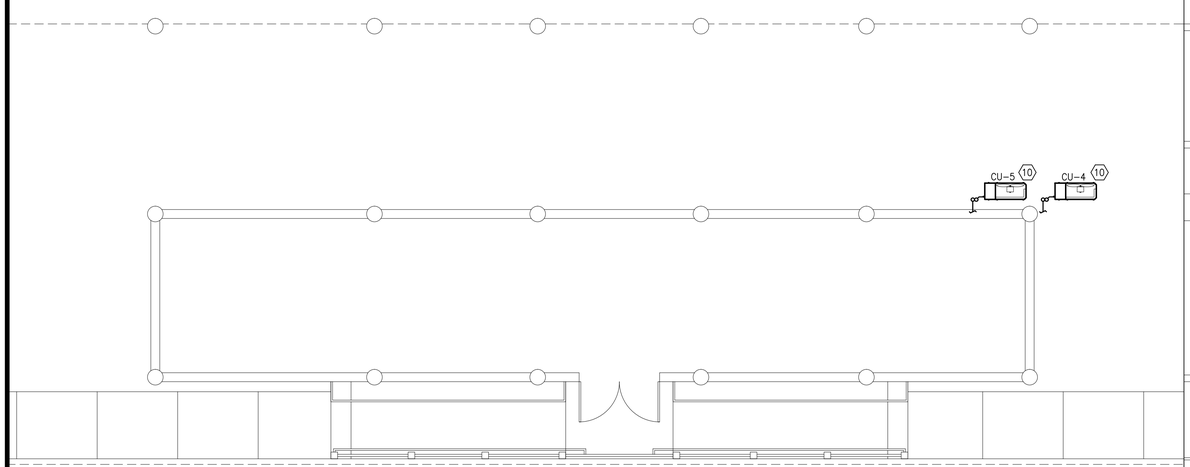
W&S Project No.: ENG25-0284
W&S File No.:

Drawing Title:
MECHANICAL NOTES & SCHEDULES

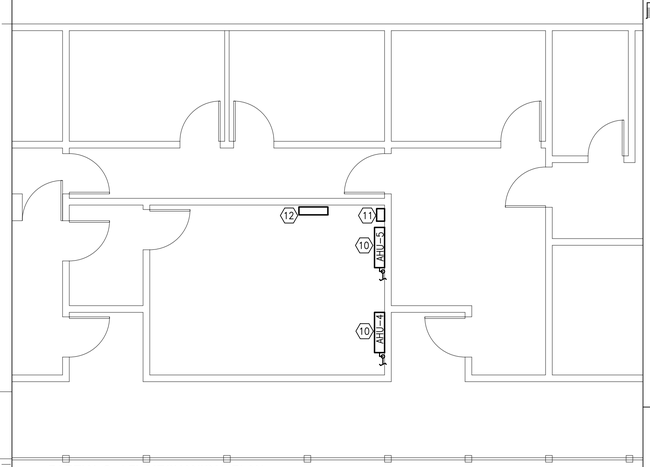
Sheet Number:
M001



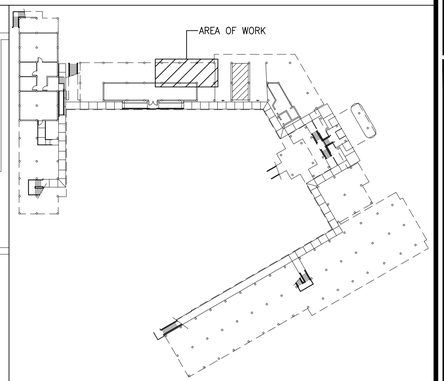
3 PARTIAL 2nd FL MECHANICAL PLAN
3/16" = 1'-0"



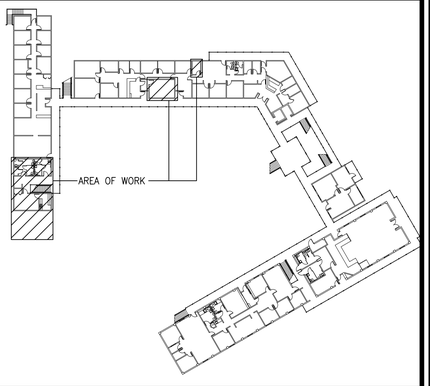
4 PARTIAL 1st FL MECHANICAL PLAN
3/16" = 1'-0"



5 PARTIAL 2nd FL MECHANICAL PLAN
3/16" = 1'-0"



1 FIRST FLOOR KEY PLAN
1" = 50'-0"



2 SECOND FLOOR KEY PLAN
1" = 50'-0"

DDC CONTROLS

FRONT END CONTROLLER

1. PROVIDE NEW HARDWARE AND SOFTWARE CONSISTING OF MAIN ENERGY MANAGEMENT CONTROL PANEL AND SPLIT SYSTEM CONTROLLERS. MAIN ENERGY MANAGEMENT FRONT END PANEL FOR BUILDING AUTOMATION SYSTEM TO MONITOR ALL OTHER SYSTEMS AND BE EXPANDABLE TO INCLUDE ALL EXISTING A/C SYSTEMS IN THE FUTURE. FIELD VERIFY ALL EXISTING LOCATIONS OF AIR CONDITIONING SYSTEMS. AT THIS TIME, ONLY THE NEW IT ROOM AND NEW SPLIT SYSTEMS TO BE MONITORED BY ENERGY MANAGEMENT SYSTEM.
2. PROVIDE WEB BASED CONTROLS FOR OVERALL BUILDING WITH GRAPHIC USER INTERFACE THAT INCLUDES ZONING FOR ALL SPACES FOR THE ENTIRE BUILDING, SUCH THAT ENERGY MANAGEMENT SYSTEM MAY BE MONITORED REMOTELY FROM ANY REMOTE INTERNET CONNECTED COMPUTER.
3. SELECTED CONTROLS SYSTEM MUST HAVE OFFICE FOR REPAIR, MAINTENANCE AND INSTALLATION WITHIN 100 MILES OF THE SITE.
4. PROVIDE SOFTWARE USING GRAPHIC USER INTERFACE AND COLOR SCHEMATICS. THE SOFTWARE SHALL AT A MINIMUM HAVE BUILDING FLOOR PLAN, ZONES, AIR HANDLING UNITS AND CONDENSING UNITS. COLOR CODED ZONES SHALL SHOW WHERE SPACE TEMPERATURES ARE OUTSIDE OF SPACE TEMPERATURE SETPOINTS AND OCCUPIED/UNOCCUPIED SCHEDULE. COORDINATE WITH OWNER FOR HOURS OF OPERATION FOR SCHEDULE AND SPACE TEMPERATURE SETPOINT.
5. PROVIDE OWNER WITH MINIMUM OF 8 HOURS OF TRAINING ON CONTROL SYSTEM.
6. ALL CONTROL WIRING USED FOR CONTROL SYSTEM MUST BE WITH PLENUM RATED CABLE WHERE INSTALLED ABOVE ACCESSIBLE CEILINGS AND CONDUIT IN IN ACCESSIBLE CEILING.
7. MAIN FRONT END CONTROL SYSTEM AS PER SCHEDULED LIST OF ACCEPTABLE PROVIDERS:
   TRIDIUM, ALERTON, AUTOMATED LOGIC, DISTECH.

ALTERNATE CONTROL SYSTEMS WILL BE CONSIDERED. IF AN ALTERNATE CONTROL MANUFACTURER IS PROPOSED, CONTROLS CONTRACTOR SHALL SCHEDULE TIME TO MEET WITH CITY OF SANIBEL TO SHOW CAPABILITIES OF THE SYSTEM FOR THE CITY OF SANIBEL'S APPROVAL.

AHU-3

PROVIDE INTERCONNECTION WITH UNIT BACNET CARD AND PULL AND PROVIDE THE FOLLOWING POINTS OF CONTROL AND MONITORING.

1. SCHEDULING (OCCUPIED/UNOCCUPIED)
2. SPACE TEMPERATURE
3. CONDENSER COOLING ON/OFF
4. CONDENSER HEAT PUMP ON/OFF

AHU-1 & AHU-2

PROVIDE INTERCONNECTION WITH UNIT SUPPLIED BACNET COMPATIBLE CONTROLLERS. PROVIDE THE FOLLOWING POINTS AND ADDITIONAL POINTS OF MONITORING WHERE UNIT CONTROLLER DOES NOT PROVIDE CONTROL POINT INDICATED BELOW.

1. SPACE TEMPERATURE
2. SPACE TEMPERATURE SETPOINT
3. COOLING STAGE 1 ON/OFF
4. COOLING STAGE 2 ON/OFF
5. HEATING STAGE 1 ON/OFF
6. FAN SPEED (SINGLE ZONE CONTROL)
7. FAN STATUS (ON/OFF)
8. EVAPORATOR FAN POWER VERIFIED (CT SWITCH)
9. CONDENSER POWER ON/OFF (CT SWITCH)
10. LEAVING AIR TEMPERATURE
11. REMOTE SPACE AVERAGING/MONITORING SENSOR
12. SCHEDULING (OCCUPIED/UNOCCUPIED)

IT ROOM (AHU-4/AHU-5)

PROVIDE INTERCONNECTION WITH UNIT SUPPLIED BACNET COMPATIBLE CONTROLLERS. PROVIDE THE FOLLOWING POINTS AND ADDITIONAL POINTS OF MONITORING WHERE UNIT CONTROLLER DOES NOT PROVIDE CONTROL INDICATED BELOW.

1. SPACE TEMPERATURE
2. SPACE TEMPERATURE SETPOINT
3. COOLING AHU-4 (ON/OFF)
4. COOLING AHU-5 (ON/OFF)
5. CONDENSING UNIT POWER ON/OFF MONITORED (CT SWITCH) (CU-4)
6. CONDENSING UNIT POWER ON/OFF MONITORED (CT SWITCH (CU-5)
7. SCHEDULING (OCCUPIED/UNOCCUPIED)
8. LEAD/LAG SYSTEM WHEREBY THE LEAD AND LAG SYSTEM ALTERNATE EVERY WEEK OR UPON FAILURE OF LEAD SYSTEM.
9. EVAPORATOR LEAVING AIR TEMPERATURE (AHU-4)
10. EVAPORATOR LEAVING AIR TEMPERATURE (AHU-5)
11. AIR HANDLER POWER ON/OFF MONITORED (CT SWITCH) (CU-4)
12. AIR HANDLER POWER ON/OFF MONITORED (CT SWITCH) (CU-5)

IT ROOM AHU-4 & AHU-5 (CONTINUED)

SYSTEM CONTROLS SHALL BE DESIGNED TO ACHIEVE THE FOLLOWING SEQUENCE OF CONTROLS.

1. A/C SYSTEM MUST BE CAPABLE OF BEING MONITORED AND CONTROLLED BOTH REMOTELY AND LOCALLY. MONITORING SHALL INCLUDE SPACE TEMPERATURE, UNIT STATUS (NORMAL, FAILURE, LEAD, LAG) AND DIAGNOSTIC INFORMATION FROM UNIT BACNET CARD.
2. AC UNITS MUST BE DESIGNED FOR LEAD/LAG SCHEDULE THAT CAN BE VIEWED, MANAGED AND OVERRIDDEN BOTH LOCALLY AND REMOTELY. AC UNITS MUST BE CAPABLE OF BEING REMOVED FROM LEAD/LAG SCHEDULE BY OWNER IN THE EVENT THAT ONE UNIT IS NOT OPERATIONAL AND PROVIDE REMOTE OPERATOR CONTROL TO FORCE EITHER UNIT ON OR OFF THROUGH CONTROL SYSTEM.
3. AC UNITS MUST BE CAPABLE OF AUTOMATIC CHANGEOVER DURING A FAILURE OF THE LEAD SYSTEM. FAILURE OF THE SYSTEM TO BE COOLING AHU-5 (ON/OFF)
4. THE CONTROL SYSTEM SHALL SEND AN ALARM VIA EMAIL OR SMS (TEXT MESSAGE) WITH ANY FAILURE OF EQUIPMENT INCLUDING LOSS OF POWER TO CONDENSING OR AIR HANDLING UNIT, OR UNITS NOT OPERATING WHEN COMMANDED ON, LEAVING AIR TEMPERATURE OF UNIT OUTSIDE OF EXPECTED RANGE, SPACE TEMPERATURE OUTSIDE OF RANGE.
5. REMOTE AND LOCAL MANAGEMENT SHALL BE INTEGRATED SUCH THAT A CHANGE IN TEMPERATURE SETPOINT, OR POWER ON/OFF MADE EITHER REMOTELY OF LOCALLY IS REFLECTED BOTH AT LOCAL SPACE TEMPERATURE SETPOINT AS WELL AS ON ENERGY MANAGEMENT SYSTEM.
6. THE SYSTEM SHALL BE ACCESSIBLE REMOTELY BY A CONTRACTED VENDOR VIA APPROPRIATE PASSWORD PROTECTION TO WEBSITE IN REAL TIME.
7. LOSS OF POWER TO SERVER ROOM A/C UNITS OR THEIR INTEGRATED BACNET COMMUNICATION CARDS SHALL NOT LOSE REMOTE CONTROL CAPABILITY OF SYSTEM.
8. IF LEAVING AIR TEMPERATURE IS OUTSIDE OF ACCEPTABLE RANGE FOR LEAD A/C SYSTEM, THE SYSTEM INCLUDING EVAPORATOR FAN SHALL SHUT DOWN AND THE LAG A/C SYSTEM SHALL BE ENERGIZED. AN ALARM SHALL BE SENT AS DISCUSSED ABOVE UNDER THIS SCENARIO.
9. IF REMOTE INTERNET ACCESS VIA WEB BASED ENERGY MANAGEMENT SYSTEM IS DISABLED OR DOWN, THE AIR HANDLERS MUST OPERATE INDEPENDENTLY TO CONTINUE COOLING THE SPACE.

MECHANICAL KEYNOTES

1. EXISTING AIR DEVICES AND EXISTING DUCTWORK TO REMAIN AND BE REUSED, EXCEPT AS NOTED. REBALANCE AIR FLOW TO CFM INDICATED. PROVIDE A COMFORT BALANCE AFTER NEW EQUIPMENT TO BALANCE TO +/- 2"F BETWEEN SPACES.
2. EXISTING SUPPLY, RETURN AND OUTSIDE AIR DUCTS SHALL BE RECONNECTED TO NEW AIR HANDLERS AND BALANCED TO CFM AS NOTED.
3. EXISTING DIFFUSER TO REMAIN AND BE CLOSED OFF TO 0 CFM. AT TIME OF TEMPERATURE BALANCING, DIFFUSER MAY BE OPENED UP TO SUPPLEMENT BREAK ROOM AIR CONDITIONING.
4. EXISTING AIR HANDLERS, CONDENSING UNITS, AND REFRIGERATION LINES SHALL BE DISCONNECTED, REMOVED AND REPLACED WITH ALL NEW HVAC SYSTEMS. NEW REFRIGERATION LINES SHALL USE THE SAME ROUTE AS REMOVED LINES, COORDINATE IN THE FIELD.
5. PROVIDE AND INSTALL MINISPLIT WITH CONDENSING UNIT, NEW REFRIGERATION LINE, THERMOSTAT, CONDENSATE DRAIN LINE INTO EXISTING DRAIN. VERIFY ROUTING AND LOCATION IN THE FIELD.
6. AHU-1/2 SHOWN IN LOCATION FOR CLARITY PURPOSES.
7. ACTUAL LOCATION OF AHU-1/2 STACKED OVER EACH OTHER.
8. EXISTING BATHROOM FANS AND DUCTWORK SHALL BE REMOVED. INSTALL NEW EXHAUST FANS AND DUCTWORK, CONNECT TO EXISTING DUCT THAT EXITS THE BLDG. VERIFY AND COORDINATE ROUTING IN THE FIELD.
9. EXISTING TEMPERATURE CONTROL SHALL BE REPLACED WITH NEW DIGITAL TEMPERATURE CONTROLLER WITH 7 DAY PROGRAMMABLE FUNCTION, TEMPERATURE ADJUSTMENT AND SINGLE ZONE VAV CONTROL. PROVIDE REMOTE SENSORS AT LOCATION INDICATED FOR AVERAGING. PROVIDE BACNET CONTROLS AND INTERCONNECTED WITH NEW FRONT END ENERGY MANAGEMENT SYSTEM PER SEQUENCE OF CONTROLS DRAWINGS.
10. EXISTING SYSTEM SHALL BE DISCONNECTED AND INSTALL INSTALL (2) NEW MINI SPLIT SYSTEM IN THE SAME LOCATION. CONDENSING UNIT SHALL BE MOUNTED AT GROUND FLOOR LEVEL USING EXISTING SUPPORTS FROM FLOOR STRUCTURE ABOVE. NEW REFRIGERATION AND CONDENSATE LINES TO FOLLOW THE SAME PATH. VERIFY IN THE FIELD.
11. CONTRACTOR TO PROVIDE DDC CONTROLLER WITH CAPABILITY FOR BACNET INTERFACE CONNECTION. DDC CONTROLLER SHALL ALTERNATE A/C UNITS IN ROOM SUCH THAT ONLY ONE UNIT RUNS AT A TIME. INTERCONNECT WITH NEW ENERGY MANAGEMENT SYSTEM WITH WEB BASED BUI INTERFACE. SEE SEQUENCE OF CONTROLS NOTES FOR MORE DETAILS OF CONSTRUCTION.
12. PROPOSED LOCATION OF NEW WEB BASED FRONT END ENERGY MANAGEMENT SYSTEM. EXACT LOCATION TO BE ADJUSTED AS REQUIRED IN IT ROOM.

    CONTRACTOR SHALL PHASE WORK FOR IT ROOM SUCH THAT ONE A/C UNIT IS INSTALLED WHILE EXISTING AIR CONDITIONING (ON RIGHT SIDE IN ROOM, FIELD VERIFY OPERATIONAL UNIT TO REMAIN DURING CONSTRUCTION) IS OPERATIONAL. ONCE NEW UNIT IS OPERATIONAL, EXISTING UNIT MAY BE REMOVED AND 2ND NEW REDUNDANT DAIKIN UNIT MAY BE PROVIDED.

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MECHANICAL PLAN

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M101

ELECTRICAL SYMBOL LEGEND

ELECTRICAL DEVICES

	GFCI TYPE RECEPTACLE, WALL DUPLEX, 120V, SPECIFICATION GRADE, 20 AMP. INSTALL AT 18" AFF TO C.L. (U.N.O.).
WP	"WP" SIGNIFIES A WEATHERPROOF WEATHER RESISTANT GFIC RECEPTACLE, WALL DUPLEX, 120 VAC, SPECIFICATION GRADE, 20 AMP. UNO, PROVIDE WITH A METALLIC, "EXTRA DUTY", IN-USE TYPE, WET LOCATION LISTED COVER PLATE.
J	MOTOR DISCONNECT SWITCH, DEAD FRONT MOLDED CASE SWITCH (IF 60 AMPS OR LESS) NON-PROTECTED, NEMA 1 NEMA 3R AS REQUIRED.
	POWER PANEL (FLUSH/SURFACE) SEE SCHEDULES

SPECIFIC NOTES

(2) VERIFY ROUGH-IN LOCATIONS, TYPE OF CONNECTION, AND AMPACITY REQUIRED FROM APPLICABLE EQUIPMENT DRAWINGS PRIOR TO INSTALLING ANY CONDUIT, CONDUCTORS, OR BOXES. THIS EQUIPMENT IS FURNISHED AND PHYSICALLY INSTALLED BY "OTHERS", ALL ELECTRICAL CONNECTIONS EXTERNAL TO THE EQUIPMENT SHALL BE MADE BY THE ELECTRICAL CONTRACTOR. WIRE, CONDUIT, LUGS, RECEPTACLES, PIG TAILS, DISCONNECTS, AND ETC., AS MAY BE REQUIRED SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR. **NOTE: INCLUDE WORSE CONDITION IN PRICING.

ABBREVIATIONS

A/C	AIR CONDITIONING	KVA	KILOVOLT AMPERE
AC	ALTERNATING CURRENT	KW	KILOWATT
AFF/G	ABOVE FINISH FLOOR/GRADE	N1	NEMA 1 (INDOOR ENCLOSURE)
AHU	AIR HANDLING UNIT	N3R	NEMA 3R (RAIN TIGHT ENCLOSURE)
B	BOND	N/NEUT	NEUTRAL
CB	CIRCUIT BREAKER	NMC	NONMETALLIC CABLE (ROMEX)
Cu	COPPER	NP	NON-PROTECTED
CU	CONDENSER UNIT	P	POWER
DC	DIRECT CURRENT	RS	RIGID STEEL CONDUIT
DISC	DISCONNECT	S/N	SOLID NEUTRAL
EMT	ELECTRICAL METALLIC TUBING (THIN WALL)	SS	STAINLESS STEEL
FC	FAN COIL	UNO	UNLESS NOTED OTHERWISE
G	GROUND	UG	UNDERGROUND
HD	HEAVY DUTY	UL	UNDERWRITERS LABORATORIES
HGT	HEIGHT	WP	WEATHER PROOF
JB	JUNCTION BOX	WR	WEATHER RESISTANT

GENERAL ELECTRICAL NOTES AND REQUIREMENTS

1. GENERAL INSTALLATION REQUIREMENTS:

A. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE 2023 FLORIDA BUILDING CODE. THE FLORIDA FIRE PREVENTION CODE (EIGHTH EDITION) WITH CHAPTER 69A-60 APPLICABLE NFPA CODES WHICH INCLUDES THE 2020 NEC (NFPA – 70) AND THE 2021 LIFE SAFETY CODE (NFPA – 101) FLORIDA EDITION.

THE INSTALLATION OF THE SYSTEMS SHALL BE IN ACCORD WITH THE MATERIALS AND METHODS INDICATED IN THE PLANS AND SPECIFICATIONS. ANY DESIRED DEVIATIONS SHALL BE SUBMITTED (IN WRITING) TO AND APPROVED BY THE ENGINEER. IF NOT INCLUDED IN THE SUBMITTALS AND NOT SPECIFICALLY REQUESTED, MATERIALS AND METHODS SHALL BE PROVIDED PER PLANS AND SPECIFICATIONS.

THE CODES REPRESENT THE MINIMUM INSTALLATION CRITERIA FOR THE PROJECT. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ADHERE TO THE DESIGN DOCUMENTS SO LONG AS THEY DO NOT INDICATE INSTALLATIONS THAT WILL PRESENT CODE VIOLATIONS. NO ADDITIONAL CHARGES WILL BE APPROVED OR ACCEPTED TO CHANGE THE INSTALLATION IN ORDER TO COMPLY WITH CODE OR TO RETROFIT ANY WORK THAT WAS INSTALLED IN VIOLATION OF A CODE.

B. WORK SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS AND COSTS FOR INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM.

C. IT IS NOT THE PURPOSE OF THESE PLANS TO SHOW ALL DETAILS OF CONSTRUCTION, ONLY THE INTENT. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE PURCHASE AND INSTALLATION OF ALL ITEMS SUCH AS HARDWARE, J-BOXES, CONDUITS AND FITTINGS, ETC., AS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM IN WORKING ORDER.

D. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE BIDS BASED UPON THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. THIS EXTENDS TO ALL DEVICES INDICATED ON PLANS AND ALL EQUIPMENT REQUIRED TO SUPPORT THOSE DEVICES. IF FOR ANY REASON, THE INTENT OF THE ENGINEER, ARCHITECT OR CLIENT IS UNCLEAR THEN THE CONTRACTOR IS TO GET CLARIFICATION PRIOR TO PROVIDING A BID. IF THE CONTRACTOR FAILS TO DO SO, THE CONTRACTOR SHALL BE REQUIRED TO ASSUME ANY ADDITIONAL COSTS INVOLVED IN REALIZING THE INTENT OF THE ENGINEER, ARCHITECT, OR CLIENT.

E. ALL EQUIPMENT, FIXTURES, ETC., SHALL BE STARTED, TESTED, ADJUSTED AND PLACED IN SATISFACTORY OPERATING CONDITION BY THIS CONTRACTOR WHO SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF (1) ONE YEAR FROM DATE OF OWNER ACCEPTANCE, AND SHALL REPAIR SUCH DEFECTS WITHOUT COST TO THE OWNER. ALL EQUIPMENT SHALL BE COVERED FOR THE DURATION OF THE MANUFACTURER'S GUARANTEE OR WARRANTY, AND THIS CONTRACTOR SHALL FURNISH THE OWNER WITH ALL MANUFACTURER'S GUARANTEES AND WARRANTIES.

F. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH OTHER PARTIES FOR INSTALLATION OF ALL DEVICES. THIS SHALL INCLUDE (BUT NOT LIMITED TO) THE FOLLOWING:
   a. LIGHT FIXTURES AND DEVICES ON INTERIOR AND EXTERIOR OF BUILDING WITH COUNTER TOPS, FURNITURE, WALL FINISHES/CONSTRUCTION, ETC.
   b. LIGHT FIXTURES AND DEVICES ON SITE WITH EXISTING/NEW UTILITIES, BUILDINGS/STRUCTURES, PLANTINGS, ETC.
   c. ANY INTER-CONNECTIONS BETWEEN ANY OF THE TRADES (HVAC, PLUMBING, FIRE ALARM, FIRE PROTECTION, ARCHITECTURE, ETC.).

G. THE ELECTRICAL, HVAC, PLUMBING, FIRE PROTECTION & GENERAL CONTRACTORS SHALL STRICTLY ADHERE TO THE FOLLOWING ITEMS WHEN DEALING WITH ELECTRICAL CLEARANCES:
   a. DEDICATED EQUIPMENT SPACE: NO PIPING OF ANY KIND, OR DUCTWORK, SHALL BE INSTALLED ABOVE AN ELECTRICAL SWITCHBOARD OR PANELBOARD. THIS AREA IS TO REMAIN CLEAR FROM THE TOP OF THE EQUIPMENT TO 6' ABOVE THE EQUIPMENT OR TO THE BOTTOM OF THE STRUCTURAL SLAB OR FLOOR, WHICHEVER IS LOWER. ANY PIPING OVER THE EQUIPMENT AND ABOVE THIS HEIGHT SHALL BE FITTED WITH LEAK DEFLECTORS.
   b. EQUIPMENT WORKING SPACE: UNO, A CLEARANCE OF 36" MINIMUM SHALL BE MAINTAINED IN FRONT OF ELECTRICAL EQUIPMENT (OPERATING AT 150 VOLTS OR LESS TO NEUTRAL) FOR A WIDTH OF 30" OR THE ENTIRE WIDTH OF THE EQUIPMENT (WHICHEVER IS LARGER), AND FROM FLOOR TO 6'6" AFF.

I. DO NOT SCALE THE ELECTRICAL DRAWINGS, REFER TO EXISTING CONDITIONS FOR EQUIPMENT LOCATIONS, CABINETRY, CEILING GRIDS, DOOR SWINGS, ETC.

J. NOTICE TO CONTRACTOR: REVISIONS TO THESE DRAWINGS AND CERTIFICATION THERETO, WHICH MAY BE REQUIRED BY THE APPLICABLE INSPECTION AUTHORITY, BECAUSE OF CONTRACTOR (OR "OTHERS") OPTED REVISIONS SHALL BE COMPENSATED TO THE ENGINEER/S BY THE REQUESTING CONTRACTOR. PAYMENT WILL BE REQUIRED AT TIME OF CERTIFICATION DELIVERY.

K. WITHIN 30 DAYS OF PROJECT COMPLETION, RECORD DRAWINGS (AS BUILT) OF THE PROJECT BE PROVIDED BY THE CONTRACTOR/S AND SUBMITTED TO THE OWNER. THESE SHALL INCLUDE (MINIMALLY) A SINGLE LINE POWER RISER, PANEL SCHEDULES AND FLOOR PLANS. IN ADDITION OWNER COPIES OF OPERATIONS MANUALS FOR ALL EQUIPMENT REQUIRING SERVICE WITH NAMES AND ADDRESS, AND, CONTACT FOR QUALIFIED SERVICE AGENCY/S.

IT IS HERE NOTED THAT IF THERE ARE NO CONSTRUCTION OBSERVATION ("CO") TRIPS PERFORMED BY THE ENGINEER/S OF RECORD THERE WILL BE NO CERTIFIED PLANS ("AS BUILT") PROVIDED BY THE ENGINEER/S OF RECORD.

2. SUBMITTALS

A. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT THAT IS TO BE USED ON THIS PROJECT WHETHER OR NOT THE EQUIPMENT IS SPECIFICALLY SPECIFIED IN THESE DOCUMENTS. THIS INCLUDES (BUT IS NOT LIMITED TO) DISTRIBUTION EQUIPMENT, LIGHT FIXTURES, WIRING DEVICES, METERING, CONDUCTORS, CONDUITS, FITTINGS, BOXES, GROUNDING METHODS, ETC.. SHOP DRAWINGS SHALL BE REQUIRED PRIOR TO ORDERING OR ANY INSTALLATION OF EQUIPMENT. ANY EQUIPMENT NOT INCLUDED IN THE SHOP DRAWING SUBMITTALS, SHALL BE PROVIDED PER THE PLANS AND SPECIFICATIONS.

B. SUBMITTALS ARE TO BE TOTAL & COMPLETE. INCOMPLETE OR PIECEMEAL SHOP DRAWINGS WILL NOT BE REVIEWED UNTIL ALL SUBMITTALS ARE PROVIDED. ALL EQUIPMENT (INCLUDING ANY/ALL OPTIONS) SHALL BE CLEARLY SELECTED/INDICATED ON THE CUTSHEETS INCLUDED IN THE SUBMITTAL.

C. SUBMITTALS SHALL BE PROVIDED IN PDF FORMAT.

D. SHOP DRAWINGS SUBMITTED BY WAY OF AN ELECTRONIC PROJECT MANAGEMENT SYSTEM ARE NOT ACCEPTABLE.

3. WIRING & WIRING METHODS

A. ALL CONDUCTORS SHOWN ARE TO BE COPPER WITH THHN/THWN, 75°C INSULATION, UNLESS NOTED OTHERWISE.

B. ALL WIRING DEVICE, EQUIPMENT TERMINALS, SPLICING SYSTEMS, ETC. SHALL BE RATED FOR 75°C CONDUCTORS.

C. MINIMUM WIRE SIZE TO BE #12 Cu., MINIMUM CONDUIT SIZE IS TO BE 1/2". 20 AMP, 120 VOLT CIRCUITS SHALL HAVE CONDUCTORS SIZED PER LENGTH OF RUN (UNO):
55' OR LESS = #12 Cu; 55' – 95' = #10 Cu; 95' – 145' = #8 Cu
THESE SIZES PERTAIN TO THE HOT, NEUTRAL, AND GROUND CONDUCTORS.

D. AS DESIGNED, THE SYSTEM VOLTAGE DROPS ARE LESS THAN 2% FOR FEEDERS AND 3% FOR THE BRANCH CIRCUITS.

E. ALL ELECTRICAL CONDUITS NOT CONTAINING SPECIFIED CONDUCTORS SHALL HAVE A PULL WIRE INSTALLED

F. WIRING TO BE:
   a. PVC CONDUIT AND CONDUCTORS UNDERGROUND AND IN SLAB
   b. ENT CONDUITS ARE NOT ALLOWED UNDER ANY CIRCUMSTANCE.
   c. UNO – NO ALUMINUM CONDUITS OR CABLES ARE ALLOWED.

G. ALL CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATIONS (TRANSFORMERS, MOTORS, AIR HANDLERS, ETC.) ARE TO BE MADE USING FLEXIBLE CONDUITS: DRY LOCATIONS: LIQUID TIGHT FLEXIBLE METAL CONDUIT "LFMC" (STEEL) WET LOCATIONS: LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT "LFNC-B" (PVC) WITH SMOOTH WALLS. ALUMINUM VERSIONS ARE NOT PERMITTED.

H. CABLING SHALL BE IDENTIFIED USING SELF-ADHESIVE LABELING. MATERIAL SHALL BE PERMANENTLY FLEXIBLE AND LAMINATED WITH CLEAR, ALL-WEATHER, CHEMICAL & UV RESISTANT FILM. EDGES SHALL BE TAPED WITH MATCHING TAPE TO PROTECT LABEL EDGES. VERBIAGE SHALL BE PRE PRINTED BY MACHINE. LABELS SHALL BE AFFIXED AT EVERY LOCATION ACCESSIBLE.
   a. POWER CONDUCTORS SHALL HAVE ADHESIVE TYPE WRAP LABELS APPLIED INDICATING PANEL & CIRCUIT OF ORIGIN.
   b. LOW VOLTAGE CABLING SHALL HAVE ADHESIVE TYPE WRAP LABELS APPLIED INDICATING TERMINATING DEVICE NUMBER.

L. INSULATED CONDUCTORS SIZES #6 AND SMALLER SHALL HAVE FACTORY COLOR CODED INSULATION. SIZES #4 AND LARGER MAY BE EITHER FACTORY CODED OR CODED BY TAPE. COLOR TAPE SHALL BE APPLIED TO ALL CONDUCTORS AT 5' INTERVALS, WITH 6" (MINIMUM) "SWATCHES." COLORING SHALL BE AS FOLLOWS:
120/208 VOLT THREE PHASE — BY PHASE – BLACK/RED/BLUE; N/B(G) – WHITE/GREEN

COLOR CODING AND MARKING TAPE SHALL BE 3 MIL, SELF-ADHESIVE, 1 TO 2 INCHES WIDE.

M. CONTRACTOR SHALL LABEL ALL JUNCTION BOXES CONTAINING POWER CABLING WITH THE PANEL & CIRCUIT OF ORIGIN OF EACH CONDUCTOR WITHIN THE BOX. LABELING SHALL BE VIA PERMANENT BLACK MARKER & STENCIL WITH 1/4" LETTERING.

4. EQUIPMENT

A. NO "WAFER" OR "PIGGYBACK" BREAKERS PERMITTED.

B. A/C AIR HANDLER AND CONDENSING UNIT CIRCUIT BREAKERS MUST BE UL LISTED AS "HACR" RATED IN ORDER TO USE NON-AUTO DISCONNECTS AT HVAC EQUIPMENT. BRANCH CIRCUIT BREAKERS AT DISTRIBUTION PANEL SHALL BE INSTALLED IN ACCORDANCE WITH THE EQUIPMENT NAME PLATE REQUIREMENTS.

C. ELECTRICAL EQUIPMENT SHALL BE IDENTIFIED USING ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABELS PREPUNCHED OR PREDRILLED FOR RIVETING TO EQUIPMENT. WHITE LETTERS ON A DARK GRAY BACKGROUND WITH MINIMUM LETTER SIZE TO BE 3/8".

ALL EQUIPMENT LISTED AS NEMA 1 OR LOCATED INSIDE OF BUILDING/STRUCTURE (NOT IN A CLASSIFIED AREA) SHALL HAVE IDENTIFICATION LABEL RIVETED TO ENCLOSURE. LABEL SHALL BE AS ABOVE EXCEPT WITH MINIMUM 1/2" LETTER HEIGHT.

ALL EQUIPMENT LISTED OTHER NEMA 1 SHALL HAVE STENCIL TYPE LABEL PAINTED ONTO ENCLOSURE. LETTERING TO BE 1" (MINIMUM) IN HEIGHT AND BE OF CONTRASTING COLOR OF ENCLOSURE.

D. PANEL SCHEDULES SHALL BE MACHINE PRINTED WITH EACH CIRCUIT CLEARLY IDENTIFIED. THE SCHEDULE SHALL (AT MINIMUM) CONTAIN THE FOLLOWING INFORMATION: CIRCUIT DESIGNATION (INCLUDING "SPARE" OR "SPACE"); PANEL DESIGNATION; SERVICE/FEEDER ORIGIN; SIZE OF SERVICE/FEEDER CONDUCTORS; VOLTAGE; PHASE; AND BUS SIZE.

THE ELECTRICAL CONTRACTOR SHALL UPDATE THE DIRECTORY OF ANY EXISTING PANEL BEING USED FOR THIS RENOVATION. THE NEW DIRECTORY SHALL INCLUDE ALL INFORMATION AS PREVIOUSLY REFERENCED AND SHALL INCLUDE ACCURATE BRANCH CIRCUIT DESCRIPTIONS OF EXISTING BRANCH CIRCUITS. THE ELECTRICAL CONTRACTOR SHALL TRACE EXISTING CIRCUITRY AS NECESSARY TO PROVIDE THE NEW AND ACCURATE DIRECTORY.

E. GENERAL SIGNAGE AND PLACARDING SHALL BE PROVIDED AS REQUIRED BY CODE OR AS INDICATED BY PLAN SET. SIGNAGE SHALL BE ENGRAVED, LAMINATED ACRYLIC OR MELAMINE PLASTIC, MINIMUM 1/16" THICK FOR SIGNS UP TO 20 SQUARE INCHES AND 1/8" THICK FOR LARGER SIGNS. SIGNAGE SHALL HAVE BLACK LETTERS ON WHITE FACE, PREPUNCHED OR PREDRILLED FOR MECHANICAL FASTENERS.

JOSEPH W. BROUGHTON LICENSE NO. 63949 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Project:
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SANIBEL FLORIDA INCORPORATED 1974

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ELECTRICAL NOTES & SYMBOLS

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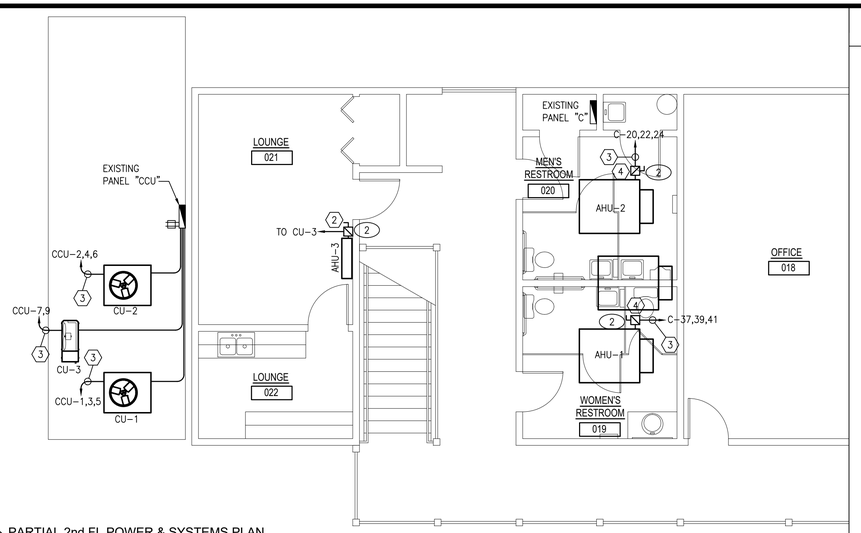
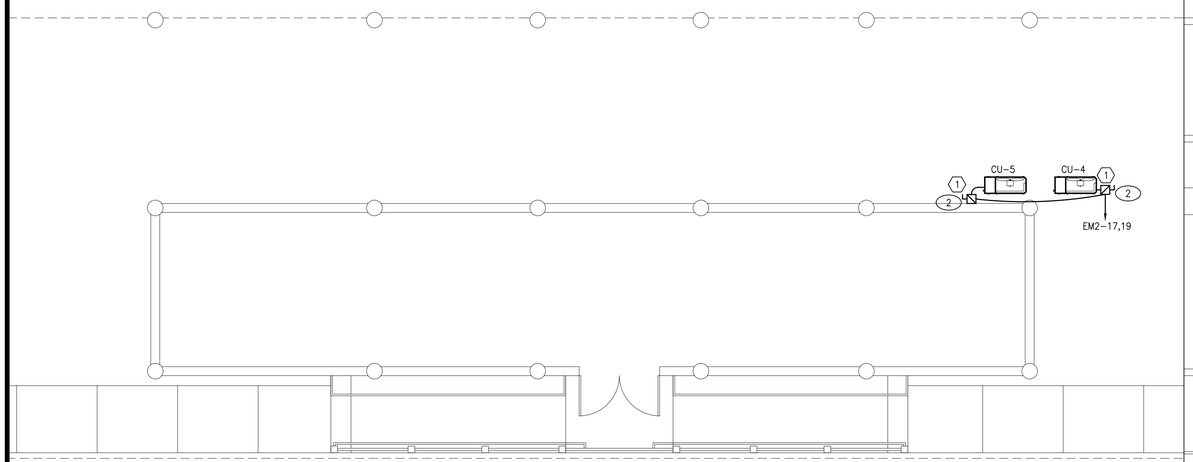
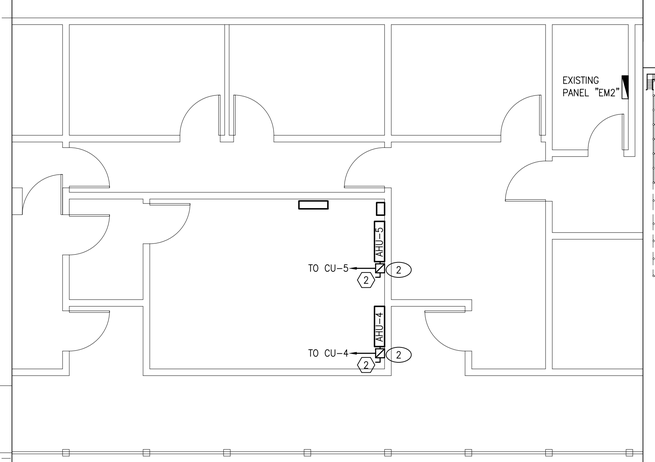


3 PARTIAL 2nd FL POWER & SYSTEMS PLAN
3/16" = 1'-0"



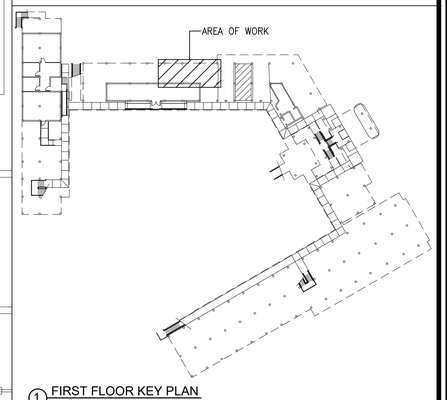
4 PARTIAL 1st FL POWER & SYSTEMS PLAN
3/16" = 1'-0"



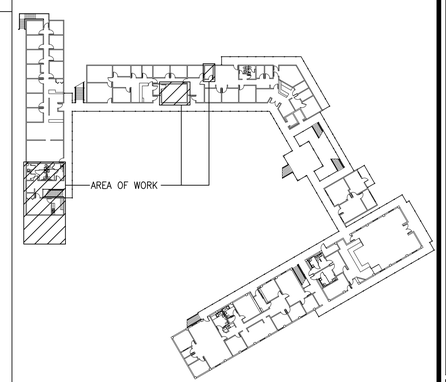
5 PARTIAL 2nd FL POWER & SYSTEMS PLAN
3/16" = 1'-0"

ELECTRICAL KEYNOTES

1. EXISTING CU DISCONNECT SI TO BE REPLACED WITH NEW 20 AMP, 2-POLE CB, NEMA 3R ENCLOSURE.
2. EXISTING AHU DISCONNECT IS TO BE REPLACED WITH NEW 30 AMP, 2-POLE, NEMA 1 DISC SW.
3. REUSE EXISTING BRANCH WIRING.
4. EXISTING DISCONNECT IS TO BE REPLACED WITH NEW 60 AMP, 3-POLE, NEMA 1 MOLDED CASE SWITCH.



1 FIRST FLOOR KEY PLAN
1" = 50'-0"



2 SECOND FLOOR KEY PLAN
1" = 50'-0"

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KCPS-01

Revisions:

No.	Date	Description

COA:

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BIDS

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Date:	8/8/2025
Drawn By:	BBCE STAFF
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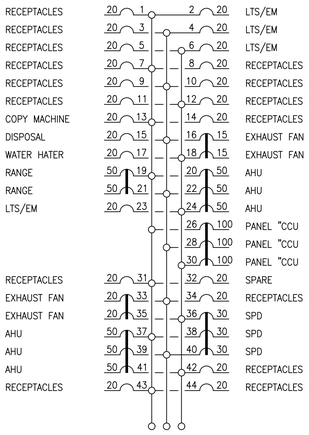
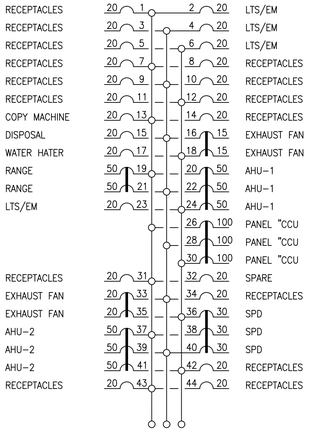
Drawing Title:
POWER & SYSTEMS PLANS

Sheet Number:
E101



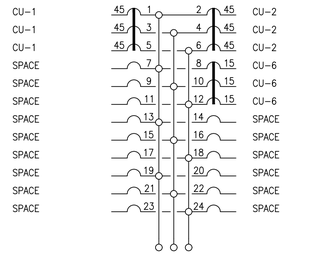
EXISTING PANEL "C" SCHEDULE

225 AMP BUS – MLO – 120/208V – 3 PHASE – S/N
44 CIRCUIT – SURFACE MOUNTED – NEMA 1
PANEL BOARD (SQ-D NQOB) WITH COPPER BUS



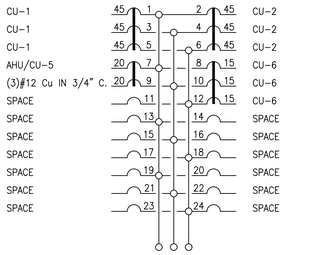
REWORKED PANEL "C" SCHEDULE

225 AMP BUS – MLO – 120/208V – 3 PHASE – S/N
44 CIRCUIT – SURFACE MOUNTED – NEMA 1
PANEL BOARD (SQ-D NQOB) WITH COPPER BUS



EXISTING PANEL "CCU" SCHEDULE

100 AMP BUS – MLO – 120/208V – 3 PHASE – S/N
24 CIRCUIT – SURFACE MOUNTED – NEMA 3R
PANEL BOARD (SQ-D QO) WITH COPPER BUS



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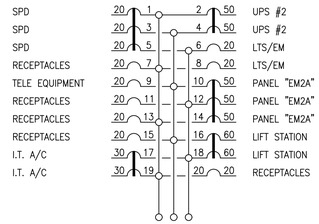
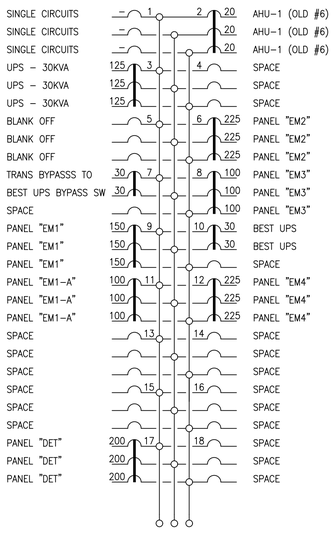


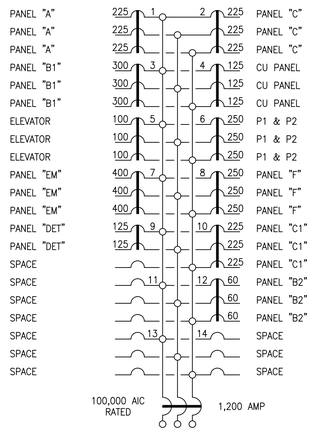
EXISTING PANEL "EM2" SCHEDULE

100 AMP BUS – MLO – 120/208V – 3 PHASE – S/N
20 CIRCUIT – SURFACE MOUNTED – NEMA 1
PANEL BOARD (SQ-D NQOB) WITH COPPER BUS



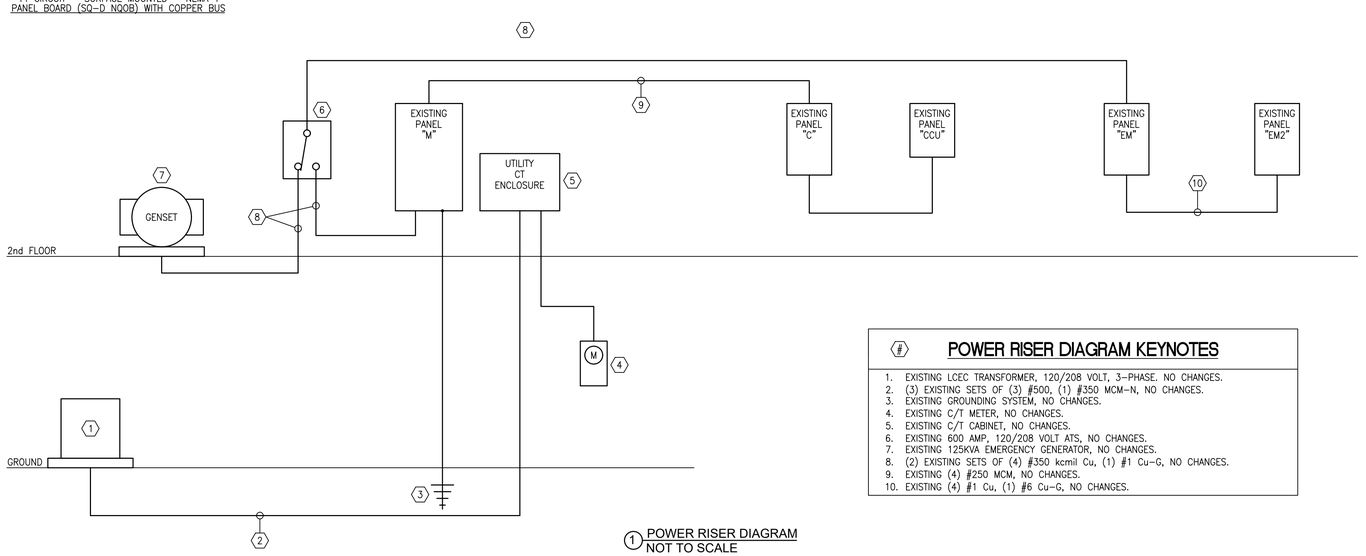
EXISTING PANEL "EM" SCHEDULE

600 AMP BUS – MLO – 120/208V – 3 PHASE – S/N
SURFACE MOUNTED – NEMA 1
PANEL BOARD (-----) WITH COPPER BUS



EXISTING PANEL "M" SCHEDULE

1,200 AMP BUS – MCB – 120/208V – 3 PHASE – S/N
SURFACE MOUNTED – NEMA 1
PANEL BOARD (-----) WITH COPPER BUS



1 POWER RISER DIAGRAM
NOT TO SCALE

POWER RISER DIAGRAM KEYNOTES

1. EXISTING LCEC TRANSFORMER, 120/208 VOLT, 3-PHASE. NO CHANGES.
2. (3) EXISTING SETS OF (3) #500, (1) #350 MCM-N, NO CHANGES.
3. EXISTING GROUNDING SYSTEM, NO CHANGES.
4. EXISTING C/T METER, NO CHANGES.
5. EXISTING C/T CABINET, NO CHANGES.
6. EXISTING 600 AMP, 120/208 VOLT ATS, NO CHANGES.
7. EXISTING 125KVA EMERGENCY GENERATOR, NO CHANGES.
8. (2) EXISTING SETS OF (4) #350 kcmil Cu, (1) #1 Cu-G, NO CHANGES.
9. EXISTING (4) #250 MCM, NO CHANGES.
10. EXISTING (4) #1 Cu, (1) #6 Cu-G, NO CHANGES.

REWORKED PANEL "EM2"

DEMOLISHED LOADS		
A/C SYSTEM	=	-4.6 KVA
	=	-4.6 KVA
NEW LOADS		
CU/AHU-3/4 (NON COINCIDENT LOADS)	=	4.2 KVA
	=	4.2 KVA
	=	KVA
NET LOAD	=	-0.4 KVA
(√3 x 208)	÷	360 V
PANEL LOAD IS REDUCED, NO CHANGES REQUIRED	=	-1.2 AMPS

REWORKED PANEL "CCU"

EXISTING LOADS		
ECU-1	=	10.1 KVA
ECU-2	=	9.0 KVA
ECU-6	=	3.4 KVA
EXISTING SUB-TOTAL	=	22.5 KVA
DEMOLISHED LOADS		
ECU-1	=	-10.1 KVA
ECU-2	=	-9.0 KVA
DEMOLOSHED SUB-TOTAL	=	-19.1 KVA
NEW LOADS		
CU-1	=	10.3 KVA
CU-2	=	10.3 KVA
CU/AHU-3	=	4.2 KVA
	=	28.3 KVA
(√3 x 208)	÷	360 V
100 AMPS EXISTING	=	78.5 AMPS

REWORKED PANEL "C"

EXISTING LOADS		
NEC LIGHTING ALLOWANCE	=	4.4 KVA
RECEPTACLES	=	7.6 KVA
COPY MACHINE	=	1.2 KVA
DISPOSAL	=	1.0 KVA
WATER HTR	=	1.8 KVA
RANGE	=	8.0 KVA
VENTILATION FAN @ 2 HP	=	2.7 KVA
(4) ATTIC FANS @ 1/4 HP EACH	=	2.7 KVA
EAHU-1 (COOLING IS LARGER)	=	1.9 KVA
EAHU-2 (COOLING IS LARGER)	=	1.9 KVA
PANEL "CCU" (COOLING IS LARGER)	=	22.5 KVA
EXISTING SUB-TOTAL	=	55.6 KVA
DEMOLISHED LOADS		
EAHU-1	=	-1.9 KVA
EAHU-2	=	-1.9 KVA
PANEL "CCU" (ECU-1 & ECU-2)	=	-19.1 KVA
VENTILATION FAN	=	-2.7 KVA
ATTIC FANS	=	-2.7 KVA
DEMOLOSHED SUB-TOTAL	=	-28.3 KVA
NEW LOADS		
AHU-1 (HEAT & FAN)	=	13.7 KVA
AHU-2 (HEAT & FAN)	=	13.7 KVA
PANEL "CCU" (CU/AHU-5)	=	4.2 KVA
	=	58.9 KVA
(√3 x 208)	÷	360 V
225 AMPS EXISTING	=	163.5 AMPS

EXISTING PANEL "M"

HIGHEST RECORDED DEMAND @ 125%	=	106.0 KVA
NEW PANEL "C" LOADS	=	31.6 KVA
	=	137.6 KVA
(√3 x 208)	÷	360 V
1,200 AMPS EXISTING	=	382.0 AMPS

JOSEPH W. BROUGHTON LICENSE NO. 63949 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JOSEPH W. BROUGHTON, PE, ON 8/8/2025.

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Project:
CITY HALL HVAC REPLACEMENT

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Drawing Title:
PANEL SCHEDULES, CALCULATIONS & RISER DIAGRAM

Sheet Number:
E201