VOLUSIA COUNTY SCHOOLS
"LEADING WITH GRACE AND RESPECT"

BREWSTER CENTER
REPLACE OUTSIDE AIR UNITS

THE SCHOOL BOARD OF VOLUSIA
COUNTY FLORIDA
200 North Clara Avenue
Deland, Florida 32720

VCS Project NO. 2347905

200 N CLARA AVE, DELAND, FL 32720

SCHOOL BOARD MEMBERS

JAMIE HAYNES	CHAIRMAN
ANITA BURNETTE	VICE CHAIRMAN
JESSIE THOMPSON	MEMBER
RUBEN COLON	MEMBER
CARL PERSIS	MEMBER
CARMEN J. BALGOBIN	SUPERINTENDENT

DESCRIPTION OF WORK

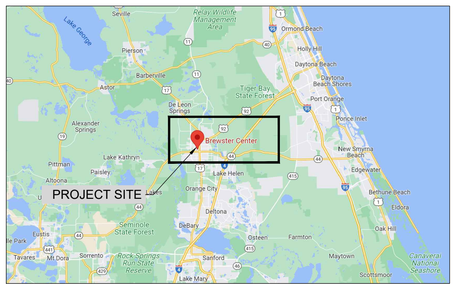
Replace four (4) dedicated outside air AC units.

Engineer's Statement of Compliance
To the best of my knowledge, these drawings and the project manual are complete and comply with the Florida Building Code.

BUILDING DATA

A.	SURVEY PARCEL ID	XXX
B.	LEGAL DESCRIPTION	XXX
C.	OCCUPANCY TYPE	XXX
D.	CONSTRUCTION TYPE	TYPE XXX
E.	RISK CATEGORY	XXX
F.	AUTOMATIC SPRINKLER	XXX
G.	BUILDING AREA	XXX
H.	BUILDING HEIGHT	XXX
I.	OCCUPANT LOAD	XXX

LOCATION MAP



NOT TO SCALE

ENGINEERS & CONSULTANTS

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Drawing Index

CONSTRUCTION DOCUMENTS - 4/7/2023

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REVISIONS

NO.	DATE	DESCRIPTION

DOCUMENT HISTORY

BREWSTER CENTER
REPLACE OUTSIDE AIR UNITS
VCS Project NO. 2347905
200 N CLARA AVE,
DELAND, FL 32720

ARCH/ENGR OF RECORD
Engineer
Donald J. Sabiston P.E.

DESIGNED BY: DJS	DRAWN BY: DJS
ISSUE DATE: 4/7/2023	AE PROJECT NUMBER: SEG No. 22009

SHEET TITLE
Cover Sheet

DRAWING NO.
G001

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
AC	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
AVER	AVERAGE
B	BOILER
BDD	BACK DRAFT DAMPER
BFP	BACK FLOW PREVENTOR
BLDG	BUILDING
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CD	CEILING DIFFUSER
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
CT	COOLING TOWER
CU	CONDENSING UNIT
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DB	DRY BULB
DIA	DIAMETER
DIFF	DIFFERENTIAL
DISCH	DISCHARGE
DN	DOWN
DX	DIRECT EXPANSION
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EFF	EFFICIENCY
ELEC	ELECTRIC
EQUIV	EQUIVALENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETC	AND SO FORTH
EWT	ENTERING WATER TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERNAL
F	DEGREES FAHRENHEIT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRG	FILTER RETURN GRILLE
FRICT	FRICTION
FT	FEET
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRS/LB	GRAINS PER POUND
H2O	WATER
HB	HOSE BIBB
HD	HEAD (SEE SCHEDULES)
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HTR	HEATER
HX	HEAT EXCHANGER
HZ	HERTZ
ID	INTERNAL DIAMETER
IN	INCHES
INCL	INCLUDING
KW	KILOWATT
L	LENGTH
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LBS/HR	POUNDS PER HOUR (#/HR)
LD	LOUVERED DOOR (24X24 UNO)
LF	LINEAR FEET
LRA	LOCK ROTOR AMPS
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSANDS OF BTU PER HOUR
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MOD	MOTOR OPERATED DAMPER
MTD	MOUNTED
NC	NORMALLY CLOSED
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OZ	OUNCE
P	PUMP
PD	PRESSURE DROP (SEE SCHEDULE)
PERF	PERFORATED
PH	PHASE
POS	POSITIVE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PVC	POLYVINYL CHLORIDE
QUAN	QUANTITY
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RBJ	RUN BETWEEN JOIST
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REQD	REQUIRED
RET	RETURN
RH	RELATIVE HUMIDITY
RLA	RATED LOAD AMPS
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
SUCT	SUCTION
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UC	UNDERCUT
UH	UNIT HEATER
UNOCC	UNOCCUPIED
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VAV	VARIABLE AIR VOLUME UNIT
VEL	VELOCITY
VTR	VENT THRU ROOF
W	WIDTH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WMS	WIRE MESH SCREEN

SUMMARY OF WORK

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS AS REQUIRED AND AS INDICATED ON THESE DRAWINGS AND NOTES. THIS WORK SHALL INCLUDE, BUT IS NOT LIMITED TO THE FOLLOWING:

1. PERFORMANCE OF ALL WORK AS DESCRIBED ON PROPOSED CONTRACT DRAWINGS AND AS REFERRED TO IN THE SPECIFICATIONS AND NOTES AS APPLICABLE FOR EACH PARTICULAR CONSTRUCTION DISCIPLINE.
2. RESTORATION OF EXISTING SYSTEMS, DEVICES, FINISHES, ETC. DAMAGED OR ALTERED BY NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY THE OWNER, ARCHITECT, AND/OR ENGINEER.
3. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT, GENERAL CHARACTER AND LOCATION OF THE WORK INCLUDED. OFFSETS AND/OR CHANGES IN ELEVATION OF PIPING AND DUCTWORK DUE TO STRUCTURAL OR OTHER INTERFERENCES SHALL BE PROVIDED WITHOUT EXTRA COST. CONTRACTOR SHALL VERIFY AND EVALUATE ALL EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.
4. COORDINATE WORK WITH THE PRIME CONTRACTOR TO MEET THE CONSTRUCTION SCHEDULE AND PHASING REQUIREMENTS.

MECHANICAL SYMBOL LEGEND

GENERAL		CONTROLS	
X / YZ	EQUIPMENT TAG (X=TYPE, Y=SYSTEM, Z=NUMBER)	T	THERMOSTAT OR TEMPERATURE SENSOR
# # #	KEYED NOTES	H	HUMIDITY SENSOR
LD	DOOR GRILLE (24"X24" UNO)	C	CARBON DIOXIDE SENSOR
UC	UNDERCUT DOOR (1" UNO)		DUCT MOUNTED SMOKE DETECTOR
#	DRAWING REVISION INDICATOR	M	MOTORIZED CONTROL DAMPER
	EXISTING TO REMAIN	P	DUCT PRESSURE SENSOR
	EXISTING TO BE DEMOLISHED	EMS	ENERGY MANAGEMENT SYSTEM PANEL
	POINT OF CONNECTION		
AIR MOVING DEVICES AND COMPONENTS		**PIPING, VALVES AND SPECIALTIES**	
	SUPPLY AIR FLOW	CHWS	CHILLED WATER SUPPLY
	RETURN AIR FLOW	CHWR	CHILLED WATER RETURN
TAG / CFM	SUPPLY AIR DIFFUSER	HWS	HOT WATER SUPPLY
TAG / CFM	RETURN AIR GRILLE	HWR	HOT WATER RETURN
TAG / CFM	EXHAUST AIR GRILLE	CWS	CONDENSER WATER SUPPLY
TAG / CFM	SIDEWALL SUPPLY GRILLE	CWR	CONDENSER WATER RETURN
TAG / CFM	SIDEWALL RETURN OR EXHAUST GRILLE	R	REFRIGERANT PIPING
	ROOFTOP EXHAUST FAN	HG	HOT GAS REFRIGERANT PIPING
	HVAC EQUIPMENT	C	CHILLED WATER SUPPLY
	SECTION, SUPPLY DUCT		SHUTOFF VALVE (BS=BALANCING/SHUTOFF)
	SECTION, RETURN DUCT		THREE-WAY VALVE
	SECTION, EXHAUST DUCT		PLUG VALVE
	SECTION, ROUND DUCT		CHECK VALVE
	FLEXIBLE DUCT		PRESSURE REDUCING VALVE
12X20	DUCT SIZE IN INCHES, WIDTH X DEPTH (INSIDE)		BACKFLOW PREVENTOR ASSEMBLY
	INTERNALLY LINED OR DOUBLEWALL DUCT	M	MOTORIZED ACTUATOR
R	CHANGE OF ELEVATION (R=RISE, D=DROP)	S	SOLENOID ACTUATOR
	DUCTWORK ELBOW UP		PIPE CAP
	DUCTWORK ELBOW DOWN		AUTOMATIC AIR VENT
	MITERED ELBOW		MANUAL AIR VENT
	RADIUS ELBOW		STRAINER WITH BLOWDOWN VALVE
	TURNING VANES		THERMOMETER
S R	STANDARD BRANCH, SUPPLY OR RETURN		PRESSURE GAGE
	TRANSITION, CONCENTRIC		ELBOW TURNED UP
	TRANSITION, ECCENTRIC		ELBOW TURNED DOWN
AD	ACCESS DOOR		TEE, OUTLET UP
	ELECTRIC DUCT HEATER		TEE, OUTLET DOWN
AFS	AIR FLOW STATION		CONNECTION, TOP
	FLEXIBLE CONNECTION		CONNECTION, BOTTOM
	FIRE DAMPER		UNION
FS	SMOKE DAMPER (FS = FIRE/SMOKE DAMPER)		FLEXIBLE CONNECTOR
	RADIATION DAMPER		VENTURI FLOWMETER
	MANUAL DAMPER		

BIDDING PROCEDURES

1. SUBMISSION OF BID DIRECTLY OR INDIRECTLY IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE UNDER WHICH HE WILL BE OBLIGATED TO OPERATE SHOULD HE BE AWARDED THE WORK UNDER THIS CONTRACT. NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE THE SITE PRIOR TO BID.
2. REVIEW CONSTRUCTION SCHEDULE AND EQUIPMENT LEAD TIMES AND INCLUDE ALL COSTS AND QUICKSHIP CHARGES FOR ALL EQUIPMENT NEEDED TO MEET SCHEDULE.
3. ALTERNATE 1 (DUCT CLEANING):
   - 3.1. THE BASE BID SHALL NOT INCLUDE DUCTWORK CLEANING.
   - 3.2. PROVIDE ALTERNATE PRICE TO CLEAN ALL DUCTWORK IN BUILDING. PLANS INDICATE EXISTING DUCTWORK THAT DOCUMENTATION WAS AVAILABLE FOR, HOWEVER THE PRICE SHALL INCLUDE CLEANING ALL EXISTING SUPPLY, RETURN, VENTILATION AND EXHAUST DUCTWORK.

GENERAL NOTES

1. THE WORD "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
2. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE FACILITY WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY MEANS OF TEMPORARY PARTITIONS AND/OR TARPS TO KEEP DUST AND DIRT WITHIN THE CONSTRUCTION AREA.
3. NO PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE OWNER AND/OR ENGINEER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF ANY AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL OR DISCONNECTION, SUFFICIENT ADVANCE NOTICE MUST BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME.
4. THE OWNER HAS THE RIGHT OF FIRST REFUSAL FOR ALL ITEMS REMOVED. ALL ITEMS REFUSED BY THE OWNER SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR.
5. THE JOB SITE SHALL BE CLEANED DAILY TO REMOVE FROM THE PREMISES ANY DIRT AND DEBRIS CAUSED BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES OTHER THAN THE OWNERS.
7. FLUSH AND SUCCESSFULLY PRESSURE TEST ALL PIPING SYSTEMS PRIOR TO PLACING IN SERVICE. ACCEPTABLE BACTERIOLOGICAL TESTS MUST BE PROVIDED ON ALL DOMESTIC SUPPLY WATER PIPING AFFECTED BY THE WORK.
8. EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED, EXCEPT WHERE INDICATED AS BEING RELOCATED.
9. PROVIDE ALL NECESSARY TEMPORARY OR PERMANENT CAPS, PLUGS, OR VALVES FOR PIPING TO ALLOW COMPLETION OF WORK. DO NOT LEAVE PIPING OPEN ENDED.
10. COORDINATE WORK WITH ALL OTHER TRADES PRIOR TO BID, FABRICATION, PURCHASE AND INSTALLATION OF ALL WORK.
11. VISIT THE SITE AND VERIFY ALL DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE ARCHITECT/ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK. ALL WORK SHALL CONFORM TO ALL STATE AND LOCAL CODES, RULES AND REGULATIONS AND ORDINANCES.
12. SECURE AND PAY ALL FEES AND PERMITS PERTAINING TO THE CONTRACT.
13. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE MANUFACTURER'S RECOMMENDED AND CODE REQUIRED ACCESS AREAS.
14. PROVIDE ALL HANGERS AND SUPPORTS REQUIRED FOR A COMPLETE INSTALLATION.
15. PROVIDE ALL RIGGING, HANDLING AND PROTECTION OF MATERIALS.
16. WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE SLEEVES SHALL BE FIRE STOPPED PER NEC 300-21 USING A THROUGH PENETRATION FIRESTOP SYSTEM (XHEZ) LISTED IN THE UL FIRE RESISTANCE DIRECTORY. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN THE FIRE RATING OF THE PENETRATED WALL OR FLOOR.
17. PROVIDE ALL CORING, LINTELS, BEAM PENETRATIONS, AND STRUCTURAL SUPPORTS AND FRAMING AS IT RELATES TO THE WORK.
18. SUBMIT SHOP DRAWINGS AND EQUIPMENT CUTS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING ANY MATERIALS. ALL SHOP DRAWING SUBMITTALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
19. MAINTAIN ON-SITE A SET OF FINAL CONSTRUCTION DOCUMENTS (INCLUDING ADDENDA) WITH MARKUP AS-BUILT INFORMATION.
20. NOTIFY THE ENGINEER PRIOR TO CONCEALING ANY WORK.
21. PROVIDE ALL MODIFICATIONS RESULTING FROM USING EQUIPMENT OTHER THAN THE BASIS OF DESIGN.
22. CLEAN, PRIME, AND PAINT ALL BARE METAL SURFACES TO PREVENT RUST.
23. ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM SPACES SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.
24. PROVIDE ACCESS PANELS FOR ALL VALVES, DAMPERS, OR OTHER EQUIPMENT INSTALLED IN INACCESSIBLE LOCATIONS. PAINT ACCESS PANELS TO MATCH ADJACENT FINISHES.
25. ALL DRAIN PIPES SHALL BE INSTALLED WITH A MINIMUM OF 1/8" PER FOOT SLOPE. SANITARY PIPES LARGER THAN 2 1/2" REQUIRE A MINIMUM OF 1/4" PER FOOT SLOPE.
26. PROVIDE SITE UTILITY LOCATING SERVICES AS REQUIRED TO AVOID DAMAGING EXISTING UNDERGROUND UTILITIES.
27. PRIOR TO DISCONNECTING PIPING OR CONNECTING NEW PIPING, FIELD VERIFY THE EXISTING PIPING PROVIDES THE SERVICE INDICATED IN THE DRAWINGS.

ENGINEERS COMPLIANCE NOTE

1. TO THE BEST OF MY KNOWLEDGE, THE DRAWINGS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2020 (7TH EDITION), AND THE FLORIDA FIRE PREVENTION CODE 2020 (7TH EDITION).

APPLICABLE CODES:

BUILDING CODE:	FLORIDA BUILDING CODE - 7th EDITION (2020)
MECHANICAL CODE:	FLORIDA MECHANICAL CODE - 7th EDITION (2020)
PLUMBING CODE:	FLORIDA PLUMBING CODE - 7th EDITION (2020)
GAS CODE:	FLORIDA GAS CODE - 7th EDITION (2020)
ELECTRICAL CODE:	NATIONAL ELECTRIC CODE 2017 EDITION
LIFE SAFETY CODE:	FLORIDA FIRE PREVENTION - 7th EDITION (2020) NFPA 101 CODE 2018
SREF:	STATE REQUIREMENTS FOR EDUCATIONAL FACILITIES 2014

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REVISIONS

NO.	DATE	DESCRIPTION

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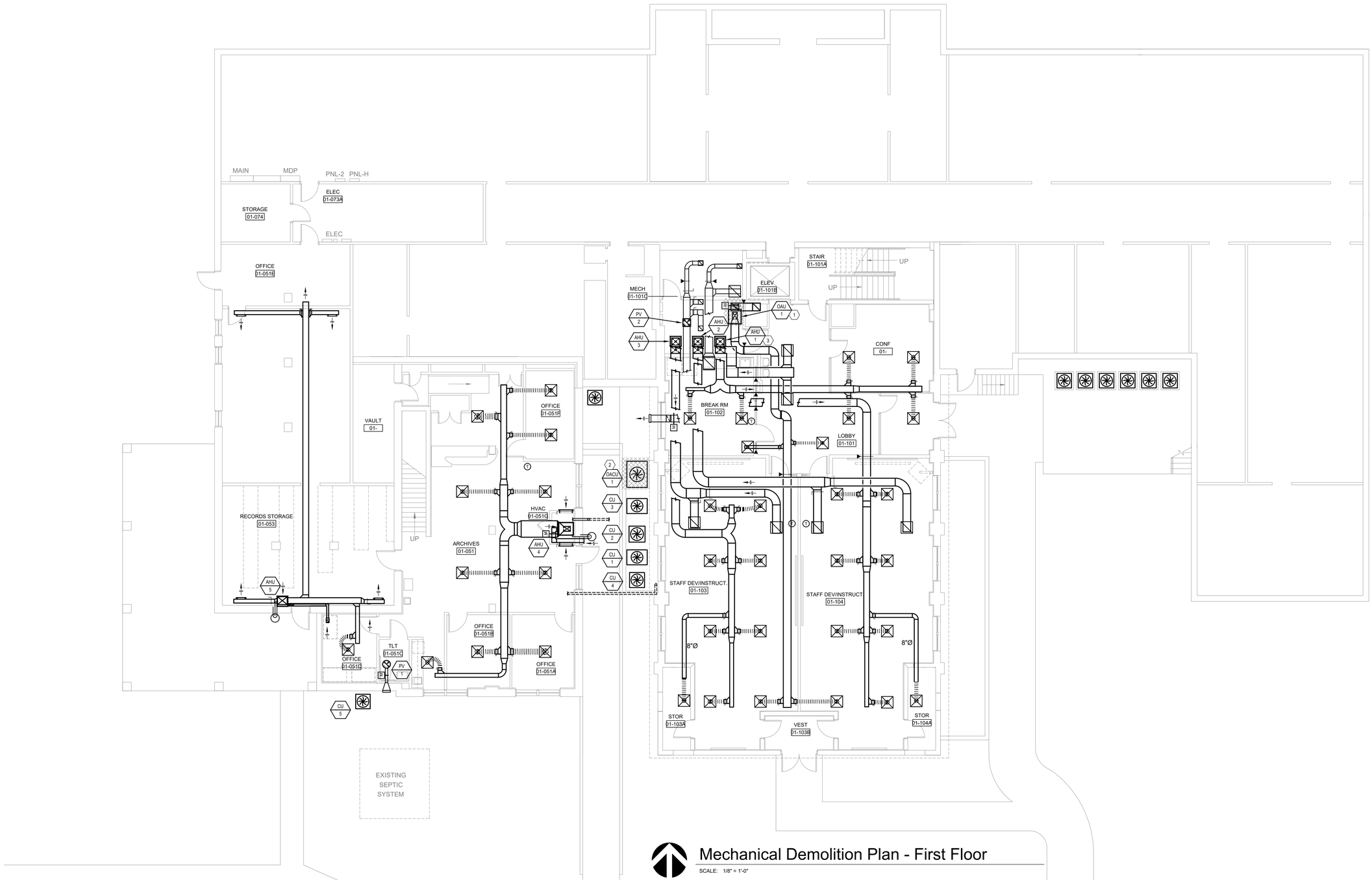
ARCH/ENGR OF RECORD
Engineer
Donald J. Sabiston P.E.

DESIGNED BY	DRAWN BY
DJS	DJS
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
Mechanical Legends and Notes

DRAWING NO.
M001



Mechanical Demolition Plan - First Floor

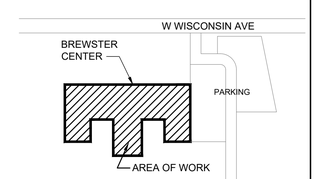
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DEMOLISH ALL EQUIPMENT INDICATED WITH HATCHING OR INDICATED TO BE DEMOLISHED. DEMOLISH ALL WORK ASSOCIATED WITH THE SYSTEMS DEMOLISHED (INCLUDING CONTROLS, PIPING AND ELECTRICAL WORK) UNLESS NOTED OTHERWISE.
2. WHERE OPENINGS RESULT FROM THE DEMOLITION WORK PATCH, SEAL, AND FINISH TO MATCH THE SURROUNDING CONDITIONS. EXISTING FIRE AND SMOKE RATINGS SHALL BE MAINTAINED.
3. FIELD INVESTIGATE REQUIREMENTS FOR DEMOLITION. PROVIDE ALL LABOR AND MATERIALS NEEDED.
4. EXISTING EQUIPMENT THAT IS TO REMAIN SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. ALL EXISTING TO REMAIN DUCTWORK SYSTEMS SHALL BE SEALED WITH VISQUEEN DURING THE ENTIRE CONSTRUCTION PROCESS.

KEY NOTES:

1. DEMOLISH OAU AIR HANDLER AND ASSOCIATED DUCTWORK TO 10' AFF. DEMOLISH REFRIGERANT PIPING, CONDENSATE PIPING AND OTHER ASSOCIATED EQUIPMENT.
2. DEMOLISH OAU CONDENSING UNIT AND ASSOCIATED COMPONENTS.
3. REMOVE AND REINSTALL AHU-1 AS NEEDED FOR WORK.



Keyplan
NOT TO SCALE

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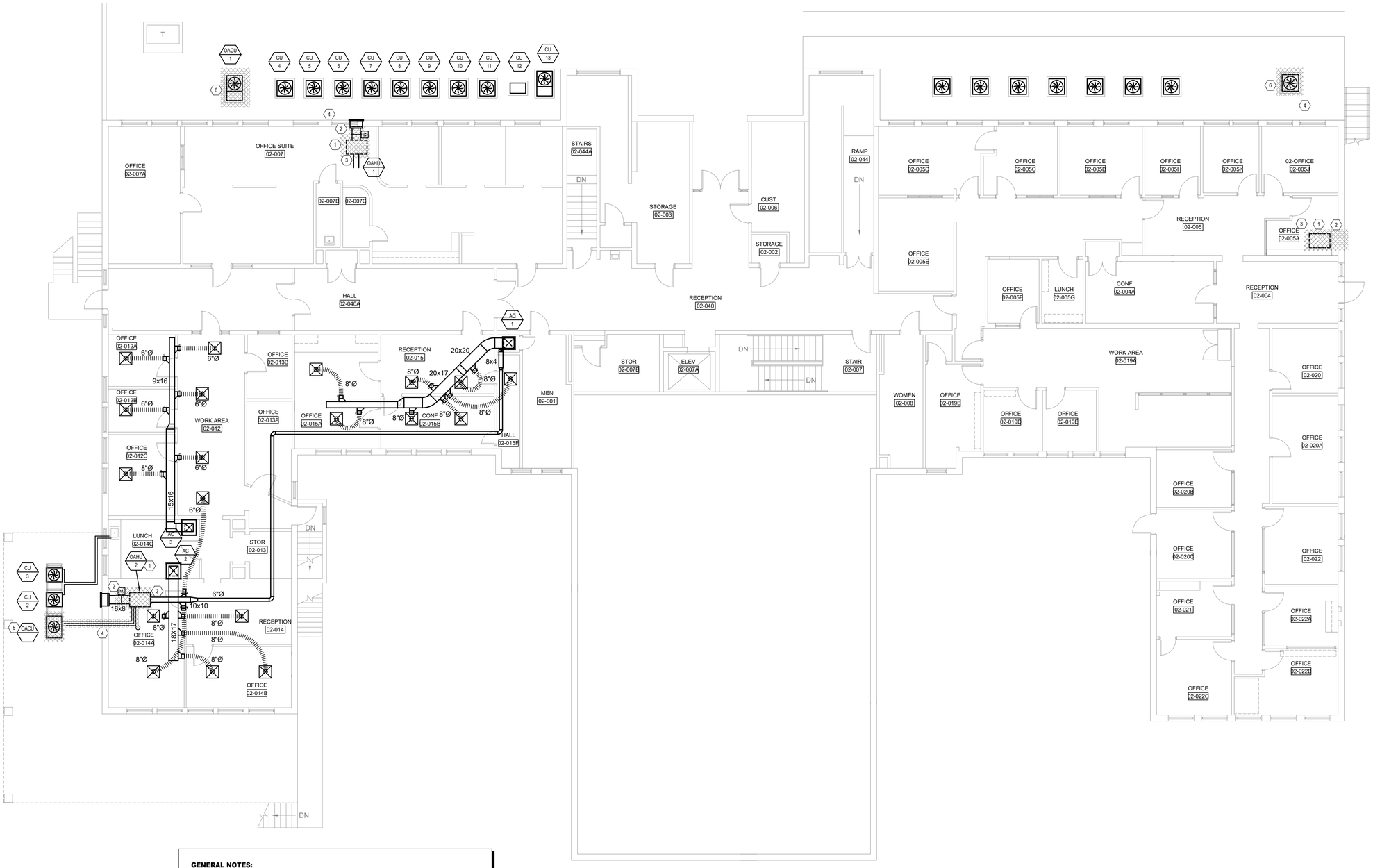
Engineer
Donald J. Sabiston P.E.

DESIGNED BY	DRAWN BY
DJS	DJS
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
Mechanical Demolition Plan
First Floor

DRAWING NO.
MD100



GENERAL NOTES:

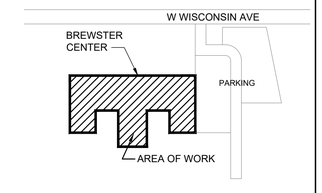
1. DEMOLISH ALL EQUIPMENT INDICATED WITH HATCHING OR INDICATED TO BE DEMOLISHED. DEMOLISH ALL WORK ASSOCIATED WITH THE SYSTEMS DEMOLISHED (INCLUDING CONTROLS, PIPING AND ELECTRICAL WORK) UNLESS NOTED OTHERWISE.
2. WHERE EQUIPMENT BEING DEMOLISHED IS INSTALLED ON A HOUSEKEEPING PAD, DEMOLISH THE HOUSEKEEPING PAD AND REPAIR AREA TO MATCH SURROUNDINGS.
3. WHERE CONDUIT AND/OR PIPING STUB-UPS REMAIN THAT SERVED DEMOLISHED EQUIPMENT, DOCUMENT SIZE AND LOCATION ON AS-BUILTS, CUT BELOW GRADE, PLUG CONDUIT (OR PIPING), AND REPAIR AREA TO MATCH SURROUNDINGS.
4. WHERE OPENINGS RESULT FROM THE DEMOLITION WORK PATCH, SEAL, AND FINISH TO MATCH THE SURROUNDING CONDITIONS. EXISTING FIRE AND SMOKE RATINGS SHALL BE MAINTAINED.
5. FIELD INVESTIGATE REQUIREMENTS FOR DEMOLITION. PROVIDE ALL LABOR AND MATERIALS NEEDED.
6. EXISTING EQUIPMENT THAT IS TO REMAIN SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. ALL EXISTING TO REMAIN DUCTWORK SYSTEMS SHALL BE SEALED WITH VISQUEEN DURING THE ENTIRE CONSTRUCTION PROCESS.
7. WHERE WORK IS REQUIRED ABOVE AN EXISTING CEILING, THE CONTRACTOR SHALL PROVIDE SELECTIVE DEMOLITION OF THE CEILING AS REQUIRED TO ACCOMPLISH THE WORK. AFTER COMPLETION OF THE WORK, THE CEILING SHALL BE REINSTALLED OR REPLACED TO MATCH THE PRE-CONSTRUCTION CONDITION.

KEY NOTES: ⬡

1. DEMOLISH OAU AIR HANDLER ABOVE CEILING.
2. DEMOLISH DUCTWORK TO OA INTAKE LOUVER.
3. PROVIDE SELECTIVE DEMOLITION OF SA DUCTWORK AND PREPARE FOR RECONNECTION.
4. DEMOLISH REFRIGERANT PIPING, EXTERIOR PIPE CHASE, CONDENSATE PIPING AND OTHER ASSOCIATED EQUIPMENT.
5. DEMOLISH OAU CONDENSING UNIT ON STRUCTURAL RACK AND ASSOCIATED COMPONENTS.
6. DEMOLISH OAU CONDENSING UNIT AND HOUSEKEEPING PAD.
7. RELOCATE CU PER NEW WORK PLAN.

Mechanical Demolition Plan - Second Floor

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



Keyplan
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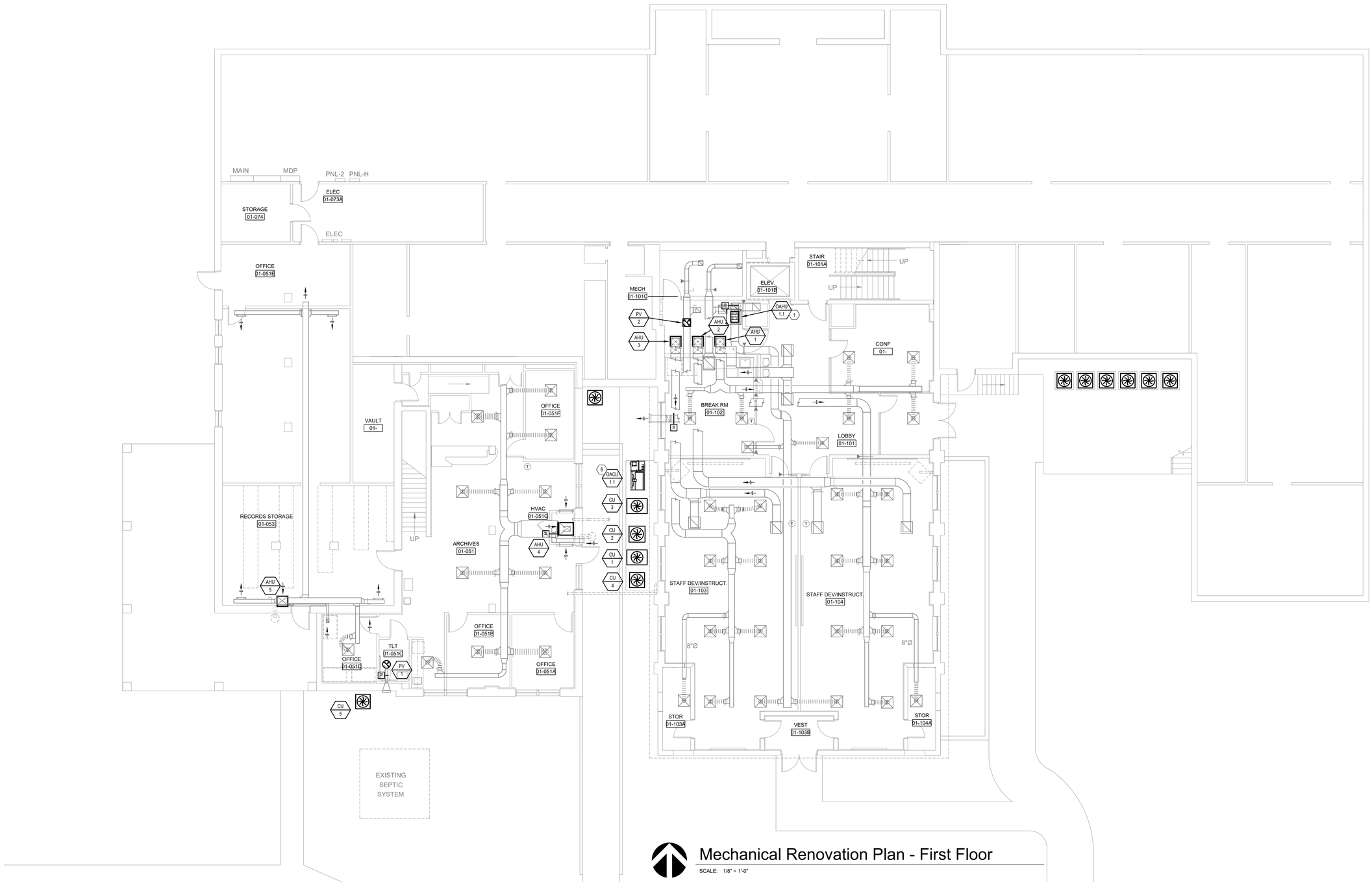
BREWSTER CENTER
REPLACE OUTSIDE AIR UNITS
VCS Project NO. 2347905
200 N CLARA AVE,
DELAND, FL 32720

ARCH/ENGR OF RECORD
Engineer
Donald J. Sabiston P.E.

DESIGNED BY	DRAWN BY
DJS	DJS
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
Mechanical Demolition Plan
Second Floor

DRAWING NO.
MD101



Mechanical Renovation Plan - First Floor

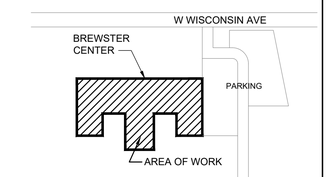
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. CLOSELY COORDINATE ALL WORK IN MECHANICAL ROOM. PROVIDE 1/4" COORDINATION PLAN TO ENGINEER FOR REVIEW PRIOR TO PERFORMING ANY NEW WORK. PLAN TO INDICATE NEC CLEARANCES FOR ELECTRICAL DEVICES.

KEY NOTES:

1. PROVIDE VERTICAL AHU ON 12" HIGH STEEL RACK PER DETAIL.
2. CONNECT TO EXISTING OA INTAKE DUCT APPROX. 10' AFF AND ROUTE DOWN TO AHU INLET. PROVIDE FLEX CONNECTION AND MOD IN VERTICAL. TRANSITION TO 22X10 AND CONNECT TO INLET OF AHU.
3. CONNECT TO THE AHU DISCHARGE (MATCH SIZE) AND ROUTE VERTICALLY TO CONNECT TO THE EXISTING SA DUCT.
4. PROVIDE NEW LINE SET. COORDINATE ROUTING TO AVOID MAINTENANCE ACCESS AREAS. INSULATE LINE SET PER SPECS.
5. PROVIDE COPPER CONDENSATE DRAIN PIPE. PROVIDE TRAP AND ROUTE TO EXISTING DISCHARGE LOCATION.
6. PROVIDE OAU CU ON EXISTING CONCRETE PAD PER DETAIL. ROUTE REFRIGERANT LINE SET THROUGH EXISTING CHASE TO AHU.



Keyplan
NOT TO SCALE

SABISTON ENGINEERING GROUP, INC.
322 KENTUCKY BLUE CIRCLE, APOPKA, FL 32712
P: 407.884.6769 F: 407.884.6764
WWW.SABISTONENGINEERING.COM
STATE OF FLORIDA CERTIFICATE NO. 9811
SEG PROJECT NO. 22009

Donald J. Sabiston, P.E.
State of Florida No. 54689

REVISIONS

NO.	DATE	DESCRIPTION

DOCUMENT HISTORY

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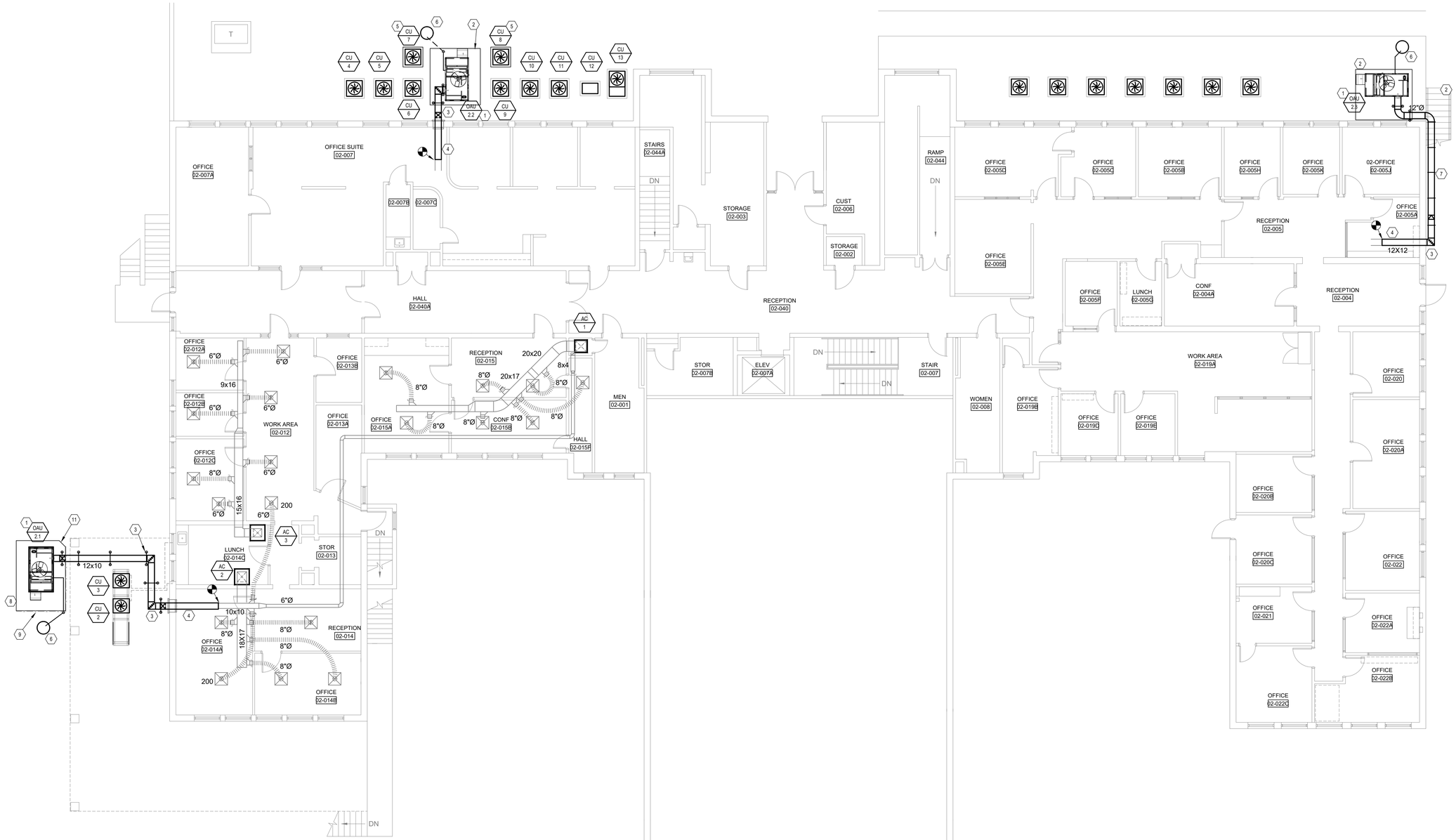
4/7/2023	SEG No. 22009

SHEET TITLE
Mechanical Renovation Plan
First Floor

DRAWING NO.
M100



KEY NOTES:

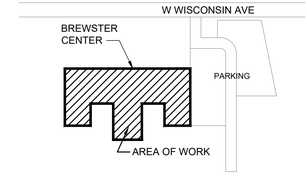
1. PROVIDE PACKAGE OAU PER DETAIL.
2. PROVIDE CONCRETE PAD APPROX 9'X8'. CROWN SLIGHTLY FOR DRAINAGE.
3. ROUTE DOUBLE-WALL DUCT AS SHOWN TO WALL LOUVER. ANCHOR DUCT TO WALL. REMOVE LOUVER BLADES AND ROUTE DUCT INTO BUILDING. PROVIDE 16 GA SHEET METAL CLOSURE. PLATE AROUND DUCTWORK AND SEAL WEATHERTIGHT. PAINT DUCT AND CLOSURE PLATE TO MATCH WALL.
4. EXTEND DUCTWORK INTO CEILING CAVITY AND CONNECT TO EXISTING DUCTWORK.
5. RELOCATE CONDENSING UNIT AS INDICATED. EXTEND REFRIGERANT PIPING AND RECONNECT. PROVIDE NEW FILTER/DRYER. PROVIDE CONC HOUSEKEEPING PAD 6" LARGER THAN UNIT ON ALL SIDES. SECURE UNIT TO MEET WINDLOAD.
6. PROVIDE DRYWELL AND EXTEND 3/4" COPPER CONDENSATE DRAIN PIPE (WITH TRAP) FROM UNIT TO DRYWELL.
7. ROUTE DUCT BENEATH STAIRS APPROX 6" BELOW BOTTOM OF STAIRS. FOLLOW STAIR STRUCTURE AND SUPPORT DUCT FROM WALL. TRANSITION DUCT TO 12X12 AND TURN INTO CEILING CAVITY THROUGH WALL LOUVER.
8. PROVIDE 8'X11' CONCRETE PAD. SLOPE SLIGHTLY TOWARD RETENTION POND FOR DRAINAGE.
9. PROVIDE 6' HIGH BLACK VINYL FENCE WITH PVC VIEW SLATS ON TWO SIDES OF CONCRETE SLAB AS INDICATED.
10. SUPPORT DUCTWORK PER DETAIL (TYP).
11. 45 DEG CHAMFER AT DOWNSPOUT.

GENERAL NOTES:

1. CLOSELY COORDINATE ALL WORK IN MECHANICAL YARDS. PROVIDE 1/4" COORDINATION PLAN TO ENGINEER FOR REVIEW PRIOR TO PERFORMING ANY NEW WORK. PLAN TO INDICATE NEC CLEARANCES FOR ELECTRICAL DEVICES.

Mechanical Renovation Plan - Second Floor

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



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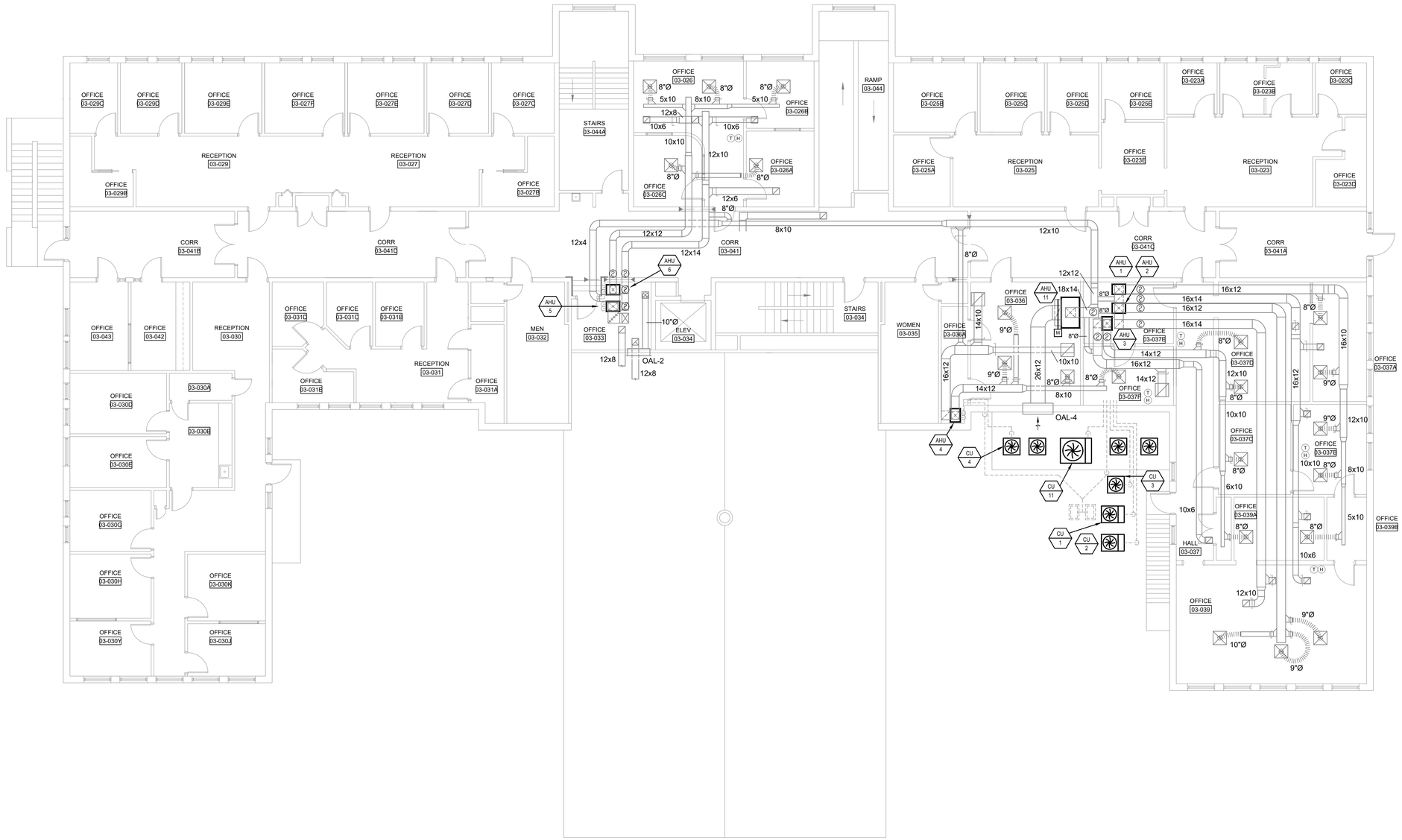
SHEET TITLE
Mechanical Renovation Plan
Second Floor

DRAWING NO.
M101

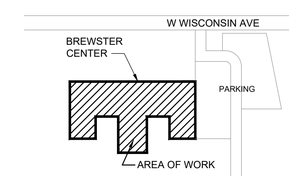


Mechanical Renovation Plan - Third Floor

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

GENERAL NOTES:

1. ADD ALTERNATE 1: PROVIDE ADD ALTERNATE PRICE TO CLEAN ALL DUCTWORK IN BUILDING. PLANS INDICATE EXISTING DUCTWORK THAT DOCUMENTATION WAS AVAILABLE FOR, HOWEVER ALL SUPPLY, RETURN, VENTILATION AND EXHAUST DUCTWORK REQUIRES CLEANING.



Keyplan
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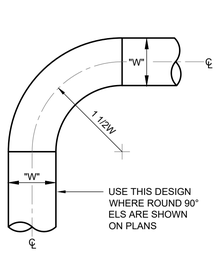
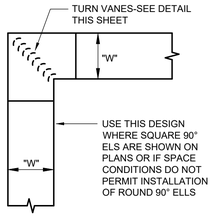
SHEET TITLE
Mechanical Renovation Plan
Third Floor

DRAWING NO.
M102

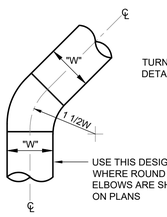


ROUND 90° ELBOW

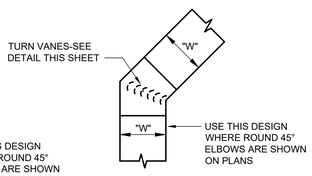


SQUARE 90° ELBOW

CONSTRUCTION OF 90° ELBOWS

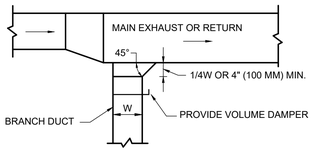


ROUND 45° ELBOW

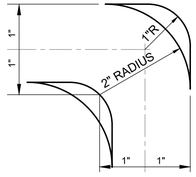


SQUARE 45° ELBOW

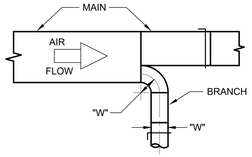
CONSTRUCTION OF 45° ELBOWS



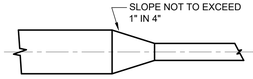
EXHAUST OR RETURN BRANCH DUCTWORK



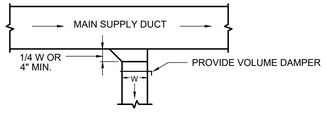
DETAIL OF TURN VANES



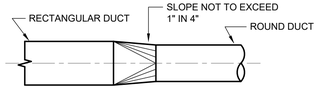
ROUND BRANCH TAKEOFF



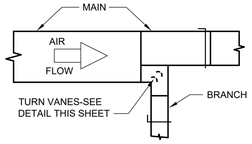
TYPICAL RECTANGULAR TRANSITION



SUPPLY BRANCH DUCT TAKE-OFF



TYPICAL RECTANGULAR TO ROUND TRANSITION

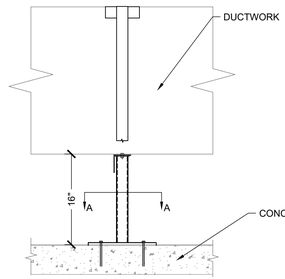


SQUARE BRANCH TAKEOFF

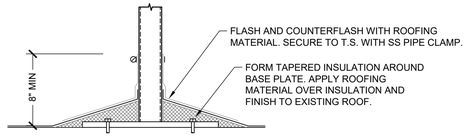
CONSTRUCTION OF BRANCH TAKEOFFS FROM MAIN

1 LOW VELOCITY DUCT FITTING CONSTRUCTION

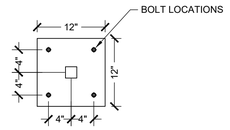
SCALE: NOT TO SCALE



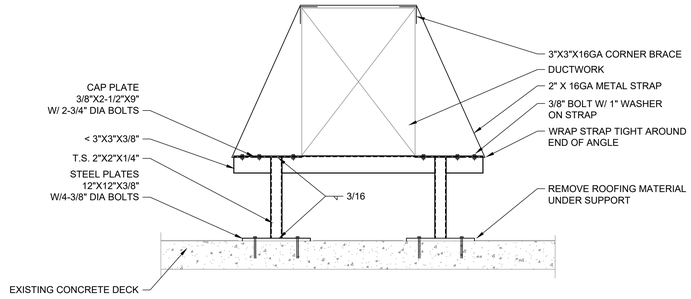
PROFILE



ROOFING AT BASE



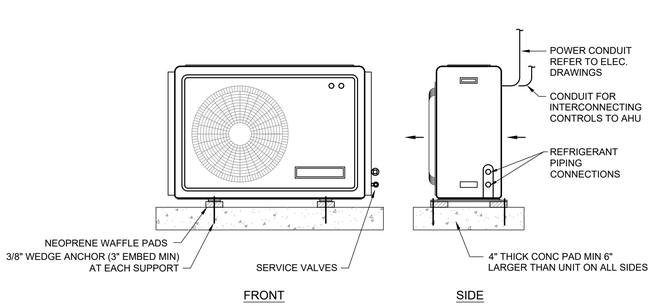
VIEW A-A



NOTES:
1. SUPPORTS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED.
2. BOLTS ARE TO BE A307.

2 ROOFTOP DUCT SUPPORT

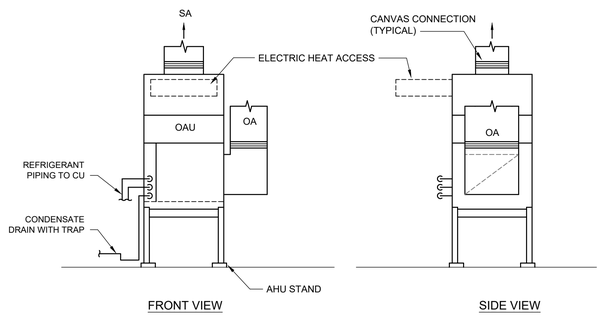
SCALE: NOT TO SCALE



NOTE: COMPACT SOIL TO 95%. OWNER TO PROVIDE VERIFICATION.

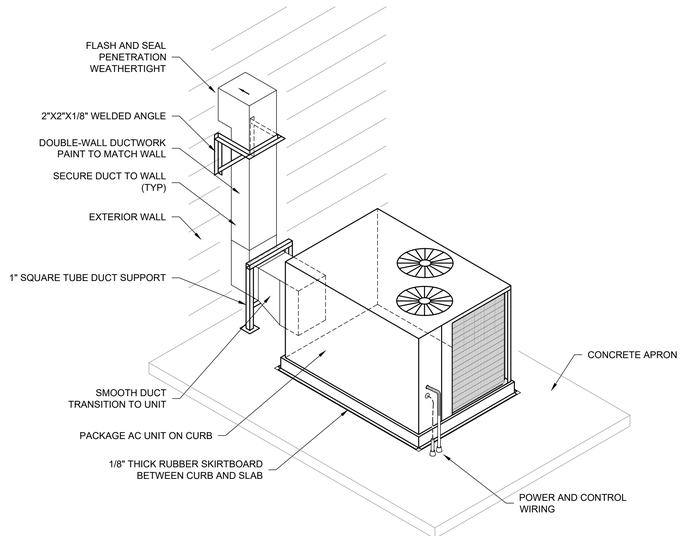
3 AIR COOLED CONDENSING UNIT - PAD ON SLAB DETAIL

SCALE: NOT TO SCALE



4 SPLIT DX AHU INSTALLATION DETAIL

SCALE: NOT TO SCALE



NOTES:
1. ALL EXTERIOR HARDWARE TO BE HOT DIPPED GALVANIZED.
2. CONCRETE PAD SIZED PER PLANS (MIN 6" LARGER THAN UNIT ON ALL SIDES).
3. ANCHOR UNIT TO CURB WITH 1/4" HD GALV TEK SCREWS WITH FENDER WASHERS AT 12" O.C.
4. ANCHOR CURB TO SLAB WITH 3/8" HD GALV WEDGE ANCHORS 18" O.C AND WITHIN 6" OF CORNERS.
5. CONNECT DUCT TO SUPPORT BRACKET WITH #10 TEK SCREWS THROUGH OUTER WALL OF DUCT.
6. ATTACH DUCT SUPPORT ANGLE FRAMING TO BRICK WALL WITH 3 (MIN) HD GALV WEDGE ANCHORS (1/4"X2-1/2") WITH FENDER WASHERS, EACH SIDE OF DUCT.

5 PACKAGE AC UNIT WITH HORIZONTAL DUCTING

SCALE: NOT TO SCALE

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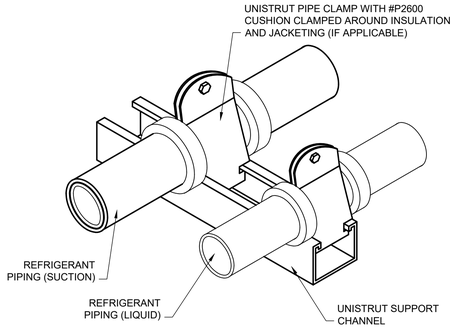
SHEET TITLE
Mechanical Details

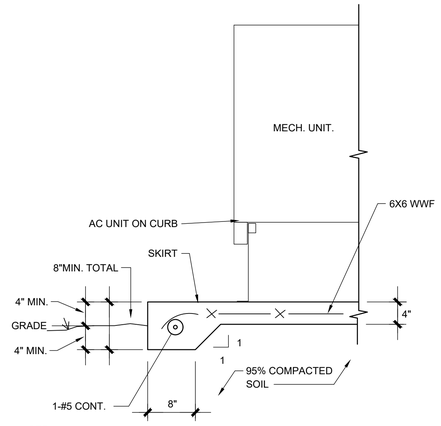
DRAWING NO.
M500



NOTES:
1. SUPPORT MAY BE USED FOR WALLS OR FLAT SLABS.
2. ATTACH TO SUBSTRATE USING 3/8"X3" EXPANDING ANCHORS. ANCHORS TO BE AT EACH END AND 12" O.C. (MAX)

1 REFRIGERANT PIPING SUPPORT DETAIL

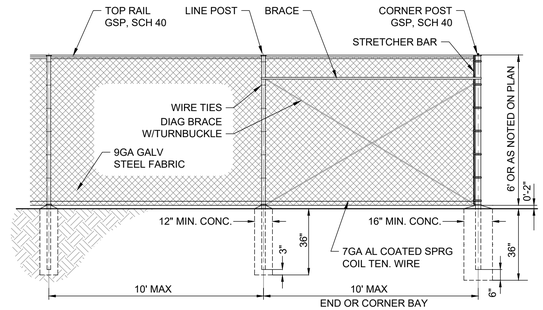
SCALE: NOT TO SCALE



NOTE:
1. INCREASE THICKNESS OF EDGE AS REQUIRED TO ACCOMMODATE FALL IN GRADE.
2. SET TOP OF PAD ELEVATION 2" HIGHER THAN ADJACENT GRADE HIGH POINT.
3. SLOPE PERIMETER SKIRT FOR DRAINAGE.
4. CROWN EQUIPMENT PAD.

2 CONCRETE PAD DETAIL

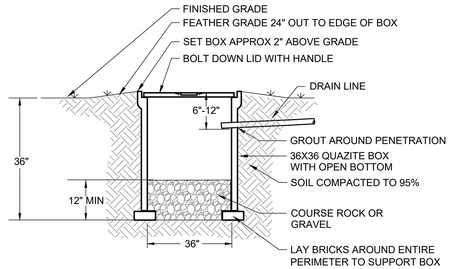
SCALE: NOT TO SCALE



NOTES:
1. WOVEN WIRE FABRIC TO BE STRETCHED TAUT WITH STRETCHER BARS AND STRAPS AND FASTENED TOP AND BOTTOM AT LINE POSTS WITH GALV HOG RING TIES.
2. FABRIC SHALL HAVE TOP AND BOTTOM SELVAGES TURNED DOWN (KNUCKLED).

3 CHAIN LINK FENCE DETAIL

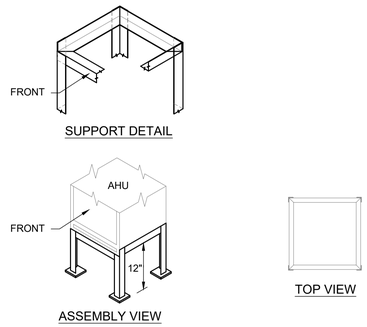
SCALE: NOT TO SCALE



NOTES:
1. BOX TO BE QUAZITE PG STYLE (STACKABLE) OR EQUAL.
2. DESIGN LOADS SHALL BE:
   2.1. GRASSY AREA 8,000 LB (ANSI TIER 8) OR HIGHER.
   2.2. POTENTIAL VEHICULAR TRAFFIC AREAS: 15,000 LBS (ANSI TIER 15)

4 VERTICAL DRYWELL DETAIL

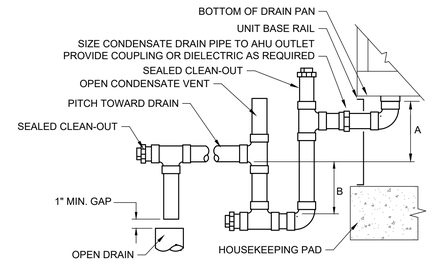
SCALE: NOT TO SCALE



NOTES:
1. HORIZONTAL SUPPORTS SHALL HAVE 45 DEG ANGLE ENDS TO PROVIDE A FLAT MOUNTING SURFACE FOR AHU.
2. STAND WIDTH AND DEPTH SHALL BE 1/2" LARGER THAN AHU BASE.
3. PROVIDE STEEL 2X2X1/8 ANGLE WELDED AT ALL CORNERS.
4. PROVIDE 3X3X1/8 FLAT PLATE STEEL FEET WELDED TO STAND.
5. FRONT SUPPORT SHALL BE TURNED DOWN TO ALLOW FILTER ACCESS.
6. PROVIDE 2" WIDE X 1/4" THICK NEOPRENE GASKET AT PERIMETER OF STAND.
7. PRIME AND PAINT ENTIRE STAND BLACK PRIOR TO INSTALLATION.

5 AHU STAND DETAIL

SCALE: NOT TO SCALE



UNIT TYPE	A	B
DRAW THRU	2" PLUS X	1" PLUS X
BLOW THRU	1" MIN.	2X

WHERE X = STATIC PRESSURE IN PAN OR 1" (WHICHEVER IS GREATER)

NOTE: MIN CONDENSATE PIPE SIZE SHALL BE 1"

6 CONDENSATE TRAP DETAIL

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SHEET TITLE
Mechanical Details

DRAWING NO.
M501

Package Outside Air Unit Schedule

Tag	Room	Area	Basis of Design			Unit			Supply	Cooling						Heating						Unit Electrical			Unit Physical		Remarks
						Airflow		ESP	Motor	Cond.	Evaporator (db/wb)		Capacity (Mbh)		Min	Entering	Leaving	Max Pd	Capacity		dT per	Power			Dims	Weight	
			Manufacturer	Model	Style	Total	O/A	(in wg)	HP	EAT	EAT	LAT	Total	Sensible	EER	Temp, F	Temp, F	(in WC)	kW@208/3	Stages	Stage	Connections	V/Ph/Hz	MCA/MFS	(LxWxH)	(lbs.)	
OAU-2.1	2-007	Northwest corner	AAON	RQ-004-8	Package OAU - Horiz discharge	600	600	0.5	0.5	95	95/78	52.6/52.5	48.8	25.6	13.6	30	69.5	0.2	7.5	2	19.8	Single Point	208/3/60	33/35	83x44x48	850	ALL
OAU-2.2	2-014C	Southwest corner	AAON	RQ-004-8	Package OAU - Horiz discharge	600	600	0.5	0.5	95	95/78	52.6/52.5	48.8	25.6	13.6	30	69.5	0.2	7.5	2	19.8	Single Point	208/3/60	33/35	83x44x48	850	ALL
OAU-2.3	2-005A	Northeast corner	AAON	RQ-004-8	Package OAU - Horiz discharge	600	600	0.5	0.5	95	95/78	52.6/52.5	48.8	25.6	13.6	30	69.5	0.2	7.5	2	19.8	Single Point	208/3/60	33/35	83x44x48	850	ALL

Remarks:

1. Single point power with integral disconnect.
2. Epoxy coated coated condenser coils.
3. Hot gas reheat
4. Provide 12" high aluminum curb

Notes:

1. The electrical data is based upon the manufacturer's published data at the time of design. The mechanical contractor shall coordinate any electrical differences with the electrical contractor. The cost of all modifications resulting from electrical differences shall be the responsibility of the mechanical contractor.

M.C.A - Minimum Circuit Amps, M.F.S. - Maximum Fuse Size

Split DX Air Handling Unit Schedule

Mark	Room	Area	Basis of Design			Fan							Cooling						Heating						Unit					Remarks
						Airflow				ESP	TSP	Brake	Motor	Fan	EAT	LAT	Total Cap	Sens Cap	Max Face	Coil		EAT	LAT	Capacity			Filter				
			Manuf.	Model	Style	Total	O/A	Type	RPM	(in wg)	(in wg)	Hp	Hp	Outlet	(DB/WB)	(DB/WB)	(MBh)	(MBh)	Vel (FPM)	Rows/FPI	Type	Deg F	(DB/WB)	(kW@208/3)	FLA	Stages	Section	EER	MCA/MOP	Volt/Ph./Hz.	Dimensions (LxWxH)	Dims (LxWxH)	
OAHU-1.1	1-101C	1st FL Mechanical Room	AAON	V3-BRB-8	Vertical AHU Split DX OAU	800	800	ECM Plenum	2059	0.50	0.95	0.22	1.1	Top	95/78	53.3/54.0	63.0	33.6	218	6/12	Electric	30	74.6	11.3	31.4	2	Flat	11.8	43/45	208/3/60	30x33x78	700	1,2

Remarks:

1. Hot gas reheat
2. Integral disconnect

Split DX Condensing Unit Schedule

Mark	Basis of Design			Compressor			Fans			Unit							Remarks
	Manuf.	Condenser Model	Type	Quan.	RLA	Refrigerant	Quan.	Elec V/Ph/Hz	FLA (ea)	Cond. EAT	Net Cap. (MBh)	Capacity Steps	Cond only EER	Volt/Ph./Hz.	Electrical MCA/MOCP	Dims (LxWxH)	Weight (lbs.)	
OACU-1.1	AAON	CFA-007	Straight cool	1	20.4	410-A	1	208/1/60	2.8	95	63.0	1	11.8	208/3/60	28/45	62x30x56	450	1,2

Remarks:

1. Provide hot gas reheat circuit
2. See specification for additional requirements.

Notes:

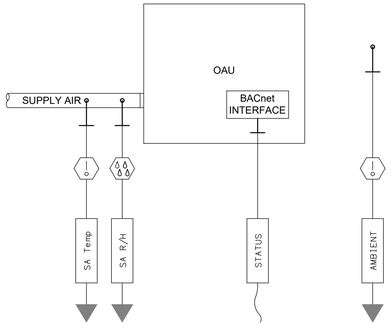
1. Electrical requirements are based on manufacturer's published data and are subject to change by the manufacturer at any time without notice.
2. All electrical modifications required to accommodate nameplate ratings shall be provided by the contractor at no additional charge to the Owner.

Building Pressurization Summary

Building/Area	Equiment Tag	Airflow, CFM	Remarks
1st Floor - Middle	Unk (Rm 01-051C Toilet)	(85)	1
	PV-2 (Elev Eq)	(460)	
	OAHU-1.1	800	
	Net Pressurization	**255**	**Positive**
2nd Floor	Unk (02-001 Men)	(350)	
	Unk (02-006 Jan)	(325)	
	Unk (02-008 Women)	(290)	
	OAU-2.1	600	
	OAU-2.2	600	
	OAU-2.3	600	
	Net Pressurization	**835**	**Positive**
3rd Floor	Unk (03-032 Men)	(420)	
	Unk (03-035 Women)	(390)	
	AHU/CU-11	840	2
	Net Pressurization	**30**	**Positive**

Remarks:

1. Intermittent fan operation.
2. Existing OAU to remain



1 DEDICATED OUTSIDE AIR UNIT

SCALE: NOT TO SCALE

SEQUENCE OF OPERATION

1.1 GENERAL REQUIREMENTS:

A. Bidding Procedures:

1. Conformance: Prior to submitting a bid for this project, the controls contractor shall thoroughly review the following sequences. The contractor shall, at least 10 days prior to bid date, submit to the engineer a written statement indicating any sequences that cannot be provided due to limitations in the control system. The engineer, may, at his discretion, review and modify the sequences through addenda. Any controls contractor that cannot provide all the sequences of operations as stated in the final bid documents, including addenda, will be removed from the project.
2. Coordination: Prior to submitting a bid for the work, the controls contractor shall coordinate the interconnection of the EMS with internal equipment controllers and provide all materials and labor needed to meet the sequences of operation.
3. The following sequence of operation outlines the general means by which the EMCS shall initiate and respond to events. The requirements for the control system are shown on the drawings, in the sequence of operations, in the schedules, and in the specifications.
4. Modifications to the means of control will be considered, but will not be allowed if energy efficiency is decreased.

B. SCOPE:

1. CONTROL SYSTEM EXPANSION: The existing control system shall be expanded to incorporate the equipment and sequences of operation contained in this project. Provide all labor, materials, and engineering needed to provide a fully functional control system.
   a. Where existing central plant equipment exists that is required for new equipment to function, the EMCS shall activate the central plant equipment as needed.
2. FIRE ALARM SHUTDOWN: Upon a fire alarm system activation, the air handling equipment shall shut down immediately and without delay. The contractor shall provide a shutdown relay or contactor in control circuit. Control of contactor is by others.
3. COMMUNICATIONS: Each piece of equipment shall be controlled independently by a stand-alone controller. If communications are lost with the EMCS network, the equipment controller shall continue to operate the equipment without changing operating modes or reducing local functionality.

1.2 MISCELLANEOUS SEQUENCES:

A. Minimum Run Times:

1. Equipment shall be programmed to provide manufacturer required minimum ON and OFF times. Minimums shall not be less than the following.
2. DX type equipment:
   a. ON: 5 minutes
   b. OFF: 3 minutes

B. Exhaust Fan Operation:

1. Exhaust fans shall operate based upon the control signal shown in the schedule.

1.3 VENTILATION EQUIPMENT SEQUENCES:

A. Bathroom Power Ventilators (PV-x.y):

1. Interior Bathrooms: The PV shall be enabled based upon the time of day schedule for the associated AHU that provides ventilation air to the space. The PV shall only be enabled when the AHU is in the Occupied mode.
   a. Exception: Start/Stop of single toilet bathrooms may be controlled by the light switch if a time delay is provided to operate the fan for 10 minutes after the lights are switched off. Motorized damper, end switch, and confirmation is not required.

B. Dedicated Outside Air Equipment

1. Enable/Disable: The OAU shall be enabled based upon the time of day ventilation schedule for the building.
2. Cooling/Heating Mode:
   a. Cooling: Ambient temperature is above 55 deg F (provide deadband)
   b. Heating: Ambient temperature is below 55 deg F
3. Once enabled, the OAU shall operate via internal controls to provide conditioned ventilation air to the building based upon the following:
   a. Cooling Mode:
      1) Stage compressors to maintain the cooling coil LAT at setpoint of 53 deg F.
      2) Modulate hot gas reheat to maintain a supply air temperature of 72 deg F.
   b. Heating Mode:
      1) Stage/Modulate electric heat to maintain 72 deg F
4. Motorized Damper Operation: The outside air damper in the OAU shall open when the unit is enabled.
5. The OAU shall provide an 'Alarm' to the EMS if proper operation is not confirmed by the OAU internal controls.

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STATE OF FLORIDA CERTIFICATE NO. 9811
SEG PROJECT NO. 22009

Donald J. Sabiston, P.E.
State of Florida No. 54889

REVISIONS

NO.	DATE	DESCRIPTION

BREWSTER CENTER
REPLACE OUTSIDE AIR UNITS
VCS Project NO. 2347905
200 N CLARA AVE,
DELAND, FL 32720

ARCH/ENGR OF RECORD
Engineer
Donald J. Sabiston P.E.

DESIGNED BY	DRAWN BY
DJS	DJS
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
Mechanical Schedules and Controls

DRAWING NO.
M600

GENERAL NOTES

1. NO MULTI-WIRE BRANCH CIRCUITS ARE TO BE USED. EACH CIRCUIT IS TO HAVE SEPARATE INDIVIDUAL NEUTRAL.
2. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 0-100 FEET, ARE TO HAVE #12 MINIMUM BRANCH CIRCUIT WIRING THROUGHOUT CIRCUIT. (CONDUIT SIZE PER SPECIFICATION AND NEC).
3. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 101-125 FEET, ARE TO HAVE #10 MINIMUM BRANCH CIRCUIT WIRING HOMERUN (3/4"C.) FROM PANEL CIRCUIT BREAKER TO FIRST DEVICE AND #12 BRANCH CIRCUIT WIRING THROUGHOUT THE REMAINDER OF THE CIRCUIT. (CONDUIT SIZE PER SPECIFICATION AND NEC). NOT LESS THAN THE FIRST 75 FEET OF COMBINED HOMERUN AND BRANCH CIRCUIT TO BE MINIMUM #10 WIRE (3/4"C).
4. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 126-160 FEET, ARE TO HAVE #10 MINIMUM BRANCH CIRCUIT WIRING THROUGHOUT CIRCUIT (3/4"C).
5. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 161-205 FEET, ARE TO HAVE #8 MINIMUM BRANCH CIRCUIT WIRING HOMERUN (1"C.) FROM PANEL CIRCUIT BREAKER TO FIRST DEVICE AND #10 BRANCH CIRCUIT WIRING THROUGHOUT THE REMAINDER OF THE CIRCUIT (3/4"C.). NOT LESS THAN THE FIRST 125 FEET OF COMBINED HOMERUN AND BRANCH CIRCUIT TO BE MINIMUM #8 WIRE (1"C.)
6. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 206-230 FEET, ARE TO HAVE #8 MINIMUM BRANCH CIRCUIT WIRING THROUGHOUT CIRCUIT (1"C.).
7. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 231-250 FEET, ARE TO HAVE #6 MINIMUM BRANCH CIRCUIT WIRING HOMERUN (1-1/4"C.) FROM PANEL CIRCUIT BREAKER TO FIRST DEVICE AND #10 BRANCH CIRCUIT WIRING THROUGHOUT THE REMAINDER OF THE CIRCUIT (3/4"C.). NOT LESS THAN THE FIRST 175 FEET OF COMBINED HOMERUN AND BRANCH CIRCUIT TO BE MINIMUM #6 WIRE (1-1/4"C.).
8. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 251-325 FEET, ARE TO HAVE #6 MINIMUM BRANCH CIRCUIT WIRING HOMERUN (1-1/4"C.) FROM PANEL CIRCUIT BREAKER TO FIRST DEVICE AND #8 BRANCH CIRCUIT WIRING THROUGHOUT THE REMAINDER OF THE CIRCUIT (1"C.). NOT LESS THAN THE FIRST 250 FEET OF COMBINED HOMERUN AND BRANCH CIRCUIT TO BE MINIMUM #6 WIRE (1-1/4"C.).
9. 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 326-370 FEET FROM THE PANEL, ARE TO HAVE #6 MINIMUM BRANCH CIRCUIT WIRING THROUGHOUT CIRCUIT (1-1/4"C.).
10. VERIFY EXACT LOCATION OF ALL MECH. EQUIP. INCLUDING WALL SWITCHES, T'STATS, ETC. WITH MECH. CONTRACTOR AND MECH. DRAWINGS.
11. REFER TO MECHANICAL EQUIPMENT SCHEDULE, FOR RESPECTIVE CONDUIT/CONDUCTORS, DISCONNECTS, MISC. EQUIPMENT REQUIRED FOR ALL MECHANICAL AND PLUMBING EQUIPMENT. REFER TO PANEL SCHEDULES FOR CIRCUITS NUMBERS OF CIRCUITS FOR MECHANICAL AND PLUMBING EQUIPMENT.
12. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
13. READ SPECIFICATIONS.
14. SEE RISER DIAGRAMS AND BUILDING PLANS.
15. ALL EMPTY CONDUITS ARE TO HAVE PULL-STRINGS PROVIDED IN THEM.
16. ALL CONDUIT TERMINATIONS AT TERMINAL BOARDS ARE TO HAVE BUSHED CONDUIT ENDS.
17. SPLICES IN POWER AND LIGHTING OUTLET BOXES SHALL BE KEPT TO A MINIMUM, PULL CONDUCTORS THROUGH TO DEVICES, EQUIPMENT CABINETS/PANELBOARDS. SPLICING IN WIREWAYS IS NOT PERMITTED UNLESS SPECIAL WRITTEN PERMISSION IS GRANTED BY A/E.
18. NO SPLICES SHALL BE MADE IN COMMUNICATIONS OUTLET BOXES OR PULL BOXES (I.E., FIRE ALARM, COMPUTER, TELEPHONE, ETC.) UNLESS SPECIFIC WRITTEN APPROVAL HAS BEEN GIVEN BY ENGINEER. PULL CABLES THROUGH TO EQUIPMENT/TERMINAL CABINETS.
19. NO SPLICES SHALL BE MADE IN UNDERGROUND (OR FLUSH) IN-GRADE PULL BOXES UNLESS ENGINEER HAS GIVEN SPECIFIC ACCEPTANCE.
20. CONTRACTOR SHALL INCLUDE IN HIS BID THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE. CONTRACTOR SHALL COMPLY FULLY WITH FLORIDA STATUTE 403.7186 REGARDING MERCURY CONTAINING DEVICES AND LAMPS. LAMPS, BALLASTS AND OTHER MATERIALS SHALL BE TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH ALL DEP AND EPA GUIDELINES APPLICABLE AT TIME OF DISPOSAL. CONTRACTOR SHALL PROVIDE OWNER WITH WRITTEN CERTIFICATION OF ACCEPTED DISPOSAL.
21. MOUNT ALL DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT WITHIN 6 FT. OF EQUIPMENT CONNECTION POINT. VERIFY LOCATION OF POINT OF CONNECTION WITH EQUIPMENT INSTALLER PRIOR TO ELECTRICAL ROUGH-IN. (DRAWINGS ONLY SHOW DIAGRAMMATIC LOCATION OF CONNECTION).
22. EXISTING CONDITIONS AND UTILITIES INDICATED ARE TAKEN FROM EXISTING CONSTRUCTION DOCUMENTS, VARIOUS SURVEYS, AND FIELD INVESTIGATIONS. IT IS TO BE UNDERSTOOD THAT UNFORESEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. COOPERATION WITH OTHER TRADES IN ROUTING AND/OR BURIAL DEPTHS AS DETERMINED DURING CONSTRUCTION AND AS DIRECTED BY THE ARCHITECT/ENGINEER MAY BE NECESSARY AND IT IS INTENDED THAT SUCH DEVIATIONS SHALL BE CONSIDERED A PART OF THIS CONTRACT. IT IS ALSO UNDERSTOOD THAT THE PLANS ARE NOT COMPLETELY TO SCALE. THIS CONTRACTOR IS TO FIELD VERIFY DIMENSIONS OF ALL SITE UTILITIES, ETC., PRIOR TO BID AND INCLUDE ANY DEVIATIONS IN THE CONTRACT.
23. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN ON PLANS OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE COMPLETION OF THIS WORK. THE CONTRACTOR SHALL LOCATE ALL UTILITIES (BOTH KNOWN AND UNKNOWN) IN AREA OF WORK PRIOR TO EXCAVATION WITH THE USE OF ELECTRONIC LOCATOR/TRACER DEVICES AND EQUIPMENT SUITABLE FOR SUCH USE. REFLECT LOCATED UTILITIES ON AS-BUILT DOCUMENTS.
24. REMOVE EXISTING POWER, LIGHTING, SYSTEMS, MATERIAL AND EQUIPMENT WHICH ARE MADE OBSOLETE OR WHICH INTERFERE WITH THE CONSTRUCTION OF THE PROJECT.
25. REINSTALL ANY SUCH POWER, LIGHTING, SYSTEMS, MATERIALS AND EQUIPMENT WHICH ARE REQUIRED TO REMAIN ACTIVE FOR THE FACILITY TO BE FULLY FUNCTIONAL.
26. ALL EXISTING ELECTRICAL IS NOT SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BID, AND INCLUDE IN HIS BID THE REMOVAL OF ALL ELECTRICAL EQUIPMENT, WIRE, CONDUIT, DEVICES, FIXTURES, ETC. THAT IS NOT BEING REUSED, BACK TO ITS SOURCE.
27. ALL RECEPTACLES, DEVICES AND EQUIPMENT NOT SHOWN, AND IN AREAS OUTSIDE OF REMODELING SHALL REMAIN ACTIVE UNLESS OTHERWISE NOTED. FURNISH AND INSTALL ACCESSIBLE JUNCTION BOXES AND REWORK EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY TO RECEPTACLES, DEVICES AND EQUIPMENT REMAINING.
28. ALL CONDUIT TO BE CONCEALED UNLESS IMPOSSIBLE DUE TO EXISTING CONDITIONS (I.E. EXPOSED CEILINGS, BUILDING EXTERIOR WALL RUNS, IMPOSSIBLE UNDERGROUND RUNS). CONCEAL ALL CONDUITS ABOVE CEILINGS OR IN WALL/COUNTERS.
29. ALL NEW DEVICES TO BE FLUSH MOUNTED UNLESS SPECIFICALLY NOTED OTHERWISE.
30. FURNISH AND INSTALL JUNCTION BOX(S) ABOVE ACCESSIBLE CEILING WITH FLEXIBLE CONDUIT FLUSH/CONCEALED DOWN EXISTING WALL(S) TO NEW FLUSH WALL DEVICES. REWORK EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY TO RECEPTACLE, DEVICES AND EQUIPMENT REMAINING. CUT AND PATCH WALL TO LIKE NEW CONDITION AS REQUIRED. (IF CONCEALING CONDUIT DOWN EXISTING WALL IS NOT FEASIBLE, EXPOSED WIREMOLD DROPPED DOWN WALL, UNLESS OTHERWISE NOTED BY SPECIFICATIONS, IS ACCEPTABLE. PAINT TO MATCH MOUNTING SURFACE.) METHOD OF ROUTING WIREMOLD SHALL BE SUBMITTED TO A/E FOR APPROVAL. A/E RESERVES THE RIGHT TO CONTROL SURFACE APPLICATIONS.
31. ALL OUTLET BOXES WHERE FIXTURES OR DEVICES ARE REMOVED SHALL BE REMOVED AND CEILING OR WALL SHALL BE PATCHED TO MATCH EXISTING OR NEW FINISH. IF OUTLET BOX MUST REMAIN TO MAINTAIN CONTINUITY OF CIRCUITRY, AN APPROPRIATE ACCESSIBLE BLANK PLATE SHALL BE INSTALLED WITH FINISH TO MATCH EXISTING OR NEW, WHERE APPLICABLE. ALL OUTLET BOXES WHICH MUST BE REMOVED DUE TO REMOVAL OF WALL, AND WHICH MUST REMAIN ACTIVE IN ORDER TO MAINTAIN CIRCUIT CONTINUITY SHALL BE RELOCATED IN CEILING OR FLOOR, SHALL BE ACCESSIBLE, AND SHALL HAVE BLANK COVERPLATE AS DESCRIBED ABOVE.
32. ELECTRICAL CONTRACTOR SHALL INCLUDE ALL EXISTING PANELBOARD SCHEDULES FOR PANELBOARDS RELATED/ASSOCIATED WITH OR WITHIN CONTRACT LIMITS WHETHER SHOWN ON PLANS OR NOT AS PART OF A COMPLETE AS-BUILT SET OF DRAWINGS. SCHEDULES SHALL SHOW FINAL CONFIGURATION, ETC. OF CIRCUITS, CIRCUIT BREAKERS, DIRECTORY, ETC.
33. ALL EXISTING BRANCH CIRCUITS AND FEEDERS (REMAINING ACTIVE) WHICH ARE CONNECTED TO EXISTING PANELBOARDS THAT ARE AFFECTED BY THIS CONTRACT, SHALL BE TRACED-OUT AND PROPERLY NOTED AND IDENTIFIED ON NEW PANEL DIRECTORIES.
34. ALL PANELS, CIRCUIT BREAKERS, JUNCTION BOXES, ETC. THAT ARE WITHIN AREA OF REMODEL SHALL BE PROPERLY IDENTIFIED AS PER SPECIFICATIONS.
35. ALL EXISTING CONDUIT, WIRE, FITTINGS, BOXES, ETC. REMAINING AND/OR UTILIZED WITHIN AREA OF REMODEL/RENOVATION MUST COMPLY WITH SPECIFICATIONS. ELECTRICAL COMPONENTS WHICH DO NOT COMPLY WITH SPECIFICATIONS, AND IS NOT IN COMPLIANCE WITH NATIONAL ELECTRICAL CODE AND LOCAL CODES SHALL BE REPLACED AND/OR REWORKED AT NO ADDITIONAL COST TO OWNER UNDER THIS CONTRACT (I.E. CONDUIT SIZING, ROUTING, SUPPORTS, ETC.).
36. PROVIDE NEW TYPED PANEL DIRECTORIES FOR ALL EXISTING AND NEW PANELBOARDS FOR PANELBOARDS ASSOCIATED WITH CONTRACT WHETHER SHOWN ON PLANS OR NOT REGARDLESS IF SCHEDULES/CIRCUITRY HAS BEEN CHANGED.
37. PROVIDE NEW PHENOLIC LABELS (PER SPEC'S) ON ALL NEW (2) TWO POLE AND (3) THREE POLE CIRCUIT BREAKERS WITHIN ALL EXISTING AND NEW PANELBOARDS ASSOCIATED WITH CONTRACT WHETHER SHOWN ON PLANS OR NOT REGARDLESS IF SCHEDULES/CIRCUITRY HAS BEEN CHANGED.
38. ALL EXISTING AND NEW CIRCUIT BREAKERS WITHIN EACH EXISTING PANELBOARD SHALL BE THE SAME MFG. TYPE, STYLE AND A.I.C. RATING OF EXISTING PANELBOARD REGARDLESS OF WHAT IS SHOWN ON PANEL SCHEDULE. FIELD VERIFY ALL EXISTING PANELBOARD(S) RELATED WITH CONTRACT AND PROVIDE CIRCUIT BREAKERS AS NECESSARY TO COMPLY WITH THIS REQUIREMENT.
39. ALL CONCRETE, WALL PATCHING, CEILING REPAIR, WALL FINISHES, AND OTHER GENERAL WORK REQUIRED FOR INSTALLING ELECTRICAL SYSTEMS SHALL BE REPAIRED TO "LIKE NEW/ORIGINAL CONDITION." (COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BID.)
40. ALL PATCHES OR CEILING PLATES SHALL BE PATCHED OR PAINTED AS DIRECTED BY ARCHITECT.
41. PAINT ALL EXPOSED CONDUIT, BOXES, ETC. TO MATCH WALL SURFACE.
42. ALL OPENINGS IN FIRE RATED WALLS AND FLOORS, ETC. MADE BY RENOVATION SHALL BE SEALED AND FIREPROOFED. PROVIDE AND INSTALL FIRESTOPPING ON ALL NEW OR EXISTING CONDUIT AND/OR CABLE THAT PENETRATES ANY FIRE RATED NEW OR EXISTING WALL IN ALL AREAS AFFECTED BY THIS PROJECT. VERIFY LOCATION OF FIRE RATED WALLS WITH ARCHITECTURAL PLANS PRIOR TO BID. FIRESTOPPING SYSTEM SHALL BE AS REQUIRED BY UL FOR RATING OF WALL AND CONDUIT/CABLE PENETRATION.
43. PROVIDE ALL ELECTRICAL REQUIRED TO REMOVE AND REPLACE CEILING LIGHT FIXTURES AS REQUIRED TO FACILITATE INSTALLATION OF NEW DUCTWORK OR FIRE PROTECTION SYSTEMS. COORDINATE WITH ALL TRADES AND CONTRACTOR PRIOR TO BID. LIGHT FIXTURES ARE TO BE REPLACED IN CONDITION TO MATCH EXISTING.
44. DASHED ITEMS INDICATE EXISTING TO REMAIN.
45. "R" ADJACENT TO DEVICE INDICATES EXISTING TO BE REMOVED COMPLETE.
46. NEW UNDERGROUND RACEWAYS ARE TO BE HAND DUG. ROUTE UNDER EXISTING WALKWAYS AS REQUIRED BY OWNER.
47. ALL ITEMS REMOVED AND NOT RE-USED SHALL BE IMMEDIATELY TURNED OVER TO OWNER AS THEY ARE MADE AVAILABLE BY RENOVATION. REMOVE ITEMS FROM JOB SITE AND DELIVER TO OWNERS STORAGE LOCATION(S) AS DIRECTED BY PROJECT MANAGER. DISCARD COMPLETE ITEMS WHICH OWNER ELECTS TO REFUSE.
48. WORK TO BE PERFORMED IN STRICT COMPLIANCE WITH ESTABLISHED WORK SCHEDULE BEING SET FORTH BY OWNER/TENANT. COORDINATE ALL WORK. THE CONTRACTOR SHALL FURNISH ADEQUATE FORCES, CONSTRUCTION PLANT, AND EQUIPMENT, AND SHALL WORK SUCH HOURS, INCLUDING NIGHT SHIFTS, OVERTIME OPERATIONS, SUNDAY, AND HOLIDAYS IN ACCORDANCE WITH THE OWNERS OPERATIONAL SCHEDULE. IF THE CONTRACTOR FALLS BEHIND PROGRESS REQUIRED IN THE OPERATIONAL SCHEDULE, THE CONTRACTOR SHALL TAKE SUCH STEPS AS MAY BE NECESSARY TO IMPROVE HIS PROGRESS, AND THE OWNER MAY REQUIRE HIM TO INCREASE THE NUMBER OF SHIFTS AND/OR OVERTIME OPERATIONS, DAY OF WORK AND/OR THE AMOUNT OF CONSTRUCTION PLANT, AT NO ADDITIONAL COST TO THE OWNER UNDER THIS CONTRACT. (IT SHALL BE UNDERSTOOD THAT SEVERAL BID PACKAGES MAY BE CONSTRUCTED BY VARIOUS CONTRACTOR/SUB-CONTRACTORS WITHIN THE SAME WORK SPACE SIMULTANEOUSLY.)
49. COORDINATE WITH OWNER DEMOLITION IN BUILDINGS, INCLUDING POWER SERVICE TO AREAS, AND FIRE ALARM SERVICE TO AREAS. PROVIDE ALL ELECTRICAL AS REQUIRED, WHETHER SHOWN OR NOT, TO PROVIDE TEMPORARY RELOCATION AND REACTIVATION OF POWER AND FIRE ALARM TO EXISTING BUILDING AREAS DURING DEMOLITION IN EXISTING BUILDING.
50. COORDINATE WITH OWNER WORK ON FIRE ALARM SERVICE TO CAMPUS. PROVIDE ALL ELECTRICAL AS REQUIRED WHETHER SHOWN OR NOT TO PROVIDE TEMPORARY OUTAGE AND REACTIVATION OF POWER, SECURITY, AND FIRE ALARM TO EXISTING CAMPUS DURING DEMOLITION AND NEW WORK.
51. COORDINATE WITH OWNER PRIOR TO REMOVING EXISTING TELEVISION OUTLETS, COMMUNICATIONS (VOICE/DATA) OUTLETS, ETC.
52. EXISTING FIRE ALARM SYSTEM CONSISTS OF MANY DIFFERENT BRANDS. EXISTING SYSTEM WIRING/CONDUIT COULD NOT ALL BE VERIFIED. WHAT IS SHOWN IS FROM AS_BUILT DRAWINGS FURNISHED THIS ENGINEER AND IS SHOWN FOR CONVENIENCE OF CONTRACTOR. IN GENERAL, SYSTEM HAS TO BE REWORKED FOR NEW SYSTEM SHOWN. PROVIDE ALL WIRE/CONDUIT, ETC. AS REQUIRED FOR PROPER OPERATION OF NEW SYSTEM AS DIRECTED BY THE ENGINEER.
53. CONTRACTOR MAY REUSE EXISTING CONDUIT (MIN. OF 10' LENGTHS) AND ASSOCIATED FITTINGS, PULL BOXES, ETC., WHICH ARE IN "LIKE NEW CONDITION" AND WHICH MEET THE INTENT OF THE SPECIFICATIONS FOR NEW PRODUCTS. WHERE EXISTING RACEWAYS ARE REUSED, THE CONTRACTOR SHALL REMOVE EXISTING WIRING, PULL IN NEW WIRING, AND CONNECT TO NEW DEVICES AS SHOWN ON THE DRAWINGS AND CALLED FOR IN THE SPECIFICATIONS. REUSE OF EXISTING DEVICES AND WIRING SHALL NOT BE ALLOWED UNLESS SPECIFICALLY NOTED OTHERWISE. ALL EXISTING CONDUITS THAT ARE REUSED SHALL BE PERMANENTLY IDENTIFIED IN ACCORDANCE WITH THE SPECIFICATIONS.
54. USE OF MC CABLE IS NOT ACCEPTABLE.
55. EMT FITTINGS SHALL BE STEEL SET SCREW TYPE. CONDUIT FITTINGS FOR RACEWAYS OTHER THAN EMT SHALL BE MADE OF STEEL OR MALLEABLE IRON.
56. SPRING STEEL CONDUIT STRAPS AND HANGERS (IE CADDY TYPE) SHALL NOT BE UTILIZED. CEILING WIRES AND INDEPENDENT SUPPORT WIRES SHALL NOT BE USED FOR SUPPORT OF CONDUITS OR BOXES.

ELECTRICAL ABBREVIATIONS

A/C – AIR CONDITIONING
A.C. – ALTERNATING CURRENT
ADD # – ADDENDA #
A/E – ARCHITECT/ENGINEER (OR ENGINEER WHEN ARCHITECT NOT APPLICABLE)
AFD – ADJUSTABLE FREQUENCY DRIVE
AFF – ABOVE FINISHED FLOOR
AFG – ABOVE FINISHED GRADE
AHU – AIR HANDLER UNIT
AIC – AMPS INTERRUPTING CAPACITY
AL – ALUMINUM
ALT – ALTERNATE
AMP – AMPERE
ANSI – AMERICAN NATIONAL STANDARDS INSTITUTE
AWG – AMERICAN WIRE GAUGE
@ – AT
B.C. – BARE COPPER
BIDS – BAGGAGE INFORMATION DISPLAY SYSTEM
BLDG – BUILDING
BRKR – BREAKER
BTU – BRITISH THERMAL UNIT
BTUH – BTU PER HOUR
C. – CONDUIT
C.B. – CIRCUIT BREAKER
CD. – CANDELA
CBM – CERTIFIED BALLAST MANUFACTURERS
CFM – CUBIC FEET PER MINUTE
CKT. – CIRCUIT
CKT BRKR – CIRCUIT BREAKER
C/L – CENTER LINE
CLG. – CEILING
COMP. – COMPRESSOR
CONN. – CONNECTION
COND. – CONDENSER
CONT. – CONTINUOUS
C.R.I. – COLOR RENDERING INDEX
C.T. – CURRENT TRANSFORMER
CU. – COPPER
C.U. – COMPRESSOR CONDENSER UNIT
C.W. – COLD WATER
D.B. – DIRECT BURIAL
D.C. – DIRECT CURRENT
DISC. – DISCONNECT
DN. – DOWN
DPST – DOUBLE POLE SINGLE THROW
DWG – DRAWING
E.C. – ELECTRICAL CONTRACTOR (OR GENERAL CONTRACTOR)
ELEV. – ELEVATOR
EMT – ELECTRIC METALLIC TUBING
EQUIP. – EQUIPMENT
EST – ESTIMATE
FAAP – FIRE ALARM ANNUNCIATOR PANEL
FACP – FIRE ALARM CONTROL PANEL
FATC – FIRE ALARM TERMINAL CABINET
FCCP – FIRE ALARM COMMAND CENTER PANEL
FHC – FIRE HOSE CABINET
FIDS – FLIGHT INFORMATION DISPLAY SYSTEM
FLA – FULL LOAD AMPERES
FT. – FEET
FLR – FLOOR
F.C. – FOOTCANDLES
FVNR – FULL VOLTAGE NON-REVERSING
GAL. – GALLON
GALV. – GALVANIZED
GPH – GALLONS PER HOUR
GPM – GALLONS PER MINUTE
GFI – GROUND FAULT INTERRUPTING
GRS – GALVANIZED RIGID STEEL CONDUIT
GND. – GROUND
HTG – HEATERS
HT – HEIGHT
HZ – HERTZ (CYCLES)
HPF – HIGH POWER FACTOR
HPS – HIGH PRESSURE SODIUM
HP. – HORSEPOWER
HR. – HOUR
H.S. – HEAT STRIP
IMC – INTERMEDIATE METALLIC CONDUIT
INCAND. – INCANDESCENT
IN. – INCHES
J.B. – JUNCTION BOX
KVA – KILOVOLT AMPERE
KW – KILOWATTS
KWH – KILOWATT HOUR
K – KELVIN
L.L.D. – LAMP LUMEN DEPRECIATION
LED – LIGHT EMITTING DIODE
LIU – LIGHT INTERFACE UNIT
LT. – LIGHT
LTG. – LIGHTING
LTS. – LIGHTS
L.P.F. – LOW POWER FACTOR
M.C.B. – MAIN CIRCUIT BREAKER
M.L.O. – MAIN LUGS ONLY
MAINT. – MAINTENANCE
MH. – MANHOLE; METAL HALIDE
MFG. – MANUFACTURER
MAX. – MAXIMUM
MCM – THOUSAND CIRCULAR MILS
MOCP – MINIMUM OVERCURRENT PROTECTION
MPH – MILES PER HOUR
MM – MILLIMETER
MIN. – MINIMUM
MCP – MOTOR CIRCUIT PROTECTOR
MTD – MOUNTED
N. – NEUTRAL
NEC – NATIONAL ELECTRIC CODE
NEMA – NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA – NATIONAL FIRE PROTECTION ASSOCIATION
N.P.T. – NATIONAL PIPE THREAD
NF – NON FUSED
N.C. – NORMALLY CLOSED
N.O. – NORMALLY OPEN
NIC. – NOT IN CONTRACT
NO. – NUMBER
OB – OUTLET BOX
OD – OUTSIDE DIAMETER
O.L. – OVERLOAD
OLS – OVERLOADS
OS&Y – OUTSIDE SCREW AND YOKE (SPRINKLER)
% – PERCENT
/ – PHASE
P. – POLE
PL – COMPACT FLUORESCENT LAMP
P.T. – POTENTIAL TRANSFORMER
PSF – POUNDS PER SQUARE FOOT
PSI – POUNDS PER SQUARE INCH
PB – PULLBOX
PNL – PANEL
PR – PAIR
PRI. – PRIMARY
PVC – POLYVINYL CHLORIDE
RECEPT. – RECEPTACLE
RPM – REVOLUTIONS PER MINUTE
R.S. – RAPID START
SCA – SHORT CIRCUIT AMPS
SEC. – SECONDARY
SHT – SHEET
S/N – SOLID NEUTRAL
SPST – SINGLE POLE SINGLE THROW
SF – SQUARE FOOT
SW. – SWITCH
SWBD – SWITCHBOARD
SYS. – SYSTEM
THHN; – THWN NYLON JACKETED WIRE
TTB – TELEPHONE TERMINAL BOARD
TTC – TELEPHONE TERMINAL CABINET
TV – TELEVISION
TVTC – TELEVISION TERMINAL CABINET
TVEC – TELEVISION EQUIP. CABINET
TYP – TYPICAL
TEMP. – TEMPERATURE
U.L. – UNDERWRITERS' LABORATORIES
VFD – VARIABLE FREQUENCY DRIVE
VHF – VERY HIGH FREQUENCY
VHO – VERY HIGH OUTPUT
V – VOLT
VA – VOLT AMPERES
VOL. – VOLUME
W – WIRE
W.P. – WEATHERPROOF
XFMR – TRANSFORMER
Y – WYE
YD. – YARD
YR. – YEAR
3R – RAINPROOF
4X – STAINLESS STEEL DUSTIGHT, WATERTIGHT

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SEG PROJECT NO. 22009

REVISIONS

NO.	DATE	DESCRIPTION

DOCUMENT HISTORY

BREWSTER CENTER
REPLACE OUTSIDE AIR UNITS
VCS Project NO. 2347905
200 N CLARA AVE,
DELAND, FL 32720

ARCH/ENGR OF RECORD
Engineer
Adrian Baus P.E.

DESIGNED BY	DRAWN BY
AWB	MM/AWB
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
GENERAL NOTES AND ABBREVIATIONS

DRAWING NO.
E001

SYMBOL LEGEND

SYMBOL	DESCRIPTION	DESIGN SELECTION	APPROVED SUBSTITUTION	APPROVED SUBSTITUTION	REMARKS
[R]	RELAY, AS NOTED				
	WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE	P&S #PS5362	HUBBELL #HBL5352	LEVITON #5362	d
	TWO GANG WALL OUTLET BOX AND TWO 20 AMP DUPLEX RECEPTACLES	(2)-P&S #PS5362	(2)-HUBBELL #HBL-5352	(2)-LEVITON #5362	d
CLG (D)	CEILING OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE	P&S #5362	HUBBELL #HBL5352	LEVITON #5362	b,d
G	WALL OUTLET BOX WITH 20 AMP SELF-TESTING GFCI DUPLEX RECEPTACLE	P&S #2097TRGRY	HUBBELL #GFR5352GYST	LEVITON #S7899-GY	d
WPG	FLUSH WALL OUTLET BOX AND 20 AMP WEATHER RESISTANT SELF-TESTING GFCI DUPLEX RECEPTACLE WITH CAST ALUMINUM WEATHER PROOF IN USE COVER	P&S #2095TRWR WITH THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	HUBBELL #GFR5362S WITH THOMAS & BETTS #CKMUV OR HUBBELL #WP26M COVER	LEVITON #W7899-TR WITH THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	a, d
WPG	CAST IRON PLATED SURFACE MTD. OUTLET BOX AND 20 AMP WEATHER RESISTANT GFCI DUPLEX RECEPTACLE WITH CAST ALUMINUM WEATHERPROOF IN USE COVER	P&S #2095TRWR WITH APPLETON #FS-ID AND THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	HUBBELL #GFR5362S APPLETON #FS-ID AND HUBBELL #WP26M COVER	LEVITTON #W7899-TR APPLETON #FS-ID AND THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	a, c, d, e f, g
	FLUSH WALL JUNCTION BOX AND BLANK PLATE	STEEL CITY	RACO		d
	JUNCTION BOX AND BLANK PLATE ABOVE CEILING	STEEL CITY	RACO		b,d
	SURFACE JUNCTION BOX AND BLANK PLATE, WALL MTD. OR MTD. TO CEILING/STRUCTURE AS INDICATED	STEEL CITY	RACO		b, d, g, h
WP	SURFACE MTD. WEATHERPROOF JUNCTION BOX AND COVER, AS NOTED ON PLANS	HOFFMAN			d, g, h
	CAST IRON ZINC PLATED SURFACE MTD. OUTLET BOX AND BLANK PLATE	APPLETON #FS-ID WITH #DS-100 COVER			d, e, g, h
WP	CAST IRON ZINC PLATED SURFACE MTD. OUTLET BOX AND WEATHERPROOF BLANK PLATE	APPLETON #FS-ID WITH #DS-100G COVER			a, d, e, f, g, h
FG	FLUSH GRADE PULLBOX OR MANHOLE AS NOTED.	BROOKS	A.C. MILLER	HUGHES	d, j
	PUSHBUTTON, AS NOTED, MOUNTED AT 48" TO TOP				d
S	FLUSH SHUNT-TRIP BUTTON, LABEL "EMERGENCY MAIN DISCONNECT", MOUNTED AT 48" TO TOP	SQUARE "D" #K-15	ASCO #124200		d
	MOTOR CONNECTION, AS NOTED				i
[R]	RELAY, AS NOTED				
[C]	CONTROL AND/OR POWER CONNECTION ON EQUIPMENT				i
	METER, AS NOTED				
	HEATER/ELECTRICAL RESISTANCE, AS NOTED				
[BAS]	BUILDING AUTOMATION SYSTEM CONTROL PANEL. PROVIDE 20 AMP, 120 VOLT DEDICATED CIRCUIT, WITH 3#12 MIN. CONDUCTORS IN 1/2 INCH CONDUIT TO NEAREST NORMAL POWER PANEL. WHERE CIRCUIT IS NOT PROVIDED OR NOTED, USE 20 AMP, 1 P CIRCUIT BREAKER MARKED SPARE IN PANEL SCHEDULE.				
	BUSBAR				
	MAGNETIC MOTOR STARTER, MOTOR CONTROLLER OR CONTACTOR, AS NOTED	SQUARE "D"	G.E./EATON	SIEMENS	g, i
	DISCONNECT SWITCH, SIZE AS NOTED	SQUARE "D"	G.E./EATON	SIEMENS	g, i
	STARTER/DISCONNECT SWITCH, SIZE AS NOTED	SQUARE "D"	G.E./EATON	SIEMENS	g, i
	120/208V BRANCH CIRCUIT PANELBOARD SURFACE MOUNTED	SQUARE "D"	G.E./EATON	SIEMENS	i
	120/208V BRANCH CIRCUIT PANELBOARD FLUSH MOUNTED	SQUARE "D"	G.E./EATON	SIEMENS	i
	TRANSFORMER	SQUARE "D"	G.E./EATON	SIEMENS	i
	AUTOMATIC TRANSFER SWITCH	RUSSELECTRIC	ASCO		i
	SYSTEMS PANEL – SURFACE MOUNTED	SEE SYSTEMS LEGEND/SPECS			i, j
	SYSTEMS PANEL – FLUSH MOUNTED	SEE SYSTEMS LEGEND/SPECS			i, j
	SYSTEMS TERMINAL BOARD AS NOTED	SEE SYSTEMS LEGEND/SPECS			
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL. SLASH MARKS INDICATE NUMBER OF CONDUCTORS (GROUND WIRE NOT SHOWN). TWO CONDUCTORS PLUS GROUND REQUIRED (UNLESS OTHERWISE NOTED OR MARKED)				
	BRANCH CIRCUIT CONDUIT CONCEALED BELOW SLAB OR UNDERGROUND				
	BRANCH CIRCUIT CONDUIT EXPOSED				
	HOME RUN WIRING. ONE CIRCUIT PER ARROW HEAD				
	CONDUIT CAPPED OFF				
	CONDUIT CONTINUED				
	CONDUIT RUN UP				
	CONDUIT RUN DOWN				
	CONDUIT SEAL-OFF FITTING	CROUSE HINDS	APPLETON		e
G	GROUND WIRE, CONCEALED				
	GROUND OR GROUND ROD AS NOTED				

NOTES:

1) ALL DEVICES TO BE GREY WITH SMOOTH METAL #302 S.S. PLATES UNLESS OTHERWISE NOTED.
2) DASHED ITEM DENOTES "EXISTING".
3) "R" BY DEVICE DENOTES EXISTING TO BE REMOVED COMPLETELY.
4) "H" BY DEVICE DENOTES DEVICE TO BE MOUNTED HORIZONTALLY.
5) MOUNT SWITCHES AT 48" AFF TO TOP.
6) SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7) ALL ITEMS NOTED ON THE LEGENDS DO NOT NECESSARILY APPEAR ON PLANS.

REMARKS:

a) U.L. LISTED FOR WET LOCATION IN CLOSED POSITION.

b) SUPPORT OUTLET BOX FROM STRUCTURE WITH (1) 3/8" ALL THREADS MINIMUM. BOXES LARGER THAN 25 SQUARE INCHES SHALL BE SUPPORTED WITH (2) 3/8" ALL THREADS MINIMUM.

c) U.L. LISTED FOR WET LOCATION IN OPEN POSITION WITH ATTACHMENT PLUG INSERTED.

d) JUNCTION/OUTLET BOX SHALL BE SIZED AS REQUIRED FOR CONDUCTOR/DEVICE FILL PER N.E.C.

e) THREADED CONDUIT HUBS SHALL BE SIZED AND CONFIGURED AS REQUIRED FOR APPLICATION.

f) IF WITHIN 30 MILES OF THE COAST LINE, COPPER FREE CAST ALUMINUM OUTLET BOXES SHALL BE USED FOR EXTERIOR APPLICATIONS.

g) PROVIDE KINDORF MTG. RACK FOR FREE STANDING APPLICATIONS. KINDORF SHALL BE PVC COATED FOR EXTERIOR APPLICATIONS. ALL CUT ENDS ARE TO BE SEALED.

h) WHEN SURFACE JUNCTION BOX SYMBOL IS COMBINED WITH DEVICE SYMBOL, PROVIDE APPROPRIATE SURFACE PLATE FOR OUTLET APPLICATION.

i) MAINTAIN WORKING CLEARANCES IN STRICT ACCORDANCE WITH N.E.C. COORDINATE EXACT LOCATION OF EQUIPMENT WITH ALL DISCIPLINES (I.E. STRUCTURAL, HVAC, PLUMBING, FIRE PROTECTION, KITCHEN, MILLWORK, ETC.) PRIOR TO ROUGH-IN TO MAINTAIN CLEARANCES.

j) OUTLET BOX SHALL BE SIZED PER SYSTEM INSTALLER REQUIREMENTS.

k) COORDINATE THE TELEPHONE/DATA/SYSTEMS DEVICE, WIRE, CABLE, ETC WITH THE TELE/DATA/SYSTEMS SPECIFICATIONS, DRAWINGS, AND/OR SYMBOL LEGENDS.

l) PROVIDE 1"C. TO CEILING SPACE

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ARCH/ENGR OF RECORD
Engineer
Adrian Baus P.E.

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4/7/2023	SEG No. 22009

SHEET TITLE
SYMBOL LEGEND

DRAWING NO.
E002

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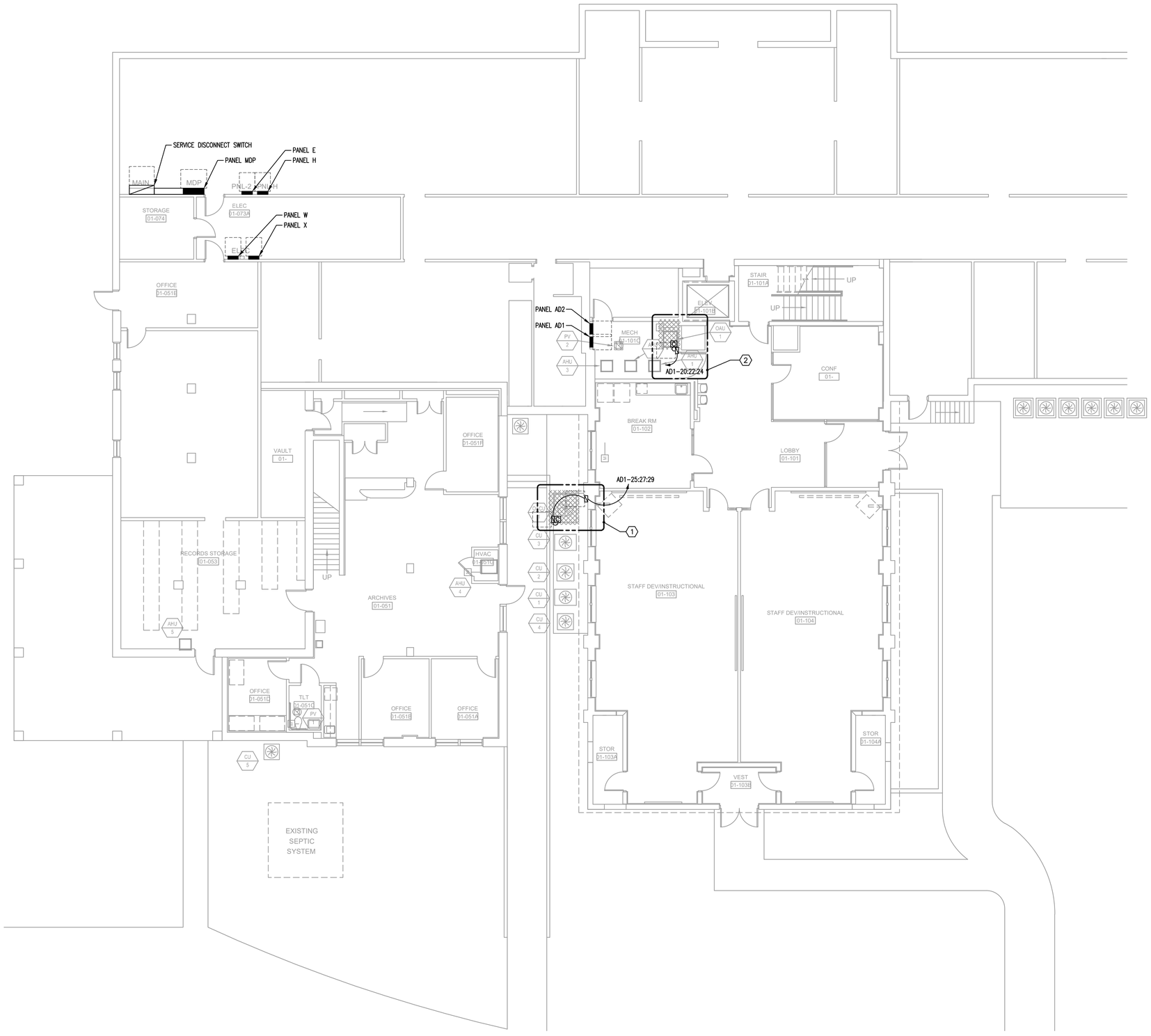

ELECTRICAL DEMOLITION PLAN - FIRST FLOOR

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO SPECIFICATIONS.
2) REMOVE EXISTING ELECTRICAL MADE OBSOLETE BY PROJECT.
3) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
4) CONTRACTOR SHALL IDENTIFY ALL EXISTING CONDUITS, JUNCTION BOXES, ETC. IN WORK AREAS OR ASSOCIATED WITH PROJECT IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
5) REWORK/RELOCATE EXISTING ELECTRICAL AS REQUIRED TO FACILITATE PROJECT.
6) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING DEVICES REMAINING.
7) CONTRACTOR SHALL SUPPORT ALL EXISTING CONDUITS AND CABLES (ABOVE WORK AREAS) IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
8) ALL EXISTING ELECTRICAL IS NOT SHOWN.
9) FIRE STOP ALL NEW AND EXISTING PENETRATIONS OF FIRE RATED WALLS.
10) VERIFY EXISTING PHASE ROTATIONS AT ALL EXISTING EQUIPMENT PRIOR TO DISCONNECTING ANY LOADS. VERIFY PHASE ROTATION HAS NOT CHANGED PRIOR TO REENERGIZING ANY LOADS.
11) CIRCUIT ASSIGNMENTS WHERE SHOWN WERE INFERRED FROM LESS THAN COMPLETE DOCUMENTATION AND FIELD IDENTIFICATION. DUE TO THIS ACCURACY OF CIRCUIT ASSIGNMENTS IS SUSPECT AND SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO STARTING WORK.

KEY NOTES

1. REMOVE ELECTRICAL ASSOCIATED WITH CONDENSING UNITS COMPLETE BACK TO SOURCE.
2. REMOVE ELECTRICAL ASSOCIATED WITH AIR HANDLING UNIT COMPLETE BACK TO SOURCE.

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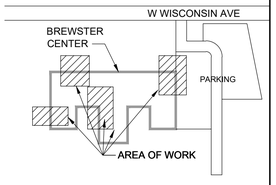

Keyplan
NOT TO SCALE

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Engineer
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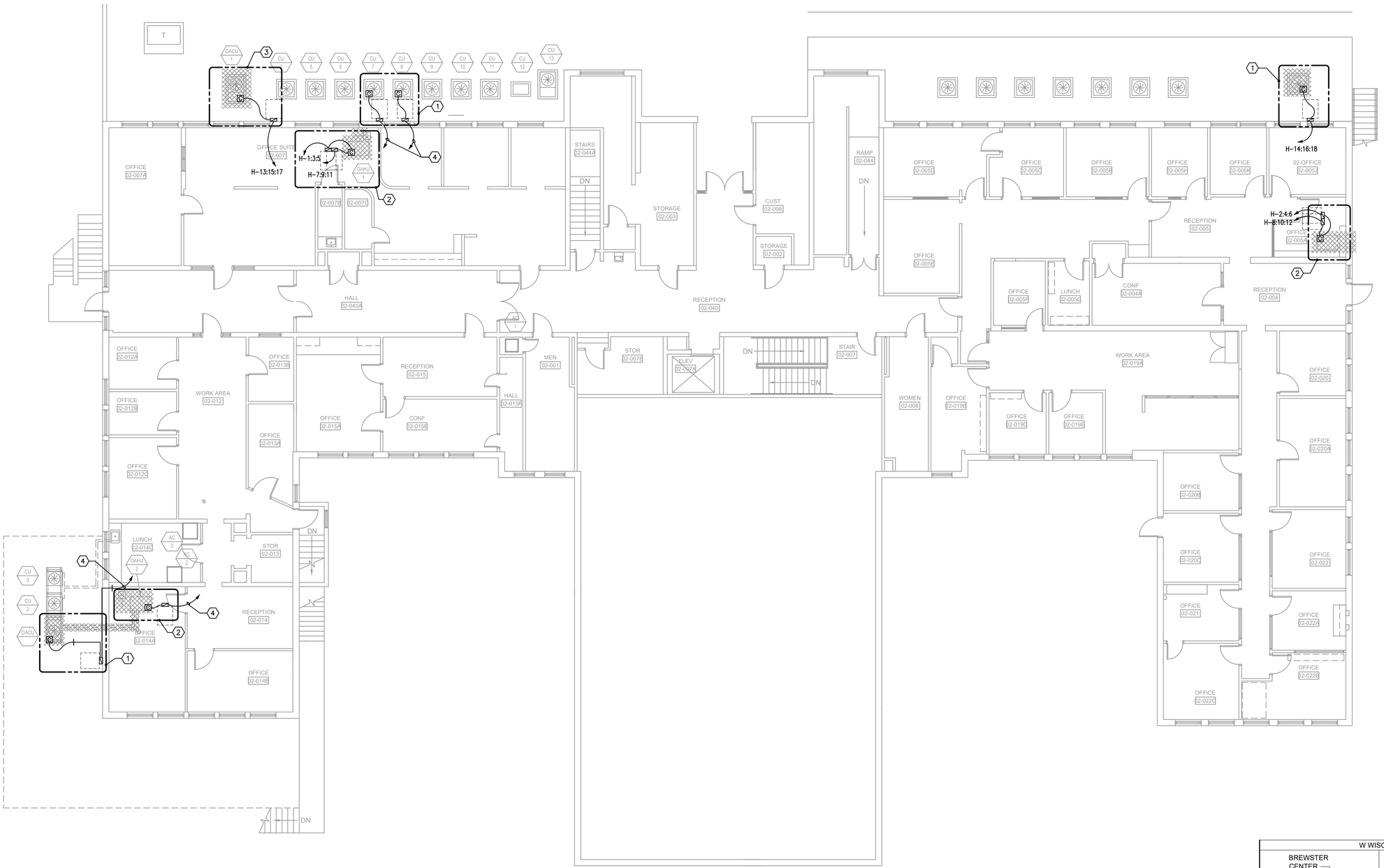
SHEET TITLE
ELECTRICAL DEMOLITION PLAN - FIRST FLOOR

DRAWING NO.
ED100



ELECTRICAL DEMOLITION PLAN - SECOND FLOOR

1/8"=1'-0"

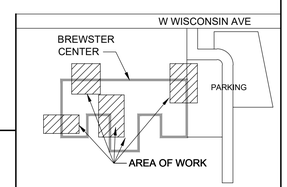
0 4' 8' 16'

HEX NOTES

1. REMOVE ELECTRICAL ASSOCIATED WITH CONDENSING UNITS COMPLETE BACK TO SOURCE.
2. REMOVE ELECTRICAL ASSOCIATED WITH AIR HANDLING UNIT COMPLETE BACK TO SOURCE.
3. REMOVE ELECTRICAL ASSOCIATED WITH GROUND MOUNTED PACKAGE UNIT COMPLETE BACK TO SOURCE.
4. FIELD VERIFY EXISTING SOURCE PANEL AND CIRCUIT PRIOR TO STARTING WORK. FIELD VERIFY DIRECTORY OF SOURCE PANEL AND SUBMIT AS-FOUND DIRECTORY TO ENGINEER PRIOR TO ANY DEMOLITION.

GENERAL NOTES

1) REFER TO SPECIFICATIONS.
2) REMOVE EXISTING ELECTRICAL MADE OBSOLETE BY PROJECT.
3) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
4) CONTRACTOR SHALL IDENTIFY ALL EXISTING CONDUITS, JUNCTION BOXES, ETC. IN WORK AREAS OR ASSOCIATED WITH PROJECT IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
5) REWORK/RELOCATE EXISTING ELECTRICAL AS REQUIRED TO FACILITATE PROJECT.
6) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING DEVICES REMAINING.
7) CONTRACTOR SHALL SUPPORT ALL EXISTING CONDUITS AND CABLES (ABOVE WORK AREAS) IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
8) ALL EXISTING ELECTRICAL IS NOT SHOWN.
9) FIRE STOP ALL NEW AND EXISTING PENETRATIONS OF FIRE RATED WALLS.
10) VERIFY EXISTING PHASE ROTATIONS AT ALL EXISTING EQUIPMENT PRIOR TO DISCONNECTING ANY LOADS. VERIFY PHASE ROTATION HAS NOT CHANGED PRIOR TO REENERGIZING ANY LOADS.
11) CIRCUIT ASSIGNMENTS WHERE SHOWN WERE INFERRED FROM LESS THAN COMPLETE DOCUMENTATION AND FIELD IDENTIFICATION. DUE TO THIS ACCURACY OF CIRCUIT ASSIGNMENTS IS SUSPECT AND SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO STARTING WORK.



Keyplan
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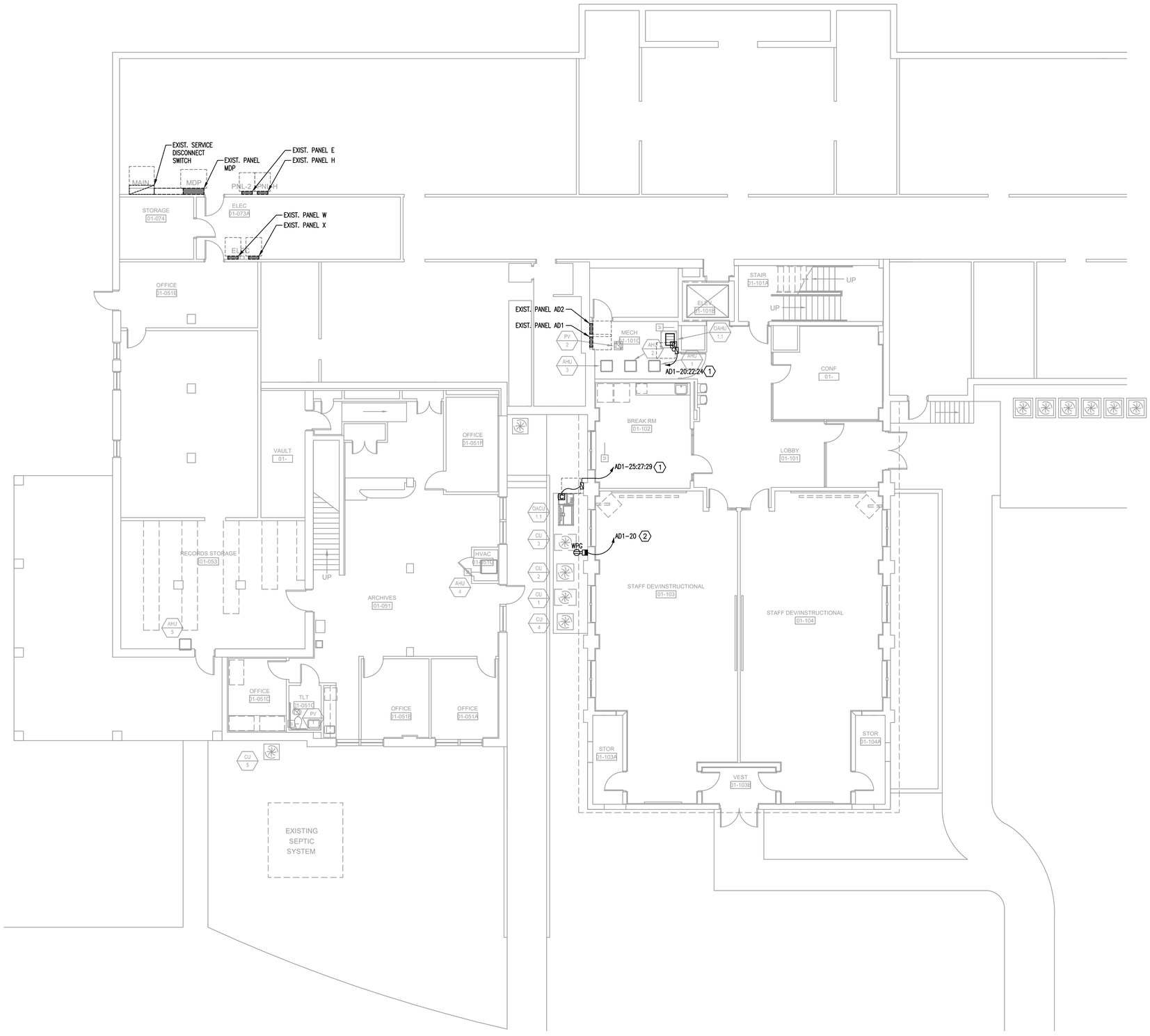
SHEET TITLE
ELECTRICAL DEMOLITION PLAN - SECOND FLOOR

DRAWING NO.
ED101



ELECTRICAL RENOVATION PLAN - FIRST FLOOR

1/8"=1'-0"
0 4' 8' 16'

GENERAL NOTES

1) REFER TO SPECIFICATIONS.
2) REMOVE EXISTING ELECTRICAL MADE OBSOLETE BY PROJECT.
3) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
4) CONTRACTOR SHALL IDENTIFY ALL EXISTING CONDUITS, JUNCTION BOXES, ETC. IN WORK AREAS OR ASSOCIATED WITH PROJECT IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
5) REWORK/RELOCATE EXISTING ELECTRICAL AS REQUIRED TO FACILITATE PROJECT.
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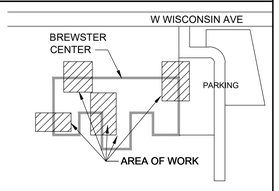
11) CIRCUIT ASSIGNMENTS WHERE SHOWN WERE INFERRED FROM LESS THAN COMPLETE DOCUMENTATION AND FIELD IDENTIFICATION. DUE TO THIS ACCURACY OF CIRCUIT ASSIGNMENTS IS SUSPECT AND SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO STARTING WORK.

KEY NOTES

1. REPLACE EXISTING 3 POLE BREAKER THAT FED EXISTING UNIT WITH A NEW 3 POLE 45 AMP CIRCUIT BREAKER TO FEED NEW HOMERUN AND NEW DISCONNECT FOR NEW UNIT.
2. PROVIDE NEW 1 POLE 20 AMP CIRCUIT BREAKER FOR NEW CIRCUIT.



Keyplan
NOT TO SCALE

MATERN
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Technology • Commissioning • Energy Engineers
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Maitland, FL 32751
ENG. BUS. No. EB-0005096 PHONE (407) 740-5020
CERT. OF AUTH. No. 5096 FAX (407) 740-0365
MPE JOB #: 2023-051

SABISTON ENGINEERING GROUP, INC.
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P: 407.884.6769 F: 407.884.6764
WWW.SABISTONENGINEERING.COM
STATE OF FLORIDA CERTIFICATE No. 9811
SEG PROJECT No. 22009

REVISIONS

NO.	DATE	DESCRIPTION

DOCUMENT HISTORY

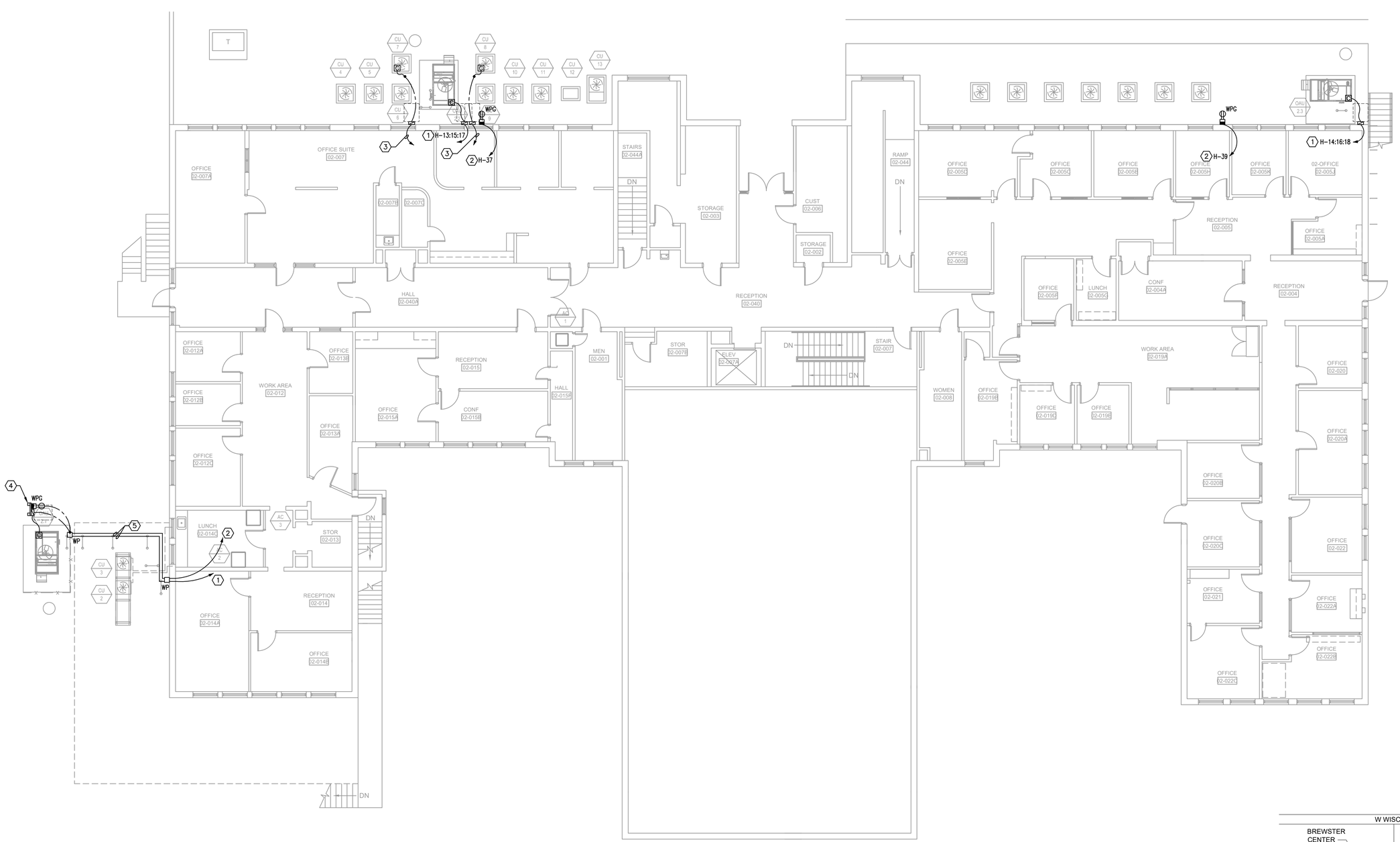
BREWSTER CENTER
REPLACE OUTSIDE AIR UNITS
VCS Project NO. 2347905
200 N CLARA AVE,
DELAND, FL 32720

ARCH/ENGR OF RECORD
Engineer
Adrian Baus P.E.

DESIGNED BY	DRAWN BY
AWB	MM/AWB
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
ELECTRICAL RENOVATION PLAN - FIRST FLOOR

DRAWING NO.
E100



ELECTRICAL RENOVATION PLAN - SECOND FLOOR

1/8"=1'-0"

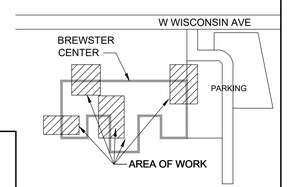
0 4' 8' 16'

HEX NOTES

1. REPLACE EXISTING 3 POLE BREAKER THAT FED EXISTING UNIT WITH A NEW 3 POLE 35 AMP CIRCUIT BREAKER TO FEED NEW HOMERUN AND NEW DISCONNECT FOR NEW UNIT.
2. PROVIDE NEW 1 POLE 20 AMP CIRCUIT BREAKER FOR NEW RECEPTACLE CIRCUIT.
3. CONNECT NEW HOMERUN AND NEW DISCONNECT FOR RELOCATED UNIT TO SAME CIRCUIT BREAKER THAT IT WAS PREVIOUSLY FED FROM.
4. PROVIDE FREESTANDING DISCONNECT RACK. REFER TO DETAILS.
5. COORDINATE CONDUIT ROUTING WITH DUCT STRUCTURAL SUPPORTS.

GENERAL NOTES

1) REFER TO SPECIFICATIONS.
2) REMOVE EXISTING ELECTRICAL MADE OBSOLETE BY PROJECT.
3) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
4) CONTRACTOR SHALL IDENTIFY ALL EXISTING CONDUITS, JUNCTION BOXES, ETC. IN WORK AREAS OR ASSOCIATED WITH PROJECT IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
5) REWORK/RELOCATE EXISTING ELECTRICAL AS REQUIRED TO FACILITATE PROJECT.
6) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING DEVICES REMAINING.
7) CONTRACTOR SHALL SUPPORT ALL EXISTING CONDUITS AND CABLES (ABOVE WORK AREAS) IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
8) ALL EXISTING ELECTRICAL IS NOT SHOWN.
9) FIRE STOP ALL NEW AND EXISTING PENETRATIONS OF FIRE RATED WALLS.
10) VERIFY EXISTING PHASE ROTATIONS AT ALL EXISTING EQUIPMENT PRIOR TO DISCONNECTING ANY LOADS. VERIFY PHASE ROTATION HAS NOT CHANGED PRIOR TO REENERGIZING ANY LOADS.
11) CIRCUIT ASSIGNMENTS WHERE SHOWN WERE INFERRED FROM LESS THAN COMPLETE DOCUMENTATION AND FIELD IDENTIFICATION. DUE TO THIS ACCURACY OF CIRCUIT ASSIGNMENTS IS SUSPECT AND SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO STARTING WORK.



Keyplan
NOT TO SCALE

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ARCH/ENGR OF RECORD
Engineer
Adrian Baus P.E.

DESIGNED BY	DRAWN BY
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ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
ELECTRICAL RENOVATION PLAN - SECOND FLOOR

DRAWING NO.
E101

MATERN
Mechanical • Electrical • Plumbing • Fire Protection
Technology • Commissioning • Energy Engineers
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MPE JOB #: 2023-051

DANGER

HAZARD OF ELECTRICAL SHOCK, BURN OR EXPLOSION

- Never Operate Switch With Door Open.
- Turn Off Switch Before Removing Or Installing Fuses Or Making Load Side Connections.
- Always Use A Properly Rated Voltage Sensing Device At All Line And Load Side Fuse Clips To Confirm Switch Is Off.
- Turn Off Power Supplying Switch Before Doing Any Work On Or Inside Switch.

FAILURE TO FOLLOW THE ABOVE INSTRUCTIONS WILL RESULT IN ELECTRICAL SHOCK, SEVERE PERSONAL INJURY OR DEATH.

NOTE:
AFFIX THIS SELF ADHESIVE FILM LABEL TO ALL FUSIBLE DISCONNECT ELECTRICAL EQUIPMENT ON BOTH THE INSIDE AND OUTSIDE COVER OF THE DEVICE.

FUSIBLE DISCONNECT LABEL 'FDL'

N.T.S. FDL

CHILLER CH-1
HEAT TAPE
20 AMP 120V 1PH 2W
FED FROM
1L1-73 LOCATED IN
BUILDING 1 ROOM 01-142

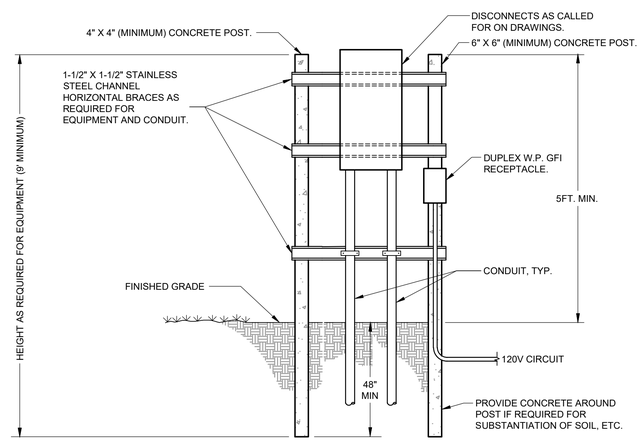
BLACK LAMACOID WITH WHITE CORE

GENERAL NOTES:

1. EQUIPMENT NAMEPLATES SHALL BE PROVIDED FOR ALL PANELS, SWITCHES AND LOADS.
2. NAMEPLATES SHALL COMPLY WITH NEC REQUIREMENTS AND CLEARLY IDENTIFY THE LOAD SERVED, THE SOURCE AND THE LOCATION OF THE SOURCE.
3. NAMEPLATES SHALL BE COLOR CODED PER SPECIFICATIONS AND EXISTING BUILDING CONVENTIONS.

TYPICAL NAMEPLATE

N.T.S



NOTE:
1. COVERS ON RACK MOUNTED RECEPTACLES TO BE WEATHERPROOF WHEN IN USE TYPE.

DISCONNECT RACK (SINGLE) - FREESTANDING/GRADE MOUNTED

N.T.S. DRM2-MODIFIED

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ARCH/ENGR OF RECORD
Engineer
Adrian Baus P.E.

DESIGNED BY	DRAWN BY
AWB	MM/AWB
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

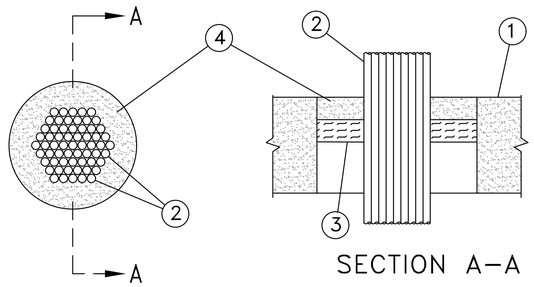
SHEET TITLE
ELECTRICAL DETAILS

DRAWING NO.
E500

PROJECT SPECIFIC REQUIRMENTS FOR PENETRATION FIRESTOP:

1) OPTIONAL SLEEVE REFRENCED IN NOTE 1A OF UL DETAIL IS NOT OPTIONAL FOR THIS PROJECT AND SHALL BE PROVIDED.

SYSTEM NO. C-AJ-3021
(FORMERLY SYSTEM NO. 204)
F RATINGS - 2 HR
T RATINGS - 0 HR



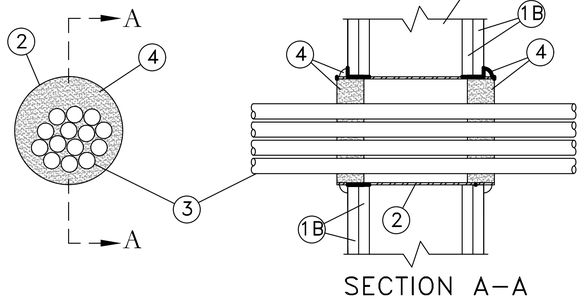
SECTION A–A

1. Floor or Wall Assembly – Min 4–1/2 in. thick lightweight or normal weight (100–150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6–1/4 in. See Concrete Blocks* (CAZT) category in the Fire Resistance Directory for names of manufacturers.
1A. Steel Sleeve (Optional, Not Shown) – Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe sleeve cast into floor or wall assembly. Sleeve to be flush with floor or wall surfaces.
2. Cables – Min 12 percent to max 40 percent fill area per max 4 in. diam steel sleeved through opening. Min 20 percent to max 40 percent fill area per max 6–1/4 in. diam unsleeved through opening. Cables to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of cables may be used:
   A. Max 7/C No. 12 AWG multiple copper conductor power and control cables with polyvinyl chloride (PVC) insulation and jacket materials.
   B. Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 3/4 in.
   C. Max 200 pair No. 24 AWG copper conductor telephone cables with PVC insulation and jacket materials.
   D. Max 350 kcmil power cables with PVC insulation and jacket material.
3. Packing Material – Nom 1 in. thickness of ceramic (aluminum silica) fiber blanket or mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed min 1 in. from top surface of floor or sleeve or from both surfaces of wall.
4. Fill, Void, or Cavity Materials* – Putty – Moldable putty material kneaded by hand and applied to fill annular space (and interstices between cables to max extent possible) to a min depth of 1 in., flush with top surface of floor or sleeve In wall assemblies, required putty depth to be installed symmetrically on both sides of wall.

MINNESOTA MINING & MFG CO – Type MPS–2+
*Bearing the UL Classification Marking

PENETRATION FIRESTOP FOR FIBER OPTIC & SIGNAL CABLE BUNDLE THROUGH A MAX. 6-1/4" DIA. OPENING IN A CONCRETE WALL W/STEEL SLEEVE
UL SYSTEM #204 (1 AND 2 HOUR RATING)

SYSTEM NO. W-L-3031
(FORMERLY SYSTEM NO. 589)
F RATINGS-- 1 AND 2 HR (SEE ITEM 1)
T RATINGS-- 1/2, 1, 1-1/2 HR (SEE ITEM 3)



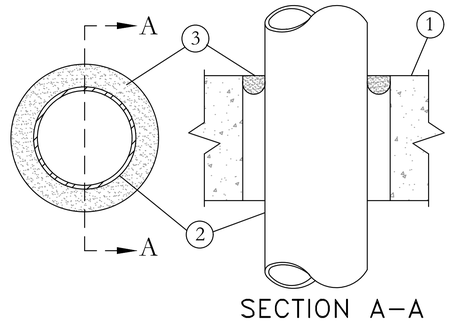
SECTION A–A

1. Wall Assembly – The 1 or 2 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3–1/2 in. wide by 1–3/8 in. deep channels spaced max 24 in. OC.
   B. Gypsum Board* – 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 4 in.
   C. The hourly F Rating of the firestop system is 1 hr when installed in a 1 hr fire rated wall and 2 hr when installed in a 2 hr fire rated wall.
2. Steel Sleeve – Cylindrical sleeve fabricated from min 0.019 in. thick (28 gauge) galv sheet steel and having a min 2 in. lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall plus approx 7/8 to 1 in. such that, when installed, the ends of the sleeve will project approx 7/16 to 1/2 in. beyond the surface of the wall on each side of the wall assembly. Sleeve installed by coiling the sheet steel to a diam smaller than the max 4 in. diam through openings, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.
3. Cables – Aggregate cross–sectional area of cables in opening to be min 10 percent to max 40 percent of the cross–sectional area of the sleeved opening in wall. Cables to be rigidly supported on both sides of wall assembly. Any combination of the following types and sizes of cable may be used:
   A. Max 150 pair No. 24 AWG copper conductor telecommunication cables; PVC insulation and jacket materials. When multi conductor telecommunication cable is used, T Rating is 1/2 hr.
   B. Max 12 AWG multi conductor Type TC copper power and control cables; Type XHHW conductors (XLP insulation) with XLP or PVC jacket. When max 12 AWG multi conductor cables are used, T Rating is 1 hr.
   C. Multiple fiber optical communication cable jacketed with PVC and having a max outside diam of 5/8 in. When fiber optic cable is used, T Rating is 1–1/2 hr.
4. Fill, Void or Cavity Materials* – Putty – Min 1 in. thickness of moldable putty packed tightly into annular space between cables and sheet steel sleeve (and interstices between cables, if possible), flush with each end of steel sleeve. A nom 1/4 in. diam continuous "rope" or putty shall be applied around the circumference of the steel sleeve at its egress from the gypsum wallboard layers on both sides of the wall assembly.

MINNESOTA MINING & MFG CO – Type MPS–2+, Cable Wrap Putty
*Bearing the UL Classification Mark

PENETRATION FIRESTOP FOR A MAX. 4" DIA. INSULATED CABLE THROUGH A SLEEVED OPENING IN A GYPSUM WALLBOARD ASSEMBLY
UL SYSTEM #589 (1 AND 2 HOUR RATING)

SYSTEM NO C-AJ-1027
F RATING--3 HR
T RATING--0 HR



SECTION A–A

1. Floor or Wall Assembly – Min 4–1/2 in. thick lightweight or normal weight (100–150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of through opening is 12–1/4 in. See Concrete Blocks (CAZT) category in Fire Resistance Directory for names of manufacturers.
2. Through Penetrants – One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Min annular space between pipe, conduit or tubing and edge of opening is 0 in. (point contact). Max annular space is dependent on pipe, conduit or tubing type and size as well as the F Rating of the system, as shown in the table below. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe – Nom 10 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Conduit – Nom 6 in. diam (or smaller) rigid steel conduit.
   C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
   D. Copper – Tubing Nom 3 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper – Pipe Nom 3 in. diam (or smaller) Regular (or heavier) copper pipe.
   F. Iron Pipe – Nom 10 in. diam (or smaller) cast or ductile iron pipe.

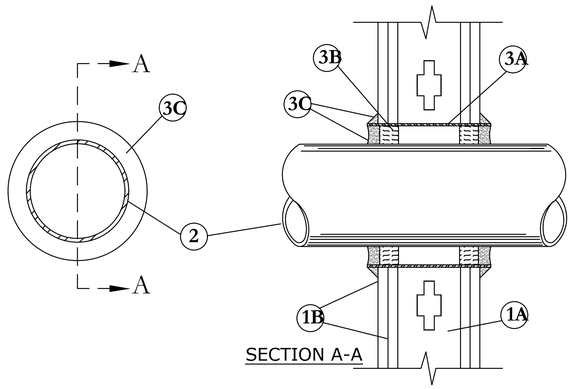
Pipe, Conduit or Tubing Type	Max. Nom. Pipe, Conduit or Tubing Dia. (Inches)	F Rating Hr	Max Annular Space (Inches)
2–1/2	1/2–12	3	3/4
2–1/2	1/2–12	3	3/4
4–1/2	1/2–6	3	1–1/2
4–1/2	1/2–12	3	3/4
4–1/2	1/2–20	2	7/8

3. Fill, Void or Cavity Materials* – Putty – Moldable putty material kneaded by hand and applied to fill annular space to a min depth of 1 in., flush with top surface of floor. In wall assemblies, required putty thickness to be installed symmetrically on both sides of wall.

MINNESOTA MINING & MFG CO – MPS–2+
*Bearing the UL Classification Marking

PENETRATION FIRESTOP FOR 10" MAX. DIA. METAL PIPE/CONDUIT THROUGH A CONCRETE WALL
N.T.S. UL SYSTEM #202 (1 OR 2 HOUR RATING)

System No.W-L-1003
September 03, 2004
(Formerly System No. 147)
F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr



SECTION A-A

1. Wall Assembly – The 1 or 2 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3–1/2 in. wide by 1–3/8 in. deep channels spaced max 24 in. OC.
   B. Gypsum Board* – Nom 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 15 in
   C. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant – One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The space between pipes, conduits or tubing and the steel sleeve (Item 3A) shall be min of 0 in. (point contact) to max 2–3/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe – Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe – Nom 12 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
   C. Conduit – Nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel electrical metallic tubing.
   D. Copper Tubing – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. Firestop System – Installed symmetrically on both sides of wall assembly. The details of the firestop system shall be as follows.
   A. Steel Sleeve – Cylindrical sleeve fabricated from min 0.019 in. thick (No. 28 gauge) galv sheet steel and having a min 2 in. lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall plus 1 to 4 in. such that, when installed, the ends of the sleeve will project approximately 1/2 to 2 in. beyond the surface of the wall on both sides of the wall assembly. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.
   B. Packing Material – Min 1 in. thickness of mineral wool batt insulation firmly packed into steel sleeve on both sides of the wall assembly as permanent forms. Packing material to be recessed min 1/2 in. from end of steel sleeve (flush with or recessed into gypsum wallboard surface) on both sides of wall assembly.
   B1. Packing Material – (Not shown) – As an alternate to Item B, nom 1 in. thick polyethylene backer rod may be used. The backer rod is to be recessed within the steel sleeve a min of 1 in. from each surface of wall.
   C. Fill,Void or Cavity Materials* – Caulk or Sealant – When mineral wool batt insulation is used, applied to fill the steel sleeve to a min depth of 1/2 in. on both sides of wall assembly. When backer rod is used, a min thickness of 1 in. of CP–25WB+ caulk is required flush with surface of wall. A nom 1/4 in. diam continuous bead of caulk or sealant shall be applied around the circumference of the steel sleeve at its egress from the gypsum wallboard layers on both sides of the wall assembly.

3M COMPANY – CP 25WB+ caulk or FB–3000 WT sealant.
*Bearing the UL Classification Marking

PENETRATION FIRESTOP FOR 12" MAX. DIA. METAL PIPE/CONDUIT THROUGH GYPSUM WALLBOARD ASSEMBLY
N.T.S. UL SYSTEM #147A (1 OR 2 HOUR RATING)

NOTES FOR FIRE STOPPING DETAILS (NEC & UL)

1) FIRE STOPPING DETAILS ARE SHOWN FOR GENERAL INTENT. PROVIDE FIRE STOPPING ASSEMBLY SUITABLE FOR THE APPLICATION IN COMPLIANCE WITH FLORIDA BUILDING CODE AND U.L.

2) DETAILS ARE BASED ON 3M PRODUCTS AND THEIR RECOMMENDED USAGE/ DETAILS. SUBSTITUTED PRODUCTS SHALL BE SUBMITTED AS OUTLINED IN SPECIFICATIONS. U.L. FIRE STOPPING ASSEMBLY DETAILS SHALL BE INCLUDED WITH PRODUCT DATA FOR REVIEW PRIOR TO INSTALLATION.

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SEG PROJECT No. 22009

REVISIONS

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REPLACE OUTSIDE AIR UNITS
VCS Project NO. 2347905
200 N CLARA AVE,
DELAND, FL 32720

ARCHENGR OF RECORD
Engineer
Adrian Baus P.E.

DESIGNED BY	DRAWN BY
AWB	MM/AWB
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
ELECTRICAL DETAILS

DRAWING NO.
E501

MECHANICAL EQUIPMENT FEEDER SCHEDULE FOR (9): BREWSTER CENTER - REPLACE OUTSIDE AIR UNITS

 Version : W18b REVISED: August 10, 2022 DATE: April 10, 2023

EQUIPMENT DESCRIPTION	VOLTS	PH	NEUTRAL Y/N	LARGEST MOTOR			COMPRESSOR		ADD'L MOTORS		HEAT STRIPS		MISC AMPS	TOTAL FLA	MCA (10)	MOCP (10)	VFD IRC	PANEL CB (5)	DISCONNECT SWITCH				STARTER		WIRE PER PHASE (6)	NEUTRAL WIRE (7)	GROUND WIRE	WIRE MATERIAL	# OF RUNS	CONDUIT SIZE	% VD	NOTES (SEE BELOW)
				HP	FLA	LRA	FLA(11)	LRA	FLA	LRA	KW	AMPS							CODE	SIZE (1)	FUSE (2)	TYPE (3)	CODE	TYPE								
OAU-2.1	208	3	N	1.50	6.6	44.0	14	102	2.8	27.6	7.5	20.8		27	33	35		35	2	60	35	4SS			#6		#8	COPPER	1	1.00	1.85	
OAU-2.2	208	3	N	1.50	6.6	44.0	14	102	2.8	27.6	7.5	20.8		27	33	35		35	2	60	35.0	4SS			#8		#10	COPPER	1	0.75	1.59	
OAU-2.3	208	3	N	1.50	6.6	44.0	14	102	2.8	27.6	7.5	20.8		27	33	35		35	2	60	35.0	4SS			#4		#4	COPPER	1	1.00	1.35	
OAHU-1.1	208	3	N	1.00	4.6	33.0					11.3	31.4		36	45	45		45	2	60	45.0	I			#8		#10	COPPER	1	0.75	0.63	
OACU-1.1	208	3	N				20	140	2.8	27.6				23	28	45		45	2	60	35.0	4SS			#10		#10	COPPER	1	0.75	1.53	
CU-7	208	1	N				14	113	0.8	14.4				14	17.6	30		30	2	60	20.0	4SS			#10		#10	COPPER	1	0.75	1.81	
CU-8	208	3	N				15	102	2.0	22.1				17	22	30		30	2	30	25.0	4SS			#10		#10	COPPER	1	0.75	1.91	

NOTES ( )

(1) PROVIDE DISC SW AT ALL PIECES OF EQUIPMENT AS REQUIRED BY THE N.E.C. AND AHJ UNLESS PROVIDED BY OTHERS (INCLUDING AT MOTORS AND AT STARTERS).

(2) FUSES SHOWN FOR REFERENCE ONLY, PROVIDE FUSES AS RECOMMENDED BY EQUIPMENT MANUFACTURER.

(3) PROVIDE NEMA OUTDOOR RATED ENCLOSURES FOR ALL DISC SWS MOUNTED OUTDOORS.

(4) COORDINATE STARTER TYPE WITH MECH EQUIP INSTALLER .

(5) CONTRACTOR TO VERIFY THAT C.B. FOR COMPRESSORS IS SUFFICIENT TO ALLOW STARTING OF UNIT, IF REQUIRED FOR STARTING, C.B. TO BE INCREASED TO MAX ALLOWED BY NEC. CB TO BE HACR RATED.

(6) #12 FEEDERS SHOWN AND OVER 50FT. LONG TO BE #10 FOR 120V CIRCUITS. #12 FEEDERS SHOWN AND OVER 100 FT. LONG TO BE #10 FOR 277 V CIRCUITS.

(7) NEUTRAL CONDUCTOR TO BE SAME SIZE AS PHASE CONDUCTORS.

(8) MOTOR CB IS SIZED BASED ON NEMA CODE 'F' OR HIGHER. CHANGE CB SIZE IF REQUIRED DUE TO NEMA CODE OF MOTOR PER N.E.C.

(9) NOT USED

(10) BASED ON MANUFACTURER'S RECOMMENDATION.

(11) OR BRANCH CIRCUIT SELECTION CURRENT WHEN AVAILABLE.

MCP =	MOTOR CIRCUIT PROTECTOR W/COMBINATION STARTER
I =	NEMA I ENCLOSURE
3R =	NEMA 3R ENCLOSURE
4SS =	NEMA 4 WATER TIGHT STAINLESS STEEL ENCLOSURE
4 =	NEMA 4 WATER TIGHT NON-CORROSIVE ENCLOSURE
MMS =	MANUAL MOTOR STARTER SWITCH, 16 AMP MAX, WITH OVERLOADS AND PILOT LIGHT, 1 HP RATED. 120V, 240V, 277V RATED (SILILAR TO SQ D TYPE FG SERIES).
MS =	MANUAL SWITCH (NO OVERLOADS), 20/30 AMP, 1HP UP TO 7.5HP, 5KA SCCR RATED. (SIMILAR TO P&S 20AC1/2 AND 7803MD SERIES) . 120V, 277V, 240V, 480V WHERE CALLED FOR
VFD/AFD =	VARIABLE (ADJUSTABLE-AFD) FREQ DRIVE UNIT
NF =	NON-FUSED. WHERE ACCEPTABLE TO AHJ, CONTRACTOR MAY USE PROPERLY RATED MOTOR SWITCH FOR DISCONNECT SWITCH
AHJ =	AUTHORITY HAVING JURISDICTION.
FNVR =	FULL VOLTAGE NON-REVERSING
DFNVR =	DUAL VOLTAGE NON-REVERSING
FVC =	FULL VOLTAGE CONTACTOR

NOTES:
(A)=CONNECT VIA LINE VOLTAGE T'STAT BY DIV. 23 CONTRACTOR.
(B)=CONNECT VIA CONTROL DEVICES BY DIV. 23 CONTRACTOR.
(C)=CONNECT MOTOR(S) VIA VFD/AFD WITH INTEGRAL DISC. SW.
(D)=CONNECT VIA COMBINATION DISC/STARTER BY DIV. 23 CONTRACTOR.
(E)=CONNECT VIA DISC SWITCH AT EQUIP. BY DIV. 23 CONTRACTOR.
(F)=PROVIDE FULL SIZE NEUTRAL.
(G)=MMS WITHOUT OVERLOADS.
(H)=CONNECT VIA STARTER IN MCC (BY DIV 26).
(I)=2 SPEED,1 WINDING MOTOR/STARTER.
(J)=COORDINATE WITH DIV.15 TO BALANCE LOAD OF 1 PHASE FTB MOTORS.
(K)=PROVIDE NEW STARTER IN MCC TO MATCH EXISTING. SEE MCC SCHED.
(L)=WHERE MOTOR IS FED FROM MCC, PANEL CB NOT REQUIRED
(M)=CONNECT EXIST DISC SWITCH AT MOTOR. MODIFY AS NOTED ON DRWGS
(N)= PROVIDE SHUNT TRIP OPERATED CIRCUIT BREAKER FOR ELEVATOR MOTORS.
(O)=
(P)=

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SEG PROJECT NO. 22009

REVISIONS

NO.	DATE	DESCRIPTION

DOCUMENT HISTORY

BREWSTER CENTER
REPLACE OUTSIDE AIR UNITS
VCS Project NO. 2347905
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ARCH/ENGR OF RECORD
Engineer
Adrian Baus P.E.

DESIGNED BY	DRAWN BY
AWB	MM/AWB
ISSUE DATE	AE PROJECT NUMBER
4/7/2023	SEG No. 22009

SHEET TITLE
ELECTRICAL SCHEDULES

DRAWING NO.
E600