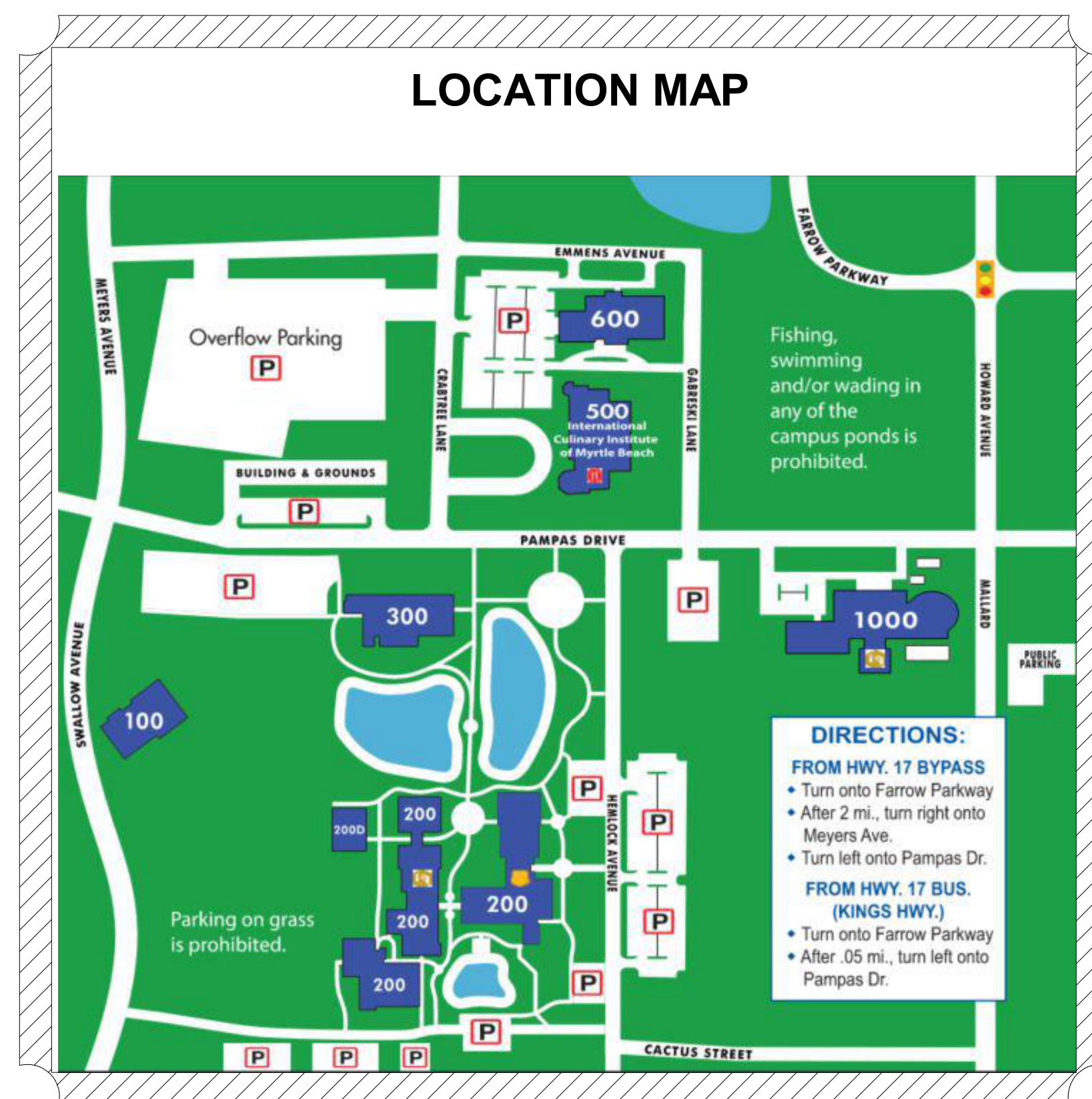
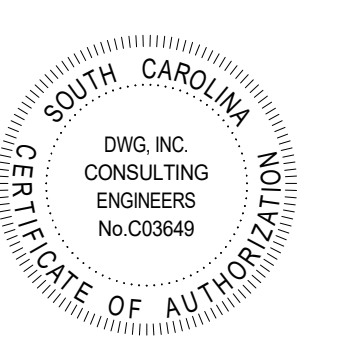




UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
STATE PROJECT NUMBER H59-6214-ML
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577



SHEET INDEX

#	SHEET NAME
T000	TITLE SHEET
E101	BUILDING 200 FORE ELECTRICAL PLAN
E103	BUILDING 200 CENTRAL FIRST FLOOR ELECTRICAL PLAN
E104	BUILDING 200 EAST FIRST FLOOR ELECTRICAL PLAN
E105	BUILDING 200 NW FIRST FLOOR ELECTRICAL PLAN
E106	BUILDING 600 FIRST FLOOR ELECTRICAL PLAN
E107	BUILDING 1000 WEST ELECTRICAL ROOF PLAN
E108	BUILDING 1000 CENTER ELECTRICAL ROOF PLAN
M001	MECHANICAL NOTES & LEGENDS
M002	MECHANICAL DETAILS
M101	B200 FORE MECHANICAL PLAN
M103	B200 CENTRAL FIRST FLOOR MECHANICAL PLAN
M104	B200 EAST FIRST FLOOR MECHANICAL PLAN
M104A	B200 EAST MECHANICAL DETAILS
M105	B200 NW FIRST FLOOR MECHANICAL PLAN
M106	B600 FIRST FLOOR MECHANICAL PLAN
M106B	BUILDING 600 MECHANICAL DETAILS
M107	B1000 WEST MECHANICAL ROOF PLAN
M108	BUILDING 1000 CENTER MECHANICAL ROOF PLAN
M109	BUILDING 1000 MECHANICAL DETAILS

SCOPE OF WORK

THE SCOPE OF WORK FOR THIS PROJECT INCLUDES THE DEMOLITION AND SUBSEQUENT REPLACEMENT OF HVAC EQUIPMENT, CONTROLS, AND ASSOCIATED ELECTRICAL INSTALLED WITHIN EACH BUILDING.

BASE BID: BUILDING 200
BUILDING 600

ALTERNATE BID ITEM #1: BUILDING 1000 ROOFTOP UNITS

ALTERNATE BID ITEM #2: BUILDING 1000 MAKEUP AIR UNITS MAU-1 AND MAU-2

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
 743 HEMLOCK AVENUE
 MYRTLE BEACH, SC 29577
 TITLE SHEET

REV	
JOB No.	H59-6214-ML
DATE:	07/21/23
DRAWN BY:	ADL
CHECKED BY:	WDB
SHEET	NUMBER

T000



ELECTRICAL CODES AND STANDARDS (WITH ALL SOUTH CAROLINA MODIFICATIONS)	
CODE	DESCRIPTION
IBC (2021)	INTERNATIONAL BUILDING CODE
IECC (2009)	INTERNATIONAL ENERGY CONSERVATION CODE
IFC (2021)	INTERNATIONAL FIRE CODE
NFPA 70 (2020)	NATIONAL ELECTRICAL CODE
NFPA 72 (2019)	NATIONAL FIRE ALARM AND SIGNALING CODE

GENERAL ELECTRICAL NOTES

- BRANCH CIRCUIT WIRING FOR 20A CIRCUITS SHALL BE SIZED PER NEC WIRE SIZING CHART. WHERE CONDUCTOR AND RACEWAY SIZE ARE SHOWN AT HOMERUN, SUCH SIZE SHALL BE USED FOR THE ENTIRE CIRCUIT. EXCEPTION: FINAL CONNECTION TO DEVICES IN OUTLET BOXES IS NOT REQUIRED TO BE LARGER THAN #12.
- FEEDER CONDUITS, BRANCH CIRCUITS AND CABLE TRAY ROUTING SHALL COMPLY WITH DETAILS ON DRAWINGS AND SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES BEFORE AND DURING CONSTRUCTION. COORDINATE THE ROUTING OF UNDERGROUND CONDUCTORS/CONDUITS WITH STRUCTURAL FOOTINGS OF BUILDINGS. FEEDER CONDUITS AND BRANCH CIRCUITS SHALL BE ROUTED OVERHEAD UNLESS PRIOR APPROVAL HAS BEEN GRANTED BY THE ARCHITECT AND ENGINEER.
- A FIRESTOP SYSTEM SHALL BE USED TO SEAL ALL PENETRATIONS OF ELECTRICAL CONDUITS AND CABLES THROUGH FIRE-RATED PARTITIONS. THE FIRESTOP SYSTEM SHALL CONSIST OF A FIRE-RATED CAULK TYPE SUBSTANCE AND HIGH TEMPERATURE FIBER INSULATION BY STI OR APPROVED EQUAL. ONLY METAL CONDUIT SHALL BE USED TO PENETRATE FIRE-RATED PARTITIONS. SEE ARCHITECTURAL DRAWINGS FOR ALL LOCATIONS OF FIRE-RATED WALLS.
- THE USE OF MC CABLE IS NOT ALLOWED, UNLESS NOTED OTHERWISE. THE USE OF MC CABLE IS ALLOWED ABOVE ACCESSIBLE CEILINGS AND IN STUD CONSTRUCTION ONLY. HOMERUNS TO PANEL SHALL BE WIRE IN RACEWAY ONLY. MC CABLE IS NOT ACCEPTABLE FOR HOMERUNS. MC CABLE IS ONLY ACCEPTABLE FOR 20A BRANCH CIRCUITS.
- PROVIDE A LISTED EXPANSION/DEFLECTION FITTING FOR ALL CONDUIT CROSSING EXPANSION JOINTS PER NEC 300.4.H. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF EXPANSION JOINTS.
- WHEREVER THE WORD "PROVIDE" IS USED ON THE ELECTRICAL DRAWINGS, IT SHALL BE INFERRED TO MEAN "FURNISH AND INSTALL", UNLESS NOTED OTHERWISE.
- THE ARRANGEMENT, GROUPING, AND ROUTING OF BRANCH CIRCUITS SHALL BE PROVIDED AT THE CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICE FOR ELECTRICAL WORK, THE NATIONAL ELECTRICAL CODE REQUIREMENTS, LOCAL ORDINANCES, AND THE FOLLOWING: 1 - A COMMON NEUTRAL MAY BE INSTALLED IN A HOMERUN FOR 2 OR 3 BRANCH CIRCUITS ONLY IF A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT OF ORIGIN IS PROVIDED PER NEC 210.4.B. 2 - MULTIPLE SINGLE-POLE BRANCH CIRCUITS (UP TO 3 HOTS, 3 NEUTRALS AND 1 GROUND) RATED FOR 30A OR LESS MAY BE PULLED INTO A SINGLE RACEWAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING THE RACEWAYS AND DE-RATING CONDUCTORS PER NEC 310.15. 3 - A GROUND CONDUCTOR SHALL BE PROVIDED IN ALL RACEWAYS UNLESS NOTED OTHERWISE.

GENERAL DEMOLITION NOTES

- ALL ELECTRICAL EQUIPMENT TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIALS UNTIL RELEASED BY THE OWNER'S PROJECT MANAGER. MATERIALS THAT THE OWNER'S PROJECT MANAGER CHOOSES TO RETAIN SHALL BE DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE PROJECT MANAGER. ALL OTHER MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

GENERAL EXISTING CONDITION NOTES

- AREAS OF WORK EXIST FOR THIS PROJECT WHICH WERE NOT ACCESSIBLE OR HAD LIMITED ACCESS DURING DESIGN. AS SUCH, CONTRACTOR SHALL VERIFY ALL UTILITIES IN AREA OF WORK BEFORE DEMOLITION OF ANY SERVICE. ANY ELECTRICAL COMPONENTS NOT SHOWN SHALL BE IDENTIFIED AND THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED AS SOON AS POSSIBLE. NO ELECTRICAL REWORK SHALL BE COMMENCED WITHOUT COORDINATION OF BOTH ARCHITECT AND ENGINEER. WHERE INFORMATION SHOWN ON THESE DRAWINGS CONFLICTS WITH VERIFIED FIELD CONDITIONS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.
- IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REPLACED, THE CONTRACTOR SHALL WORK THROUGH THE EXISTING CEILINGS (SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR AREA OF WORK). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK. ALL WORK PERFORMED ABOVE EXISTING CEILINGS SHALL BE PERFORMED AFTER HOURS AND SCHEDULED WITH THE OWNER IN ADVANCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A FIRESTOP SYSTEM IN ALL PENETRATIONS OF FIRE-RATED FLOORS AND WALLS CREATED BY THE REMOVAL OF EXISTING ELECTRICAL CONDUIT OR CABLES, AS WELL AS THOSE CREATED BY NEWLY INSTALLED CONDUITS AND SLEEVES.
- WHERE INSTALLATION REQUIRES CUTTING OR DRILLING OF THE EXISTING FLOOR SLAB, THE CONTRACTOR SHALL X-RAY THE EXISTING SLAB PRIOR TO WORK TO ENSURE THAT NO EXISTING UTILITIES OR STRUCTURAL ELEMENTS IN THE SLAB WILL BE COMPROMISED BY THE WORK. NOTIFY THE A/E OF ANY CONFLICTS THAT WILL REQUIRE RELOCATING THE PROPOSED SLAB WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGED UTILITIES OR STRUCTURAL ELEMENTS CAUSED BY THE SLAB DEMOLITION.
- SUPPORT ALL EXISTING CONDUITS AND JUNCTION BOXES ABOVE THE CEILING IN THE CONSTRUCTION AREA PER NEC.
- REMOVE ALL ABANDONED CONDUIT, WIRE AND CABLES ABOVE THE CEILING IN THE CONSTRUCTION AREA.
- PROVIDE JUNCTION BOX COVERS ON ALL EXISTING JUNCTION BOXES ABOVE THE CEILING IN THE CONSTRUCTION AREA.
- SUPPORT ALL EXISTING CABLES ABOVE THE CEILING IN THE CONSTRUCTION AREA.

GENERAL POWER NOTES

- STUB OUT AND CAP (2) 4" SPARE CONDUITS FROM THE MAIN SERVICE PANEL TO A MINIMUM OF 10'-0" BEYOND BUILDING SLAB. TERMINATE CONDUITS IN GRASSY AREA AND CAP. PROVIDE LOCATING MEANS AT END OF CONDUIT. LOCATING MEANS SHALL NOT BE VISIBLE ABOVE GRADE.
- STUB-UP (6) 3/4" SPARE CONDUITS FROM EACH FLUSH MOUNTED PANELBOARD TO ABOVE FINISHED CEILING.
- PROVIDE NEMA CONFIGURATION RECEPTACLES TO MATCH PLUGS ON EQUIPMENT FURNISHED.

GENERAL HVAC CONTROLS CONDUIT NOTES

- PROVIDE CONDUIT FOR HVAC CONTROL CIRCUITS AS REQUIRED TO INTERCONNECT HVAC UNIT TO CONTROL CIRCUITS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR AND CONTROLS PROVIDER TO DETERMINE SCOPE OF CONDUITS REQUIRED FOR HVAC CONTROLS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT. COORDINATE POINTS OF CONNECTION WITH DIVISION 23. PROVIDE PULL CORD IN ALL EMPTY CONDUITS. SEE MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL HVAC EQUIPMENT (AHU, HP, CU, RTU, DUCT SMOKE DETECTORS, VAV, FCU, THERMOSTATS, ETC).
- THESE DOCUMENTS MAY NOT INCLUDE ENTIRE ELECTRICAL INFRASTRUCTURE REQUIRED TO SUPPORT THE BUILDING AUTOMATION SYSTEM. COORDINATE WITH BAS PROVIDER ON ALL NECESSARY INFRASTRUCTURE FOR A COMPLETE AND WORKING SYSTEM.

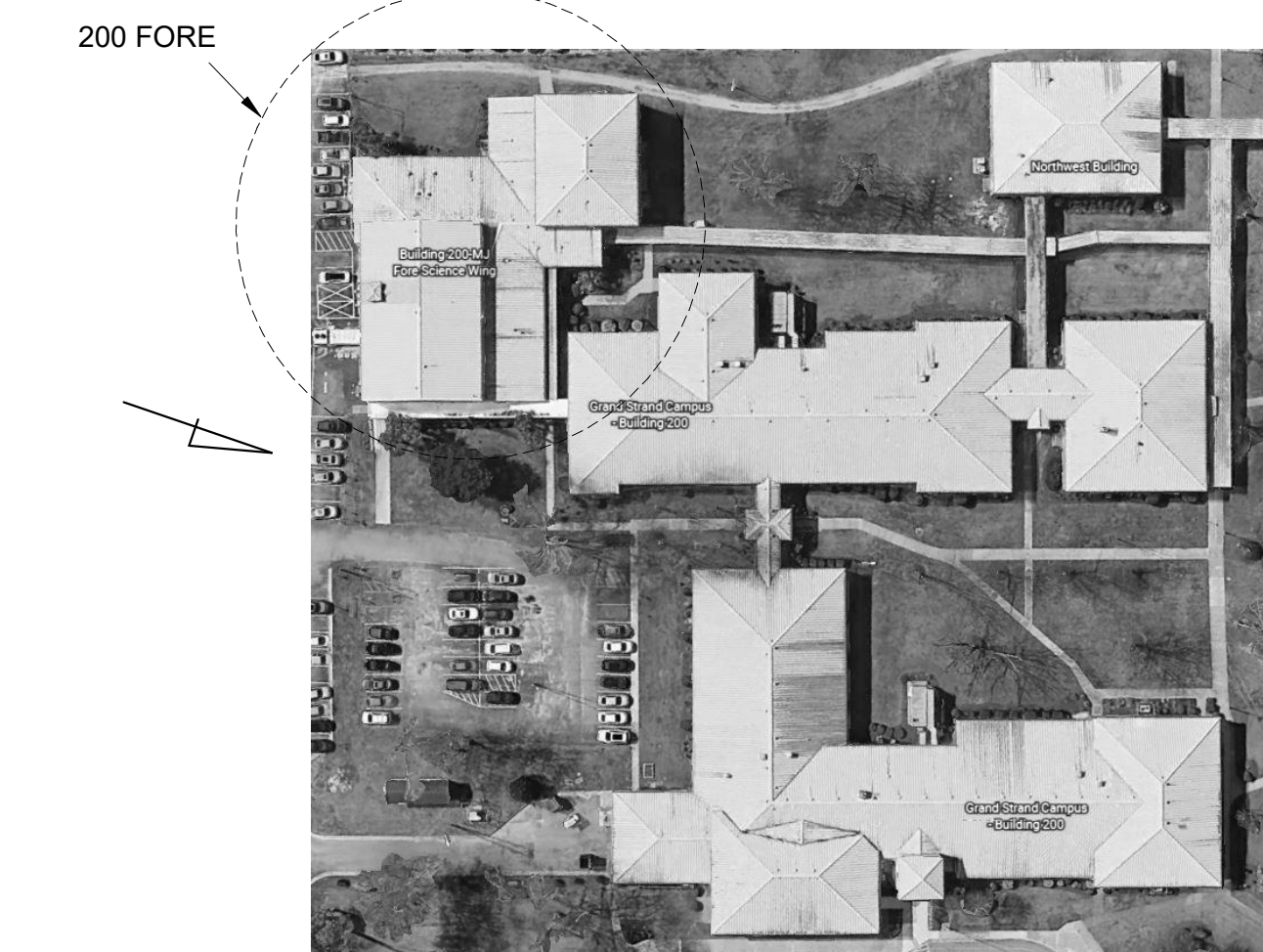
1 BUILDING 200 FORE ELECTRICAL PLAN
NOT TO SCALE

EQUIPMENT CONNECTION SCHEDULE - BUILDING 200 FORE - BASE BID								
MARK	VOLTAGE	PHASE	WIRE	BRANCH CIRCUIT WIRING	DISCONNECT (AMPS/FUSE/POLES/ENCLOSURE)	LOAD / MOCP	PANEL	NOTES
SPLIT-SYSTEMS (OUTDOOR)								
CAU-181/186	208	3	4	2 - #8, #10G IN 3/4" C	FUSED 60/60/3/R	36.0 MCA / 60A	A	1
CAU-1T	208	1	3	3 - #12, #10G IN 3/4" C	FUSED 30/20/2/R	13.0 MCA / 20A	B	2
CAU-191	208	3	4	3 - #12, #10G IN 3/4" C	FUSED 30/30/3/R	18.0 MCA / 30A	B	1
CAU-192	208	3	4	3 - #12, #10G IN 3/4" C	FUSED 60/35/3/R	21.0 MCA / 35A	B	1
CAU-193	208	3	4	3 - #12, #10G IN 3/4" C	FUSED 30/30/3/R	18.0 MCA / 30A	B	1
CAU-194	208	3	4	3 - #12, #10G IN 3/4" C	FUSED 30/30/3/R	18.0 MCA / 30A	B	1
SPLIT-SYSTEMS (INDOOR)								
CAU-181/186	208	1	3	2 - #8, #8G IN 3/4" C	FUSED 100/70/2/1	61.0 MCA / 70A	A	1
CAU-1T	208	1	3	2 - #12, #10G IN 3/4" C	--	--	B	2
AH-191	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/45/2/1	43.0 MCA / 45A	A	3
AH-192	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/45/2/1	43.0 MCA / 45A	A	1
CAU-193	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/45/2/1	43.0 MCA / 45A	A	1
CAU-194	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/45/2/1	40.0 MCA / 45A	A	1

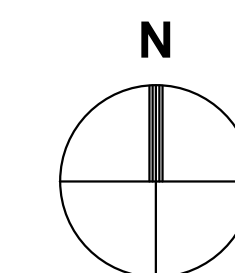
- NOTES:
- EQUIPMENT IS COMPATIBLE WITH EXISTING BRANCH CIRCUIT WIRING AND SUITABLE FOR USE WITH EXISTING BREAKER IN PANEL. REPLACE EXISTING DISCONNECT W/ SIZE AND FUSES SPECIFIED.
 - PROVIDE NEW BREAKER IN PANEL B TO SERVE NEW MINI-SPLIT UNIT. OUTDOOR UNIT PROVIDES POWER TO INDOOR UNIT. PROVIDE 3-POLE MOTOR RATED SWITCH AT INDOOR UNIT AND CONNECT PER MANUFACTURER'S RECOMMENDATIONS.
 - EXISTING UNIT AND ASSOCIATED CIRCUIT SHALL BE DEMOLISHED BACK TO PANEL AND BE INSTALLED WITH BRANCH CIRCUIT SPECIFIED. NEW BREAKER SHALL MATCH PANEL MANUFACTURER, STYLE AND AIC RATINGS.

KEYNOTES

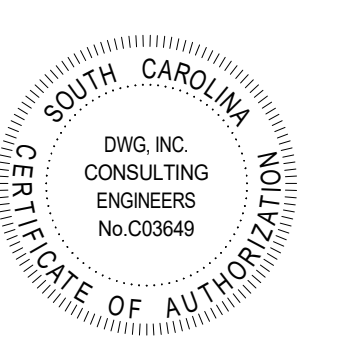
- EXISTING EQUIPMENT TO BE DEMOLISHED BACK TO PANEL AND REPLACED WITH NEW UNITS AND SPECIFIED CONNECTIONS.



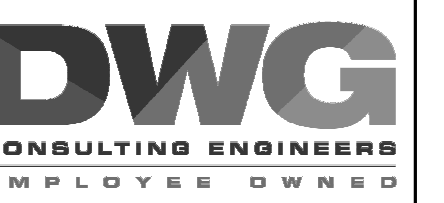
2 BUILDING 200 OVERALL - E101
NOT TO SCALE



GRAPHIC SCALE



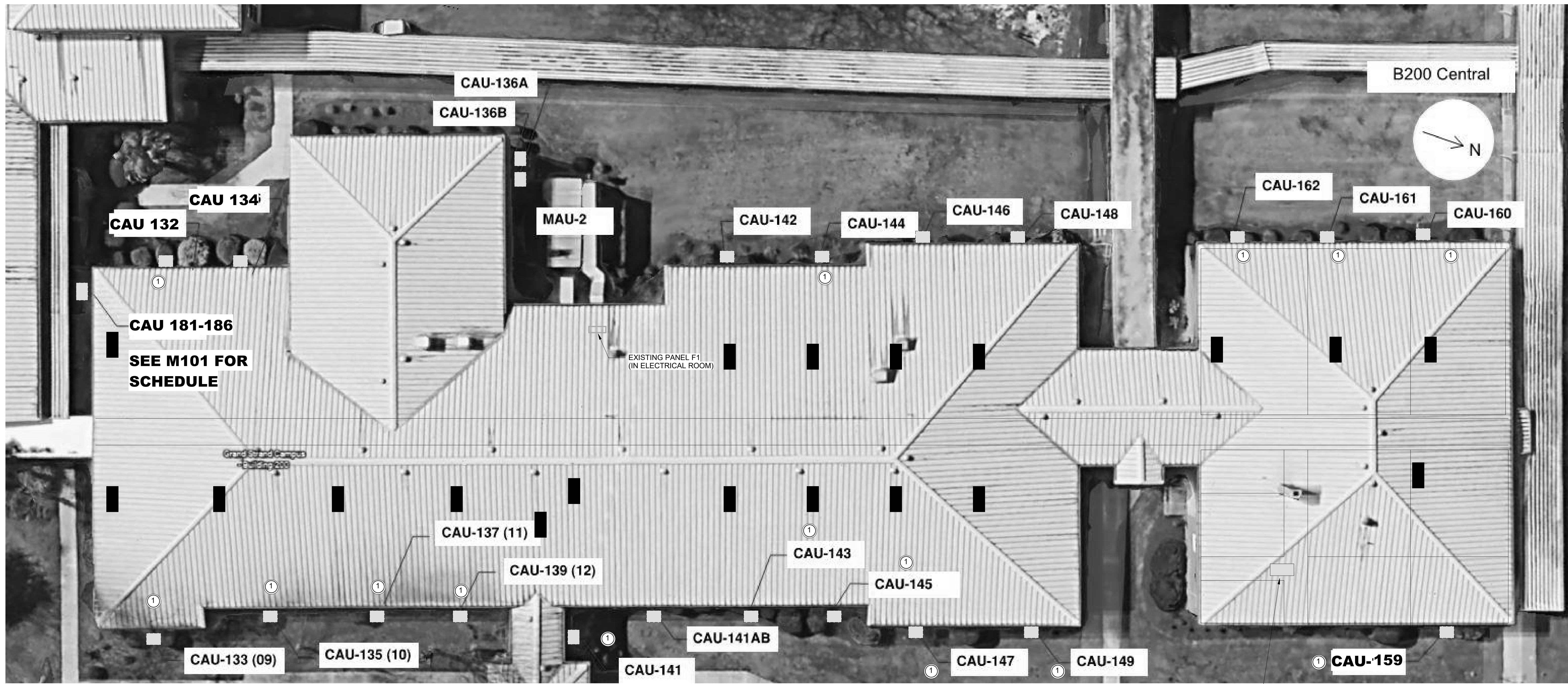
7/27/2023



UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
 743 HEMLOCK AVENUE
 MYRTLE BEACH, SC 29577
 BUILDING 200 FORE ELECTRICAL PLAN

#	Description	DATE
JOB No.	H59-6214-ML	
DATE:	07/21/23	
DRAWN BY:	EMB	
CHECKED BY:	WRL	
SHEET	NUMBER	

E101



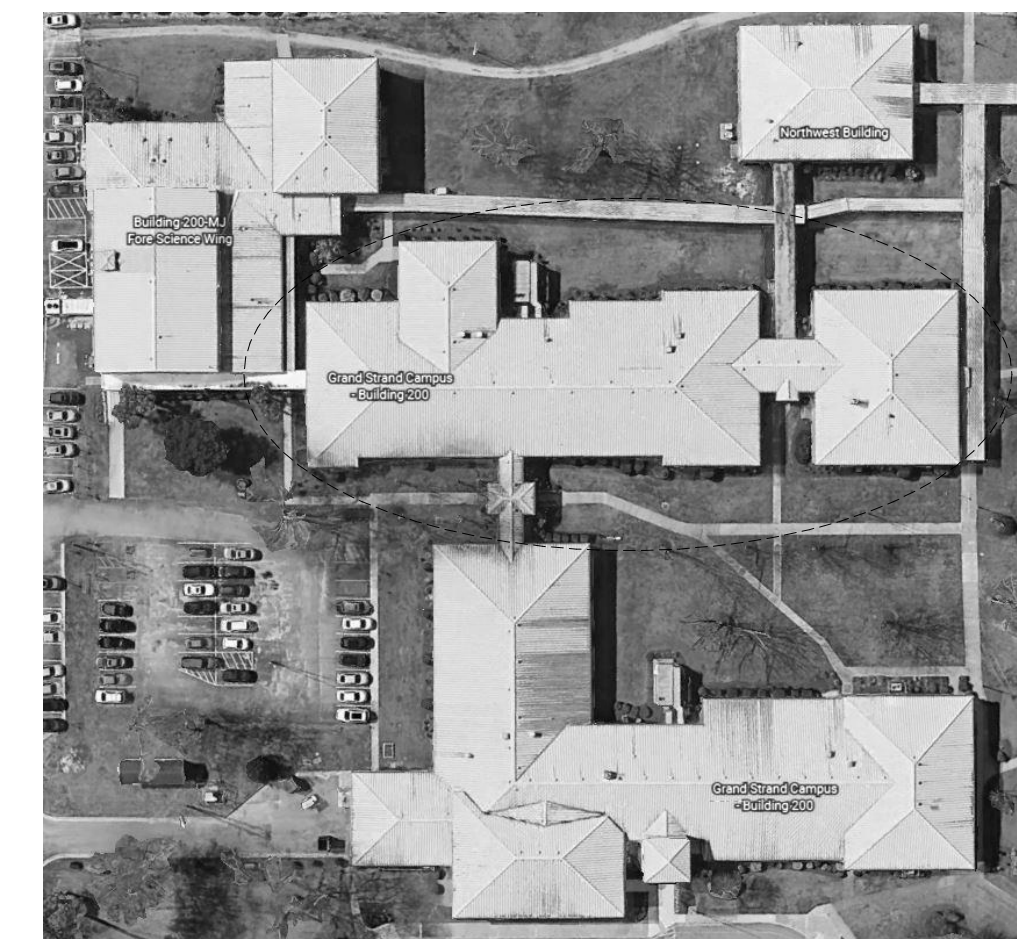
1 BUILDING 200 CENTRAL ELECTRICAL PLAN
NOT TO SCALE

EQUIPMENT CONNECTION SCHEDULE - BUILDING 200 CENTRAL - BASE BID									
MARK	VOLTAGE	PHASE	WIRE	BRANCH CIRCUIT WIRING	DISCONNECT (AMPS/FUSE/POLE/ENCLOSURE)	LOAD / MOCP (BREAKER)	PANEL	NOTES	
SPLIT-SYSTEMS (OUTDOOR)									
CAU-132	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	4	
CAU-133 (09)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	7	
CAU-135 (010)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	7	
CAU-137 (011)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	7	
CAU-139 (012)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	7	
CAU-141 (013)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	8	
CAU-143 (015)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	8	
CAU-144 (016)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	9	
CAU-145 (016)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	8	
CAU-147 (17)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	8	
CAU-149 (18)	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	9	
CAU-159	208	1	3	2 - #10, #10G IN 3/4" C	FUSED 60/40/2/3R	26.0 MCA / 40A	M2	4	
CAU-160	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	11	
CAU-161	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	11	
CAU-162	208	1	3	2 - #12, #10G IN 3/4" C	FUSED 30/25/2/3R	15.0 MCA / 25A	M2	11	
SPLIT-SYSTEMS (INDOOR)									
CAU-132	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	6	
CAU-133	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	6	
CAU-135	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	6	
CAU-137	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	6	
CAU-139	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	6	
CAU-141	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	12	
CAU-143	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	12	
CAU-144	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	13	
CAU-145	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	12	
CAU-147	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	12	
CAU-149	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/15/2/1	3.0 MCA / 15A	M2	12	
CAU-159	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/25/2/1	23.0 MCA / 25A	M2	10	
CAU-160	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/45/2/1	43.0 MCA / 45A	M2	10	
CAU-161	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/25/2/1	23.0 MCA / 25A	M2	10	
CAU-162	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/25/2/1	23.0 MCA / 25A	M2	10	

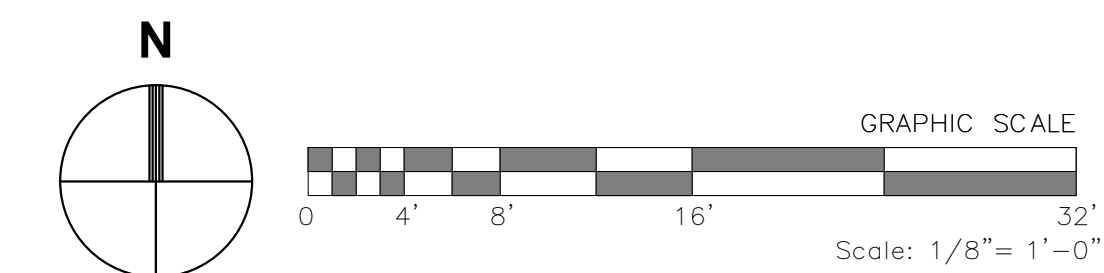
KEYNOTES

1 EXISTING EQUIPMENT TO BE DEMOLISHED BACK TO PANEL AND REPLACED WITH NEW UNITS AND SPECIFIED CONNECTIONS.

- NOTES:
- EQUIPMENT IS COMPATIBLE WITH EXISTING BRANCH CIRCUIT WIRING AND SUITABLE FOR USE WITH EXISTING BREAKER IN PANEL. ADD FUSE SIZES INDICATED IN DISCONNECT.
 - EQUIPMENT EXCEEDS EXISTING SPECIFICATION AND SHALL BE INSTALLED WITH THE SPECIFICATION SHOWN IN SCHEDULE ABOVE. BRANCH CIRCUIT WIRING REMAINS SUITABLE.
 - EQUIPMENT EXCEEDS EXISTING SPECIFICATION AND SHALL BE INSTALLED WITH THE SPECIFICATION SHOWN IN SCHEDULE ABOVE. BREAKER REMAINS SUITABLE.
 - EXISTING CIRCUIT SHALL BE DEMOLISHED BACK TO PANEL AND BE INSTALLED/CONFIGURED WITH BRANCH CIRCUIT AND BREAKER SPECIFIED.
 - UNITS ARE CONNECTED TO EXISTING 3-PHASE CIRCUIT ON PANEL M2 (M2-S FOR INDOOR UNITS, M2-S FOR OUTDOOR UNITS). CONNECT NEW FUSED DISCONNECT SPECIFIED TO SAME PHASES AS EXISTING.
 - INDOOR UNITS 132, 133, 135, 137, 139 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - OUTDOOR UNITS 133, 135, 137, 139 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - OUTDOOR UNITS 141, 143, 145, 147 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - OUTDOOR UNITS 144, 149 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - PROVIDE NEW CIRCUIT BREAKER SHOWN IN EXISTING PANEL F1. NEW BREAKERS SHALL MATCH PANEL MANUFACTURER, STYLE AND AIC RATING. UPDATE PANEL DIRECTORY ACCORDINGLY.
 - OUTDOOR UNITS 160, 161, 162 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - INDOOR UNITS 141, 143, 145, 147, 149 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - INDOOR UNITS 144 IS A SINGLE PHASE UNIT CONNECTED TO 3-PHASE CIRCUIT WITH OTHER UNITS NOT BEING REPLACED. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.



2 BUILDING 200 OVERALL - E103
NOT TO SCALE



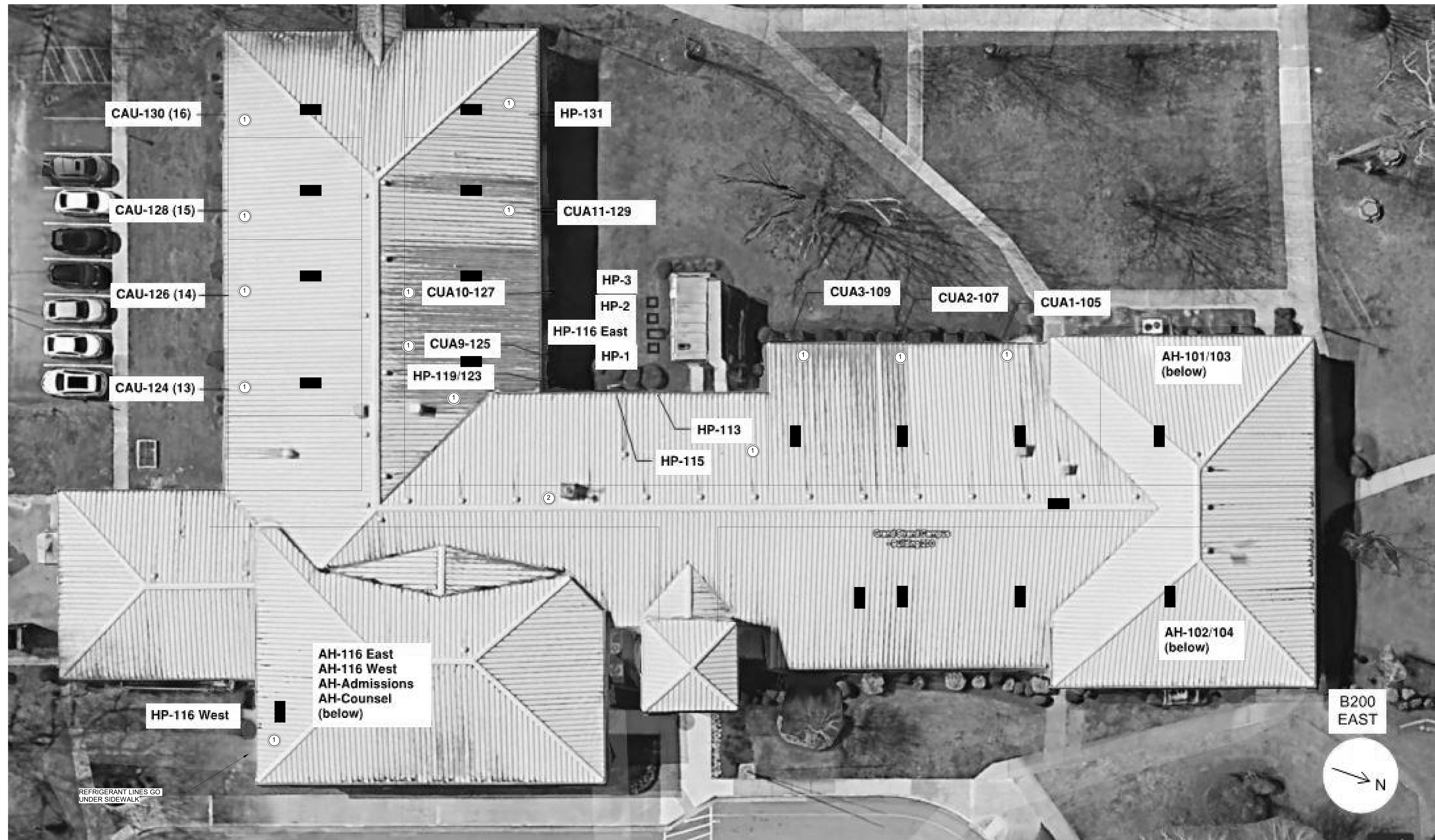
SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEERS
No. 20698
WARREN R. LANE
7/27/2023

DWG
CONSULTING ENGINEERS
EMPLOYEE OWNED

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577

BUILDING 200 CENTRAL FIRST FLOOR ELECTRICAL PLAN

#	Description	DATE
JOB No.	H59-6214-ML	
DATE:	07/21/23	
DRAWN BY:	EMB	
CHECKED BY:	WRL	
SHEET	NUMBER	
E103		



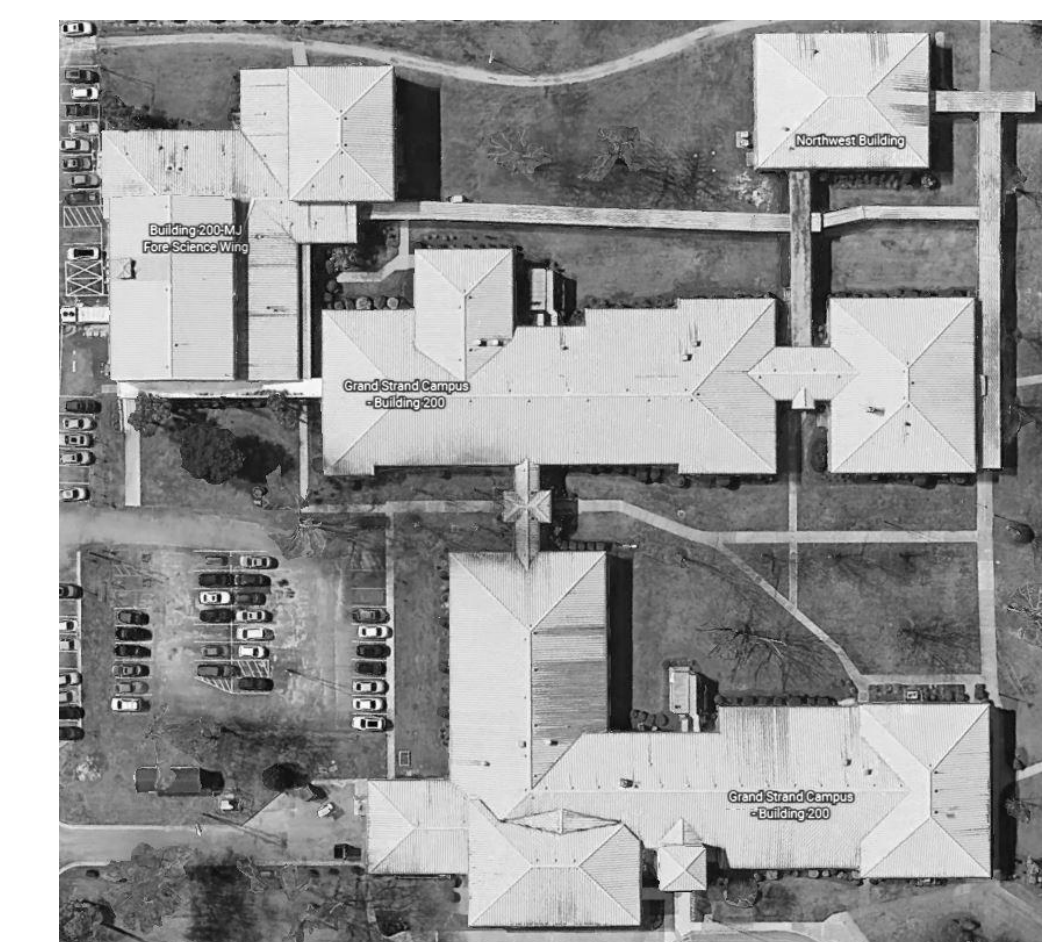
2 BUILDING 200 EAST ELECTRICAL PLAN
E104 NOT TO SCALE

EQUIPMENT CONNECTION SCHEDULE - BUILDING 200 EAST - BASE BID									
MARK	VOLTAGE (INDOOR/ OUTDOOR)	PHASE (INDOOR/ OUTDOOR)	BRANCH CIRCUIT WIRING (INDOOR / OUTDOOR)	DISCONNECT, INDOOR (AMPS/FUSE/POLE/ENCLOSURE)	DISCONNECT, OUTDOOR (AMPS/FUSE/POLE/ENCLOSURE)	LOAD (INDOOR/OUTDOOR)	BREAKER (INDOOR/OUTDOOR)	PANEL (INDOOR/OUTDOOR)	NOTES
SPLIT-SYSTEMS									
AHHP-116 (WEST)	208 / 208	1 / 3	2 - #12, #12G IN 3/4" C & 3 - #8, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 60/60/3/3R	9.0 MCA / 36.0 MCA	15A / 60A	C	2
CUA1-105 (A1)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-14, M1-8	4
CUA2-107 (A2)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-14, M1-8	4
CUA3-109 (A3)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-14, M1-8	4
HP-113	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-14, M1-8	4
HP-119-123	208 / 208	1 / 3	2 - #12, #12G IN 3/4" C & 3 - #10, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/20/3/3R	5.0 MCA / 13.0 MCA	15A / 20A	M1	1
CUA9-125 (A9)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-13, M1-1	3, 5
CUA10-127 (A10)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1	1 (INDOOR), 6 (OUTDOOR)
CUA11-129 (A11)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-13, M1-1	3, 6
HP-131	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-13, M1-1	3, 6
CUA10-124 (A13)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-19, M1-7	3, 6
CUA10-126 (A14)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-19, M1-7	5, 7
CUA10-128 (A15)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-19, M1-7	5, 7
CUA10-130 (A16)	208 / 208	1 / 1	2 - #12, #12G IN 3/4" C & 2 - #12, #10G IN 3/4" C	FUSED 30/15/2/1	FUSED 30/25/2/3R	3.0 MCA / 15.0 MCA	15A / 25A	M1-19, M1-7	5, 7

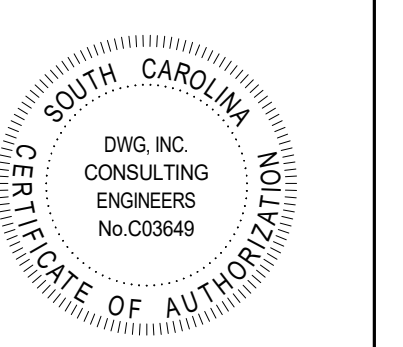
- NOTES:
- EQUIPMENT IS COMPATIBLE WITH EXISTING BRANCH CIRCUIT WIRING AND SUITABLE FOR USE WITH EXISTING BREAKER IN PANEL. ADD FUSE SIZES INDICATED IN DISCONNECT.
 - EXISTING CIRCUIT SHALL BE DEMOLISHED BACK TO PANEL AND BE INSTALLED/CONFIGURED WITH BRANCH CIRCUIT AND BREAKER SPECIFIED.
 - INDOOR UNITS 125, 129, 131 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - UNITS ARE CONNECTED TO EXISTING 3-PHASE CIRCUIT ON PANEL M1 (M1-14 FOR INDOOR UNITS, M1-8 FOR OUTDOOR UNITS). CONNECT NEW FUSIBLE DISCONNECT SPECIFIED TO SAME PHASES AS EXISTING.
 - OUTDOOR UNITS 125, 126, 128, 130 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - OUTDOOR UNITS 124, 127, 129, 131 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.
 - INDOOR UNITS 124, 126, 128, 130 ARE SINGLE PHASE UNITS CONNECTED TO SAME 3-PHASE CIRCUIT. PROVIDE NEW FUSIBLE DISCONNECT AS SPECIFIED AND RE-WORK CIRCUIT TO CONNECT NEW UNIT TO EXISTING CIRCUIT ON SAME RESPECTIVE PHASES.

KEYNOTES

- EXISTING EQUIPMENT TO BE DEMOLISHED BACK TO PANEL AND REPLACED WITH NEW UNITS AND SPECIFIED CONNECTIONS.
- EXISTING EQUIPMENT TO REMAIN.



1 BUILDING 200 OVERALL - E104
E104 NOT TO SCALE



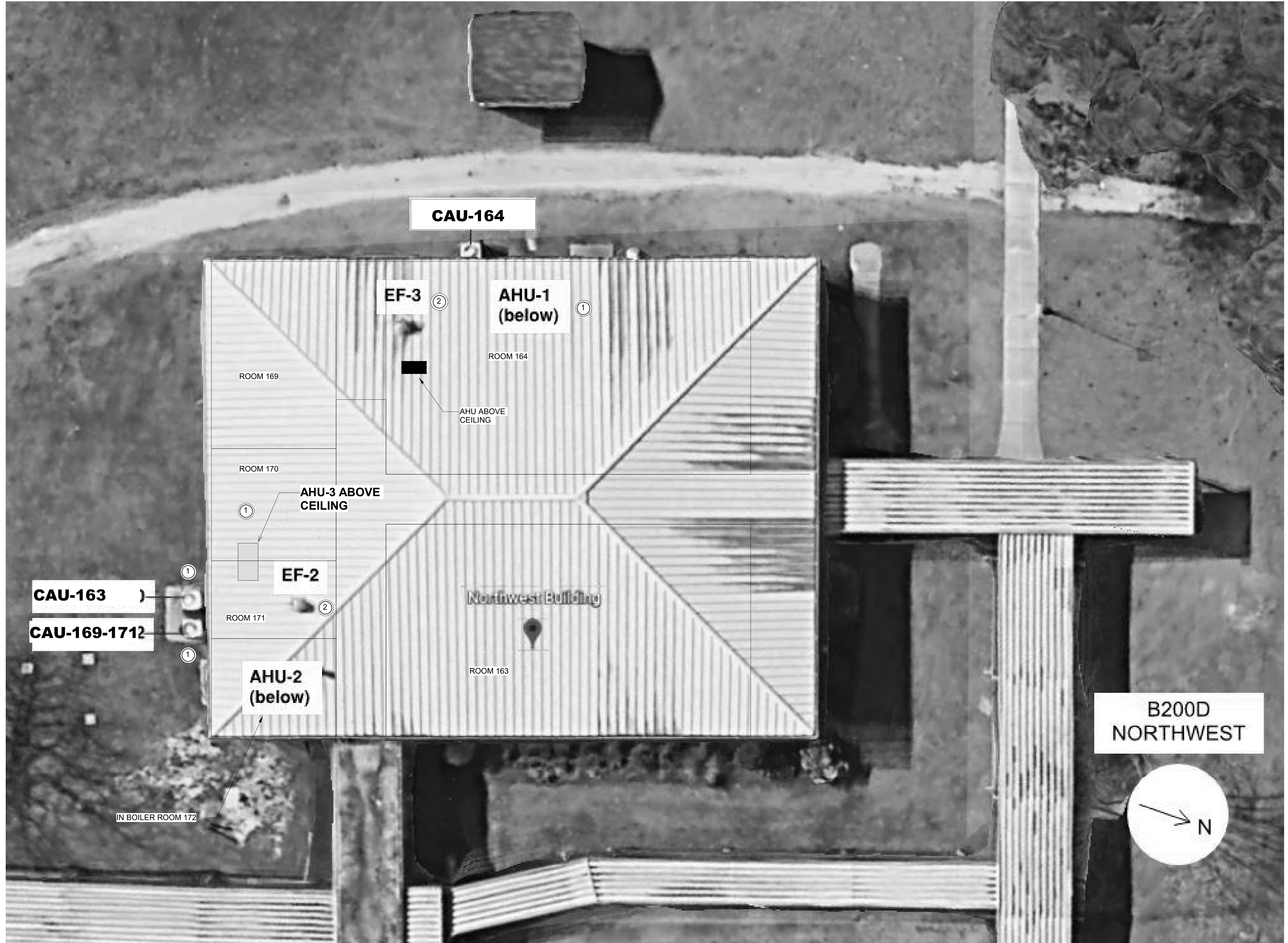
7/27/2023



UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577
BUILDING 200 EAST FIRST FLOOR ELECTRICAL PLAN

#	Description	DATE
JOB No.	H59-6214-ML	
DATE:	07/21/23	
DRAWN BY:	EMB	
CHECKED BY:	WRL	
SHEET	NUMBER	

E104

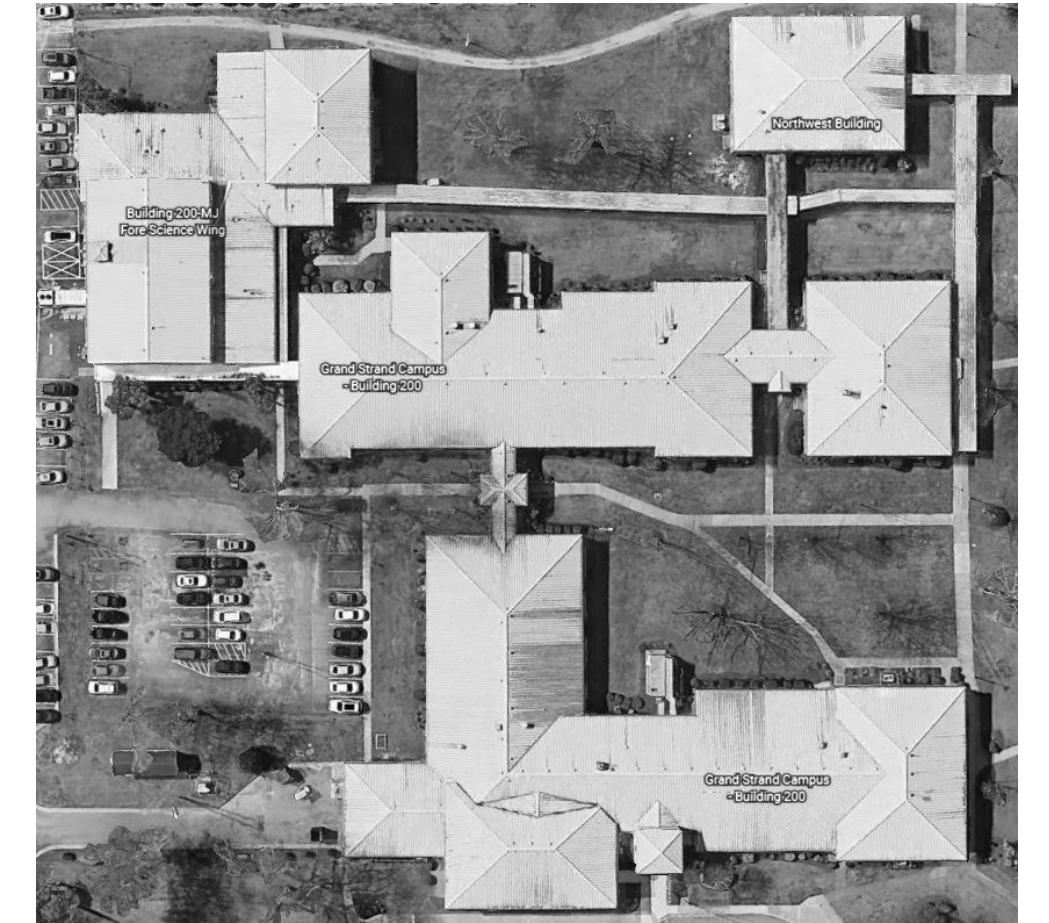


2 BUILDING 200D NW ELECTRICAL PLAN
E105 NOT TO SCALE

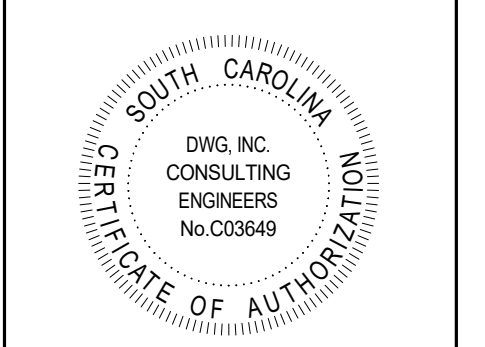
EQUIPMENT CONNECTION SCHEDULE - BUILDING 200 NORTHWEST - BASE BID							
MARK	VOLTAGE	PHASE	WIRE	BRANCH CIRCUIT WIRING	DISCONNECT (AMPS/FUSE/POLES/ENCLOSURE)	LOAD / MOCB (BREAKER)	PANEL
SPLIT SYSTEM, INDOOR (AHU)							
AHU-1	208	1	3	2 - #8, 1#10G IN 3/4" C	FUSED 60/45/2/1	43.0 MCA / 45 A	M2
AHU-2	208	1	3	2 - #8, 1#10G IN 3/4" C	FUSED 60/45/2/1	43.0 MCA / 45 A	M2
AHU-3	208	1	3	2 - #8, 1#10G IN 3/4" C	FUSED 60/45/2/1	43.0 MCA / 45 A	M2
SPLIT SYSTEM, OUTDOOR (CAU)							
CAU-165 / 168	208	3	4	3 - #12, 1#12G IN 3/4" C	FUSED 60/35/3/3R	21.0 MCA / 35 A	M2
CAU-169 / 170 / 171	208	3	4	3 - #12, 1#12G IN 3/4" C	FUSED 60/35/3/3R	21.0 MCA / 35 A	M2
CAU-163	208	3	4	3 - #12, 1#12G IN 3/4" C	FUSED 60/35/3/3R	21.0 MCA / 35 A	M2

NOTES:
1. EQUIPMENT IS COMPATIBLE WITH EXISTING BRANCH CIRCUIT WIRING AND SUITABLE FOR USE WITH EXISTING BREAKER IN PANEL. REPLACE EXISTING DISCONNECTS AND ADD FUSE SIZES INDICATED IN DISCONNECT.

- KEYNOTES**
- ① EXISTING EQUIPMENT TO BE DEMOLISHED BACK TO PANEL AND REPLACED WITH NEW UNITS AND SPECIFIED CONNECTIONS.
 - ② EXISTING EQUIPMENT TO REMAIN.



3 BUILDING 200 OVERALL - E105
E105 SCALE: 1/2" = 1'-0"



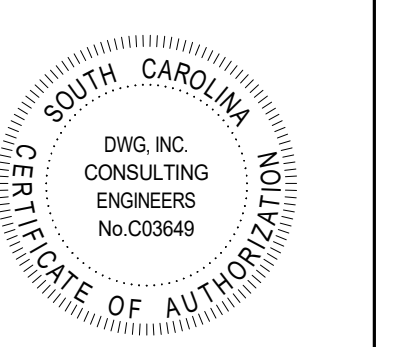
DWG
CONSULTING ENGINEERS
EMPLOYEE OWNED

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577
BUILDING 200 NW FIRST FLOOR ELECTRICAL PLAN

#	Description	DATE

JOB No. H59-6214-ML
DATE: 07/21/23
DRAWN BY: EMB
CHECKED BY: WRL
SHEET NUMBER

E105



7/27/2023

DWG
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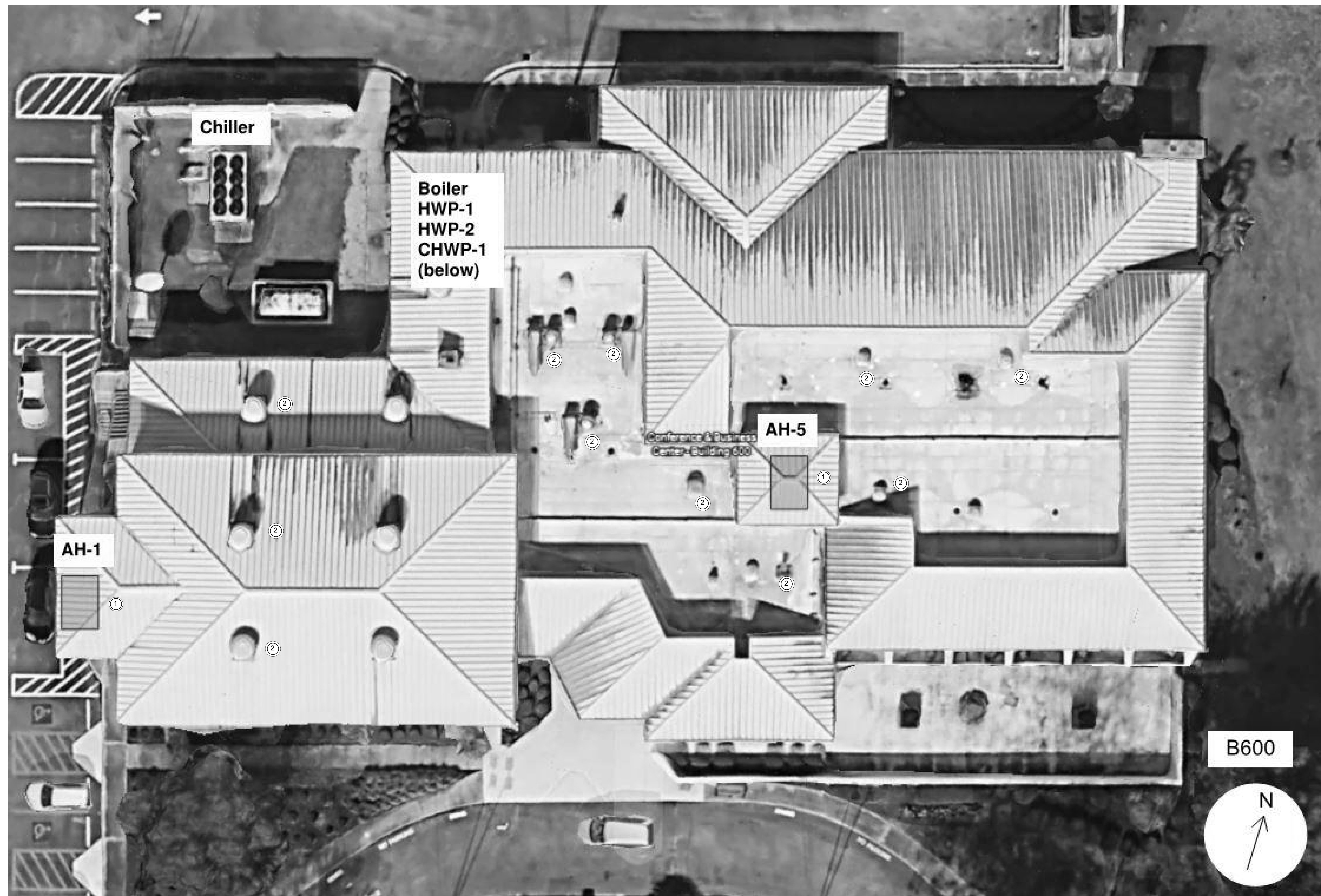
UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577

BUILDING 600 FIRST FLOOR ELECTRICAL PLAN

#	Description	DATE

JOB No.	H59-6214-ML
DATE:	07/21/23
DRAWN BY:	EMB
CHECKED BY:	WRL
SHEET	NUMBER

E106



1 BUILDING 600 ELECTRICAL PLAN
E106 NOT TO SCALE

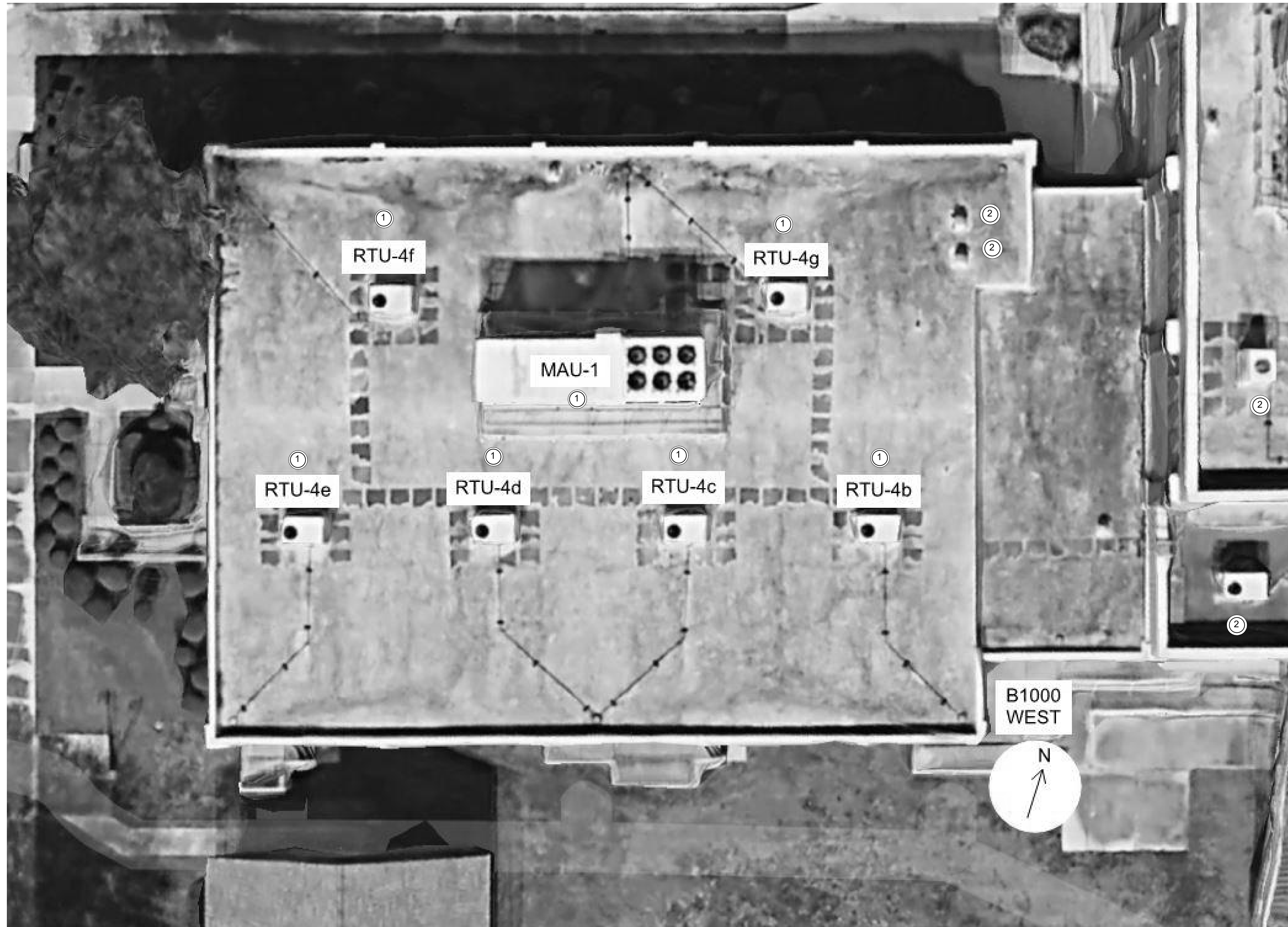
EQUIPMENT CONNECTION SCHEDULE - BUILDING 600 - BASE BID

MARK	VOLTAGE	PHASE	WIRE	BRANCH CIRCUIT WIRING	DISCONNECT (AMPS/FUSE/POLES/ENCLOSURE)	LOAD / MOCP (BREAKER)	PANEL	NOTES
SPLIT-SYSTEMS								
AHU-1	208	3	4	3 - #6, #10G IN 3/4" C	NON-FUSED 100/90/3/1	74.3 MCA / 100 A	B	2,3
AHU-5	208	3	4	3 - #3, #6G IN 1 1/4" C	NON-FUSED 200/125/3/1	74.3 MCA / 100 A	C	1,3

NOTES:
 1. EXISTING CIRCUIT SHALL BE DEMOLISHED BACK TO PANEL AND BE INSTALLED/CONFIGURED WITH BRANCH CIRCUIT AND BREAKER SPECIFIED. IT IS PERMISSIBLE TO REUSE EXISTING BREAKER. PROVIDE NEW VFD FOR UNIT PER HVAC SPECIFICATIONS. DIV 26 CONTRACTOR SHALL MAKE ALL CONNECTIONS.
 2. REWORK EXISTING CIRCUIT TO RECONNECT NEW UNIT. PROVIDE NEW VFD FOR UNIT. DIV 26 CONTRACTOR SHALL MAKE ALL CONNECTIONS.
 3. VFD'S SHALL HAVE INTERNAL OVERCURRENT PROTECTION DEVICE AND SHALL BE SIZED FOR HP RATING OF NEW MOTOR.

KEYNOTES

- ① EXISTING EQUIPMENT TO BE DEMOLISHED BACK TO PANEL AND REPLACED WITH NEW UNITS AND SPECIFIED CONNECTIONS.
- ② EXISTING EQUIPMENT TO REMAIN.



1 BUILDING 1000 WEST ROOF ELECTRICAL PLAN
E107 NOT TO SCALE

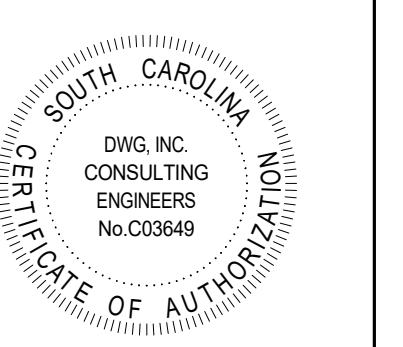
EQUIPMENT CONNECTION SCHEDULE - BUILDING 1000 - ALTERNATE BID ITEM #1							
MARK	VOLTAGE	PHASE	WIRE	BRANCH CIRCUIT WIRING	DISCONNECT (AMPS/FUSE/POLES/ENCLOSURE)	LOAD / MOCP (BREAKER)	PANEL
SPLIT-SYSTEMS							
RTU-4B	460	3	4	3 - #8, #10G IN 3/4" C	FUSED 60/40/3/3R	38.0 MCA / 40A	P2
RTU-4C	460	3	4	3 - #8, #10G IN 3/4" C	FUSED 60/40/3/3R	38.0 MCA / 40A	M1
RTU-4D	460	3	4	3 - #8, #10G IN 3/4" C	FUSED 60/40/3/3R	38.0 MCA / 40A	M1
RTU-4E	460	3	4	3 - #8, #10G IN 3/4" C	FUSED 60/40/3/3R	38.0 MCA / 40A	M1
RTU-4F	460	3	4	3 - #8, #10G IN 3/4" C	FUSED 60/40/3/3R	38.0 MCA / 40A	M1
RTU-4G	460	3	4	3 - #8, #10G IN 3/4" C	FUSED 60/40/3/3R	38.0 MCA / 40A	M2

NOTES:
1. EQUIPMENT IS COMPATIBLE WITH EXISTING BRANCH CIRCUIT WIRING AND SUITABLE FOR USE WITH EXISTING BREAKER IN PANEL.

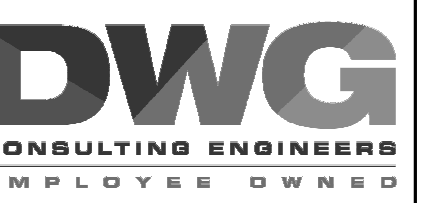
KEYNOTES

① EXISTING EQUIPMENT TO BE DEMOLISHED BACK TO PANEL AND REPLACED WITH NEW UNITS AND SPECIFIED CONNECTIONS.

② EXISTING EQUIPMENT TO REMAIN.



7/27/2023



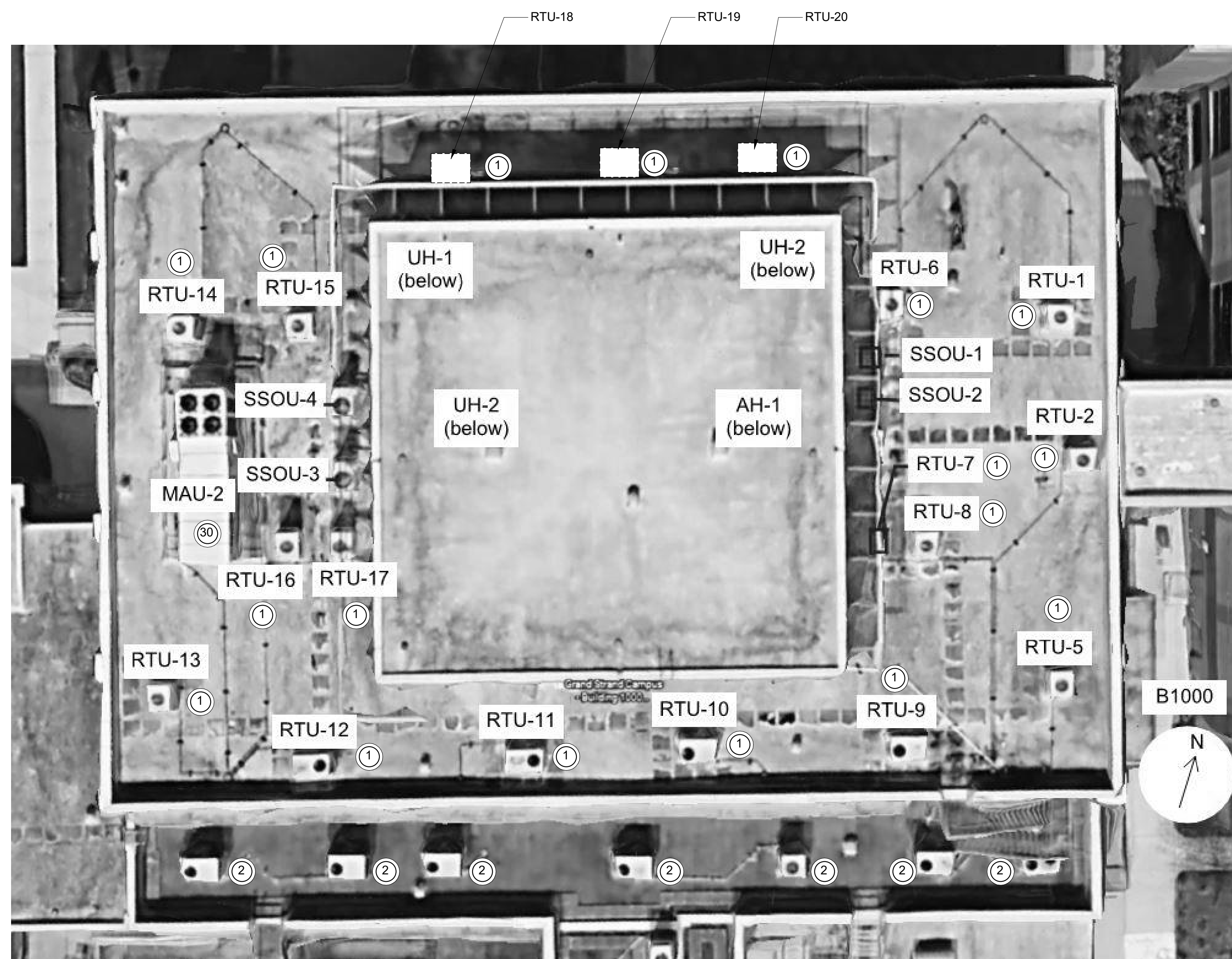
UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577

BUILDING 1000 WEST ELECTRICAL ROOF PLAN

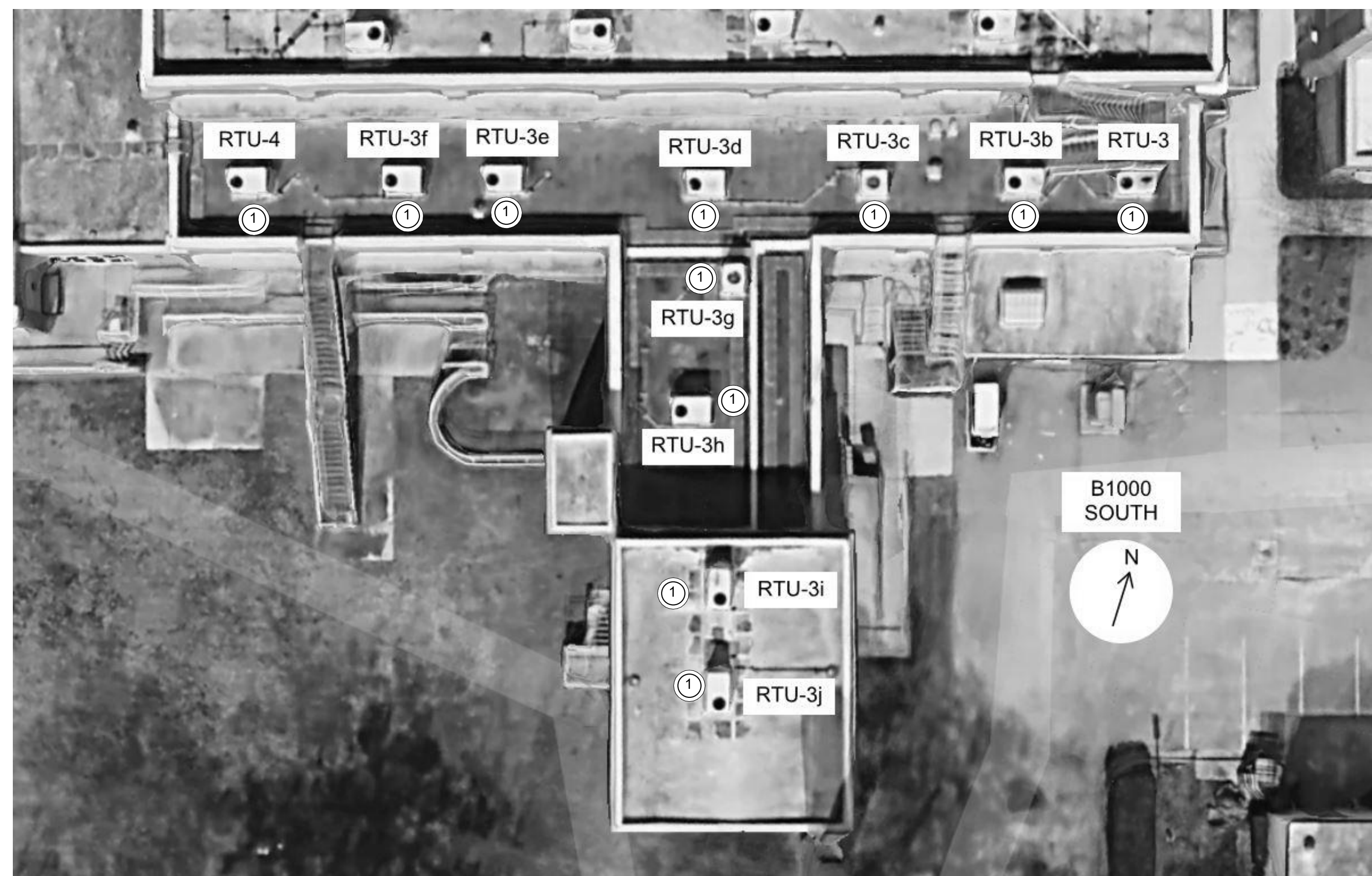
#	Description	DATE

JOB No.	H59-6214-ML
DATE:	07/21/23
DRAWN BY:	EMB
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SHEET	NUMBER

E107



1 BUILDING 1000 NORTH ROOF ELECTRICAL PLAN
NOT TO SCALE

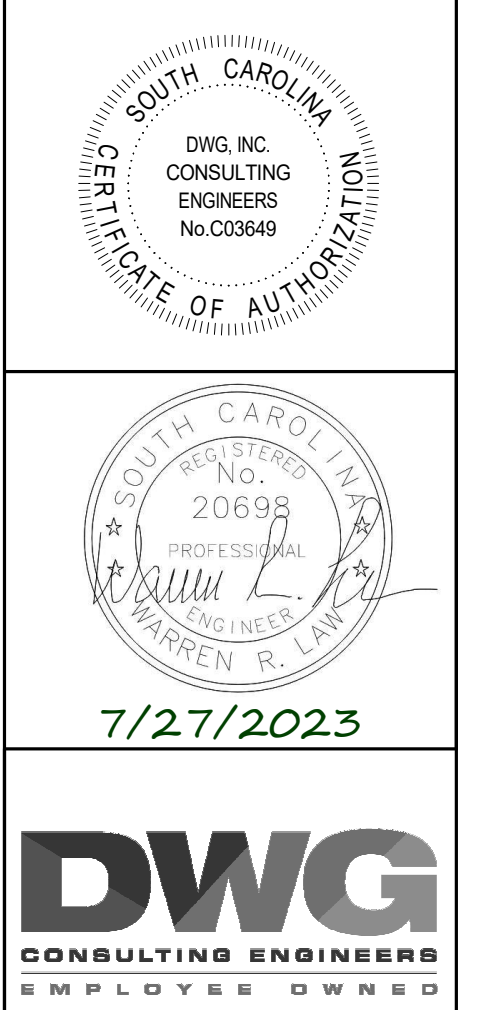


2 BUILDING 1000 SOUTH ROOF ELECTRICAL PLAN
NOT TO SCALE

KEYNOTES

① EXISTING EQUIPMENT TO BE DEMOLISHED BACK TO PANEL AND REPLACED WITH NEW UNITS AND SPECIFIED CONNECTIONS.

② EXISTING EQUIPMENT TO REMAIN.



7/27/2023

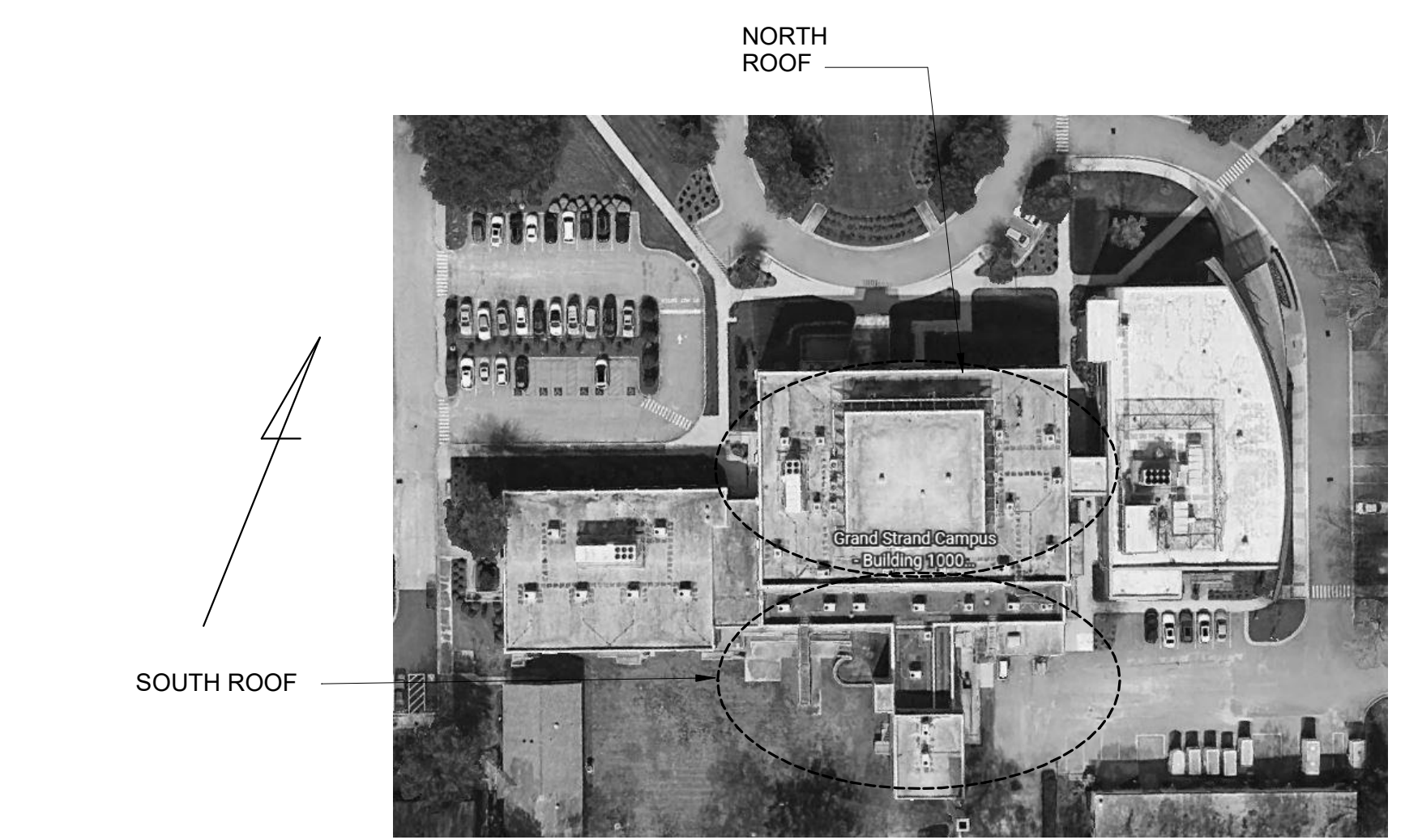
DWG
CONSULTING ENGINEERS
EMPLOYEE OWNED

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577

BUILDING 1000 CENTER ELECTRICAL ROOF PLAN

EQUIPMENT CONNECTION SCHEDULE									
MARK	VOLTAGE	PHASE	WIRE	BRANCH CIRCUIT WIRING	DISCONNECT (AMPS/FUSE/POLE/ENCLOSURE)	LOAD / MOCP (BREAKER)	PANEL	NOTES	
ROOF-TOP UNITS: (RTU)									
RTU-3	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-14	1, 2	
RTU-3B	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-13	1, 2	
RTU-3C	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 30/25/2/3R	47.0 MCA / 50A	PM-4	1, 2	
RTU-3D	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-9	1, 2	
RTU-3E	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-8	1, 2	
RTU-3F	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-7	1, 2	
RTU-3G	208	1	3	2 - #12, #12G IN 3/4" C	FUSED 30/20/2/3R	47.0 MCA / 50A	PM-1	1, 2	
RTU-3H	460	3	4	3 - #12, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-10	1, 2	
RTU-3I	460	3	4	3 - #12, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-11	1, 2	
RTU-3J	460	3	4	3 - #12, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	FM-11	1, 2	
RTU-4	460	3	4	3 - #6, #10G IN 3/4" C	FUSED 60/40/3R	36.0 MCA / 40A	M1-10	1, 2	
RTU-1	208	1	3	2 - #3, #8G IN 3/4" C	FUSED 100/80/2/3R	75.0 MCA / 80A	P2-12	1, 2	
RTU-2	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	P2-4	1, 2	
RTU-5	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	P2-5	1, 2	
RTU-6	208	1	3	2 - #3, #8G IN 3/4" C	FUSED 100/80/2/3R	75.0 MCA / 80A	P2-9	1, 2	
RTU-7	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	P2-1	1, 2	
RTU-8	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	P2-2	1, 2	
RTU-9	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	L2-26	1, 2	
RTU-10	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	L2-25	1, 2	
RTU-11	460	3	4	2 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	L2-24	1, 2	
RTU-12	460	3	4	2 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	L2-23	1, 2	
RTU-13	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	T2-1	1, 2	
RTU-14	208	1	3	2 - #3, #8G IN 3/4" C	FUSED 100/80/2/3R	75.0 MCA / 80A	T2-8	1, 2	
RTU-15	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	T2-9	1, 2	
RTU-16	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	T2-4	1, 2	
RTU-17	208	1	3	2 - #6, #10G IN 3/4" C	FUSED 60/50/2/3R	47.0 MCA / 50A	T2-5	1, 2	
RTU-18	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	L2-21	1, 2	
RTU-19	460	3	4	3 - #10, #10G IN 3/4" C	FUSED 30/30/3R	29.3 MCA / 30A	L2-22	1, 2	
RTU-20	208	1	3	2 - #3, #8G IN 3/4" C	FUSED 100/80/2/3R	75.0 MCA / 80A	T2-12	1, 2	
MAKE-UP AIR UNITS: (MAU)									
MAU-1	460	3	4	3 - #10, #8G IN 1 1/2" C	FUSED 200/150/3R	143 MCA / 150A	RM-14	1, 3	
MAU-1	460	3	4	3 - #1, #8G IN 1 1/2" C	FUSED 100/100/3R	97.8 MCA / 100A	RM-14	1, 3	

NOTES:
 1. EQUIPMENT IS BE COMPATIBLE WITH EXISTING BRANCH CIRCUIT WIRING AND SUITABLE FOR USE WITH EXISTING BREAKER IN PANEL. REPLACE DISCONNECT WITH SIZE AND FUSES SHOWN IN SCHEDULE ABOVE AND RE-WORK CIRCUIT TO CONNECT NEW UNIT
 2. EQUIPMENT IS PART OF ALTERNATE BID PACKAGE #1.
 3. EQUIPMENT IS PART OF ALTERNATE BID PACKAGE #2.



3 BLDG 1000 GS Overall ELECT
NOT TO SCALE

PLOT DATE: 07/21/23

#	Description	DATE
JOB No.	H59-6214-ML	
DATE:	07/21/23	
DRAWN BY:	EMB	
CHECKED BY:	WRL	
SHEET	NUMBER	

E108

**MECHANICAL SYSTEMS
SEISMIC AND WIND REQUIREMENTS**

PER IBC-2021/ASCE 7-16

- A. PER THE 2021 INTERNATIONAL BUILDING CODE, MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT AND COMPONENTS, INCLUDING THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED FOR SEISMIC FORCES IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7-16.
- B. EXTERIOR EQUIPMENT (INCLUDING ROOF CURBS, RAILS, SUPPORTS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH CHAPTER 26 TO 29 OF ASCE 7-16.
- C. WHERE DESIGN FOR SEISMIC AND WIND LOADS IS REQUIRED, THE MORE DEMANDING FORCE MUST BE USED.
- D. REFERENCE THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY, WIND SPEEDS, ETC.
- E. USE THE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH COMPONENT.
- F. FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL REGISTERED IN THE STATE THE JOB IS LOCATED. SUBMITTALS MUST INCLUDE STAMPED AND SIGNED DRAWINGS AND CALCULATIONS.
- G. WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF THE APPROVED SEISMIC SUBMITTAL.
- H. SEISMIC RESTRAINTS FOR DUCTWORK, PIPING, CONDUIT, CABLE TRAYS AND BUS DUCT MUST BE SHOWN ON LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.

MECHANICAL COMPONENT IMPORTANCE FACTOR (Ip) DESIGNATION

Ip = 1.0

Ip = 1.5

• **ALL HVAC COMPONENTS EXCEPT AS NOTED IN Ip=1.5**

SEISMIC DESIGN CATEGORIES D,E,F

COMPONENT IMPORTANCE FACTOR (Ip)

COMPONENT IDENTIFICATION	SEISMIC RESTRAINT REQUIREMENT	NOTES	1.0		1.5	
			SEISMIC RESTRAINT REQUIREMENT	NOTES	SEISMIC RESTRAINT REQUIREMENT	NOTES
ROOF MOUNTED	RESTRAIN ALL	1	RESTRAIN ALL	-		
FLOOR MOUNTED	RESTRAIN ALL	1, 2	RESTRAIN ALL	-		
WALL MOUNTED	RESTRAIN ALL	1, 2	RESTRAIN ALL	-		
COMPONENT SUPPORTS	RESTRAIN ALL	1	RESTRAIN ALL	-		
SUSPENDED EQUIPMENT	IN LINE W/ DUCT RESTRAIN IF >75 LBS PROVIDE FLEX. CONN.	3	RESTRAIN IF >75 LBS PROVIDE FLEX. CONN.	3		
	NOT IN LINE W/ DUCT/PIPE	1	RESTRAIN ALL	-		
SUSPENDED DUCTILE PIPING (STEEL, ALUMINUM, COPPER, ETC.)	>3"	4	>1"	4		
SUSPENDED NON DUCTILE PIPING (CAST IRON, PLASTIC, CERAMIC)	RESTRAIN ALL	4	RESTRAIN ALL	4		
SUSPENDED PIPE ON TRAPEZE	RESTRAIN IF ANY PIPE ON TRAPEZE > 3" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE > 10 LBS/FT	4	RESTRAIN IF ANY PIPE ON TRAPEZE > 1" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE > 10 LBS/FT	4		
DUCTWORK	6 SQ.FT. AND LARGER AND >17 LBS/FT	4,5	6 SQ.FT. AND LARGER AND > 17 LBS/FT	4,5		
MULTIPLE DUCTS ON TRAPEZE	RESTRAIN IF TOTAL WEIGHT OF DUCTS ON TRAPEZE > 10 LBS/FT	4,5	RESTRAIN IF TOTAL WEIGHT OF DUCTS ON TRAPEZE > 10 LBS/FT	4,3		
COMPONENT CERTIFICATION	NOT REQUIRED	-	REQUIRED	6		

- NOTES:**
- EQUIPMENT 20 LBS. OR LESS IS EXEMPT IF THE COMPONENT IS POSITIVELY ATTACHED TO THE STRUCTURE AND FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
 - RESTRAINTS ARE NOT REQUIRED IF THE COMPONENT WEIGHS 400 LBS. OR LESS, IS MOUNTED WITH THE CENTER OF MASS LOCATED AT 4 FT. OR LESS ABOVE A FLOOR, IS POSITIVELY ATTACHED TO THE STRUCTURE AND HAS FLEXIBLE CONNECTIONS BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
 - FLEXIBLE CONNECTIONS REQUIRED FOR PIPE CONNECTIONS ONLY.
 - RESTRAINT IS NOT REQUIRED IF THE PIPING / DUCTWORK IS SUPPORTED BY HANGERS AND EACH HANGER IN THE PIPING RUN IS 12 IN. OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12 IN. OR LESS. WHERE ROD HANGERS ARE USED, THEY SHALL BE EQUIPPED WITH SWIVELS, EYE NUTS OR OTHER DEVICES TO PREVENT BENDING IN THE ROD.
 - ALL DUCTWORK, REGARDLESS OF SIZE, DESIGNED TO CARRY TOXIC, HIGHLY TOXIC, OR EXPLOSIVE GASES OR USED FOR SMOKE CONTROL MUST BE RESTRAINED.
 - COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.

GENERAL HVAC NOTES

- THE DRAWINGS SHOW THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, DUCTWORK, PIPING, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL INSTALLATION W/ THE STRUCTURE AND OTHER TRADES AND SHALL PROVIDE ADDITIONAL OFFSETS AND FITTINGS AS NECESSARY.
- THE CONTRACTOR SHALL CHECK AND VERIFY ALL CLEARANCES PRIOR TO FABRICATION OR INSTALLATION OF EQUIPMENT, DUCTWORK, AND PIPING SYSTEMS. WHERE CONDITIONS REQUIRE A CHANGE IN DUCT OR PIPE ROUTING, NOTIFY THE ARCHITECT FOR AN ACCEPTABLE ALTERNATIVE METHOD. AVOID ROUTING DUCTWORK DIRECTLY OVER LIGHT FIXTURES, DIFFUSERS, AND OTHER CEILING MTD. DEVICES. LOCATE ALL MECHANICAL EQUIPMENT SO THAT FILTERS AND COMPONENTS REQUIRING ACCESS (SERVICE AND MAINTENANCE) ARE FULLY ACCESSIBLE.
- PROVIDE CURVED RADIUS ELBOW AT FIRST SUPPLY & RETURN FITTING FOR ALL HVAC UNITS. PROVIDE TURNING VANES IN ALL 90 DEGREE ELBOWS IN ALL RECTANGULAR SUPPLY/RETURN/EXHAUST DUCT SYSTEMS. ANY OFFSETS REQUIRED IN DUCT SYSTEMS SHALL BE INSTALLED PER SMACNA 2005 3RD EDITION MANUAL. SHARP ANGLED TRANSITIONS OR OFFSETS 'WILL NOT BE ALLOWED'. PROVIDE DUCT ACCESS DOORS AS REQUIRED.
- INSTALL ALL DUCT MOUNTED DEVICES (DAMPERS, ACCESS DOORS, ETC.) AND PIPING SPECIALTIES IN EASILY ACCESSIBLE LOCATIONS. ADVISE THE ARCHITECT IN ADVANCE OF INSTALLATION IF ACCESS WILL BE HINDERED SO AN ALTERNATE LOCATION CAN BE SELECTED.
- ALL DUCT TAKE-OFFS SHALL BE INSTALLED AS SHOWN BY DETAILS ON THE PLANS WITH A MANUAL BALANCING DAMPER AT EVERY TAKE-OFF. WHERE DUCT RUN-OUT SIZE IS NOT SHOWN PROVIDE DUCT SAME SIZE AS GRILLE NECK SIZE. PRE-INSULATED FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTION TO SUPPLY GRILLES (MAX. LENGTH 5').
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH PRESCRIBED CLEARANCES FOR SERVICE AND MAINTENANCE. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IF RECOMMENDED CLEARANCES ARE NOT POSSIBLE BEFORE INSTALLING EQUIPMENT.
- ALL ROTATING MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATION. PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS BETWEEN DUCTWORK AND ISOLATED MECHANICAL EQUIPMENT.
- THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF FIRE RATED WALLS/FLOORS/CEILINGS BY DUCTWORK PIPING, ETC., WITH U.L. LISTED FIRE STOPPING MATERIAL TO MAINTAIN FIRE RATINGS OF THE BARRIER.
- SEISMIC PROTECTION OF EQUIPMENT, DUCTWORK, PIPING AND UTILITIES SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16 OF THE INTERNATIONAL BUILDING CODE, 2021 EDITION. ALL SEISMIC RESTRAINT AND BRACING SHALL BE SUBSTANTIATED BY MANUFACTURER'S SUBMITTALS PER THE SPECIFICATIONS. FOR ADDITIONAL INFORMATION, SEE 'MECHANICAL SYSTEMS SEISMIC AND WIND REQUIREMENTS' ON THIS SHEET. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF SEISMIC BRACING DEVICES WITH THE OWNER'S SEISMIC SPECIAL INSPECTOR. PROVIDE A MINIMUM OF SEVEN DAYS ADVANCE NOTICE OF INSTALLATION.
- BALANCE ALL AIR DISTRIBUTION DEVICES, EXHAUST FANS, AND OUTSIDE AIR QUANTITIES AS SCHEDULED OR SHOWN ON THE DRAWINGS. PROVIDE MARKERS AT ALL DAMPER LOCATIONS SHOWING FULL OPERATIONAL POSITIONS AND DAMPER SETTING FOR REQUIRED AIRFLOW. PROVIDE FINAL TEST AND BALANCE REPORT ALONG W/ SCHEMATIC DRAWINGS SHOWING DIFFUSER LOCATION W/ DESIGN AND ACTUAL CFM. THE DIFFUSER TAGS ON THE DRAWINGS SHALL CORRESPOND TO THE DIFFUSER TAGS ON THE REPORT. THIS REPORT SHALL BE SUBMITTED BEFORE THE FINAL INSPECTION IS PERFORMED. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
- ALL CONTROL WIRING, CONDUIT AND CONTROLS ACCESSORIES NECESSARY TO IMPLEMENT THE OUTLINED SEQUENCES OF OPERATION SHALL BE PROVIDED BY THE CONTROLS CONTRACTOR.
- WIND LOAD PROTECTION OF ROOF MOUNTED EQUIPMENT AND DUCTWORK SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16 OF THE INTERNATIONAL BUILDING CODE, 2021 EDITION. ALL WIND LOAD RESTRAINT AND BRACING SHALL BE SUBSTANTIATED BY MANUFACTURER'S SUBMITTALS PER THE SPECIFICATIONS.
- ALL EXPOSED PIPING AND DUCTWORK SHALL BE PAINTED. COORDINATE W/ ARCHITECTURAL PLANS/SPECIFICATIONS FOR EXPOSED LOCATIONS AND PAINTING REQUIREMENTS.
- SEE ARCHITECTURAL DOCUMENTS FOR ROOF PENETRATION AND FLASHING REQUIREMENTS.
- WHERE "APPROXIMATELY" IS USED TO DEFINE INSTALLATION LOCATIONS, CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO VERIFY THERE ARE NO CONFLICTS PRIOR TO INSTALLATION AT DIMENSION LISTED.

MECHANICAL ABBREVIATIONS	
ABBR	DESCRIPTION
(E)	EXISTING
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AH	AIR HANDLER
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
BHP	BRAKE HORSE POWER
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BASIS OF DESIGN
BOP	BOTTOM OF PIPE
C	DOMESTIC COLD WATER SUPPLY
CCR	COOLING CONDENSATE RETURN
CFM	CUBIC FEET PER MINUTE
CHF	CHEMICAL FEED
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CO	CLEANOUT
CP	CENTRAL PLANT
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
CU	CONDENSING UNIT
DB	DECIBELS
DCW	DOMESTIC COLD WATER
DDC	DIRECT DIGITAL CONTROLS
DIA	DIAMETER
DRN	DRAIN
EA	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
EDH	ELECTRICAL DUCT HEATER
EF	EXHAUST FAN
EH	ELECTRIC HEATER
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EQ	EQUALIZER
ESP	EXTERNAL STATIC PRESSURE
FD	FLOOR DRAIN
FD	FIRE DAMPER
FPM	FEET PER MINUTE
FRPM	FAN ROTATIONS PER MINUTE
FT	FEET
GPM	GALLONS PER MINUTE
H	DOMESTIC HOT WATER SUPPLY
HD	HUB DRAIN
HP	HEAT PUMP
HP	HORSEPOWER
HR	DOMESTIC HOT WATER RETURN
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
MBH	THOUSANDS OF BTU'S PER HOUR
MC	MECHANICAL CONTRACTOR
MD	MANUAL DAMPER
NC	NOISE CRITERIA
NG	NATURAL GAS PIPING
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OF	OVER FLOW
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PS	PIPE SUPPORT
RA	RETURN AIR
REFR	REFRIGERANT
RH	RELATIVE HUMIDITY
RM	REMOTE MONITOR
RPM	ROTATIONS PER MINUTE
RTU	ROOF TOP UNIT
RW	RAIN WATER
SA	SUPPLY AIR
SF	SUPPLY FAN
TDV	TRIPLE DUTY VALVE
TW	TEMPERED WATER
TWR	TOWER SEPARATOR RETURN
TWS	TOWER SEPARATOR SUPPLY
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
VNT	VENT
W	WITH
WMS	WIRE MESH SCREEN
WSHP	WATER SOURCE HEAT PUMP
*F	DEGREES FAHRENHEIT

HVAC SYMBOL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	AIR TERMINAL TAG, X=TYPE MARK, Y=CFM	---	COMPONENT TO BE DEMOLISHED
	AIR TERMINAL DIFFUSER (CEILING MOUNTED)		DUCTWORK (X" = WIDTH, Y" = HEIGHT)
	AIR TERMINAL RETURN GRILLE (CEILING MOUNTED)		TURNING VANES
	AIR TERMINAL EXHAUST GRILLE (CEILING MOUNTED)		CONDENSING UNIT
	AIR TERMINAL ROUND CONE DIFFUSER		ROOFTOP UNIT
	SIDEWALL REGISTER / GRILLE		SINGLE DUCT AIR TERMINAL UNIT
	THERMOSTAT		ROOF CAP
	HUMIDISTAT		CEILING MOUNTED EXHAUST FAN
	CO2 SENSOR	+++++	PREINSULATED FLEXIBLE DUCT
	FAN POWERED BOX		CABLE OPERATED DAMPER
	DUCT MOUNTED SMOKE DETECTOR (BY E.C.)		PITCH POCKET
	EQUIPMENT CLEARANCE		
	FIRE DAMPER		FLEXIBLE DUCT CONNECTION
	MANUAL DAMPER		CONNECTION TO EXISTING SYSTEM
	THERMOSTAT (DUCT MOUNTED)		MOTORIZED DAMPER
	HUMIDISTAT (DUCT MOUNTED)		

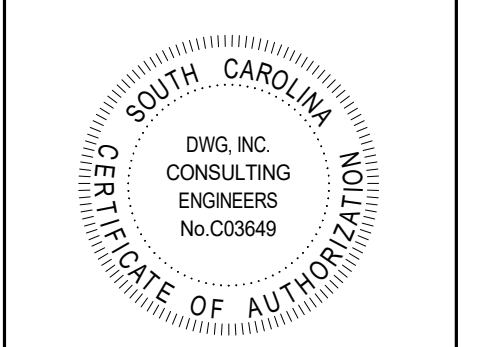
HVAC PIPING SPECIALTIES SYMBOL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	AUTOMATIC AIR VENT		AUTOMATIC BALANCING CONTROL VALVE
	BACKFLOW PREVENTER		BALL VALVE
	BASKET STRAINER		CIRCUIT SENSOR
	CIRCUIT SETTER		CONCENTRIC REDUCER/INCHREASER
	DIRECTION OF PIPING FLOW		DOUBLE SUCTION PUMP
	DRAIN VALVE W/ HOSE CONNECTION		EARTHQUAKE VALVE
	ECCENTRIC REDUCER/INCHREASER		END SUCTION PUMP
	FLANGE CONNECTION		GATE VALVE
	HOSE BIBB		MOTORIZED BALL VALVE
	MOTORIZED BUTTERFLY VALVE		PIPE CAP
	PIPING SLOPE		PLUG VALVE
	PRESSURE REDUCING VALVE		PUMP CONNECTOR/FLEX CONNECTOR
	PUMP SUCTION DIFFUSER		RELIEF VALVE
	RINSE VALVE		SANITARY SEWER
	SOLENOID VALVE		STORM SEWER
	SWING CHECK VALVE		TRIPLE DUTY VALVE
	UNION		WAFER CHECK VALVE
	WYE STRAINER		WYE STRAINER W/ BLOWDOWN BALL VALVE WITH HOSE CONNECTION
	2-WAY CONTROL VALVE		3-WAY CONTROL VALVE

**MECHANICAL CODES AND STANDARDS
(WITH ALL SOUTH CAROLINA
MODIFICATIONS)**

CODE	DESCRIPTION
IBC (2021)	INTERNATIONAL BUILDING CODE
IECC (2009)	INTERNATIONAL ENERGY CONSERVATION CODE
IMC (2021)	INTERNATIONAL MECHANICAL CODE
NFPA 90A (2021)	STANDARD FOR THE INSTALLATION AIR-CONDITIONING & VENTILATING SYSTEMS
SMACNA (2005)	HVAC DUCT CONSTRUCTION STANDARDS MANUAL, THIRD EDITION

DESIGN CONDITIONS

SUMMER	OUTDOOR: 95F DB / 80F WB
	INDOOR: 75F DB / 50% RH
WINTER	OUTDOOR: 25F DB
	INDOOR: 70F DB / 50% RH

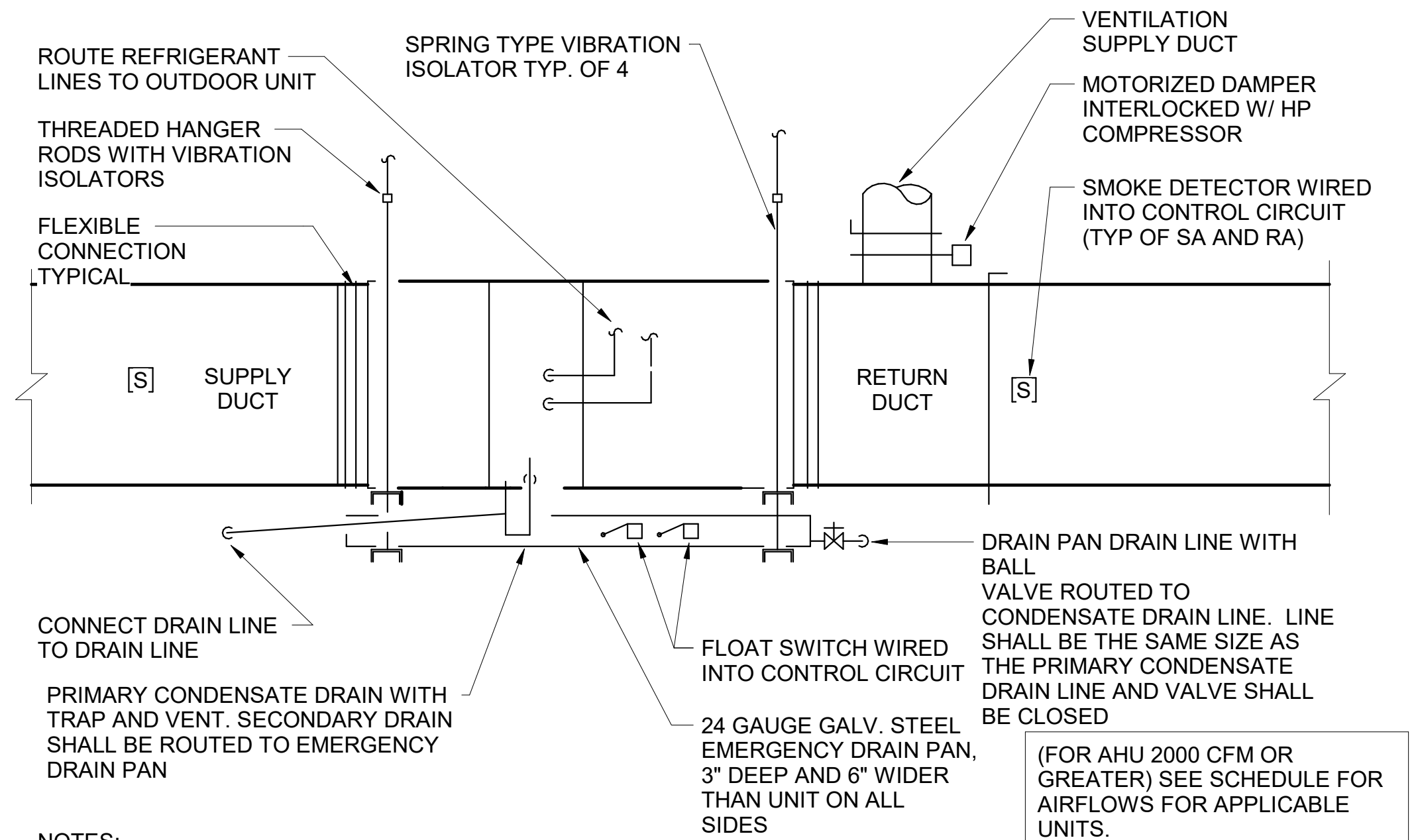


UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577

MECHANICAL NOTES & LEGENDS

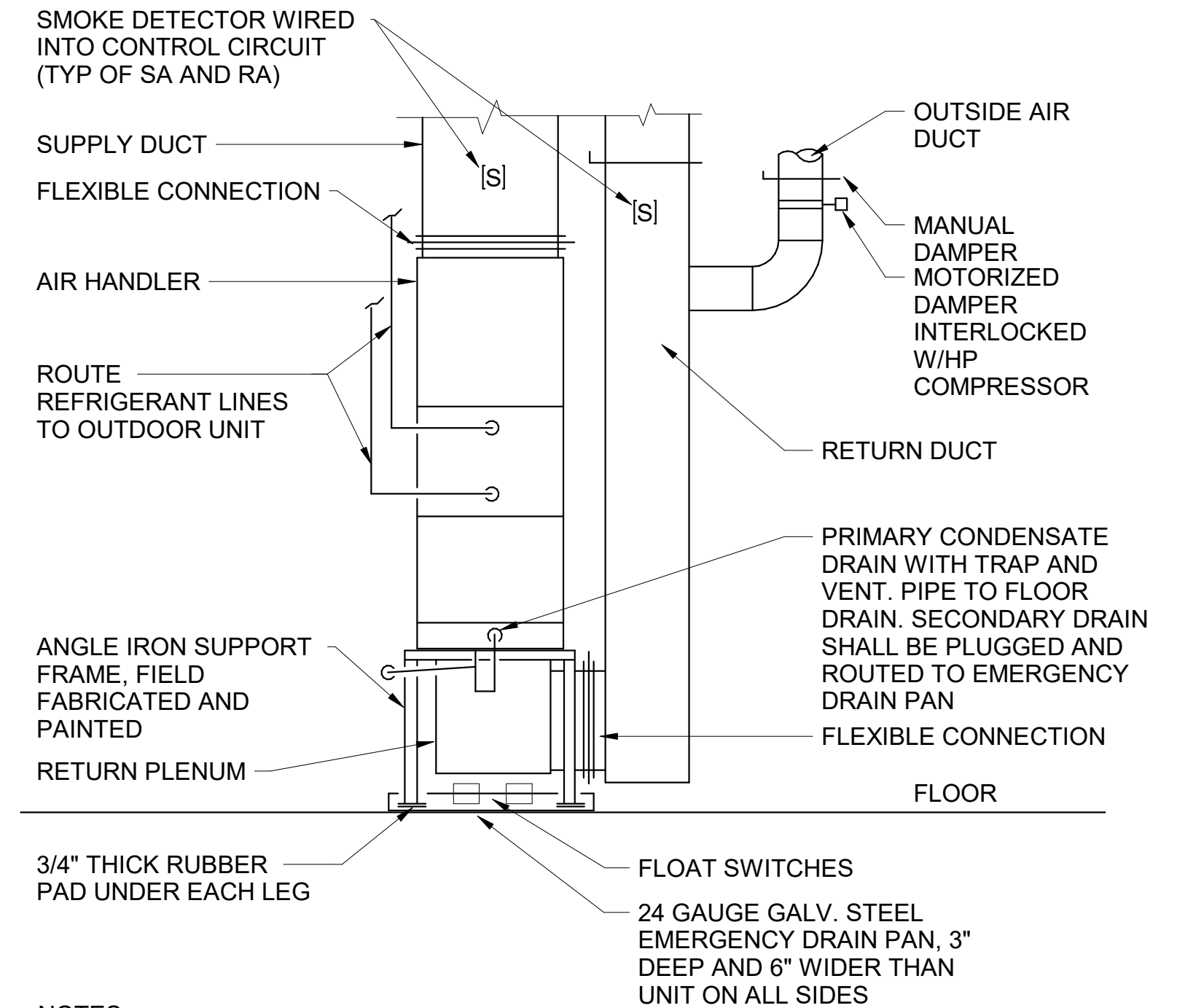
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DATE:	07/21/23	
DRAWN BY:	ADL	
CHECKED BY:	WDB	
SHEET	NUMBER	

M001



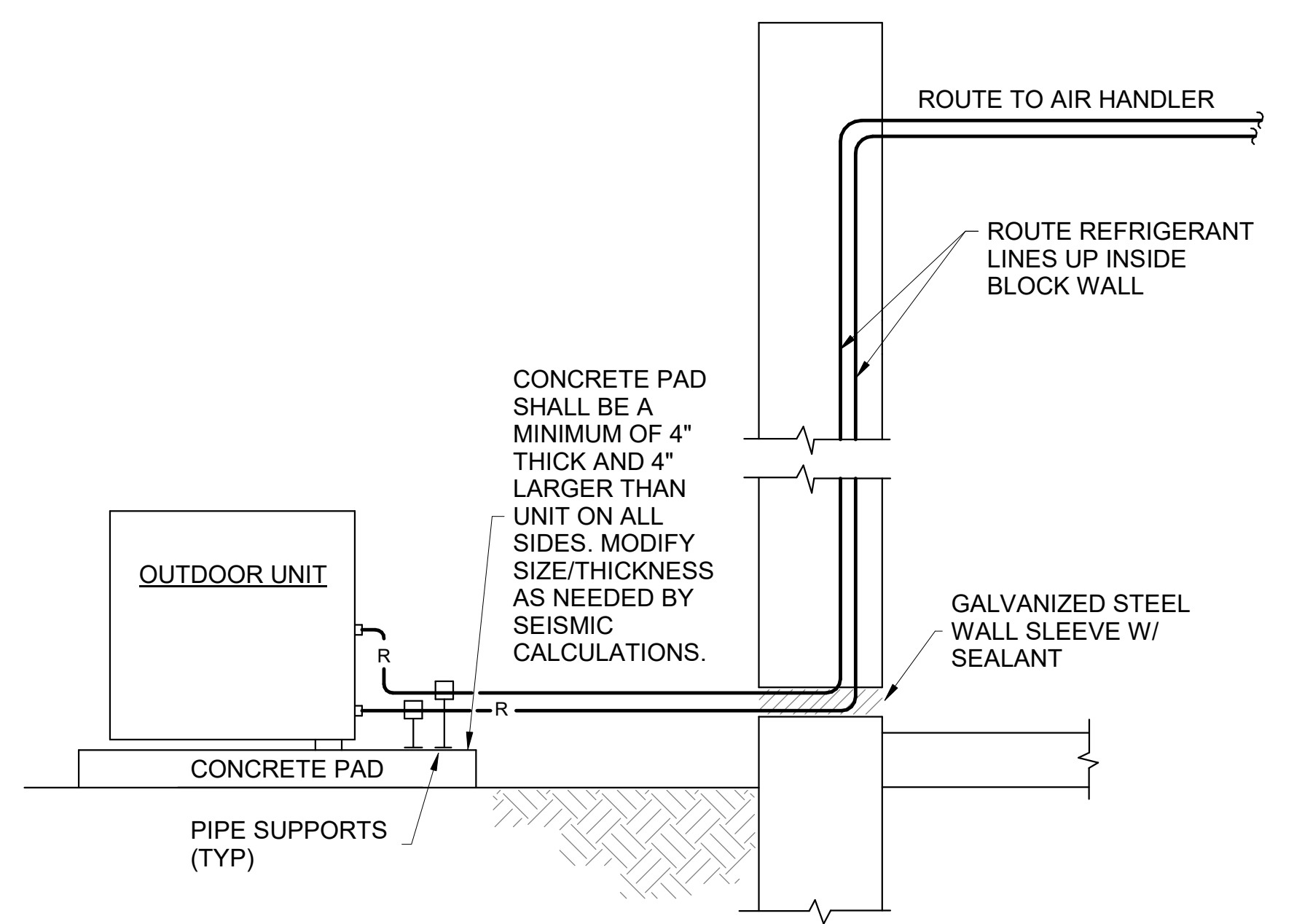
- NOTES:
- ROUTE DRAIN LINES AS INDICATED ON DRAWINGS. ALL DRAIN LINES SHALL SLOPE AT LEAST 1" PER 10 FT. CONTINUOUSLY. LINES SHALL NOT BE ALLOWED TO RUN ALONG THE CEILING STRUCTURE AND RISE UP AGAIN.
 - PROVIDE HANGING RODS FOR UNITS SUSPENDED FROM STRUCTURE AND SUSPEND EMERGENCY DRAIN PAN FROM UNIT.
 - SUPPORT EMERGENCY DRAIN PAN ON ANGLES OR STRUTS; PAN TO BE EASILY REMOVABLE FOR MAINTENANCE ACCESS

1 HORIZONTAL AHU INSTALLATION DETAIL
 M002 SCALE: NOT TO SCALE



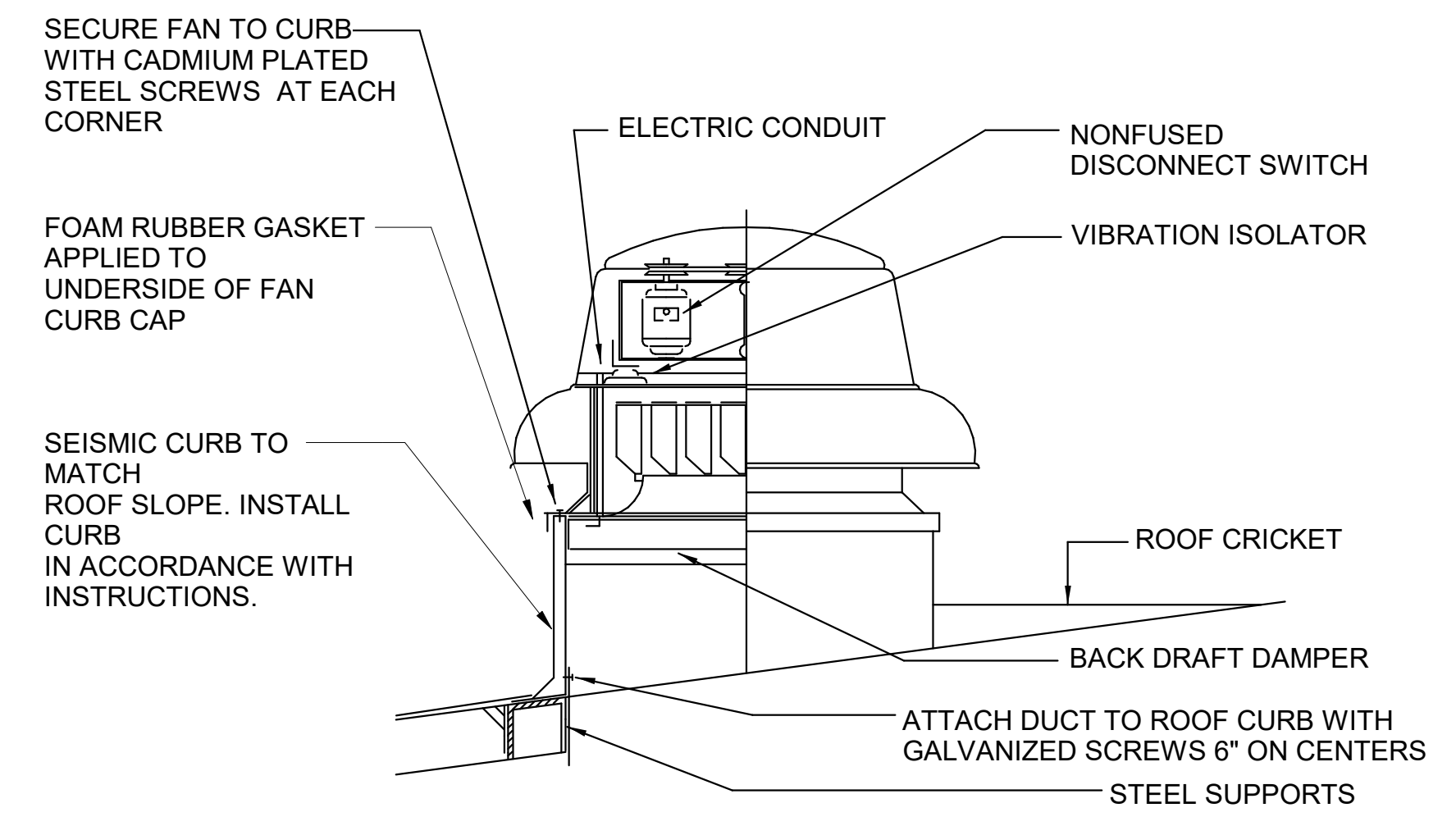
- NOTES:
- MOTORIZED DAMPER SHALL BE INTERLOCKED W/ HEAT PUMP COMPRESSOR. DAMPER SHALL OPEN WHEN COMPRESSOR IS ENERGIZED AND CLOSE WHEN DE-ENERGIZED.

2 VERTICAL AIR HANDLER INSTALLATION DETAIL
 M002 SCALE: NOT TO SCALE

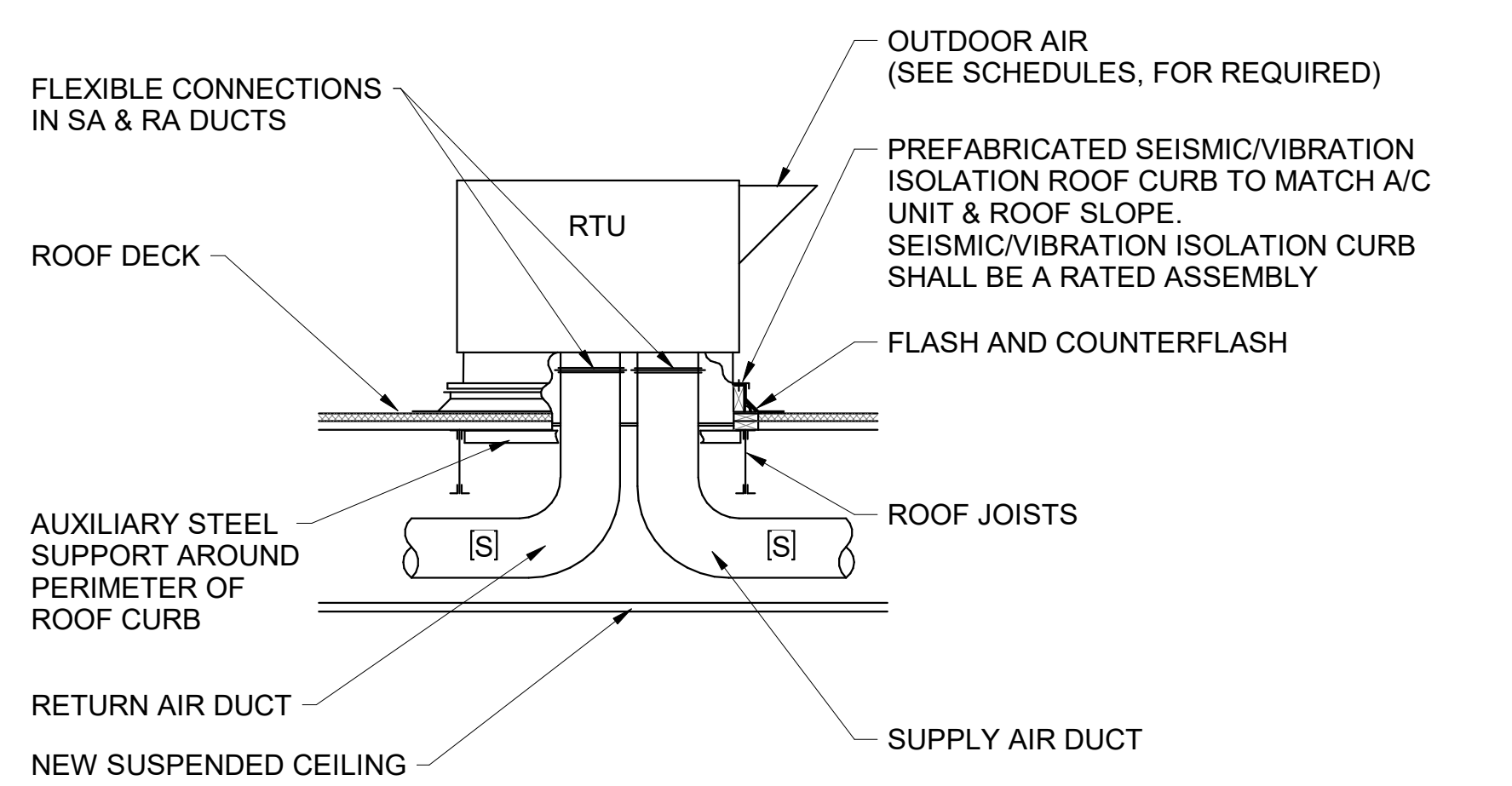


- NOTES:
- ALL PIPING SHALL BE HARD DRAWN COPPER TUBING WITH SOLDERED JOINTS.
 - SUCTION LINE INSULATION OUTDOORS SHALL BE PAINTED WITH METAL JACKET.

3 OUTDOOR UNIT INSTALLATION DETAIL
 M002 SCALE: NOT TO SCALE

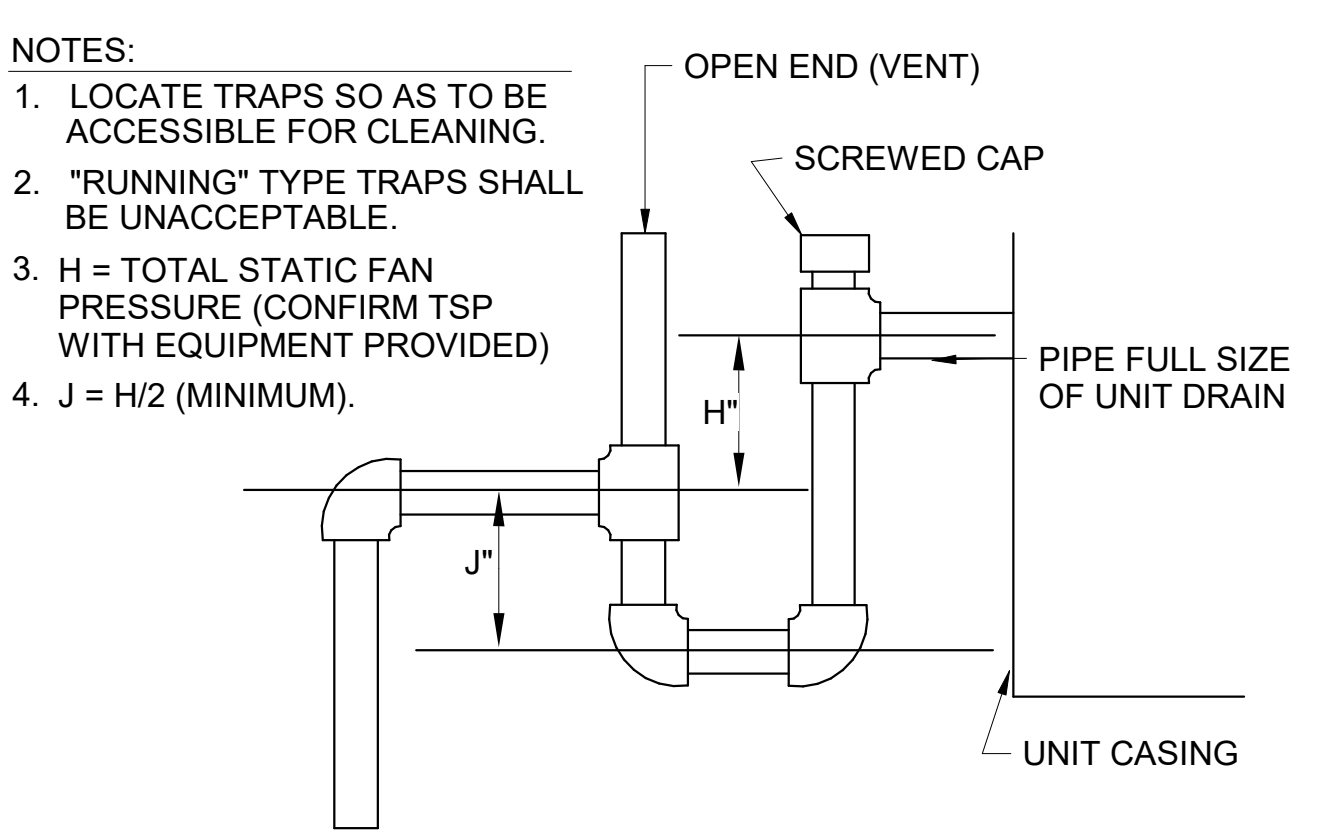


4 ROOF EXHAUST FAN INSTALLATION DETAIL
 M002 SCALE: NOT TO SCALE

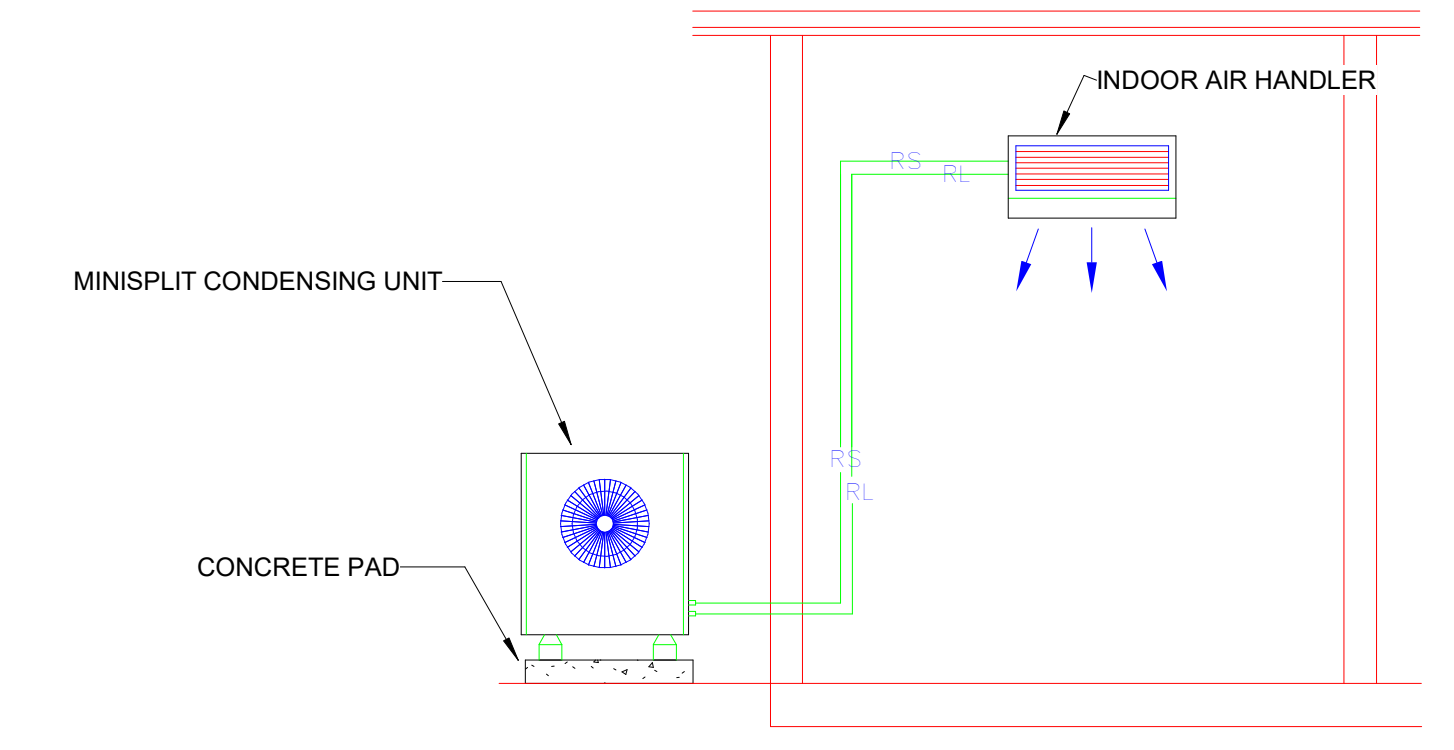


- NOTES:
- PROVIDE EQUIPMENT ROOF CURBS W/ INTEGRAL VIBRATION ISOLATION SPRINGS.
 - CURB SHALL BE FURNISHED BY EQUIPMENT MANUFACTURER AND SHALL BE INSTALLED AND FLASHED BY THE ROOFING CONTRACTOR.
 - WHERE OPENINGS IN ROOF ARE CUT LARGER THAN REQUIRED FOR DUCT PENETRATION THE CONTRACTOR SHALL PROVIDE 16 OZ. ACOUSTIBLOK BETWEEN OPENING AND BOTTOM OF UNIT FOR SOUND REDUCTION.
 - PROVIDE AND INSTALL 1/2" THICK DUCT LINER IN THE FIRST 10 FEET FROM UNIT ON SUPPLY AND RETURN DUCT. LINER SHALL BE FLEXIBLE ELASTOMERIC.

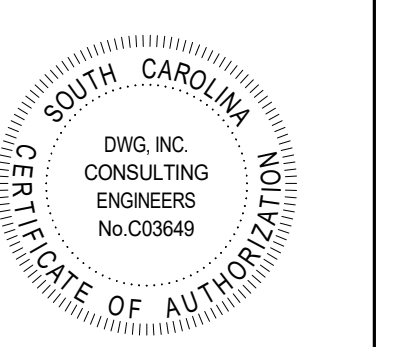
5 ROOF TOP UNIT INSTALLATION DETAIL
 M002 SCALE: NOT TO SCALE



7 CONDENSATE DRAIN TRAP INSTALLATION DETAIL
 M002 NOT TO SCALE



6 MINISPLIT INSTALLATION DETAIL- IT ROOM
 M002 SCALE: NOT TO SCALE



DWG CONSULTING ENGINEERS EMPLOYEE OWNED

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
 743 HEMLOCK AVENUE
 MYRTLE BEACH, SC 29577
 MECHANICAL DETAILS

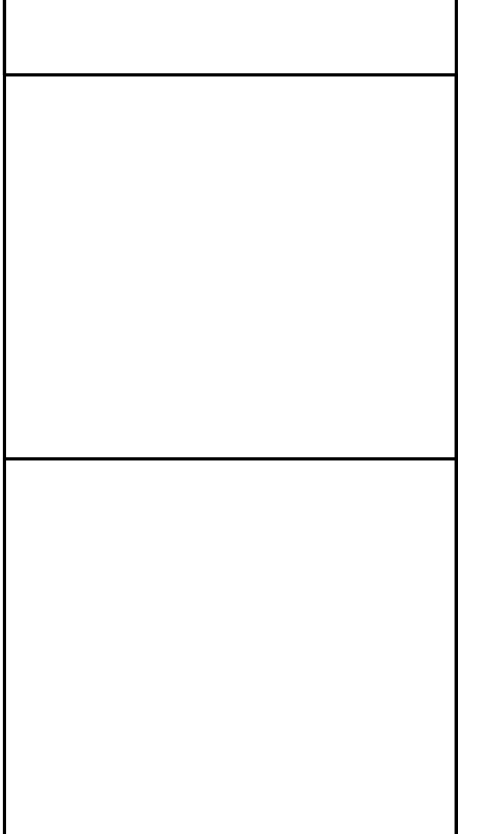
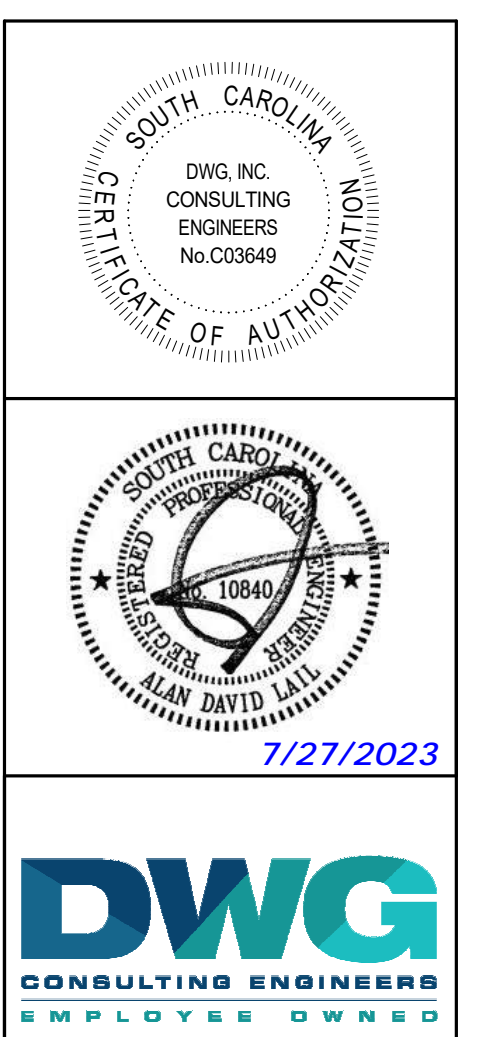
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JOB No.	H59-6214-ML	
DATE:	07/21/23	
DRAWN BY:	ADL	
CHECKED BY:	WDB	
SHEET	NUMBER	

M002



KEYNOTES

- ① — ⑥ REMOVE EXISTING OUTDOOR UNIT AND AIR HANDLING UNIT AND PROVIDE NEW
- ⑦ EXISTING EQUIPMENT TO REMAIN



GENERAL NOTES

1. PROVIDE NEW CONCRETE PAD, NEW REFRIGERANT PIPING, AND NEW DISCONNECT.
2. PROVIDE NEW IDENTIFYING LABEL FOR INDOOR AND OUTDOOR UNIT.
3. PROVIDE OUTDOOR UNITS WITH E-COAT / SEACOST PROTECTION.
4. FIELD VERIFY EQUIPMENT SIZES, ELECTRICAL REQUIREMENTS, AND INSTALLATION CONDITIONS PRIOR TO ORDERING EQUIPMENT.
5. RECONNECT TO EXISTING CONTROLS. COORDINATE CONTROLS WORK WITH CMI TO ADD 181/186, 191, 192, 193, AND 194 TO CONTROLS NETWORK.

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
 743 HEMLOCK AVENUE
 MYRTLE BEACH, SC 29577
 B200 FORE MECHANICAL PLAN

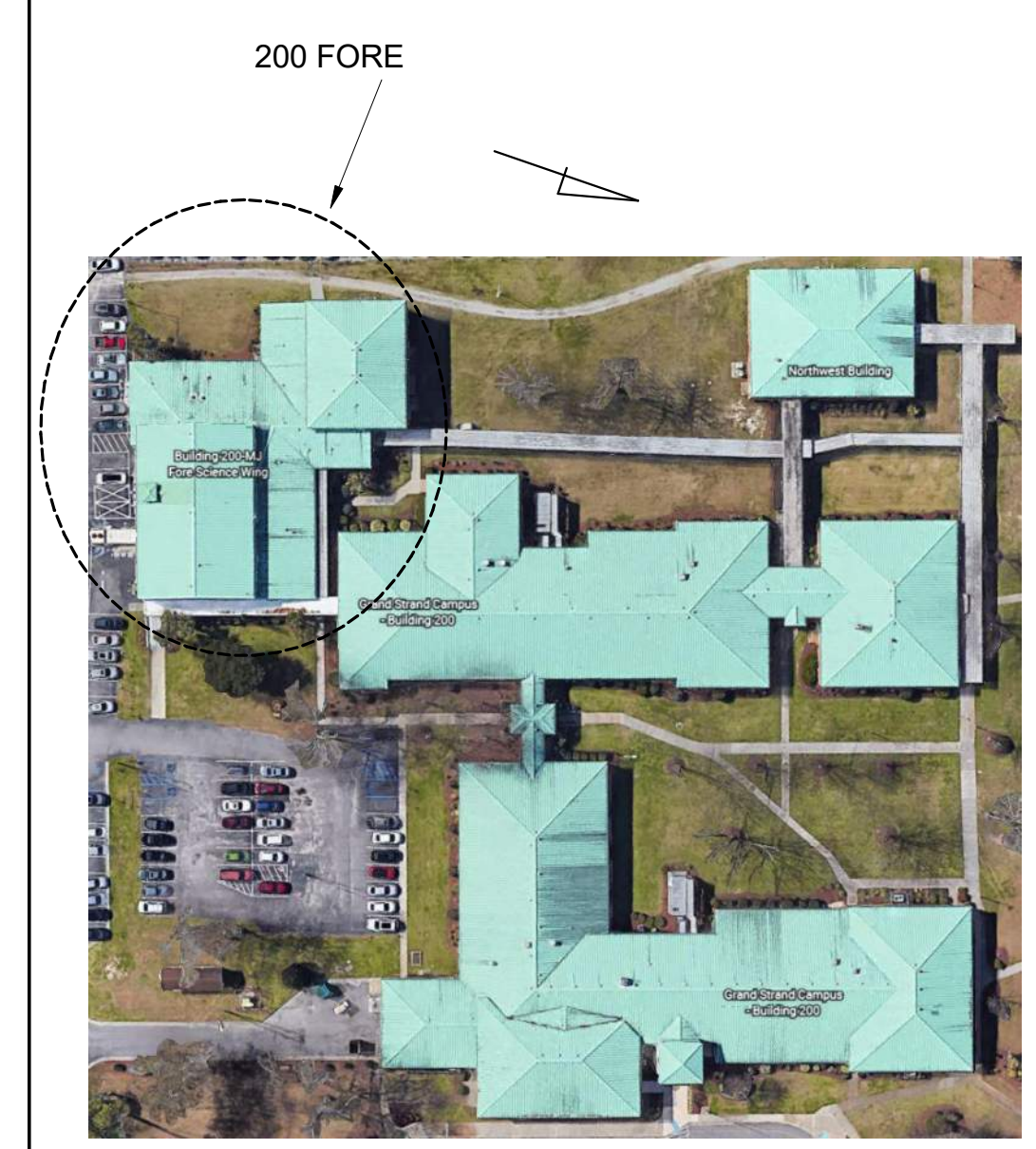
2 BLDG 200 FORE MECHANICAL PLAN
M101 NOT TO SCALE

SPLIT SYSTEM UNIT SCHEDULE - GS 200 FORE - BASE BID															
UNIT	EQUIPMENT TYPE	OUTDOOR UNIT LOCATION	INDOOR UNIT LOCATION	MANUFACTURER	INDOOR UNIT		AIR FLOW (CFM)	COOLING CAPACITY (BTUH)	ELECTRIC HEAT	VOLTAGE		MCA/MOCP		UNIT	KEY NOTE
					INDOOR UNIT	OUTDOOR UNIT				INDOOR	OUTDOOR	INDOOR	OUTDOOR		
CAU / AH-181/186	SPLIT SYSTEM HP	OUTSIDE ROOM 181	ABOVE ROOM 181	TRANE	TWE090	TWA090	3000	90,000	8.65	208 V / 1 PHASE	208 V / 3 PHASE	61 / 70	36 / 60	CAU / AH-181/186	①
CAU / AH-IT ROOM	SPLIT SYSTEM HP	OUTSIDE IT ROOM	INSIDE ROOM 186	MITSUBISHI	PKA-A18	PUZ-A18	350	18,000	--	208 V / 1 PHASE	208 V / 1 PHASE	1	13 / 20	CAU / AH-IT ROOM	②
CAU / AH-191	SPLIT SYSTEM HP	OUTSIDE 200 SCIENCE	ABOVE ROOM 191	TRANE	TEM6B0C48H41	4TWA4048	1600	48,300	5.76	208 V / 1 PHASE	208 V / 3 PHASE	43 / 45	18 / 30	CAU / AH-191	③
CAU / AH-192	SPLIT SYSTEM HP	OUTSIDE 200 SCIENCE	ABOVE ROOM 192	TRANE	TEM6B0C60H51	4TWA4060	1800	57,500	5.76	208 V / 1 PHASE	208 V / 3 PHASE	43 / 45	21 / 35	CAU / AH-192	④
CAU / AH-193	SPLIT SYSTEM HP	OUTSIDE 200 SCIENCE	ABOVE ROOM 193	TRANE	TEM6B0C48H41	4TWA4048	1600	48,300	5.76	208 V / 1 PHASE	208 V / 3 PHASE	43 / 45	18 / 30	CAU / AH-193	⑤
CAU / AH-194	SPLIT SYSTEM HP	OUTSIDE 200 SCIENCE	ABOVE ROOM 194	TRANE	TEM6B0C42H41	4TWA4042	1400	40,500	5.76	208 V / 1 PHASE	208 V / 3 PHASE	40 / 45	18 / 30	CAU / AH-194	⑥

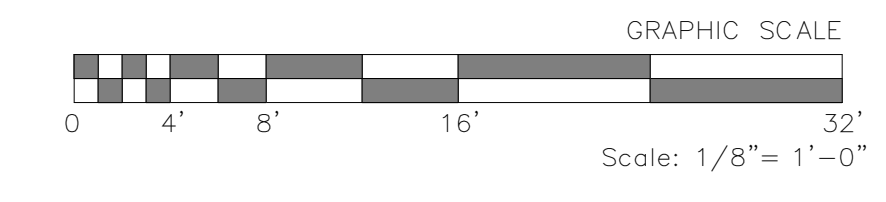


UTILIZE EXISTING AND PROVIDE NEW 4" PAD FOR OUTDOOR UNIT TO RAISE ABOVE BEDDING

4 BLDG 200 GS FORE - TYPICAL OUTDOOR UNIT
M101 NOT TO SCALE



1 BLDG 200 GS KEY PLAN - FORE
M101 NOT TO SCALE



PLOT DATE: 07/21/23

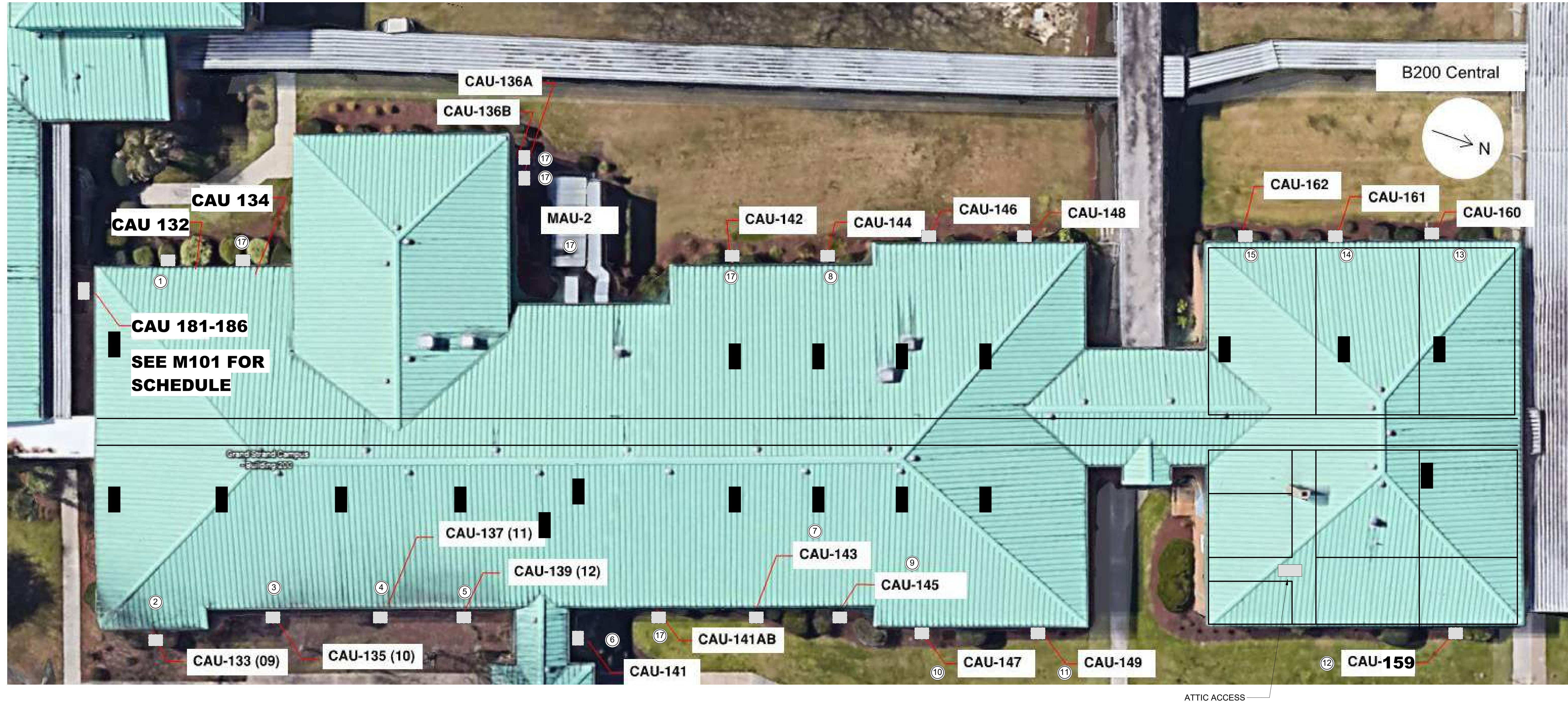
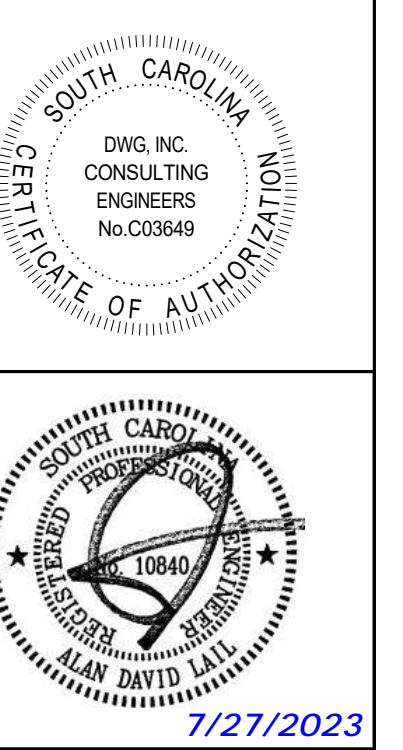
M101

GENERAL NOTES

1. PROVIDE NEW CONCRETE PAD, NEW REFRIGERANT PIPING, AND NEW DISCONNECT.
2. PROVIDE NEW IDENTIFYING LABEL FOR INDOOR AND OUTDOOR UNIT.
3. PROVIDE OUTDOOR UNITS WITH E-COAT / SEA COST PROTECTION.
4. COORDINATE CONTROLS WORK WITH CM.
5. FIELD VERIFY EQUIPMENT SIZES, ELECTRICAL REQUIREMENTS, AND INSTALLATION CONDITIONS PRIOR TO ORDERING EQUIPMENT.

KEYNOTES

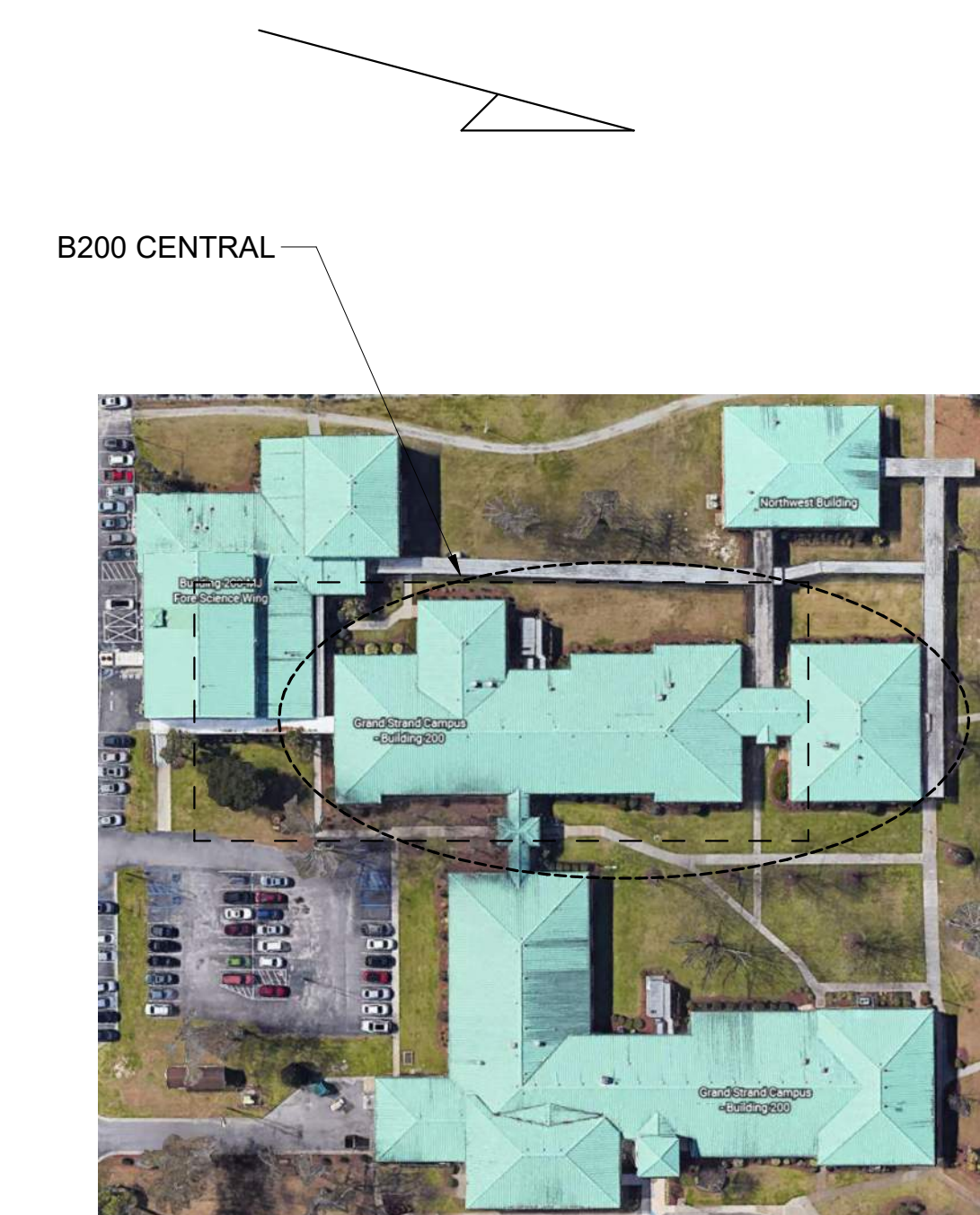
- ① THROUGH ⑩ REMOVE EXISTING OUTDOOR UNIT AND AIR HANDLING UNIT AND PROVIDE NEW
- ⑪ EXISTING EQUIPMENT TO REMAIN



2 BLDG 200 CENTRAL MECHANICAL PLAN
M103 / NOT TO SCALE

MECHANICAL SPLIT SYSTEM SCHEDULE - GS 200 CENTRAL - BASE BID

UNIT	EQUIPMENT TYPE	LOCATION	EXISTING MANUFACTURER	EXISTING MODEL	NEW MANUFACTURER	NEW MODEL		CFM	STATIC PRESSURE	TOTAL COOLING	SENSIBLE COOLING	HEATING @ 47F	ELECTRIC HEAT	VOLTAGE		MCA / M0CP		UNIT	KEYNOTE
						INDOOR UNIT	OUTDOOR UNIT							INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT		
CAU-132	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-132	①
CAU-133 (B9)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-133 (B9)	②
CAU-135 (B10)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-135 (B10)	③
CAU-137 (B11)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-137 (B11)	④
CAU-139 (B12)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-139 (B12)	⑤
CAU-141 (B13)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1 TWG025A140A0	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-141 (B13)	⑥
CAU-143 (B15)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1 TWG025A140A0	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-143 (B15)	⑦
CAU-144 (6)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1 TWG025A140A0	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-144 (6)	⑧
CAU-145 (B16)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1 TWG025A140A0	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-145 (B16)	⑨
CAU-147 (17)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-147 (17)	⑩
CAU-149 (18)	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23,700	17,600	22,600	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CAU-149 (18)	⑪
CAU-159	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB048C100A1	TRANE	TEM6B0C48H41	4TWR4048N1	1600	0.5"	48,000	35,600	45,800	5.76	208 V / 1 PHASE	208 V / 1 PHASE	43 / 45	26 / 40	CAU-159	⑫
CAU-160	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB030C100A1	TRANE	TEM6B0C30H21	4TWR4030N1	1000	0.5"	30,000	22,500	28,500	2.88	208 V / 1 PHASE	208 V / 1 PHASE	23 / 25	15 / 25	CAU-160	⑬
CAU-161	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB030C100A1	TRANE	TEM6B0C30H21	4TWR4030N1	1000	0.5"	30,000	22,500	28,500	2.88	208 V / 1 PHASE	208 V / 1 PHASE	23 / 25	15 / 25	CAU-161	⑭
CAU-162	SPLIT SYSTEM HP	OUTSIDE 200 CENTRAL	TRANE	TTB030C100A1	TRANE	TEM6B0C30H21	4TWR4030N1	1000	0.5"	30,000	22,500	28,500	2.88	208 V / 1 PHASE	208 V / 1 PHASE	23 / 25	15 / 25	CAU-162	⑮



1 BLDG 200 GS KEY PLAN CENTRAL
M103 / NOT TO SCALE

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
 743 HEMLOCK AVENUE
 MYRTLE BEACH, SC 29577
 B200 CENTRAL FIRST FLOOR MECHANICAL PLAN

#	Description	DATE

JOB No: H59-6214-ML
 DATE: 07/21/23
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 CHECKED BY: WDB
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M103



2 BLDG 200 EAST MECHANICAL PLAN
M104 NOT TO SCALE

MECHANICAL SPLIT SYSTEM SCHEDULE - GS 200 EAST - BASE BID

UNIT	EQUIPMENT TYPE	LOCATION	EXISTING MANUFACTURER	EXISTING UNIT	NEW MANUFACTURER	NEW MODEL		CFM	STATIC PRESSURE	TOTAL COOLING	SENSIBLE COOLING	HEATING @ 47F	ELECTRIC HEAT	VOLTAGE		MCA / MOCP		UNIT	KEYNOTE
						INDOOR UNIT	OUTDOOR UNIT							INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT		
AHHP-116 WEST	SPLIT SYSTEM HP	ADMISSIONS MECH ROOM	CARRIER	40BA009 300 (INDOOR) 38ARZ008 (OUTDOOR)	TRANE	TWE090	TWA090	3000	0.5"	94	76	82	--	208 V / 1 PHASE	208 V / 3 PHASE	9 / 15	36 / 60	AHHP-116 WEST	①
CUA1-105 (A1)	SPLIT SYSTEM HP	EXT ROOM 105	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA1-105 (A1)	②
CUA2-107 (A2)	SPLIT SYSTEM HP	EXT ROOM 107	TRANE	TTB024C100A0	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA2-107 (A2)	③
CUA3-109 (A3)	SPLIT SYSTEM HP	EXT ROOM 109	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA3-109 (A3)	④
HP-113	SPLIT SYSTEM HP	EXT ROOM 113	BRYANT	861CPX024	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	HP-113	⑤
HP-119-123	SPLIT SYSTEM HP	EXT ROOM 119	BRYANT	661CP036-C	TRANE	TEM6B0C38H31	4TWA4036N1	1200	0.5"	35.8	26.9	34.1	--	208 V / 1 PHASE	208 V / 3 PHASE	5 / 15	13 / 20	HP-119-123	⑥
CUA9-125 (A9)	SPLIT SYSTEM HP	EXT ROOM 125	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA9-125 (A9)	⑦
CUA10-127 (A10)	SPLIT SYSTEM HP	EXT ROOM 127	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA10-127 (A10)	⑧
CUA11-129 (A11)	SPLIT SYSTEM HP	EXT ROOM 129	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA11-129 (A11)	⑨
HP-131	SPLIT SYSTEM HP	EXT ROOM 131	PAYNE	PA13NR024-J	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	HP-131	⑩
CUA10-124(A13)	SPLIT SYSTEM HP	EXT ROOM 124	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA10-124(A13)	⑪
CUA10-126 (A14)	SPLIT SYSTEM HP	EXT ROOM 126	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA10-126 (A14)	⑫
CUA10-128 (A15)	SPLIT SYSTEM HP	EXT ROOM 128	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA10-128 (A15)	⑬
CUA10-130 (A16)	SPLIT SYSTEM HP	EXT ROOM 130	TRANE	TTB024C100A1	TRANE	TEM6B0C24H21	4TWR4024N1	800	0.5"	23.7	17.8	22.6	--	208 V / 1 PHASE	208 V / 1 PHASE	3 / 15	15 / 25	CUA10-130 (A16)	⑭

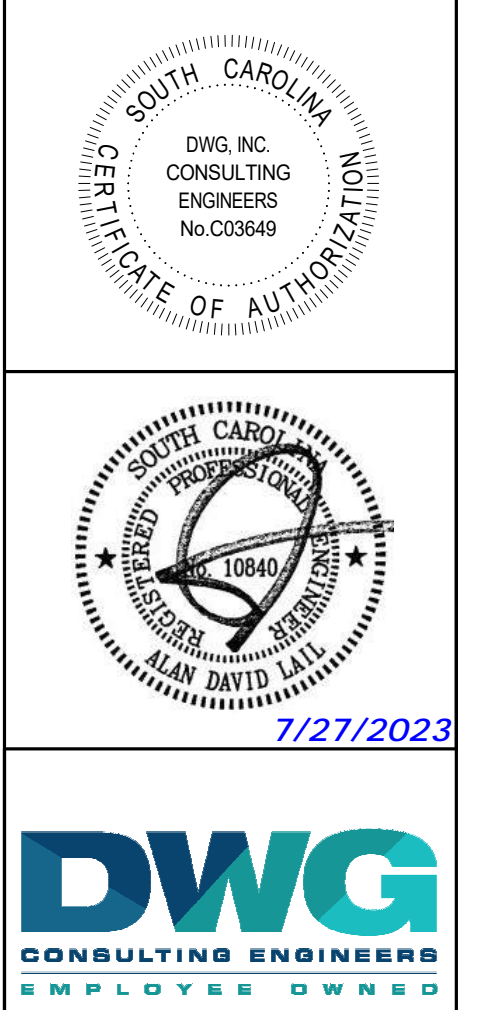
NOTES
1. PROVIDE OUTDOOR UNITS WITH E COAT / SEACOAST PROTECTION.

KEYNOTES

① THROUGH ⑭	REMOVE EXISTING OUTDOOR UNIT AND AIR HANDLING UNIT AND PROVIDE NEW
⑮	EXISTING EQUIPMENT TO REMAIN



1 BLDG 200 GS KEY PLAN EAST
M104 NOT TO SCALE



UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577

B200 EAST FIRST FLOOR MECHANICAL PLAN

#	Description	DATE

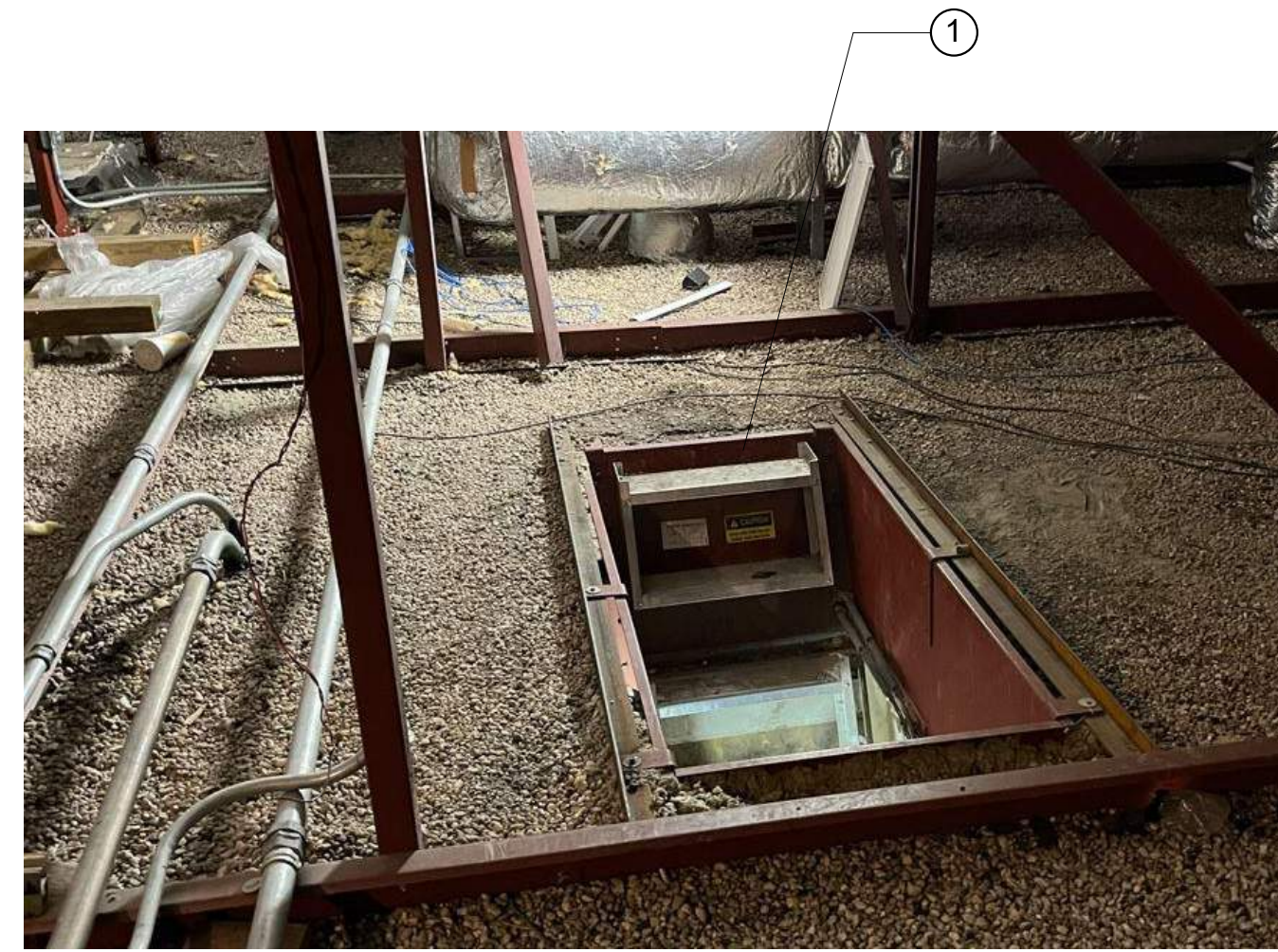
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M104

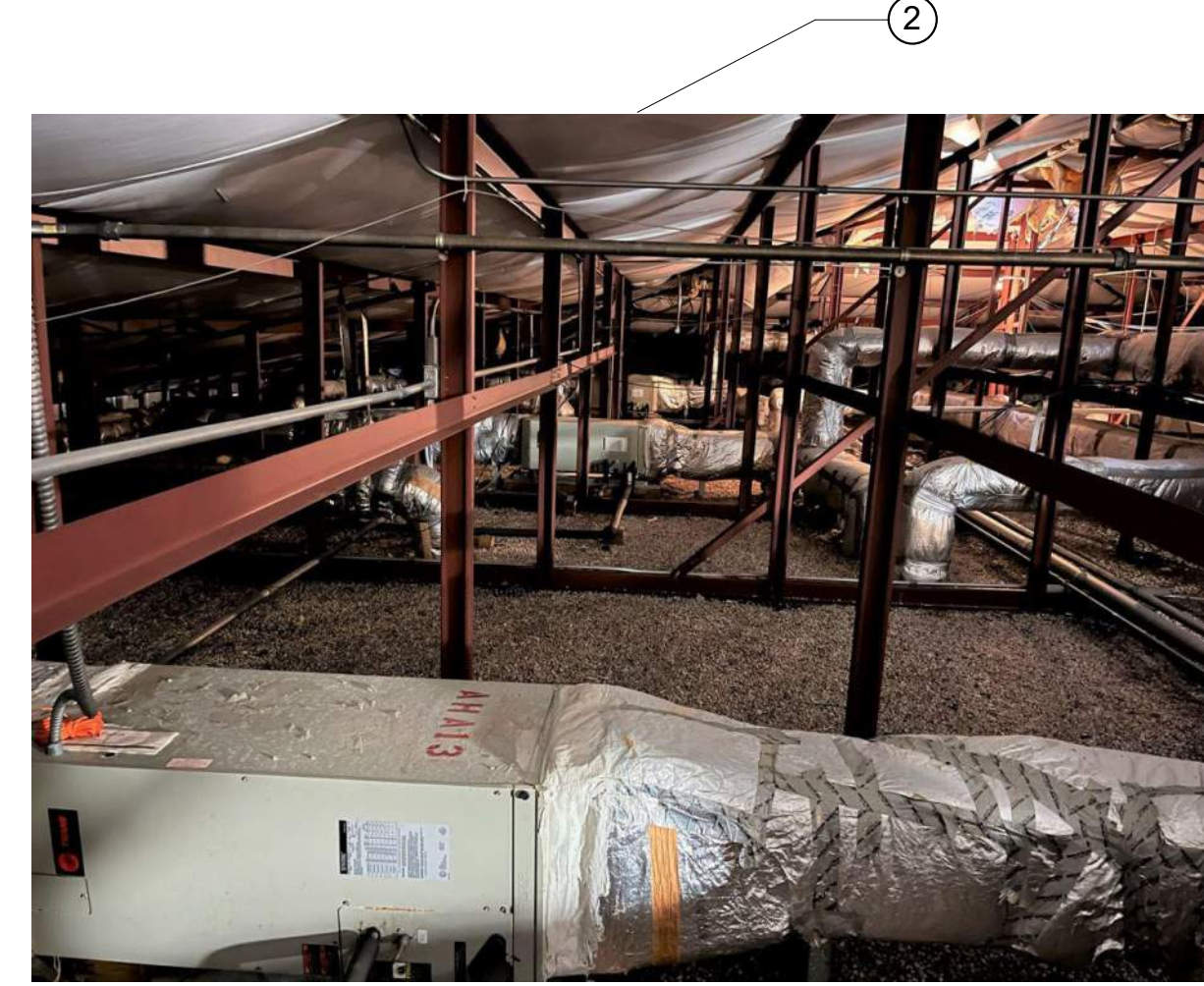
PLOT DATE: 07/21/23

KEYNOTES

- ① HATCH OPENING TO FORMER ROOF, NOW COVERED WITH METAL ROOF
- ② STRUCTRE FOR METAL ROOF. NOTE THAT AIR HANDLING UNITS AND DUCTWORK IS LOCATED ON OLD ROOF AND BELOW METAL ROOF
- ③ TYPICAL AIR HANDLING UNIT INSTALLATION. MOUNT NEW AIR HANDLER ON EXISING WOOD PLATFORM AND RECONNECT TO EXISTING DUCTWORK



1 BLDG 200 GS EAST HATCH ACCESS
M104A NOT TO SCALE



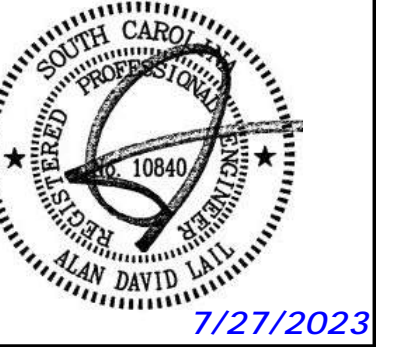
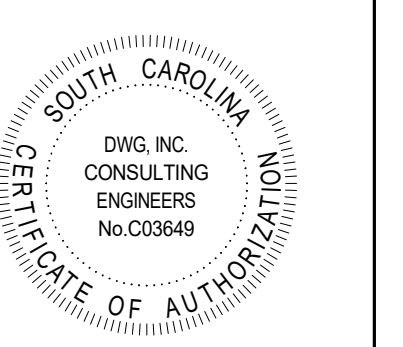
2 BLDG 200 GS EAST STRUCTURE
M104A NOT TO SCALE



3 BLDG 200 GS EAST TYPICAL AHU
M104A NOT TO SCALE

GENERAL NOTES

- 1. FIELD VERIFY INSTALLATION CONDITIONS PRIOR TO ORDERING EQUIPMENT.



UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
 743 HEMLOCK AVENUE
 MYRTLE BEACH, SC 29577
B200 EAST MECHANICAL DETAILS

#	Description	DATE

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M104A



2 BLDG 200 D NW MECHANICAL PLAN
M105 NOT TO SCALE

SPLIT SYSTEM EQUIPMENT SCHEDULE - GS 200D NW - BASE BID

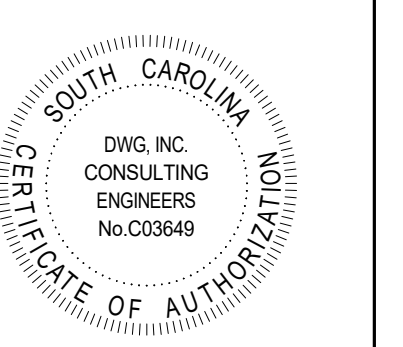
INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT LOCATION	OUTDOOR UNIT LOCATION	MANUFACTURER	MODEL		COOLING CAPACITY (BTUH)	VOLTAGE		ELECTRIC HEAT	MCA/MOCP		INDOOR UNIT	OUTDOOR UNIT	KEY NOTE
					INDOOR	OUTDOOR		INDOOR	OUTDOOR		INDOOR	OUTDOOR			
AHU-1	CAU-165 / 168	SCIENCE LAB 164 MECH DATA CLOSET	OUTSIDE SCIENCE LAB	TRANE	TEM6B0C60H51	4TWA060A3	60,000	208 V / 1 PHASE	208 V / 3 PHASE	5.76	43 / 45	21 / 35	AHU-1	CAU-165 / 168	①
AHU-2	CAU-169 / 170 / 171	MECHANICAL ROOM BEHIND ROOM 169	OUTSIDE 200 D NW	TRANE	TEM6B0C60H51	4TWA060A3	60,000	208 V / 1 PHASE	208 V / 3 PHASE	5.76	43 / 45	21 / 35	AHU-2	CAU-169 / 171 / 172	②
AHU-3	CAU-163	ROOM 163 ABOVE CEILING	OUTSIDE 200 D NW	TRANE	TEM6B0C60H51	4TWA060A3	60,000	208 V / 1 PHASE	208 V / 3 PHASE	5.76	43 / 45	21 / 35	AHU-3	CAU-163	③

KEYNOTES

- ① THROUGH ③ REMOVE EXISTING OUTDOOR UNIT AND AIR HANDLING UNIT AND PROVIDE NEW
- ④ EXISTING EQUIPMENT TO REMAIN

GENERAL NOTES

- 1. PROVIDE NEW CONCRETE PAD, NEW REFRIGERANT PIPING, AND NEW DISCONNECT.
- 2. PROVIDE NEW IDENTIFYING LABEL FOR INDOOR AND OUTDOOR UNIT.
- 3. PROVIDE OUTDOOR UNITS WITH E-COAT / SEACOST PROTECTION.
- 4. FIELD VERIFY EQUIPMENT SIZES, ELECTRICAL REQUIREMENTS, AND INSTALLATION CONDITIONS PRIOR TO ORDERING EQUIPMENT.
- 5. RECONNECT TO EXISTING CONTROLS. COORDINATE CONTROLS WORK WITH CMI.



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CONSULTING ENGINEERS
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UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577
B200 NW FIRST FLOOR MECHANICAL PLAN

#	Description	DATE

JOB No. H59-6214-ML

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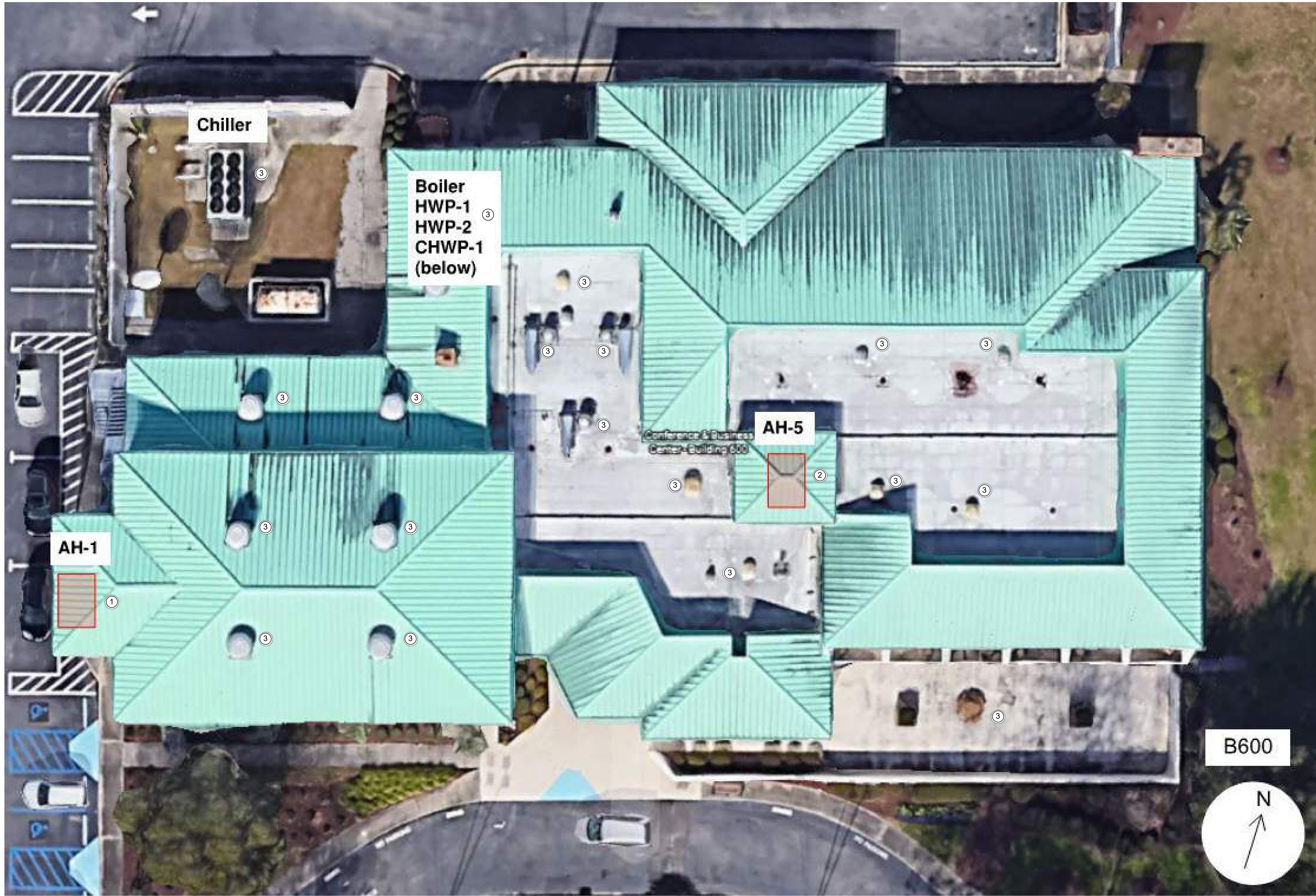
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M105

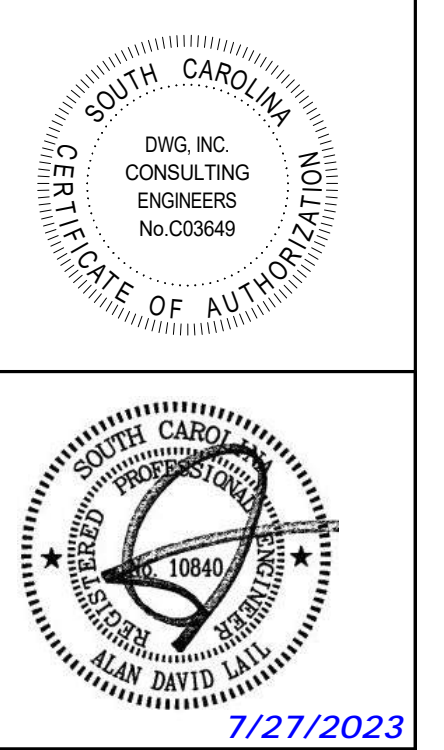


1 BLDG 200 GS KEY PLAN _NW
M105 SCALE: 12" = 1'-0"



KEYNOTES

- ① REMOVE EXISTING CHILLED WATER AIR HANDLING UNIT AND PROVIDE NEW ON EXISTING CONCRETE PAD IN MECHANICAL ROOM
- ② REMOVE EXISTING CHILLED WATER AIR HANDLING UNIT AND PROVIDE NEW ON EXISTING CONCRETE PAD IN MECHANICAL ROOM
- ③ EXISTING EQUIPMENT TO REMAIN



GENERAL NOTES

- 1. FIELD VERIFY EQUIPMENT SIZES, ELECTRICAL REQUIREMENTS, AND INSTALLATION CONDITIONS PRIOR TO ORDERING EQUIPMENT.
- 2. PROVIDE NEW IDENTIFYING LABEL FOR INDOOR AND OUTDOOR UNIT.
- 3. COORDINATE CONTROLS WORK WITH CMI.

2 BLDG 600 GS MECHANICAL PLAN
M106 NOT TO SCALE

AIR HANDLING UNIT SCHEDULE - GS 600 - BASE BID

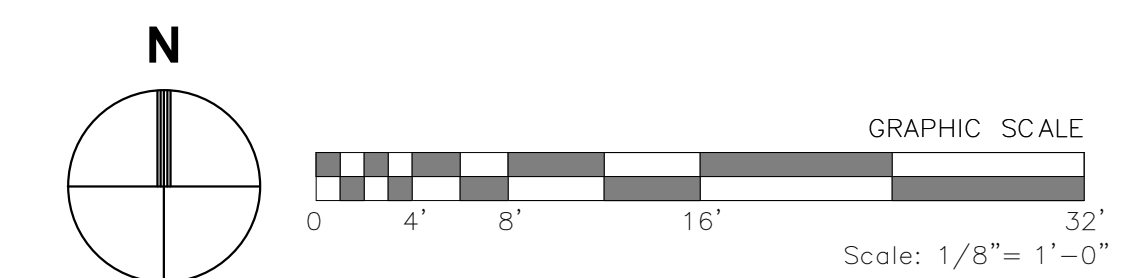
UNIT	EQUIPMENT TYPE	LOCATION	MANUFACTURER	EXISTING MODEL	NEW MODEL	AIR FLOW CFM	FAN HP	TOTAL STATIC PRESSURE	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	ENTERING AIR TEMPERATURE	LEAVING AIR TEMPERATURE	CHILLED WATER TEMPERATURE	CHILLED WATER FLOW	VOLTAGE	MCA/MOCP	WEIGHT	KEY NOTE
AHU-1	AIR HANDLING UNIT	MECHANICAL ROOM	TRANE	MCCB017UA0B0UB	CSAA017	8,500	10	4.370	467,000	277,610	84.5 DB / 71.5 WB	55.0 DB / 54.71 WB	42 F ENT / 57 F LVG	62.06 GPM	208 V / 3 PHASE	52.5 / 90	2238 LB	①
AHU-5	AIR HANDLING UNIT	B300 ROOF	TRANE	MCCB021UA0C0UA	CSAA021	11,500	15	4.91	521,900	330,350	81.0 DB / 69.0 WB	55.0 DB / 54.71 WB	42 F ENT / 57 F LVG	69.34 GPM	208 V / 3 PHASE	74.25 / 125	2319 LB	②

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
 743 HEMLOCK AVENUE,
 MYRTLE BEACH, SC 29577
 B600 FIRST FLOOR MECHANICAL PLAN

#	Description	DATE

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M106





1 BLDG 600 GS AHU-1
M106B / NOT TO SCALE



2 BLDG 600 GS AHU-1 Access
M106B / NOT TO SCALE



2



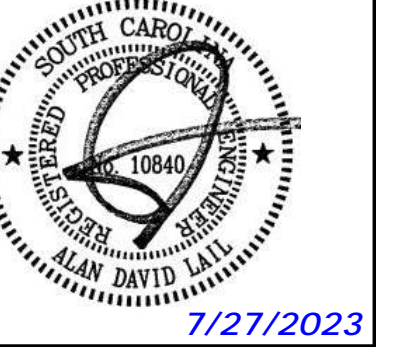
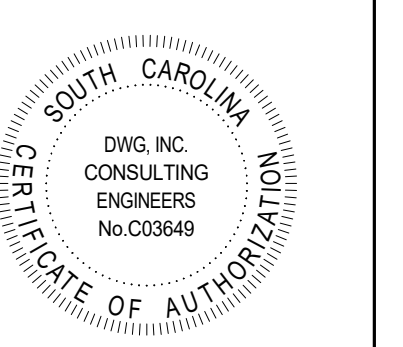
3 BLDG 600 GS AHU-5
M106B / NOT TO SCALE



4 BLDG 600 GS AHU-5 Access
M106B / NOT TO SCALE

KEYNOTES

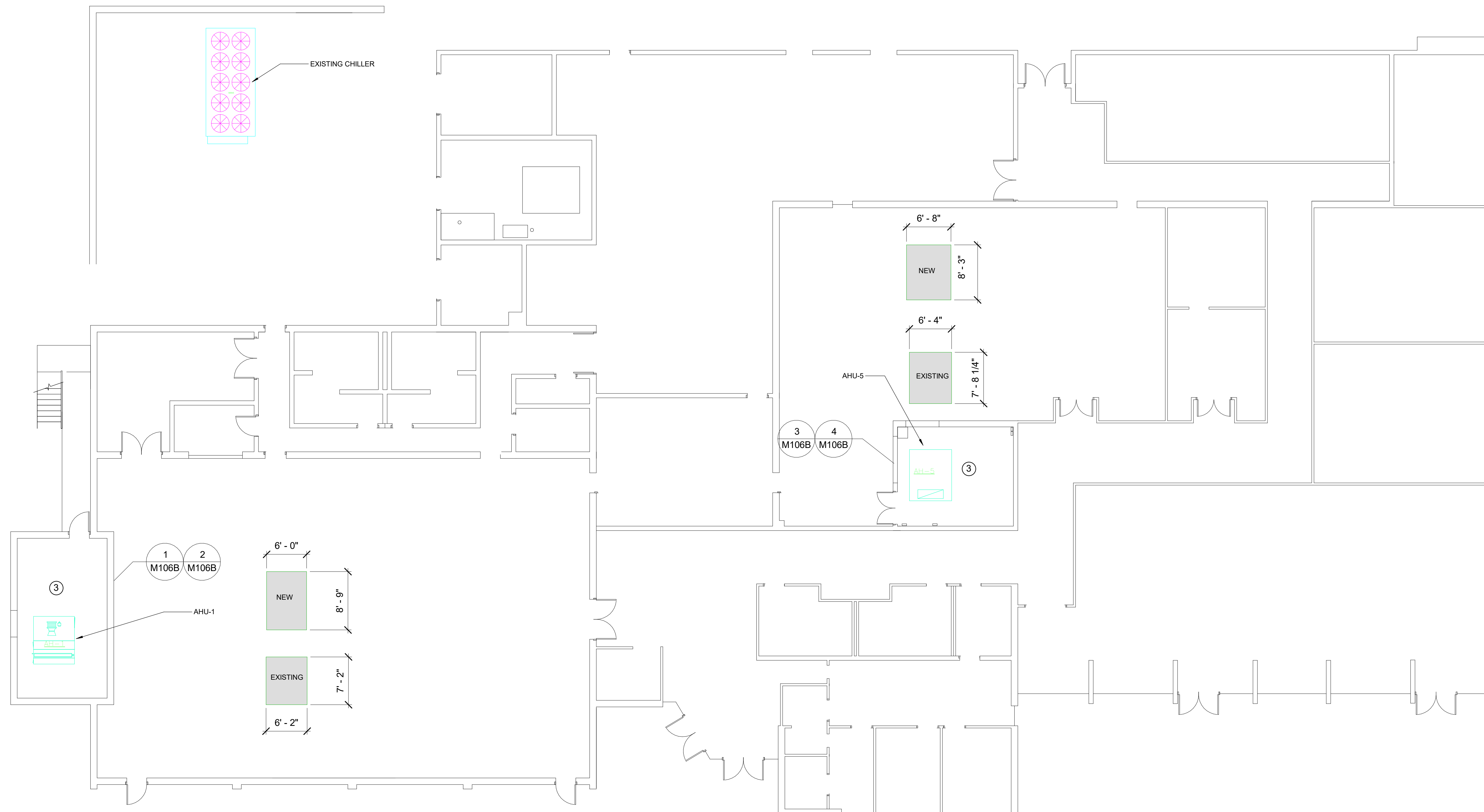
- 1 EXISTING STAIR ACCESS TO AHU-1 MECHANICAL ROOM
- 2 LOUVER IN AHU-1 MECHANICAL ROOM
- 3 RECONNECT EXISTING DUCTWORK AND CHILLED WATER PIPE TO NEW AIR HANDLING UNIT



DWG CONSULTING ENGINEERS EMPLOYEE OWNED

GENERAL NOTES

1. SUBMIT LIFT PLAN IDENTIFYING CRANE SPECIFICATIONS AND LIFT LOCATION FOR REMOVAL OF EXISTING AND INSTALLATION OF NEW AIR HANDLING UNIT AND ASSOCIATED COMPONENTS.



5 B600 GS
M106B / SCALE: 1/8" = 1'-0"

UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577
BUILDING 600 MECHANICAL DETAILS

#	Description	DATE
JOB No.	H59-6214-ML	
DATE:	07/21/23	
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M106B

PLOT DATE: 07/21/23

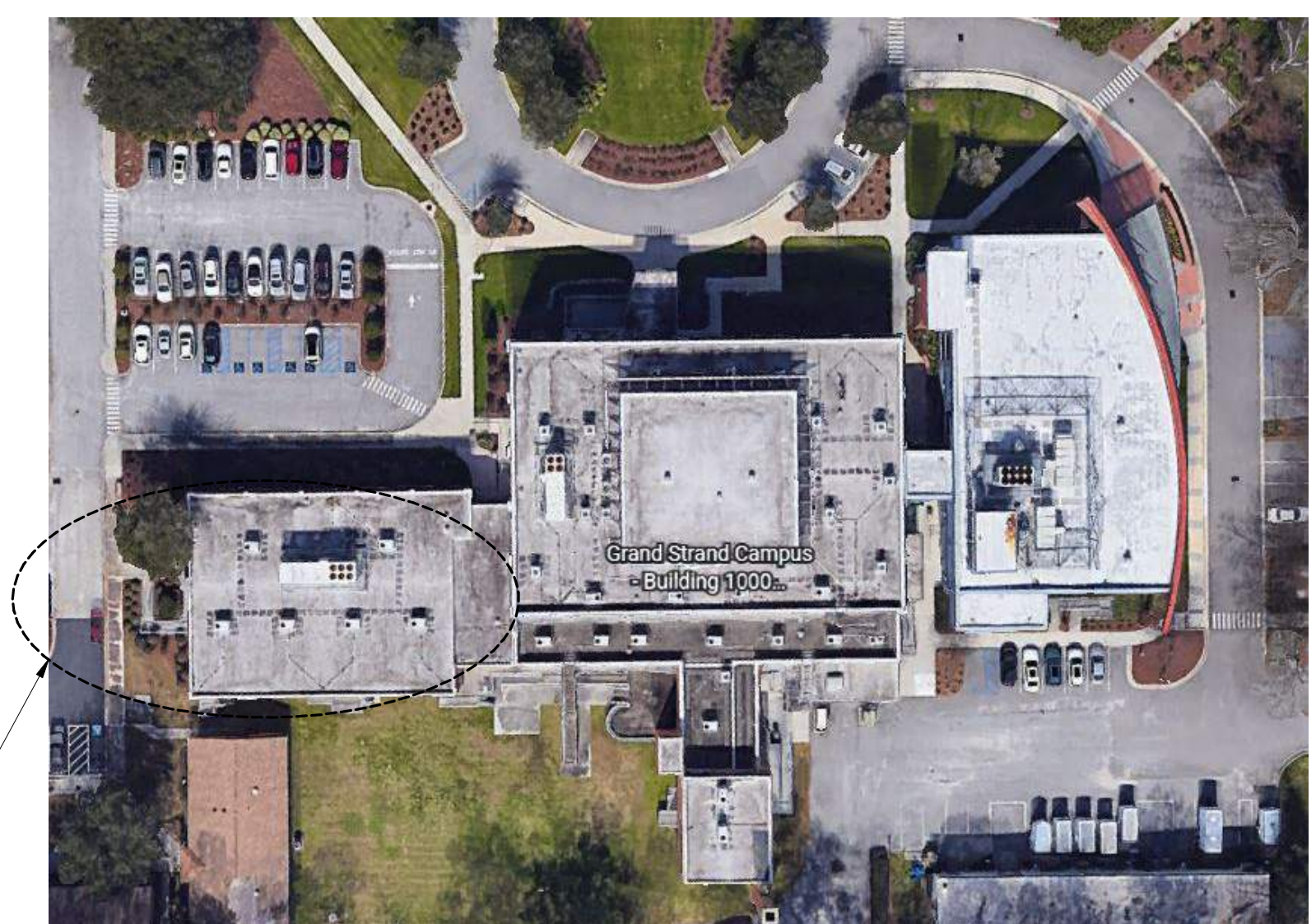


1 BLDG 1000 WEST GS MECHANICAL PLAN
M107 NOT TO SCALE



4 BLDG 1000 GS TYPICAL RTU
M107 NOT TO SCALE

ROOFTOP HEAT PUMP UNIT SCHEDULE - GS 1000 WEST - ALTERNATE BID ITEM #1									
UNIT	EQUIPMENT TYPE	LOCATION	MANUFACTURER	MODEL	COOLING CAPACITY (BTUH)	ELECT HEAT (kW)	VOLTAGE	MCA / MOCIP	KEY NOTE
RTU-4B	PACKAGED HP	WEST ROOF	TRANE	WSC048	48,000	17.4	460 V / 3 PHASE	38 / 40	①
RTU-4C	PACKAGED HP	WEST ROOF	TRANE	WSC048	48,000	17.4	460 V / 3 PHASE	38 / 40	②
RTU-4D	PACKAGED HP	WEST ROOF	TRANE	WSC048	48,000	17.4	460 V / 3 PHASE	38 / 40	③
RTU-4E	PACKAGED HP	WEST ROOF	TRANE	WSC048	48,000	17.4	460 V / 3 PHASE	38 / 40	④
RTU-4F	PACKAGED HP	WEST ROOF	TRANE	WSC048	48,000	17.4	460 V / 3 PHASE	38 / 40	⑤
RTU-4G	PACKAGED HP	WEST ROOF	TRANE	WSC048	48,000	17.4	460 V / 3 PHASE	38 / 40	⑥



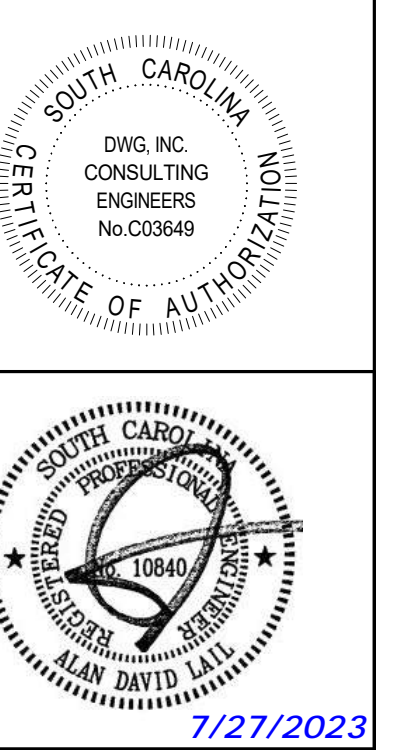
2 BLDG 1000 GS WEST KEY PLAN
M107 NOT TO SCALE

KEYNOTES

- ①-⑥ ALTERNATE BID ITEM #1
REMOVE EXISTING ROOFTOP UNIT AND PROVIDE NEW
- ⑦ ALTERNATE BID ITEM #2
REMOVE EXISTING MAU-1 AND PROVIDE NEW ON EXISTING PLATFORM.
REMOVE EXISTING CURB AND PROVIDE NEW. VERIFY STRUCTURAL INTEGRITY FOR NEW UNIT

GENERAL NOTES

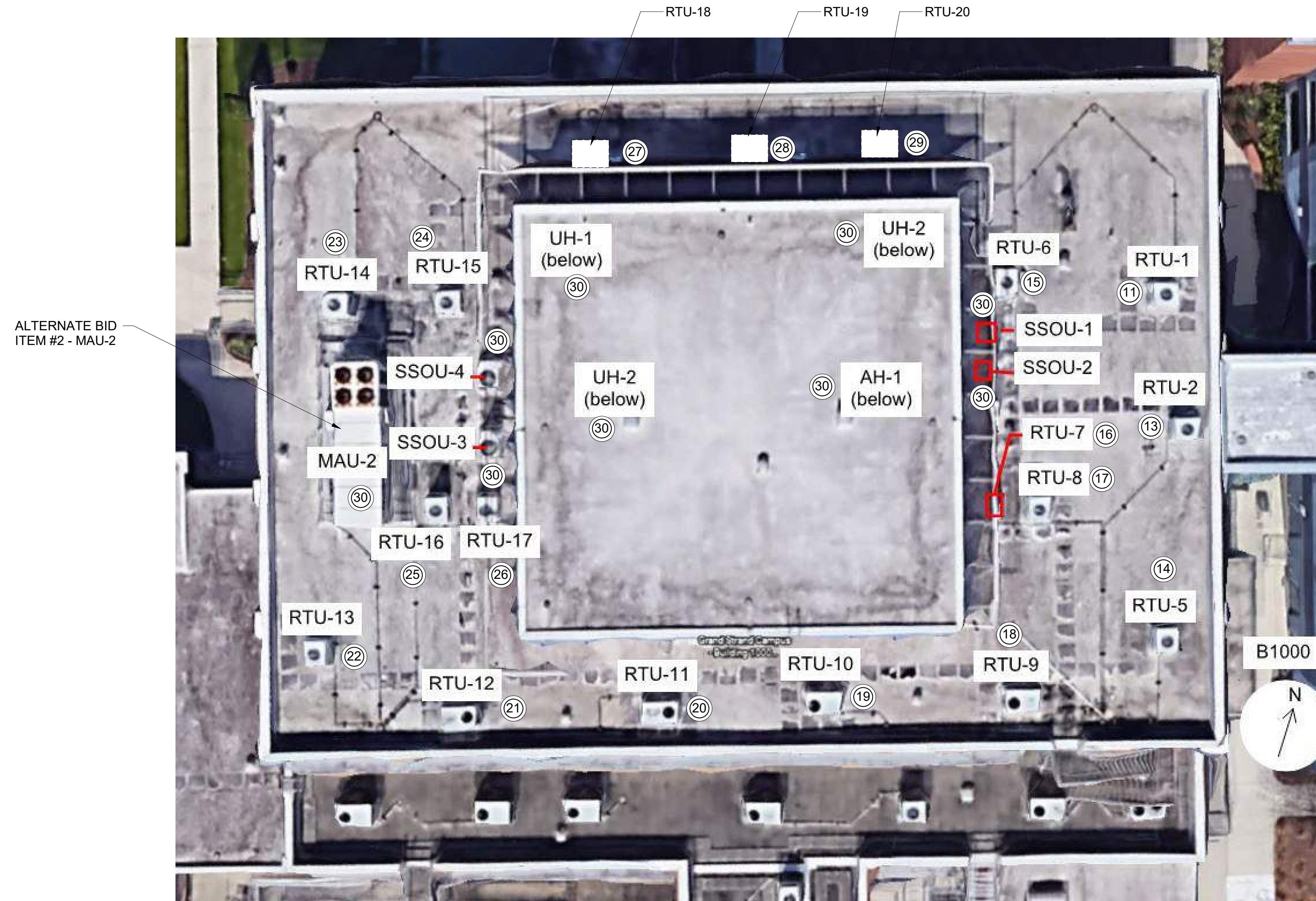
- 1. SUBMIT LIFT PLAN IDENTIFYING CRANE SPECIFICATIONS AND LIFT LOCATION FOR REMOVAL OF EXISTING AND INSTALLATION OF NEW AIR HANDLING UNIT AND ASSOCIATED COMPONENTS.
- 2. FIELD VERIFY EQUIPMENT SIZES, ELECTRICAL REQUIREMENTS, AND INSTALLATION CONDITIONS PRIOR TO ORDERING EQUIPMENT.
- 3. PROVIDE NEW EQUIPMENT WITH ECOAT/SEACOAST PROTECTION.
- 4. PROVIDE NEW IDENTIFYING LABEL FOR INDOOR AND OUTDOOR UNIT.
- 5. COORDINATE CONTROLS WORK WITH CMI.



UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577
B1000 WEST MECHANICAL ROOF PLAN

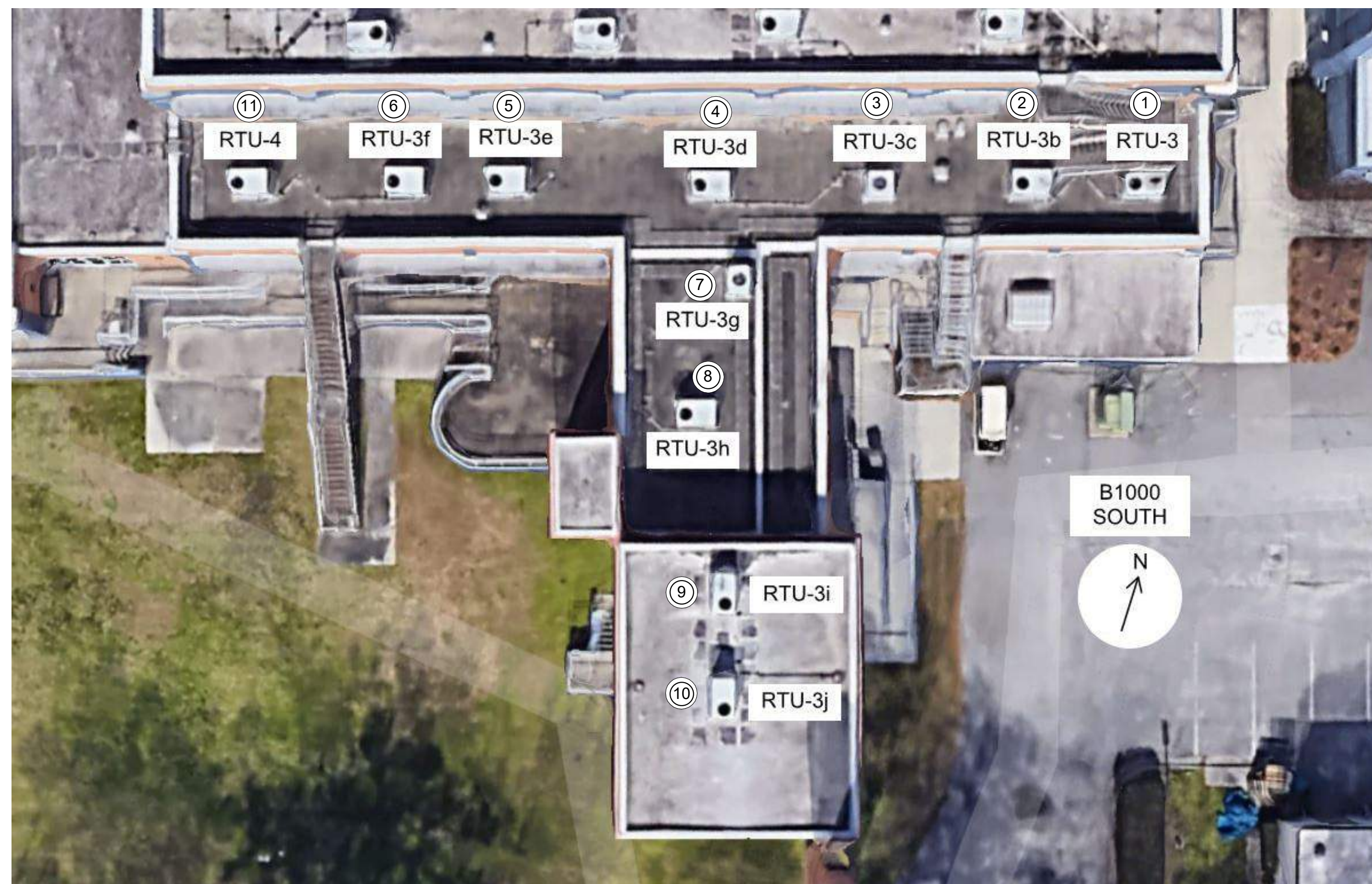
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SHEET	NUMBER	

M107

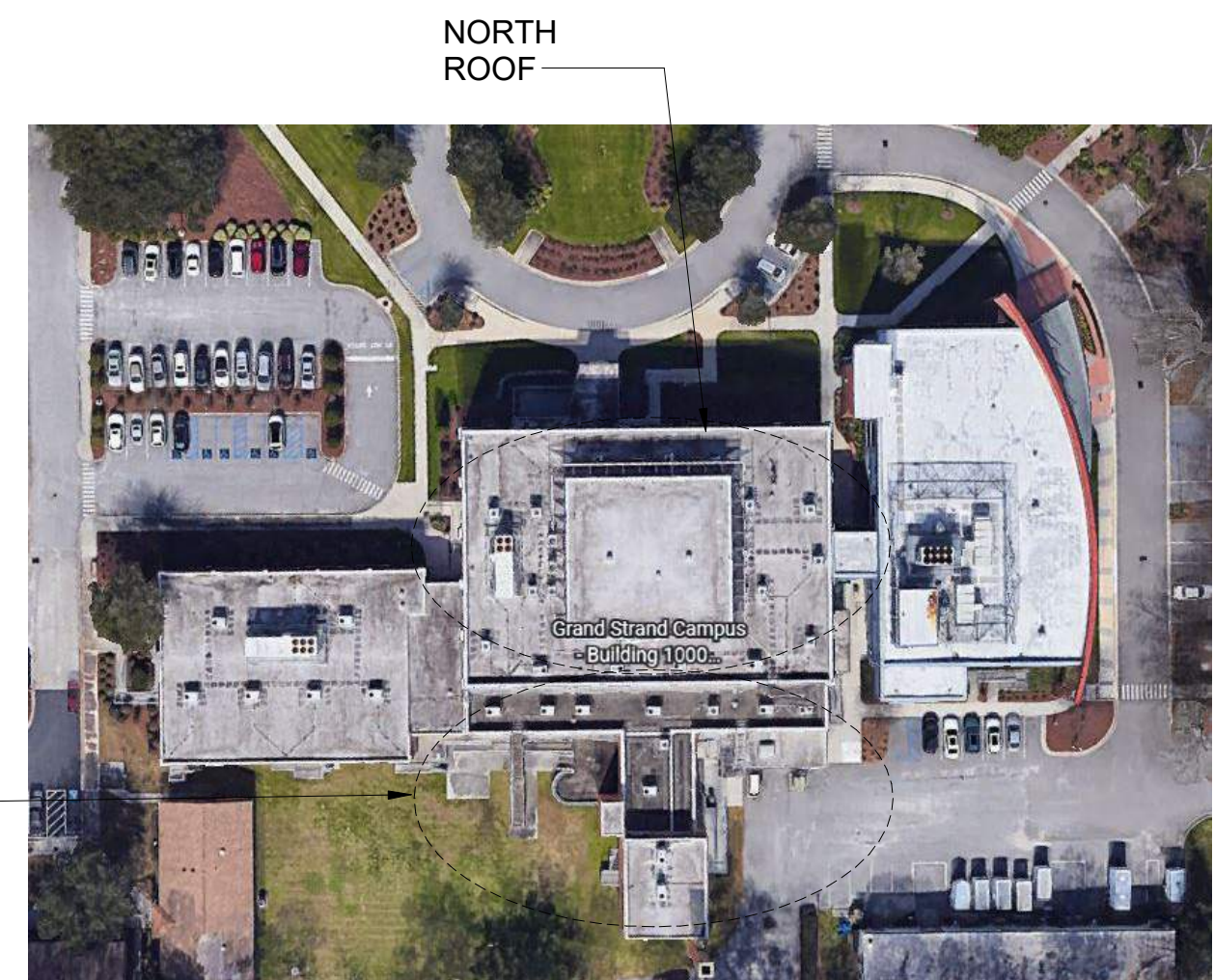


ALTERNATE BID ITEM #2 - MAU-2

1 BLDG 1000 NORTH ROOF GS MECHANICAL PLAN
M108 NOT TO SCALE



2 BLDG 1000 SOUTH GS MECHANICAL PLAN
M108 NOT TO SCALE



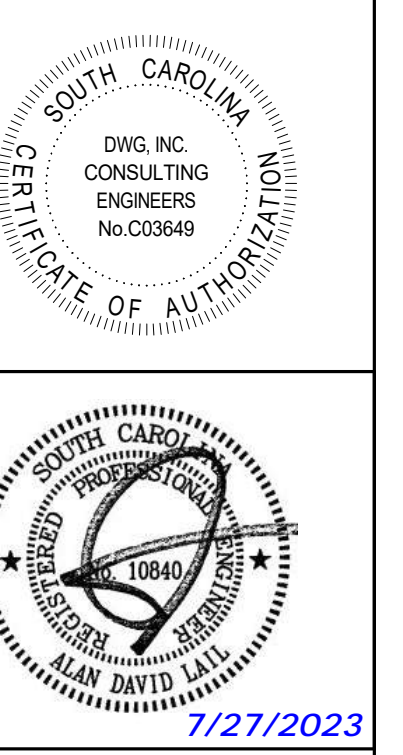
3 BLDG 1000 GS KEY PLAN
M108 NOT TO SCALE

KEYNOTES

- 1 THROUGH 28 ALTERNATE BID ITEM #1
SEE MECHANICAL SCHEDULES, DRAWING SHEET M109
- 29 ALTERNATE BID ITEM #2
REMOVE EXISTING MAKEUP AIR UNIT AND PROVIDE NEW ON EXISTING PLATFORM. SEE SCHEDULE ON M109. REMOVE EXISTING CURB AND PROVIDE NEW. VERIFY STRUCTURAL INTEGRITY FOR NEW UNIT
- 30 EXISTING EQUIPMENT TO REMAIN

GENERAL NOTES

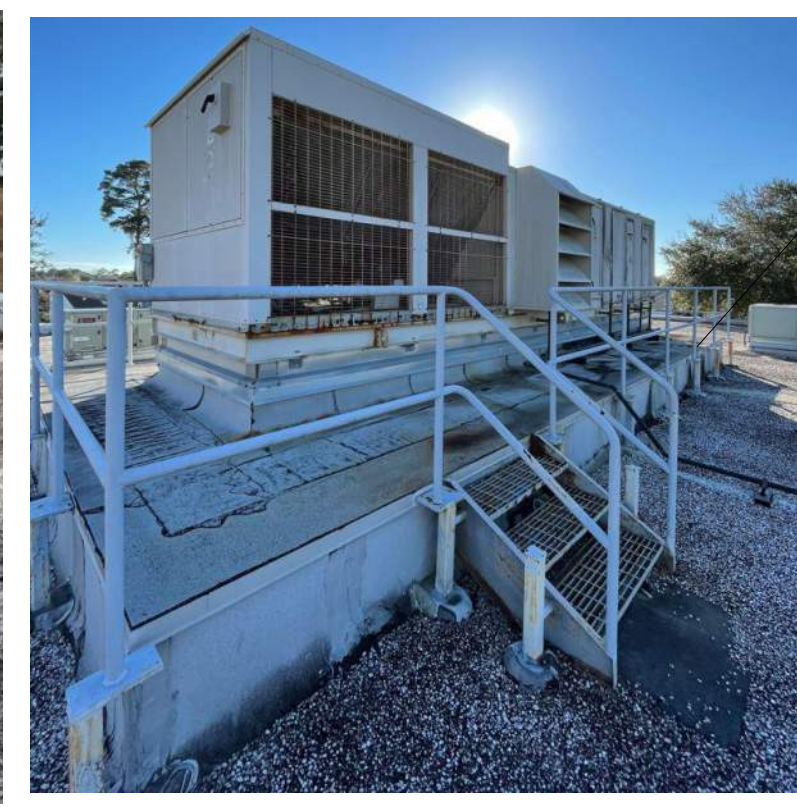
- 1. SUBMIT LIFT PLAN IDENTIFYING CRANE SPECIFICATIONS AND LIFT LOCATION FOR REMOVAL OF EXISTING AND INSTALLATION OF NEW AIR HANDLING UNIT AND ASSOCIATED COMPONENTS.
- 2. FIELD VERIFY EQUIPMENT SIZES, ELECTRICAL REQUIREMENTS, AND INSTALLATION CONDITIONS PRIOR TO ORDERING EQUIPMENT.
- 3. PROVIDE NEW EQUIPMENT WITH ECOAT/SEACOAST PROTECTION.
- 4. PROVIDE NEW IDENTIFYING LABEL FOR INDOOR AND OUTDOOR UNIT.
- 5. COORDINATE CONTROLS WORK WITH CMI.



UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577
BUILDING 1000 CENTER MECHANICAL ROOF PLAN

#	Description	DATE
JOB No.	H59-6214-ML	
DATE:	07/21/23	
DRAWN BY:	ADL	
CHECKED BY:	WDB	
SHEET	NUMBER	

M108




4 BLDG 1000 GS MUA-1
SCALE: 12" = 1'-0"

1 BLDG 1000 GS MUA-2
NOT TO SCALE

KEYNOTES

1 EXISTING MAKEUP AIR UNIT ON PLATFORM

MAKEUP AIR UNIT SCHEDULE - GS 1000 CENTRAL - ALTERNATE BID ITEM #2

UNIT	EQUIPMENT TYPE	LOCATION	EXISTING MANUFACTURER	EXISTING MODEL	NEW MANUFACTURER	NEW MODEL	VENTILATION AIR				1ST HEAT PIPE (SUMMER)			DX COIL			2ND HEAT PIPE (SUMMER)			
							CFM	FAN HP	EXT STATIC PRESSURE	TOTAL STATIC PRESSURE	EAT (DB/WB)	LAT (DB/WB)	EFF (%)	EAT (DB/WB)	LAT (DB/WB)	CAPACITY (MBH)	TONS	EAT (DB/WB)	LAT (DB/WB)	EFF (%)
MAU-1	MAKEUP AIR UNIT	CENTRAL ROOF	DES CHAMPS	PV-W3P-WPH	GREENHECK	RVE-85-58D-30A-1-A1	6100	7.5	2 INCHES	5.1 INCHES	96 / 80	76.5 / 75.1	60.3	76.5 / 75.1	47 / 47	547	50	47 / 47	63.5 / 54.2	60.1
MAU-2	MAKEUP AIR UNIT	CENTRAL ROOF	DES CHAMPS	PV-W3P-WPH	GREENHECK	RVE-85-52B-17.5A-1-A1	3300	5	2 INCHES	5.3 INCHES	96 / 80	77.5 / 75.4	60	77.5 / 75.4	47 / 47	300	30	47 / 47	62.8 / 53.9	59.8

MAKEUP AIR UNIT SCHEDULE - GS 1000 CENTRAL - ALTERNATE BID ITEM #2

UNIT	RETURN AIR				1ST HEAT PIPE (SUMMER)			2ND HEAT PIPE (SUMMER)			COMB HEAT PIPES (WINTER) (SUPPLY/EXHAUST)			VOLTAGE	MCA/MOCP	NOTES	EXISTING WEIGHT		
	CFM	FAN HP	EXT STATIC PRESSURE	TOTAL STATIC PRESSURE	EAT (DB/WB)	LAT (DB/WB)	EFF (%)	EAT (DB/WB)	LAT (DB/WB)	EFF (%)	EAT (DB/WB)	LAT (DB/WB)	EFF (%)						
MAU-1	5400	7.5	2 INCHES	3.5 INCHES	59.4 / 56.7	81.5 / 64.7	60.3	78 / 63.5	59.5 / 56.7	60.1	21 / 17.5	56.3 / 39.6	73 / 57	35.4 / 35.4	72.0	460 V / 3 PHASE	143 / 150	SINGLE POINT CONNECTION	14,900 LBS
MAU-2	2800	5	2 INCHES	3.5 INCHES	59.5 / 56.8	81.4 / 64.7	60	78 / 63.5	59.5 / 56.8	59.8	21 / 17.5	56.3 / 39	73 / 57	35.4 / 35.4	72.2	460 V / 3 PHASE	97.8 / 100	SINGLE POINT CONNECTION	10,100 LBS

PACKAGED UNIT SCHEDULE - GS 1000 CENTRAL - ALTERNATE BID ITEM #1

UNIT	EQUIPMENT TYPE	LOCATION	MANUFACTURER	MODEL	AIR FLOW (CFM)	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	HEATING @ 47F (BTUH)	ELECT HEAT (kW)	VOLTAGE	MCA/MOCP	UNIT	KEY NOTES
RTU-3	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3	1
RTU-3B	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3B	2
RTU-3C	PACKAGED HP	SOUTH ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-3C	3
RTU-3D	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3D	4
RTU-3E	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3E	5
RTU-3F	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3F	6
RTU-3G	PACKAGED HP	SOUTH ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-3G	7
RTU-3H	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3H	8
RTU-3I	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3I	9
RTU-3J	PACKAGED HP	SOUTH ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-3J	10
RTU-4	PACKAGED HP	SOUTH ROOF	TRANE	WSC048	1600	48,000	38,300	47,500	17.4	460 V / 3 PHASE	38 / 40	RTU-4	11
RTU-1	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4030E1	1000	30,400	23,400	27,200	7.5	208 V / 1 PHASE	75 / 80	RTU-1	12
RTU-2	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-2	13
RTU-5	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-5	14
RTU-6	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4030E1	1000	30,400	23,400	27,200	7.5	208 V / 1 PHASE	75 / 80	RTU-6	15
RTU-7	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-7	16
RTU-8	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-8	17
RTU-9	PACKAGED HP	CENTRAL ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-9	18
RTU-10	PACKAGED HP	CENTRAL ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-10	19
RTU-11	PACKAGED HP	CENTRAL ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-11	20
RTU-12	PACKAGED HP	CENTRAL ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-12	21
RTU-13	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-13	22
RTU-14	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4030E1	1000	30,400	23,400	27,200	7.5	208 V / 1 PHASE	75 / 80	RTU-14	23
RTU-15	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4030E1	1000	30,400	23,400	27,200	7.5	208 V / 1 PHASE	75 / 80	RTU-15	24
RTU-16	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-16	25
RTU-17	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4024E1	800	24,600	19,000	22,000	3.76	208 V / 1 PHASE	47 / 50	RTU-17	26
RTU-18	PACKAGED HP	CENTRAL ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-18	27
RTU-19	PACKAGED HP	CENTRAL ROOF	TRANE	WSC036	1200	37,900	27,900	35,500	12	460 V / 3 PHASE	29 / 30	RTU-19	28
RTU-20	PACKAGED HP	CENTRAL ROOF	TRANE	4WCC4030E1	1000	30,400	23,400	27,200	7.5	208 V / 1 PHASE	75 / 80	RTU-20	29

NOTES:
1. PROVIDE WITH ECOAT ON CONDENSER COILS.

GENERAL NOTES

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UPGRADE AND REPLACE MULTIPLE HVAC UNITS - GRAND STRAND CAMPUS
743 HEMLOCK AVENUE
MYRTLE BEACH, SC 29577
BUILDING 1000 MECHANICAL DETAILS

#	Description	DATE
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DRAWN BY:	ADL	
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