

GENERAL MECHANICAL NOTES:

1. SEE ARCHITECTURAL PLANS AND GENERAL SECTIONS OF SPECIFICATIONS FOR DESCRIPTIONS OF ALTERNATES.
2. DUCTS TO ROOF MOUNTED EXHAUST FANS SHALL BE ROUTED FULL-SIZE OF EXHAUST GRILLE, WHERE APPLICABLE. COORDINATE INSTALLATION WITH ALL STRUCTURAL MEMBERS. PROVIDE DUCT EASEMENTS AS REQUIRED.
3. REFER TO ROOF PLANS. COORDINATE EXACT LOCATIONS FOR ROOF-TOP EQUIPMENT WITH STRUCTURAL PLANS AND PRIME CONTRACTOR. HEIGHT OF ALL MECHANICAL ROOF CURBS SHALL BE COORDINATED WITH THE MINIMUM HEIGHT REQUIREMENTS OF THE ROOFING BOND. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS.
4. CONTRACTOR SHALL FURNISH TO OWNER AT COMPLETION OF PROJECT, A COMPLETE SET OF WRITTEN OPERATING INSTRUCTIONS FOR ALL SYSTEMS. REFER TO REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLANS TO COORDINATE CEILING AIR DEVICE LOCATIONS.
6. PROVIDE 2-1/2"x2-1/2"x1/4" GALVANIZED STEEL ANGLES, 3/8" THREADED HANGER ROD, AND OTHER SUPPLEMENTAL STEEL AS REQUIRED TO SUPPORT MECHANICAL EQUIPMENT FROM THE STRUCTURE; DUCTWORK, UNIT HEATERS, EXHAUST FANS, ETC.
7. ALL RETURN DUCT CONNECTIONS TO AIR DEVICES SHALL BE RECTANGULAR UNLESS OTHERWISE INDICATED ON PLANS. USE OF FLEXIBLE DUCT FOR RETURN IS NOT PERMISSIBLE.
8. REFER TO FLOOR PLANS FOR LOCATIONS OF FIRE-RATED ASSEMBLIES. CONTRACTOR SHALL COMPLETELY FILL AROUND ALL OPENINGS REQUIRED FOR HIS WORK IN ACCORDANCE WITH DETAILS WITH APPROVED FIRE-PROOF MATERIALS.
9. CEILING AIR DEVICE INSTALLATIONS SHALL CONFORM TO THE APPROPRIATE UL ASSEMBLY NUMBER PER THE CODE ANALYSIS DATA FOR THIS PROJECT.
10. CONTRACTOR SHALL SEAL ALL DUCTWORK WITH DUCT SEALANT PER SPECIFICATIONS. DUCT TAPE SHALL NOT BE USED TO SEAL DUCTWORK.
11. THE CONTRACTOR IS INSTRUCTED TO VISIT THE SITE PRIOR TO SUBMITTING A BID TO FAMILIARIZE HIMSELF WITH ALL WORK TO BE ENCOUNTERED. NO EXTRA CHARGE WILL BE APPROVED AFTER START OF CONSTRUCTION FOR FAILURE TO FOLLOW THESE INSTRUCTIONS.
12. CONTRACTOR SHALL PROVIDE THREADED RODS, 1/4", OR OTHER APPROVED MEANS TO LATERALLY SUPPORT ALL SUSPENDED MECHANICAL EQUIPMENT, DUCTS, ETC. IN ACCORDANCE WITH THE SEISMIC DESIGN REQUIREMENTS IN CHAPTER 16 OF THE INTERNATIONAL BUILDING CODE, LATEST EDITION.
13. CONTRACTOR SHALL PROVIDE VIDEOTAPED OWNER'S TRAINING AT THE COMPLETION OF THE PROJECT AS OUTLINED IN SPECIFICATION 15703.

DESIGN CONDITIONS		
	COOLING	HEATING
OUTSIDE	95F DB,80F WB	27F DB
INSIDE	78F DB,65F WB	72F DB

SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
ⓘ	THERMOSTAT WITH LOCK COVER
Ⓜ	HUMIDISTAT WITH LOCK COVER
Ⓢ	CO2 SENSOR WITH LOCK COVER
Ⓢ	EXHAUST FAN
TR GR/EX GR	TRANSFER GRILLE / EXHAUST GRILLE
	AIR TURNING VANE
S	SPLITTER DAMPER
FD/-	FIRE DAMPER / HOUR RATING
SD	SMOKE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
	INDICATION OF ROOF MOUNTED EQUIPMENT
	MANUAL DAMPER (O.B.M.D.)
	GATE VALVE
	GLOBE VALVE
	FLOW STATION
	CHECK VALVE
	STRAINER
	UNION/FLANGE
	PRESSURE GAUGE WITH PETCOCK
	THERMOMETER
	CIRCUIT SETTER
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	MANUAL AIR VENT
	FLEXIBLE CONNECTION

AIR DEVICE SCHEDULE					REMARKS (COORDINATE W/ FINISH SCHED.)
SYMBOL	TYPE	MANUFACTURER & MODEL		PRICE	
		METAL-AIRE	RELIABLE		
IG	IND. GRILLE	SERIES 4300	-	300	W/ OBD AND DOUBLE DEFLECTION BLADES
MSL	LOUV.MOD.SUP.	5000*	DCD-3	AMD-3	W/ OBD AND 3 WAY DEFLECTION BLADES
NOTES: THESE ARE STANDARD SYMBOLS AND MAY NOT ALWAYS APPEAR ON THE DRAWINGS. HOWEVER, WHERE THE SYMBOL DOES APPEAR, THE ITEM SHALL BE PROVIDED. ALL DEVICES TO BE ALUMINUM UNLESS LOCATED IN A FIRE-RATED ASSEMBLY WHERE DEVICES SHALL BE STEEL. FLEX RUNOUTS SHALL BE FULL-SIZE OF DIFFUSER NECK UNLESS OTHERWISE NOTED. ALL LAY-IN GRILLES, DIFFUSERS, ETC. SHALL BE PROVIDED WITH FOUR - 12 GAUGE SUPPORT WIRES TIED INDEPENDENTLY TO THE STRUCTURE AND CEILING CLIPS PER ASTM E-580-91 REQUIREMENTS.					

NOTE 1-CUSTOM COLOR LOUVERS SHALL HAVE KYNAR 500 (70% KYNAR) FINISH. LOCATE AS DIRECTED BY ARCHITECT.
NOTE 2-METAL-AIRE SERIES 5000 DIFFUSER SHALL BE PROVIDED WITH WELDED BOTTOM CONE. RIVITED CONES ARE NOT ACCEPTABLE.
NOTE 3-ALL DIFFUSERS SHALL BE PROVIDED WITH A 4-WAY BLOW PATTERN UNLESS OTHERWISE INDICATED.

CONTROL NOTE:
PROVIDE ADJUSTABLE SUPPLY AIR TEMPERATURE RESET PER THE FOLLOWING SCHEDULE (INITIAL SETTING):

OUTSIDE AIR	SUPPLY AIR
46° AND HIGHER	-53°
44°	-54°
42°	-56°
40°	-58°
38°	-58°
36°	-60°
34°	-62°
32° AND BELOW	-62°

AIR HANDLING UNIT SCHEDULE			
SYMBOL	⑦	⑧	⑨
SUPPLY AIR	21000	11111	21000
OUTSIDE AIR	2100	1111	2100
TOTAL CAPACITY, MBTUH	727	381	727
SENS. CAPACITY, MBTUH	535	276	535
MAX. COIL FV, FPM	454	368	454
AMBIENT DB, °F	95		
EDB, °F	76.8	76.8	76.8
EWB, °F	65.0	65.0	65.0
LDB, °F	53.2	53.0	53.2
LWB, °F	53.2	52.9	53.2
FULLY MODULATING HOT GAS REHEAT, L.A.T.	N/A	N/A	N/A
HEAT INPUT, MBTUH	850	350	850
HEAT OUTPUT, MBTUH	689	284	689
DELTA T @ 50% FLOW	30.2"	23.5"	30.2"
EXT. SP, IN.	2.5	1.75	2.5
TOTAL SP, IN.	3.57	3.55	3.57
FAN MTR HP	40	10	40
ACTUAL MTR HP	35.3	2-5	35.3
MCA, AMPS	156.8	77.9	156.8
MOC, AMPS	175	100	175
VOLTS	480		
PHASE	3		
REMARKS	INTELLIPAK		
S	INTELLIPAK WITH VFD		
OPERATING WEIGHT, LBS	9550	6790	9550

*--BASIS OF DESIGN IS TRANE INTELLIPAK. ALL REQUIREMENTS ELECTRICALLY, STRUCTURALLY, DIMENSIONALLY OR OTHERWISE TO USE APPROVED ALTERNATE APPROVED EQUIPMENT ARE THE RESPONSIBILITY OF THIS CONTRACTOR. UNITS SHALL BE PROVIDED WITH FACTORY INSTALLED TRAO OUTSIDE AIR DAMPERS WITH AIR MONITORING STATIONS FOR DEMAND VENTILATION OF SPACES. UNITS SHALL BE PROVIDED WITH A 120V GFCI CONVENIENCE OUTLET.
**--UNITS SHALL BE RECONNECTED TO THE EXISTING RETURN DUCT SMOKE DETECTORS BY THE FIRE ALARM/ELECTRICAL CONTRACTOR. DUCT SMOKE DETECTORS SHALL SHUT UNITS DOWN UPON THE DETECTION OF SMOKE AND SEND A "TROUBLE" SIGNAL TO THE BUILDING FIRE ALARM SYSTEM. DUCT DETECTORS SHALL NOT SOUND THE FIRE ALARM SYSTEM. UNITS SHALL BE PROVIDED WITH FACTORY INSTALLED CARBON MONOXIDE SENSORS INSTALLED DOWNSTREAM OF THE GAS FIRED HEATER TO SHUT DOWN THE UNIT IN THE EVENT OF CARBON MONOXIDE DETECTION. COORDINATE WITH BUILDING EMS SYSTEM.

ROOFTOP UNIT ELECTRICAL DISCONNECT SCHEDULE				
SYM.	DISCONNECT (AMPS)	M.O.C.P. (AMPS)	VOLTAGE	PHASE
AHU-7	200	175	480	3
AHU-8	100	100	480	3
AHU-9	200	175	480	3

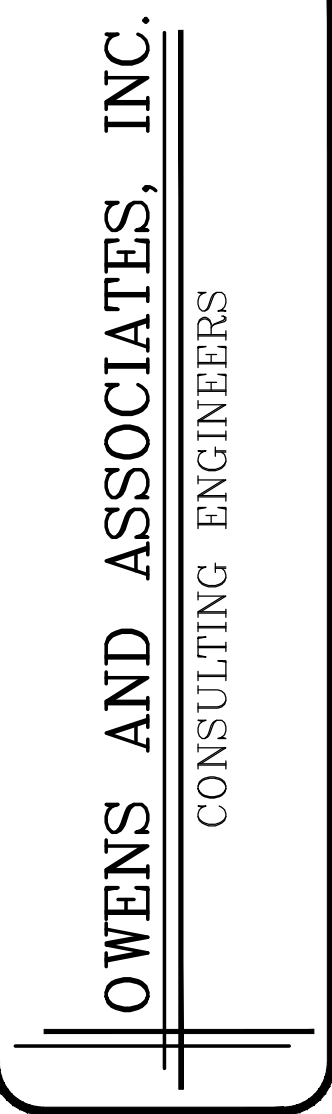
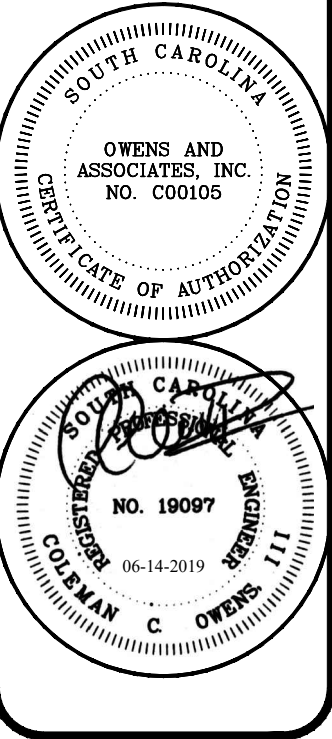
NOTE: FUSE NEW DISCONNECTS TO THE M.O.C.P. OF EQUIPMENT PROVIDED. DISCONNECTS SHALL BE NEMA 3R BY SQUARE-D OR APPROVED EQUAL. CONTRACTOR SHALL RECONNECT TO EXISTING POWER CIRCUITS SERVING EXISTING UNITS BEING REPLACED. EXTEND CIRCUITS AS REQUIRED TO SERVE NEW UNITS.

AHU VENTILATION AIR SEQUENCE OF OPERATION

- AIR HANDLING UNITS
- 1). AIR HANDLING UNITS SHALL INTRODUCE OUTSIDE AIR INTO THEIR RESPECTIVE SPACES ONLY DURING OCCUPIED HOURS. FOR ALL STANDARD AIR HANDLING UNITS, CO2 SENSORS SHALL MONITOR THE LEVELS OF THESE GASES WITH RESPECT TO THE AMBIENT LEVELS THAT EXIST OUTSIDE. WHEN THE BUILDING CO2 LEVEL RISES TO 1000 PPM (ADJUSTABLE) THE UNITS SHALL SLOWLY INCREASE OUTSIDE AIR INTRODUCTION ABOVE MINIMUM LEVELS UP TO THE MAXIMUM SCHEDULED VALUE (IF NECESSARY). OUTSIDE AIR SHALL BE MODULATED TO MAINTAIN THE PRESCRIBED LEVELS.
 - 2). MINIMUM OUTSIDE AIR FOR EACH AIR HANDLER IS 20% OF SCHEDULED VALUE.
 - 3). COOLING MODE: THE UNIT SHALL PROVIDE 53° SUPPLY AIR DURING COOLING SEASON AND AS SCHEDULED IN THE SUPPLY AIR TEMPERATURE SETBACK SCHEDULE. THE SUPPLY AIR VFD SHALL RAMP UP AND DOWN TO SATISFY THE BUILDING SPACE COOLING SETPOINT OF 74°. HEATING MODE: THE GAS FIRED HEATER SHALL FIRE IN STAGES TO MAINTAIN THE HEATING SETPOINT OF 70° DURING THE HEATING SEASON.
 - 3). DEHUMIDIFICATION MODE: WHEN SPACE COOLING TEMPERATURE IS SATISFIED AND SPACE RELATIVE HUMIDITY EXCEEDS 55% RH, THE UNIT SHALL LOWER THE SUPPLY AIR SETPOINT OF 53°(ADJ) TO 48° AND THE SUPPLY AIR VFD SHALL RAMP DOWN TO PREVENT OVERCOOLING OF THE SPACE. THIS SEQUENCE SHALL ONLY OCCUR IF SPACE HUMIDITY SETPOINTS ARE EXCEEDED. FURTHER REHEAT MAY BE PROVIDED BY THE GAS HEATER AS REQUIRED.

GENERAL ELECTRICAL NOTES:

1. DUE TO THE NATURE OF WORK COVERED UNDER THESE PLANS AND SPECIFICATIONS, ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING VISITED THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID.
2. ALL CONDUIT PENETRATIONS OF FIRE RATED WALLS AND/OR CEILINGS SHALL BE FIRESTOPPED AS PER UL STANDARDS.
3. ALL CONDUIT PENETRATIONS OF EXTERIOR WALLS SHALL BE SEALED AND MADE WEATHERPROOF.
4. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING TILES AS NECESSARY FOR THE INSTALLATION OF NEW CONDUITS AND DEVICES. CONTRACTOR SHALL REPLACE ANY TILE DAMAGED BY THIS WORK. NEW CEILING TILES TO MATCH EXISTING.
5. ALL CONDUIT RUNS SHOWN ON THESE DRAWINGS ARE APPROXIMATE. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY LENGTH AND LOCATION.
6. ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS AND THE SPECIFICATIONS, FOR ALL BID ALTERNATES AND ALL PHASING INFORMATION, PRIOR TO SUBMITTING HIS BID.
7. ALL BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE.
8. THE MECHANICAL EQUIPMENT BASIS OF DESIGN IS AS INDICATED ON THE MECHANICAL DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE ELECTRICAL REQUIREMENTS OF THE MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO ORDERING MATERIALS. MODIFICATIONS TO ANY ELECTRICAL SYSTEM REQUIRED FOR MECHANICAL EQUIPMENT WHICH DIFFERS FROM THE MECHANICAL BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE MECHANICAL AND ELECTRICAL CONTRACTORS. IN NO CASE SHALL SUBSTITUTION OF MECHANICAL EQUIPMENT RESULT IN ADDITIONAL COSTS TO THE OWNER.
9. ELECTRICAL CONTRACTOR SHALL USE LOCATOR SERVICE TO IDENTIFY ALL UNDERGROUND UTILITIES. DAMAGE TO ANY EXISTING UTILITIES RESULTING FROM INSTALLATION OF NEW ELECTRICAL EQUIPMENT SHALL BE REPAIRED BY THE ELECTRICAL CONTRACTOR.
10. ALL FEEDERS SHALL BE ROUTED CONCEALED. ELECTRICAL CONTRACTOR SHALL SAW CUT AND PATCH EXISTING CONCRETE AS NECESSARY TO ROUTE UNDERGROUND CONDUITS. ABOVE CEILING CONDUITS SHALL BE ROUTED CONCEALED.
11. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR BRINGING THE SITE BACK TO ORIGINAL CONDITIONS AFTER THE COMPLETION OF UNDERGROUND ELECTRICAL WORK. THIS IS INCLUSIVE OF SAW CUT ASPHALT AND CONCRETE SURFACES, EXISTING VEGETATION, GRASS, SITE GRADING ETC. THIS CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE SITE/FACILITY CAUSED BY ELECTRICAL CONSTRUCTION.
12. ELECTRICAL CONTRACTOR SHALL SAW CUT EXISTING CONCRETE AND ASPHALT DRIVES AS REQUIRED TO INSTALL BELOW GRADE CONDUITS. AFTER INSTALLATION OF WORK, CONTRACTOR SHALL BACKFILL AND BRING SOIL TO INITIAL COMPACTION LEVELS AND REPAIR SAW CUT AREAS OF CONCRETE AND ASPHALT DRIVES. PATCHING SHALL MATCH EXISTING WITH REGARD TO REINFORCING AND THICKNESS. ALL SAW CUT TRENCHES SHALL BE MADE IN A WORKMANLIKE FASHION.
13. ANY EXISTING ELECTRICAL EQUIPMENT NOT BEING REMOVED OR RELOCATED BUT ON THE SAME CIRCUIT AS ANY ELECTRICAL EQUIPMENT BEING REMOVED OR RELOCATED SHALL BE RECONNECTED TO ALLOW FOR NORMAL OPERATION UNLESS SHOWN OTHERWISE ON THE NEW WORK DRAWINGS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS AND LABOR FOR THE RECONNECTION OF SAID DEVICES.
14. ELECTRICAL CONTRACTOR SHALL RELOCATE ANY EXISTING ELECTRICAL EQUIPMENT, CIRCUITRY, OR CONDUIT THAT INTERFERES WITH DEMOLITION OR INSTALLATION WORK AND PROVIDE ALL NECESSARY MATERIALS AND LABOR NEEDED TO RETURN THE RELOCATED EQUIPMENT TO A SAFE AND OPERATING CONDITION THAT CONFORMS TO THE CURRENT EDITION OF THE N.E.C. AND ALL LOCAL REGULATIONS. COORDINATE ALL WORK WITH THE OWNER'S REPRESENTATIVE AND ALL OTHER TRADES.
15. ANY DEVICE INTERFERING WITH DEMOLITION OR INSTALLATION, NOT BEING REMOVED OR RELOCATED, SHALL NOT BE MOVED WITHOUT WRITTEN CONSENT FROM THE OWNER'S REPRESENTATIVE.
16. ALL WORK SHALL BE IN COMPLIANCE WITH THE CODES AND STANDARDS LISTED IN THE ARCHITECTURAL CODE ANALYSIS FOUND ELSEWHERE IN THESE CONTRACT DOCUMENTS.



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project:
MECHANICAL RENOVATIONS
AT MYRTLE BEACH
CONVENTION CENTER PH-II
CITY OF MYRTLE BEACH
MYRTLE BEACH, SC 29577

REVISIONS

project: 1905
date: 06-14-2019

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