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SHEET DATE:

SHEET REVISIONS:

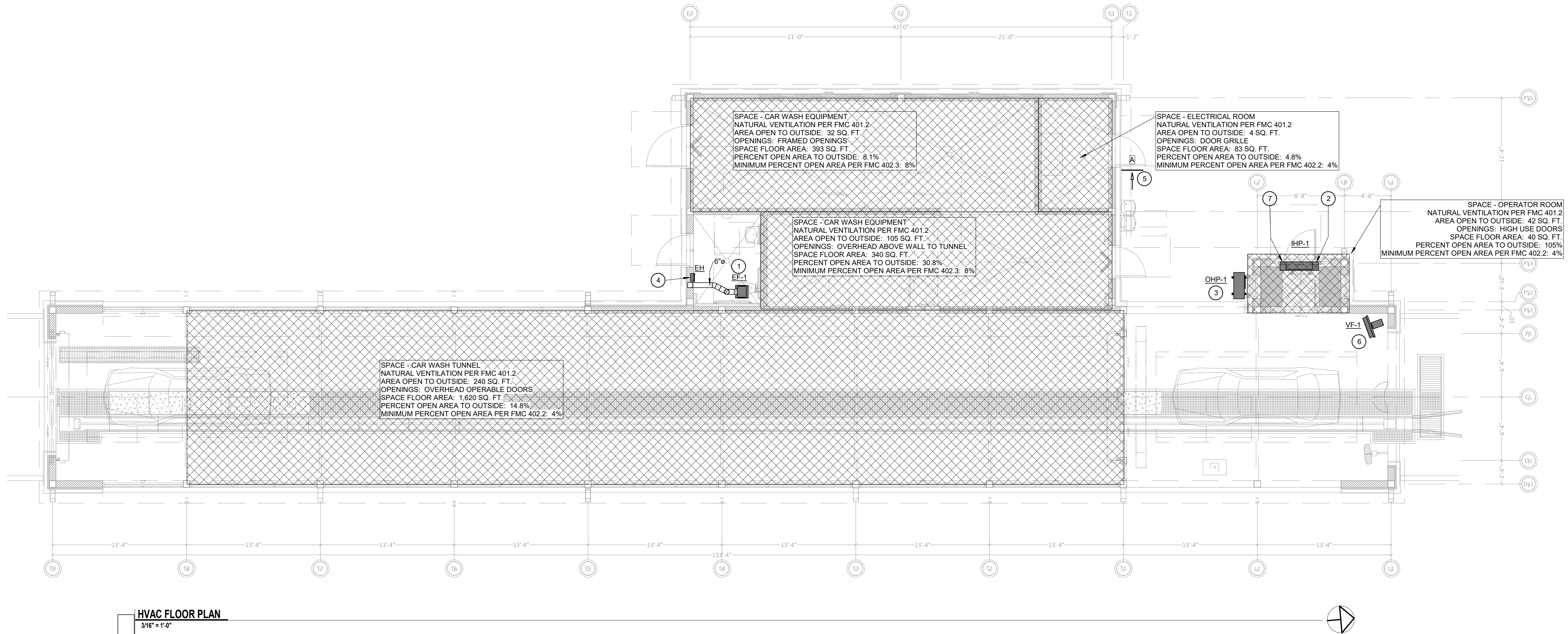
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DRAWN BY: JMA

SHEET TITLE:

SHEET SCALE: As indicated

SHEET NUMBER:



MECHANICAL SYMBOL SCHEDULE

RL	REFRIGERANT LIQUID	①	REFERENCE TO MECHANICAL KEYNOTE NUMBER 1.
RS	REFRIGERANT SUCTION		
RA	RETURN AIR	$\overbrace{\hspace{1.5cm}}^{6 \times 6}$ OR $\overbrace{\hspace{1.5cm}}^{6 \times 6}$	6"x6" RECTANGULAR DUCT
SA	SUPPLY AIR	$\underbrace{\hspace{1.5cm}}_{12 \text{ } \varnothing}$ OR $\underbrace{\hspace{1.5cm}}_{12 \text{ } \varnothing}$	12" DIAMETER ROUND DUCT
EXH	EXHAUST	Ⓘ	THERMOSTAT
OA	OUTSIDE AIR	Ⓢ	MANUAL STARTER/SWITCH
		AFF	ABOVE FINISHED FLOOR
RE: 2M1.01	REFER TO DETAIL 2, SHEET M1.01		

KEYNOTES

- ① PROVIDE ALL MATERIALS TO SUPPORT RESTROOM CEILING EXHAUST FAN (EF-1) AND DUCTWORK FROM STRUCTURAL MEMBERS. COORDINATE WITH ELECTRICAL SHEETS. LIGHT FIXTURE INSTALLATION, AND OTHER OVERHEAD DEVICES SUCH AS OCCUPANCY DETECTORS AND SMOKE DETECTORS. PROVIDE WALL CAP WITH BIRD SCREEN AND BACKDRAFT DAMPER. CONFIRM BOTTOM OF WALL CAP AT 10'-0" AFF.
- ② PROVIDE ALL MATERIALS TO SUPPORT WALL-MOUNTED MINI-SPLIT INDOOR UNIT (IHP-1), INSULATED REFRIGERANT LINES, AND CONDENSATE PIPING. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL NEW FILTER MEDIA AT START-UP.
- ③ MOUNT OUTDOOR MINI-SPLIT UNIT (OHP-1) AT 9'-4" CLEAR AFF ON FABRICATED STAINLESS STEEL WALL BRACKETS CONFIGURED TO PROVIDE REQUIRED MINIMUM CLEARANCES FOR PROPER AIRFLOW AND SERVICE. CONTRACTOR TO PROVIDE THE LINE SIZES AND INSULATION THICKNESS IN SUBMITTAL. VERIFY MOUNTING HEIGHT AND LOCATION. SEE ARCHITECTURAL FOR LINE SET WALL PENETRATION DETAILING.
- ④ PROVIDE WALL-MOUNTED ELECTRIC UNIT HEATER, RE: MECHANICAL SCHEDULES. SEE ARCHITECTURAL FOR WALL PENETRATION FLASHING AND FINISHING.
- ⑤ PROVIDE 22"x22" DOOR GRILLE, RE: MECHANICAL SCHEDULES.
- ⑥ PROVIDE WALL BRACKET-MOUNTED PROPELLER CIRCULATION FAN AS SCHEDULED, BOTTOM OF FAN 8'-0" CLEAR ABOVE FLOOR. FAN SHALL BE PLACED ON ENTRY WALL AND AIMED AT CONTROL PEDESTAL.
- ⑦ RE: PLUMBING DRAWINGS FOR MINI-SPLIT CONDENSATE DRAIN DETAILS.

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MECHANICAL EQUIPMENT SCHEDULES													
VRF MINI-SPLIT SYSTEMS													
DESIGNATION	CFM (1)	COOLING MBTUH (2)		HEATING MBTUH (3)	ELECTRICAL DATA (4)			REFRIG. LINE SIZE (IN)		SEER	TYPE (5)	REMARKS	
		SENSIBLE	TOTAL		VOLTS	PHASE	FLA	RS	RL				
IHP-1	300	7.0	9.0	10.9	208	1	12	AS REQ'D	AS REQ'D	16	W	(1),(2),(3),(4),(5),(6),(7),(8),(9),(10)	
REMARKS:													
1. AT HIGH SPEED SETTING.													
2. COOLING CONDITIONS AT 95°F DB OUTDOOR AMBIENT TEMPERATURE AND 72°F/61°F WB INDOOR TEMPERATURE, NET CONDITIONS INCLUDING DEDUCTION FOR FAN MOTOR HEAT AND ALLOWANCE OF 25 FT. OF REFRIGERANT PIPING LENGTH.													
3. HEATING CONDITIONS AT 23°F DB OUTDOOR AMBIENT TEMPERATURE AND 70°F DB INDOOR TEMPERATURE.													
4. INDOOR COMPONENT SHALL BE POWERED THROUGH OUTDOOR COMPONENT. SYSTEM SHALL HAVE SINGLE POINT POWER CONNECTION.													
5. <u>INDOOR COMPONENT TYPE:</u>													
W WALL MOUNTED													
6. PROVIDE CONDENSING UNIT WITH FACTORY-MOUNTED WEATHERPROOF NEMA APPROVED DISCONNECT SWITCH.													
7. PROVIDE INTEGRAL CONDENSATE PUMP.													
8. PROVIDE WITH WALL-MOUNTED THERMOSTAT, HARD-WIRED BY ELECTRICIAN. PROVIDE ALL WIRING IN CONDUIT.													
9. INDOOR UNIT SHALL BE WALL-MOUNTED ABOVE DOOR WITH MINIMUM CLEAR OF 7'-6" AFF.													
10. PROVIDE FACTORY WALL BRACKET FOR OUTDOOR UNIT AND SECURE TO OVERHEAD STRUCTURE. CLEARANCE AFF TO BE COORDINATED WITH ARCHITECT AND EQUIPMENT REQUIREMENTS.													
FANS													
DESIGNATION	CFM	ESTIMATED EXT. S.P. IN. W.G.	RPM	WHEEL DIA. (IN)	DRIVE	WHEEL TYPE	MAX INLET SONES	ELECTRICAL DATA			STARTERS		REMARKS
								HP	VOLTS	PH	TYPE	LOCATION	
EF-1	75	0.25	950	AS REQ'D	DIRECT	CENT.	2.0	1/12	120	1	OCC. SENS.	FAN GRILLE	(1),(3)
VF-1	3,800	0.2	750	AS REQ'D	DIRECT	AXIAL	15.0	1/3	120	1	SWITCH	NEAR FAN	(2),(4)
REMARKS:													
1. BASIS OF DESIGN: GREENHECK SP-A110													
2. BASIS OF DESIGN: DAYTON 2MA10 5459-hi													
3. PROVIDE INTEGRAL CEILING GRILLE. CONNECT DAYTON 2MA10 FAN DISCHARGE TO EXHAUST DUCT WITH FLEXIBLE CONNECTOR. PROVIDE FACTORY-MOUNTED ELECTRICAL DISCONNECT SWITCH. MOTOR SHALL BE CONTINUOUS DUTY WITH THERMAL OVERLOAD PROTECTION PER NEC. PROVIDE 24 VOLT STEPDOWN TRANSFORMER, SOLID-STATE SPEED CONTROLLER, AND TIME DELAY SWITCH. SET RUN TIME FOR 10 MINUTES (VERIFY WITH OWNER). PROVIDE ALUMINUM WALL CAP WITH BACKDRAFT DAMPER AND STAINLESS STEEL BIRDSCREEN.													
4. MOTOR SHALL BE UL-507 LISTED, TEAC TYPE. PROPELLER SHALL BE CORROSION-RESISTANT TYPE, WITH OSHA COMPLIANT, ZINC-PLATED WIRE GUARD. FAN SHALL HAVE LOCKING ADJUSTABLE VERTICAL TITL HEAD. PROVIDE MOUNTING BRACKET CEILING OR WALL INSTALLATION.													
WALL-MOUNTED ELECTRIC HEATER													
DESIGNATION	CFM	WATTS	TEMP. RISE (°F)	ELEC. DATA			REMARKS						
				AMPS	VOLTS	PHASE							
EH	245	2,000	48	9.6	208	1	(1)						
REMARKS:													
1. BASIS OF DESIGN: MARKEL F3422T.													
2. HEATER SHALL BE OF THE SURFACE, WALL-MOUNT TYPE. HEATING ELEMENT SHALL BE CORROSION RESISTANT TUBULAR STEEL. HOUSING SHALL BE 16 GAUGE STEEL. PROVIDE BRONZE POWDER-COATED BAR STOCK GRILLE WITH EXTRUDED ALUMINUM FRAME. FAN RPM SHALL BE 1,400 RPM. PROVIDE BUILT-IN THERMOSTAT, CONTROL TRANSFORMER AND MANUAL RESET THERMAL LIMIT SWITCH CIRCUIT BREAKER. THERMOSTATS SHALL ALSO ACT AS A DISCONNECT BY BREAKING ALL UNDERGROUND CONDUCTORS IN THE OFF POSITION.													
3. DISCONNECT SHALL BE FURNISHED BY ELECTRICIAN.													
RETURN / EXHAUST AIR GRILLES													
DESIGNATION	GRILLE SIZE	GRILLE TYPE	FINISH	MOUNTING	REMARKS								
A	22x22	DOOR	PAINT GRIP	SURFACE	(1),(2)								
REMARKS:													
1. GRILLE BLADES SHALL BE PARALLEL TO FLOOR.													
2. GRILLE SHALL BE TITUS CT-700.													

GENERAL HVAC NOTES													
1.	THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION IN ACCORDANCE WITH THE DRAWINGS AND BUILDING CODES. ALL WORK SHALL BE IN COMPLIANCE WITH THE LATEST APPLICABLE VERSION OF THE FLORIDA BUILDING CODE AND MECHANICAL CODE, COUNTY AND LOCAL ORDINANCES, AND ACCORDING TO LATEST EDITION OF THE FOLLOWING PUBLICATIONS: SMACNA, ANSI AND ASHRAE STANDARDS, AND APPLICABLE NFPA REQUIREMENTS.												
2.	THE CONTRACTOR SHALL PAY ALL COSTS FOR PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION, START-UP AND TESTING OF WORK SPECIFIED ON THESE DRAWINGS.												
3.	THE CONTRACTOR SHALL COORDINATE THE WORK DESCRIBED WITH EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.												
4.	ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE UL LISTED WHERE APPLICABLE. ALL ELECTRICAL REQUIREMENTS AND ACCESSORIES SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR PRIOR TO PURCHASING AND INSTALLATION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.												
5.	PLANS AND DIAGRAMS ARE SCHEMATIC OVERVIEW DESCRIPTIONS OF THE SYSTEMS AND SHOULD NOT BE SCALED. LAYOUT MECHANICAL WORK WITH ALL PLUMBING, HVAC, ELECTRICAL AND FIRE PROTECTION WORK AT SITE PRIOR TO FABRICATION SO AS NOT TO CONFLICT WITH OTHER WORK UNDER THE CONTRACT. CHANGES REQUIRED DUE TO LACK OF COORDINATION SHALL BE AT NO ADDITIONAL COST TO THE OWNER.												
6.	THE MECHANICAL PLANS IN GENERAL ARE DIAGRAMMATIC IN NATURE AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, ELECTRICAL, FIRE PROTECTION, STRUCTURAL AND PLUMBING DRAWINGS, TO BE CONSIDERED AS ONE SET OF DOCUMENTS.												
7.	COORDINATE FINAL EQUIPMENT LOCATIONS WITH THE ACTUAL EQUIPMENT PROVIDED FOR THE ACTUAL SITE CONDITION. LOCATIONS INDICATED ON THE DRAWINGS ARE APPROXIMATE.												
8.	SET AND ANCHOR ALL EXPOSED MECHANICAL EQUIPMENT TO HURRICANE LEVEL TO MEET WIND LOADS PER FMC-2017.												
9.	DUCTWORK SHALL BE GALVANIZED SHEET METAL, FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS, INCLUDING SEALED SEAMS AND JOINTS, HANGERS AND SUPPORTS. DUCTWORK LAYOUT IS APPROXIMATE LOCATION. INCLUDE OFFSETS AND TRANSITIONS WHERE REQUIRED. DUCTWORK DIMENSIONS NOTED ARE CLEAR INSIDE DIMENSIONS.												
10.	SHEET METAL DUCTS IN NON-CONDITIONED SPACE - I.E. CEILING CAVITIES - SUBJECT TO DEWPOINT CONDITIONS SHALL BE EXTERNALLY INSULATED WITH 1" MINIMUM FIBERGLASS DUCT WRAP WITH FOIL FACED VAPOR BARRIER AND HAVE A FIRE/SMOKE RATING LESS THAN 25/50.												
11.	DUCTWORK PRESSURE CLASSIFICATION SHALL MEET OR EXCEED THE FOLLOWING IN ACCORDANCE WITH SMACNA STANDARDS:												
	TOILET EXHAUST DUCTWORK: 1" W.G. NEGATIVE, SEAL CLASS C, LEAKAGE CLASS 24												
12.	TOILET EXHAUST FAN, GRILLE AND DUCTWORK SHALL BE SUPPORTED FROM THE STRUCTURE INDEPENDENT OF THE CEILING OR CEILING SUSPENSION SYSTEM. COORDINATE INSTALLATION WITH CONSTRUCTION OF OTHER BUILDING ELEMENTS: ELECTRICAL, ARCHITECTURAL, STRUCTURAL, PLUMBING, AND FIRE PROTECTION. PROVIDE ACCESS DOOR(S) IN CEILING TO SERVICE FAN, DAMPERS & DEVICES NOT OTHERWISE ACCESSIBLE.												
13.	DUCT SIZES SHALL BE EQUAL TO NECK SIZE OF CONNECTING AIR TERMINALS, UNLESS OTHERWISE NOTED.												
14.	DO NOT ROUTE ANY DUCTWORK OR HYDRONIC PIPING THROUGH ELECTRICAL, COMMUNICATION OR ELEVATOR EQUIPMENT ROOMS UNLESS SPECIFICALLY DEDICATED TO THAT ROOM.												
15.	PROVIDE CONDENSATE DRAINS FOR ALL AIR COILS FROM WHICH CONDENSATION MAY OCCUR.												
16.	PROVIDE FLEXIBLE CONNECTOR BETWEEN EACH DUCT AND THE FAN TO WHICH IT CONNECTS.												
17.	PROVIDE 1/2" x 1/2" STAINLESS STEEL WIRE MESH SCREEN ON THE INSIDE FACE OF ALL GRILLES OR LOUVERS UNLESS NOTED OTHERWISE.												
18.	WHETHER INDICATED ON THE DRAWINGS OR NOT, PROVIDE A MANUAL VOLUME DAMPER AT EACH DUCT BRANCH LEADING TO AN OUTLET/INLET OPENING. INSTALL THE DAMPER AS FAR AS POSSIBLE AWAY FROM THE OPENING.												
19.	PROVIDE ALL CONTROL WIRING IN COMPLIANCE WITH DIVISION 26 SPECIFICATIONS. ALL CONTROL WIRING IN EXPOSED AREAS SHALL BE IN RIGID, METAL CONDUIT. CONTROL WIRING ABOVE CEILINGS MAY BE RUN EXPOSED UNLESS NOTED OTHERWISE AND EXPOSED WIRING ABOVE CEILING SHALL BE PLENUM RATED.												
20.	LOCATION OF SPACE THERMOSTAT, OR TEMPERATURE & HUMIDITY SENSOR, SHALL BE APPROVED BY THE OWNER, COORDINATED WITH INTERIOR FINISH, EQUIPMENT DRAWINGS OR FURNITURE PLANS PRIOR TO INSTALLATION. MOUNT THERMOSTAT AT SAME ELEVATION AS WALL SWITCHES, AT 48" AFF UNLESS NOTED OTHERWISE, AND IN COMPLIANCE WITH A.D.A. REQUIREMENTS.												
21.	DIVISION 23 CONTRACTOR SHALL FURNISH STARTERS/DISCONNECTS WITH HVAC EQUIPMENT (UNO), WHICH SHALL BE INSTALLED AND WIRED BY THE DIVISION 26 CONTRACTOR. THE DIVISION 23 CONTRACTOR SHALL COMPLY WITH NEC AND DIVISION 26 OF THE CONTRACT SPECIFICATIONS REFERRING TO MOTORS, STARTERS AND DISCONNECTS.												
22.	THE CONTRACTOR SHALL PROVIDE INSULATED TYPE ACR REFRIGERANT PIPING BETWEEN THE DUCTLESS SPLIT SYSTEM INDOOR UNIT AND THE OUTDOOR UNIT. THE OUTDOOR UNIT SHALL BE MOUNTED OUTSIDE THE BOOTH, BRACKETED TO THE OVERHEAD STRUCTURAL FRAMING, AND COORDINATED WITH THE VEHICLE WASHING EQUIPMENT. FOLLOW PROPER PROCEDURES TO FABRICATE, PURGE AND TEST REFRIGERANT PIPING, PROVIDING ACCESSORIES AND REFRIGERANT CHARGE AS REQUIRED PER THE MANUFACTURER'S INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS.												
23.	INSULATE REFRIGERANT LINES AND CONDENSATE DRAIN WITH 3/4" THICK MOLDED ELASTOMERIC, ARMSTRONG ARMAFLEX OR APPROVED EQUAL.												
24.	CONTROLS: DUCTLESS SPLIT SYSTEM AIR CONDITIONER (DSS-1 AND CU-1) SHALL BE PROVIDED WITH PROGRAMMABLE COMBINATION COOLING/HEATING SELECTOR SWITCHES FOR "COOL-AUTO-HEAT-OFF" AND FAN "AUTO-ON" FUNCTIONS. BASIS OF MANUFACTURE SHALL BE HONEYWELL OR APPROVED EQUAL. PROVIDE TAMPER-PROOF COVER.												
25.	THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND MANUFACTURER'S SUBMITTALS IN ELECTRONIC FORMAT TO THE ARCHITECT FOR REVIEW AND APPROVAL FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN THE CONTRACT.												
26.	ALL MATERIAL SHALL BE NEW, OF U.S. MANUFACTURE AND OF GOOD QUALITY. EQUIPMENT SHALL BE UL OR ETL LISTED. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS.												
27.	PROVIDE A MIN. OF 36" CLEARANCE IN FRONT OF ALL 120-208 VOLT PANELS, AND A MIN. OF 42" CLEARANCE FROM 240-480 VOLT PANELS. SIDE CLEARANCE SHALL BE IN COMPLIANCE WITH NEC.												
28.	THE HVAC CONTRACTOR SHALL PROVIDE EQUIPMENT START-UP, PERFORMANCE TESTING AND DOCUMENTATION FOR MECHANICAL SYSTEMS PROVIDED FOR THIS FACILITY. RECORD TEST DATA INDICATING INITIAL READINGS AT START-UP AND FINAL READINGS AFTER BALANCING HAS BEEN COMPLETED.												
29.	UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ALL CHANGES AS APPLICABLE TO THE ARCHITECT.												
30.	THE CONTRACTOR SHALL PROVIDE A WARRANTY FOR ALL MECHANICAL SYSTEMS, INCLUDING ALL MATERIALS AND LABOR FURNISHED AND INSTALLED UNDER THESE DRAWINGS AND SPECIFICATIONS, FOR ONE YEAR FROM THE DATE OF BUILDING CERTIFICATE OF OCCUPANCY. THIS IS EXCLUSIVE OF MANUFACTURERS' WARRANTIES. PROVIDE A FIVE YEAR WARRANTY ON COMPRESSORS. ANY REPAIRS REQUIRING A SYSTEM SHUTDOWN SHALL BE ACCOMPLISHED DURING NON-OPERATIONAL PERIODS, OR AS AGREED TO BY THE OWNER.												

MECHANICAL SPECIFICATIONS

1.	IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.
2.	CONTRACTOR SHALL VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL AND PLUMBING SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
3.	THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TRADES INSTALLATION SCHEDULES. FIXED WORK SUCH AS DUCTWORK AND PLUMBING SHALL BE INSTALLED PRIOR TO ANY TRADE WORK THAT CAN BE EASILY RELOCATED OR OFFSET SUCH AS ELECTRICAL CONDUITS, SMALL WATER LINES ETC.
4.	UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO BOTTOM OF STRUCTURE. COORDINATE DUCT ELEVATION WITH WATER PIPING, SANITARY DRAINS AND MAJOR ELECTRICAL CONDUITS.
5.	CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS.
6.	ALL MECHANICAL WORK SHALL MEET ALL REQUIREMENTS OF THE LATEST APPLICABLE FLORIDA MECHANICAL CODE.
7.	DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, AND OTHER ITEMS OF THE AIR HANDLING SYSTEM SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM. SUPPORT ALL HVAC SYSTEM COMPONENTS IN ACCORDANCE WITH THE LATEST SMACNA STANDARDS. SUPPORT FROM STRUCTURE.
8.	ALL WALL MOUNTED THERMOSTATS AND/OR TEMPERATURE SENSORS SHALL BE INSTALLED AT AN ELEVATION OF 54" ABOVE FINISHED FLOOR TO THE TOP OF THE DEVICE UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTATS SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTATS AND SENSORS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER OR HIS REPRESENTATIVE IN THE FIELD.
9.	COORDINATE AIR DEVICE LOCATIONS WITH LIGHTING FIXTURES.
10.	PROVIDE A TRAP IN ALL CONDENSATE PIPING SERVING HVAC UNITS. CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC.
11.	VERIFY SUPPLY VOLTAGE AND CIRCUIT CURRENT-CARRYING CAPACITY WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
12.	ALL SUPPLY, RETURN, AND TOILET ROOM EXHAUST DUCTWORK (UNLESS OTHERWISE NOTED) SHALL BE EXTERNALLY INSULATED GALVANIZED SHEET METAL CONSTRUCTION IN ACCORDANCE WITH THE LATEST SMACNA STANDARDS. INSULATION SHALL BE 1-1/2" FOIL-FACED FIBERGLASS DUCT WRAP WITH AN INSTALLED MINIMUM THERMAL RESISTANCE (R-VALUE) OF 6.0.
13.	INSULATE TOPS OF AIR DIFFUSERS WITH 2" THICK 3/4 POUND GLASS FIBER WITH REINFORCED ALUMINUM FOIL VAPOR BARRIER, OVERLAP DIFFUSER 6" ALL AROUND. SCRIBE TO NECK SIZE AND ATTACH WITH ALUMINUM TAPE.
14.	DUCT SHALL BE SECURELY SUPPORTED, HUNG OR SUSPENDED IN ACCORDANCE WITH SECTION 603 OF THE LATEST APPLICABLE ALABAMA MECHANICAL CODE. PROVIDE MINIMUM 1-1/2" WIDE 22 GA. STRAPS, 10 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 30" AND ALL ROUND FLEX DUCT. PROVIDE 1" WIDE 22 GA. STRAPS, 5 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER FROM 31" TO 72" AND 1" WIDE 20 GA. STRAPS, 5 FT. SPACING FOR MAXIMUM HALF DUCT PERIMETER UP TO 96".
15.	OUTSIDE AIR INTAKES SHALL MAINTAIN A MINIMUM OF 10'-0" FROM ANY EXHAUST OR SANITARY VENT THROUGH ROOF PIPING.
16.	PROVIDE ALL HVAC UNITS WITH MANUFACTURER'S RECOMMENDED SERVICE AREA CLEARANCES.
17.	THE CONTRACTOR SHALL GUARANTEE, FOR ONE YEAR AFTER THE DATE OF ACCEPTANCE BY THE OWNER, ALL EQUIPMENT, MATERIALS AND WORKMANSHIP TO BE FREE FROM DEFECT.
18.	FURNISH AND INSTALL A COMPLETE SYSTEM OF TEMPERATURE CONTROLS. THE CONTROL DEVICES SHALL BE AS MANUFACTURED BY THE EQUIPMENT SUPPLIER. SYSTEMS SHALL BE INSTALLED AND ADJUSTED BY QUALIFIED MECHANICS IN THIS FIELD. CONTROL WIRING SHALL BE BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL CONTROL DEVICES AND BE RESPONSIBLE FOR OVERALL COORDINATION AND PERFORMANCE OF ALL OF THE CONTROLS SYSTEM. ALL WIRING SHALL BE IN CONDUIT, SEPARATE FROM ALL OTHER CONDUIT. UNLESS SPECIFIED OTHERWISE, INSTALL ALL SYSTEM COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.