ABBREVIATIONS

ABV	ABOVE
ADJ	ADJUSTABLE
AF	AIRFOIL
AFF	ABOVE FINISHED FLOOR
AC	AIR CONDITIONER
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BAS	BUILDING AUTOMATION SYSTEM
BI	BACKWARD INCLINE
BLDG	BUILDING
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CW	CHILLED WATER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CONC	CONCRETE
COND	CONDENSATE
CONT	CONTINUOUS
CO	CARBON MONOXIDE
COP	COEFFICIENT OF PERFORMANCE
CU	CONDENSING UNIT
DB	DRYBULB
DWDI	DOUBLE WIDTH, DOUBLE INLET
DWGS	DRAWINGS
DX	DIRECT EXPANSION
EF	EXHAUST FAN
EXH	EXHAUST
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
ELECT	ELECTRICAL
ENT	ENTERING
EQ	EQUAL
ER	EXHAUST REGISTER
EWT	ENTERING WATER TEMPERATURE
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FL	FLOOR
FLEX	FLEXIBLE CONNECTOR OR DUCT
FPM	FEET PER MINUTE
F/S	COMBINATION FIRE AND SMOKE DAMPER
FT. H_2O	FEET WATER GAUGE
F	DEGREES FAHRENHEIT
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HTWR	HIGH TEMPERATURE HOT WATER RETURN
HTWS	HIGH TEMPERATURE HOT WATER SUPPLY
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HV	HEATING AND VENTILATING
IN.WG	INCHES WATER GAGE
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LD	LINEAR DIFFUSER
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 X BTUH
MIN	MINIMUM
MVD	MANUAL VOLUME DAMPER
MZ	MULTI-ZONE
N.T.S.	NOT TO SCALE
OA	OUTSIDE AIR
OBMVD	OPPOSED BLADE MANUAL VOLUME DAMPER
OPD	OPEN DRIP PROOF
PROP	PROPELLER
PCR	PRE-CONDITIONED AIR SYSTEM RETURN WATER
PCS	PERCENT
PD	PRESSURE DROP
PERF. PL.	PERFORATED PLATE
PLBG	PLUMBING
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RD	RADIATION DAMPER
REG	REGISTER
REQ'D	REQUIRED
RG	RETURN AIR GRILLE
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
RR	RETURN AIR REGISTER
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SF	SUPPLY FAN
SDT	SMOKE DETECTOR
SD	SUPPLY DIFFUSER
SDMP	SMOKE DAMPER
SQ.FT.	SQUARE FOOT
SR	SUPPLY REGISTER
STR	STARTER
SWSI	SINGLE WIDTH, SINGLE INLET
SZ	SINGLE ZONE
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
T/O	TRANSFER OPENING ABOVE CEILING
T'STAT	THERMOSTAT
TYP	TYPICAL
VFDC	VARIABLE FREQUENCY DRIVE CONTROLLER
VAV	VARIABLE AIR VOLUME
VS	VARIABLE SPEED
W	WATTS
W/	WITH
W/O	WITHOUT
WB	WETBULB
ZD	ZONE DAMPER

GENERAL NOTES

1. INSTALL EQUIPMENT AND MATERIALS IN COMPLIANCE WITH MANUFACTURER'S MINIMUM CLEARANCE REQUIREMENTS AND RECOMMENDATIONS.
2. COMPLY WITH THE LATEST EDITIONS OF NFPA AND THE LATEST ADOPTED EDITION FLORIDA BUILDING CODE (MECHANICAL, PLUMBING AND GAS).
3. ALL MATERIALS SHALL FIT THE SPACE AVAILABLE. VERIFY DIMENSIONS AND CLEARANCES ON BUILDING PLANS PRIOR TO COMMENCING WORK.
4. CONTRACTOR IS RESPONSIBLE FOR TESTING AND BALANCING OF AIR SYSTEMS IN ACCORDANCE WITH AABC GUIDELINES. A TEST AND BALANCE REPORT SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL.
5. PROVIDE 45 DEGREE BRANCH TAKE-OFF PER SMACNA FIG. 2-8 ON ALL RECTANGULAR DUCT TAKE-OFFS.
6. PROVIDE AND INSTALL DUCT MOUNTED HINGED ACCESS DOORS FOR ALL SMOKE AND/OR FIRE DAMPERS, NOT OTHERWISE ACCESSIBLE.
7. CONTRACTOR SHALL COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING AND SHALL COORDINATE WITH ALL OTHER TRADES PRIOR TO OR INSTALLING EQUIPMENT AND MATERIALS.
8. COORDINATE ALL HVAC SYSTEM DRAWINGS WITH EXISTING/NEW TRUSS TO AVOID INTERFERENCE BETWEEN MECHANICAL SYSTEMS AND ROOF STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH TRUSS INTERFERENCE THAT OCCURS IN THE FIELD DURING CONSTRUCTION. COORDINATE IN ADVANCE. DUCT SIZES MAY BE REVISED TO FIT TRUSS SYSTEM SO LONG AS THE EQUIVALENT INSIDE CROSS SECTIONAL AREA IS NOT DECREASED.
9. GAUGES AND CONSTRUCTION FOR DUCTWORK SHALL CONFORM TO THE LATEST EDITION OF SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS,
10. TRANSITION RECTANGULAR DUCTWORK ON BOTTOM AND SIDES. MAINTAIN TOP OF DUCTWORK LEVEL AND HIGH AS POSSIBLE. FLEXIBLE DUCT RUN-OUTS TO CEILING DIFFUSERS SHALL BE AS STRAIGHT AS POSSIBLE AND FREE OF SAGS & KINKS. FLEX DUCT SHALL BE THE SAME SIZE AS THE DIFFUSER NECK IT SERVES.
11. ALL DUCT TRANSITIONS FROM SQUARE TO ROUND SHALL BE SMOOTH SQUARE TO ROUND TRANSITIONS. SPIN-IN FITTINGS AT THE END OF CAPPED DUCTS ARE NOT ACCEPTABLE. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS.
12. THE CONTRACTOR SHALL FULFILL ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHALL COMPLETE THE WORK SHOWN ON THESE DRAWINGS. ALL SYSTEMS SHALL BE FINISHED, TESTED AND BALANCED, ADJUSTED, AND PROVEN TO BE FULLY OPERATIONAL AND USEABLE.
13. ADJUST ALL DIFFUSERS IN CORRIDORS OR WITHIN THREE (3) FEET OF A WALL TO PROVIDE 2-WAY OR 3-WAY BLOW AWAY FROM OR PARALLEL TO WALLS. ALL DIFFUSERS SHALL HAVE 4-WAY BLOW UNLESS NOTED OTHERWISE.
14. PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLES AND REGISTERS IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.
15. ALL DAMPERS IN AND ABOVE CEILING SHALL BE ACCESSIBLE. CONTRACTOR SHALL COORDINATE ALL ACCESS PANELS IN CEILINGS OR WALLS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND INTERIOR DRAWINGS FOR PROPER LOCATION.
16. MOUNT THERMOSTATS WHERE INDICATED ON PLANS 48" A.F.F. UNLESS NOTED OTHERWISE. IN HANDICAPPED ACCESSIBLE AREAS, MOUNT CONTROLS AT 48" ABOVE FINISHED FLOOR.
17. COORDINATE DUCTWORK AND PIPING WITH PLUMBING, FIRE PROTECTION AND ELECTRICAL. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL EXPENSE TO THE CONTRACT.
18. SEAL ALL TRANSVERSE JOINTS AND FITTINGS WITH DUCT SEALER.
19. TRAP AND ROUTE CONDENSATE DRAINS LINES, FULL SIZE OF UNIT CONNECTION, AS INDICATED. SLOPE 1/8" PER FOOT.
20. ALTERNATE MANUFACTURERS AND MODELS WILL BE REVIEWED. THERE MAY BE ARCHITECTURAL, STRUCTURAL AND ELECTRICAL CHANGES RESULTING FROM THE ALTERNATES. THE COST OF IMPLEMENTING AND ENGINEERING THESE CHANGES SHALL BE BORNE BY THE MECHANICAL SUBCONTRACTOR.
21. PIPE AND DUCT ROUTING SHOWN IS SCHEMATIC. PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS, INCLUDING DIVIDED DUCTS, REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES AS ENCOUNTERED IN THE FIELD.
22. COORDINATE CEILING MOUNTED AIR DEVICE LOCATION WITH REFLECTED CEILING PLAN AND OTHER TRADES.
23. ALL CONTROL WIRING AND CONDUIT SHALL COMPLY WITH NEC DIVISION 16 SPECIFICATIONS.
24. PROVIDE MATERIALS WHICH HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS WHEN TESTED IN ACCORD WITH ASTM E84.
25. SLEEVE AND FIRE STOP PENETRATIONS THROUGH FIRE RATED SYSTEMS TO MAINTAIN RATING OF SYSTEM. USE MINIMUM GALVANIZED STEEL GAUGE DUCT AS REQUIRED TO MAINTAIN RATING OF SYSTEM.
26. THE TABC SHALL BE EMPLOYED DIRECTLY BY THE GENERAL CONTRACTOR WHO SHALL BE SOLELY RESPONSIBLE FOR ITS PERFORMANCE AND THE TIMELY SCHEDULE OF ITS OPERATION.
27. WHERE THE EXHAUST DUCT IS CONCEALED WITHIN THE BUILDING CONSTRUCTION, THE EQUIVALENT LENGTH OF THE DUCT SHALL BE IDENTIFIED ON A PERMENANT LABEL OR TAG. THE LABEL OR TAG SHALL BE LOCATED WITHIN 6 FEET OF THE EXHAUST DUCT CONNECTION.

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NOTE:

GENERAL NOTES ON THIS MECHANICAL SHEET ARE FOR GENERAL REFERENCE PURPOSES ONLY. ALL OF THESE NOTES MAY NOT BE USED FOR THIS PROJECT.

LEGEND

	SUPPLY DIFFUSER. (4-WAY)
	RETURN OR OUTDOOR AIR GRILLE
	EXHAUST GRILLE
	SUPPLY DUCT UP SECTION (RECTANGULAR)
	RETURN DUCT UP SECTION (RECTANGULAR)
	EXHAUST DUCT UP SECTION (RECTANGULAR)
	SUPPLY DUCT DOWN SECTION (RECTANGULAR)
	RETURN DUCT DOWN SECTION (RECTANGULAR)
	EXHAUST DUCT DOWN SECTION (RECTANGULAR)
	SUPPLY DUCT UP SECTION (ROUND).
	SUPPLY DUCT DOWN SECTION (ROUND).
	LINEAR SLOT DIFFUSER
	EXISTING LINEAR SLOT DIFFUSER (LIGHT LINETYPE)
A/B	RECTANGULAR DUCTWORK WITH TAKE-OFF, BALANCING DAMPER AND INSULATED FLEXIBLE ROUND DUCT. SAME SIZE AS DIFFUSER INLET UNLESS NOTED OTHERWISE. FIRST DIMENSION IS THAT OF SIDE SHOWN.
A ø	ROUND DUCTWORK.
	CONICAL FITTING WITH DAMPER ON BRANCH CONNECTION TO RECTANGULAR MAIN (PROVIDE DAMPER IN LOW PRESSURE DUCTWORK ONLY).
	EXISTING DUCTWORK TO REMAIN (LIGHT LINETYPE)
R	DUCT OFFSETS UP (RISE) IN DIRECTION INDICATED.
D	DUCT OFFSETS DOWN (DROP) IN DIRECTION INDICATED.
	OPPOSED BLADE VOLUME DAMPER (OBD).
	MANUAL DAMPER
	FLEXIBLE DUCT CONNECTION.
	FIRE DAMPER WITH ACCESS PANEL.
	COMBINATION FIRE/SMOKE DAMPER WITH ACCESS PANEL.
	EXISTING DUCTWORK TO BE REMOVED (DASHED LINETYPE)
FD	DUCT MOUNTED SMOKE DETECTOR PROVIDED AND WIRED BY ELECTRICAL CONTRACTOR AND INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. REFER TO SPECIFICATIONS FOR CONTROL REQUIREMENTS.
A-100	AIR DEVICE TAG MARK-CFM
	SIDEWALL TRANSFER GRILLE
	SIDEWALL SUPPLY REGISTER
	SIDEWALL RETURN GRILLE OR OUTSIDE AIR LOUVER
	SIDEWALL EXHAUST GRILLE
TS	WALL MOUNTED DDC TEMPERATURE SENSOR MOUNT 48" ABOVE FINISHED FLOOR.
T	WALL MOUNTED THERMOSTAT MOUNT 48" ABOVE FINISHED FLOOR.
C	WALL MOUNTED CO SENSOR MOUNT 48" ABOVE FINISHED FLOOR.
H	WALL MOUNTED DDC HUMIDITY SENSOR MOUNT 48" ABOVE FINISHED FLOOR.
HS	WALL MOUNTED HUMIDISTAT SENSOR MOUNT 48" ABOVE FINISHED FLOOR.
A B	PHOTO DETAIL OR SECTION IDENTIFICATION TARGET A = DETAIL NUMBER. B = SHEET NUMBER ON WHICH DETAIL IS LOCATED.
RD	RADIATION DAMPER INSTALLED IN AIR DEVICE
RD	RADIATION DAMPER INSTALLED IN DUCT.
	ELBOW WITH TURNING VANES
X	REFERENCE NOTES
X	REFERENCE NOTE – MULTI-DISCIPLINE SHEETS
	FLOW DIRECTION
	INDICATES POINT OF CONNECTION BETWEEN NEW AND EXISTING.
	POINT OF DISCONNECT
CWS	CONDENSER WATER SUPPLY PIPING.
CWR	CONDENSER WATER RETURN PIPING.
BCWS	BUILDING CONDENSER WATER SUPPLY PIPING.
BCWR	BUILDING CONDENSER WATER RETURN PIPING.
CHWS	CHILLED WATER SUPPLY PIPING.
CHWR	CHILLED WATER RETURN PIPING.
HWS	HEATING WATER SUPPLY PIPING.
HWR	HEATING WATER RETURN PIPING.
CD	CONDENSATE DRAIN PIPING.
R	REFRIGERANT PIPING
FS	FLOW SENSOR.
SP	STATIC PRESSURE TRANSMITTER ASSEMBLY.
L L=1/4W, MIN. 4" 45° W	RECTANGULAR BRANCH DUCT CONNECTION. (PROVIDE BALANCING DAMPER AT ALL BRANCH CONNECTIONS)
	TEE (PLAN, UP, DOWN).
	ELBOW (PLAN, UP, DOWN).
	VALVE.
	TWO WAY MOTORIZED CONTROL VALVE.
	THREE WAY MOTORIZED CONTROL VALVE.
	PRESSURE REDUCING VALVE.
	FLOW CONTROL VALVE.
	BALL VALVE FOR PIPING 2-INCHES AND SMALLER, BUTTERFLY VALVE FOR PIPING 2-1/2 INCHES AND LARGER.
	BUTTERFLY VALVE.
	CHECK VALVE.
	STRAINER.
	BALANCE VALVE WITH INTEGRAL TAPS FOR CONNECTION OF DIFFERENTIAL PRESSURE METER. VALVE SHALL HAVE NAMEPLATE INDICATING WATER FLOW RATE VERSUS VALVE PRESSURE DROP.
A	AUTOMATIC FLOW CONTROL VALVE WITH INTEGRAL TEMPERATURE AND PRESSURE TEST PORTS.
	UNION.
	VENTURI FLOW METER.
	PRESSURE AND/OR TEMPERATURE PORT
	THERMOMETER.
	PRESSURE GAUGE WITH GAUGE COCK.
	FLEXIBLE CONNECTION.
	PRESSURE RELIEF VALVE.
M	MOTORIZED ACTUATOR
	OPENING IN WALL ABOVE CEILING.
AHU 3 — EQUIPMENT TYPE, MARK	EQUIPMENT TAG
UC	1" DOOR UNDER CUT. ARROW INDICATES DIRECTION OF FLOW

NOTE:

SYMBOLS SHOWN ON THIS MECHANICAL LEGEND ARE FOR REFERENCE PURPOSES ONLY. ALL OF THESE SYMBOLS MAY NOT BE USED FOR THIS PROJECT.

PERMIT REVIEW STAMP

ISSUE HISTORY

No.	Date	Description
1	1/18/2018	ISSUE FOR PERMIT

REVISION HISTORY

No.	Date	Description

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SYMBOL LEGEND - MECHANICAL

M0.01