

HVAC ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
AC	AIR CONDITIONER
AHU	AIR HANDLING UNIT
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNITS
CFM	CUBIC FEET PER MINUTE
CU	CONDENSING UNIT
DB	DRY BULB
DEG F	DEGREES FAHRENHEIT
EA	EXHAUST AIR/EACH
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
FBC	FLORIDA BUILDING CODE
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FT	FEET
FTE	FLORIDA TURNPIKE ENTERPRISE
FT-H2O	FEET OF WATER
HP	HORSEPOWER
IN	INCHES
IN.W.G.	INCHES OF WATER - GAGE
KW	KILOWATTS
LBS	POUNDS
LV	LOUVER
LVG	LEAVING
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS
MCA	MAXIMUM CURRENT AMPACITY
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
N/A	NONE ASSOCIATED/NOT APPLICABLE
OA	OUTSIDE AIR
PH	PHASE
PSIG	POUNDS PER SQUARE INCH - GAGE
RA	RETURN AIR
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SQUARE FEET
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SS	STAINLESS STEEL
TYP	TYPICAL
V	VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB

HVAC LEGEND				
SYMBOL	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
PIPING				
	REFRIGERANT PIPING			CONDENSATE DRAIN PIPING
	UNDERGROUND REFRIGERANT PIPING			UNDERGROUND CONDENSATE DRAIN PIPING
	PIPING CONTINUES			PIPE ELBOW DOWN
	PIPE ELBOW UP			DIAMETER
DUCTWORK				
				RETURN DUCT RISER
				RETURN DUCT DOWN
				EXHAUST DUCT DOWN
				DUCT CONTINUES
	MVD			MANUAL VOLUME DAMPER
	FD			FIRE DAMPER
	AP			DUCT ACCESS PANEL
				DUCT RISE (R) OR DROP (D) IN DIRECTION OF FLOW
				SMOKE DETECTOR
				SQUARE TO ROUND DUCT TRANSITION
				SINGLE LINE DUCTWORK
				CONICAL OR BELL MOUTH TAP W/MVD
				FLEXIBLE DUCT
				SUPPLY OUTLET (SEE AIR DEVICE SCHEDULE)
				RETURN INLET (SEE AIR DEVICE SCHEDULE)
				EXHAUST INLET (SEE AIR DEVICE SCHEDULE)
				NEW WORK
				TO BE DEMOLISHED
				POINT OF CONNECTION
				POINT OF DISCONNECTION
SYMBOLS				
	TEMPERATURE SENSOR			
	HUMIDITY SENSOR			
	AIR DEVICE TAG AIR QUANTITY (DEVICE QUANTITY)			
	UNDER CUT DOOR AIR FLOW AMOUNT			
	REFERENCE NOTE			
	DETAIL NUMBER SHEET DETAIL APPEARS			
	TYPE OF EQUIPMENT EQUIPMENT NUMBER			
	SECTION NUMBER SHEET SECTION APPEARS			



REVISIONS						Sims Wilkerson Cartier Engineering, Inc. 12124 High Tech Avenue - Suite 200 Orlando, Florida 32817 (407)380-0400 Fax (407)380-5900 11026 KYLE J. CARTIER, P.E. 53269 FL. CERT. OF AUTH. NUMBER 6106			STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			RENOVATION NORTH BUILDING #4906		SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	LEGEND - MECHANICAL		M001			
						S.R. 91	PALM BEACH	417047-2-91-01						

BUILDING PRESSURIZATION TABLE	
SUMMARY	
RTU - N1	+ 180 CFM
TOTAL AIR SUPPLY	+ 180 CFM
EF-1,2,3 (50 CFM EACH)	- 150 CFM
TOTAL EXHAUST	- 150 CFM
RESULTING POSITIVE PRESSURE WITH ALL FANS RUNNING	+ 30 CFM
RESULTING POSITIVE PRESSURE WITH ALL FANS OFF	+ 180 CFM
NUMBER OF DOORS TO OUTSIDE	3
POSITIVE PRESSURE PER DOOR, ALL FANS RUNNING	+ 10 CFM/DOOR
POSITIVE PRESSURE PER DOOR, ALL FANS OFF	+ 60 CFM/DOOR

HVAC DESIGN DATA			
WALL U VALUE (BTU/HR-FT ² -F)	0.124		
ROOF U VALUE (BTU/HR-FT ² -F)	0.128		
WINDOW U VALUE (BTU/HR-FT ² -F)	1.1		
WINDOW SHADING COEFFICIENT	0.62		
OUTDOOR DESIGN CONDITIONS	SUMMER		WINTER
	DB (F)	WB (F)	DB (F)
	95	78	35
INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER
	DB (F)	% HUMIDITY	DB (F)
	75	50	70
ALL UNITS	75	50	70
NOTE: THE HVAC LOAD CALCULATIONS ARE BASED ON THE DESIGN CRITERIA LISTED ABOVE. THIS IS AN EXISTING BUILDING AND THE VALUES USED ARE ESTIMATES BASED ON THE EXISTING CONSTRUCTION AND HAVE NOT BEEN FIELD VERIFIED.			

OUTDOOR AIR CALCULATIONS								
MARK	AREA	PEOPLE	Ra	Rp	Vbz	Ez	Vot Voz=Vbz/Ez=Vot	SCHEDULED OA CFM
RTU-N1	1302	5	0.06	5	103	0.8	128.9	180
NOTES								
1. THE REQUIRED OUTSIDE AIR FOR EACH SYSTEM WAS CALCULATED USING THE GUIDELINES SET FORTH IN ASHRAE STANDARD 62.1-2007. THE APPROPRIATE PEOPLE OUTDOOR AIR RATE (Rp) AND THE AREA OUTDOOR AIR RATES (Ra) WERE SELECTED FROM TABLE 6-1 BASED ON THE OCCUPANCY CATEGORY FOR EACH SPACE. THE BREATHING ZONE OUTSIDE AIRFLOW (Vbz) WAS CALCULATED FOR EACH SPACE USING THESE NUMBERS AND THE SPACE OCCUPANCY AND SQUARE FOOTAGE. THE SUM OF ALL OF THE SPACE AND BREATHING ZONE OUTSIDE AIRFLOWS WAS TOTALED AND CORRECTED USING THE APPROPRIATE SYSTEM VENTILATION EFFICIENCY (Ez).								

VENTILATION REQUIREMENTS		
OUTDOOR AIRFLOW CALCULATIONS FOR CONSTANT VOLUME SYSTEMS		
THE VENTILATION AIR FOR THE SPACES IS INTRODUCED AT THE ROOFTOP UNIT		
THE REQUIRED OUTSIDE AIR FOR EACH SYSTEM WAS CALCULATED USING THE GUIDELINES SET FORTH IN ASHRAE 62.1-2007. THE CODE REQUIRES THE FOLLOWING:		
<ul style="list-style-type: none"> OFFICE SPACE - 5 CFM PER PERSON AND 0.06 CFM/SF WAREHOUSES - 0.06 CFM/SF 		
UNIT	REQUIRED VENTILATION	SCHEDULED VENTILATION
RTU-N1	128.9 CFM	180 CFM



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						11026	S.R. 91	PALM BEACH	417047-2-91-01	SCHEDULES - MECHANICAL	

SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE (EXISTING)

MARK	AHU-X
LOCATION	NORTH BLDG. ROOM 107
MANUFACTURER	TRANE
MODEL	FEM4P4200A
FAN	
TOTAL AIR FLOW (CFM)	1200
OUTSIDE AIR FLOW (CFM)	50
S.P. IN. WG. (TOT./EXT.)	-/-
DRIVE	DIRECT
H.P.	1/2
VOLTS/ø	208/1
EVAPORATOR COIL	
ENT. AIR TEMP. (DB/WB)	-
LVG. AIR TEMP. (DB/WB)	-
SENS. CAPACITY (MBH)	-
TOTAL CAPACITY (MBH)	-
FACE AREA (SQ. FT.)	-
ROWS/FINS PER INCH	-
ELECTRIC HEATING COIL	
INPUT (KW) @ 208V	10
CONTROL STEPS	2
VOLTS/ø	208/1
ELECTRICAL	
MINIMUM CIRCUIT AMPACITY	-
MAXIMUM FUSE SIZE	-
FILTERS	
(QUANTITY) SIZE	-
TYPE	-
UNIT REQUIREMENTS	
OPERATING WEIGHT (LBS.)	200
ACCESSORIES	-
NOTES	1,2,3
ACCESSORIES	
NOTES	
1. UNIT IS EXISTING. CONTRACTOR SHALL RELOCATE UNIT FROM CRD EAST BUILDING AND USE TO SERVE THE COMMUNICATIONS ROOM. BALANCE UNIT TO NEW AIRFLOWS INDICATED.	
2. UNIT OUTSIDE AIRFLOW SHALL BE DELIVERED FROM RTU-N1.	
3. MOUNT ON VERTICAL PEDESTAL IN SECONDARY DRAIN PAN ON THE FLOOR. PROVIDE NEW CONDENSATE PUMP AND PUMP CONDENSATE TO THE ROOF, THEN TO GRADE.	

AIR COOLED CONDENSING UNIT SCHEDULE (EXISTING)

MARK	CU-X
LOCATION	NORTH ROOF
MANUFACTURER	DAY AND NIGHT
MODEL NUMBER	N4A342AKA300
COMPRESSER	
OUTDOOR DESIGN TEMPERATURE (DEG F)	95
NUMBER OF STAGES	1
NUMBER OF COMPRESSORS	1
MOTOR HP	-
CONDENSER FAN	
NUMBER OF FANS	1
MOTOR HP	1/5
ELECTRICAL	
VOLTAGE/PHASE	208/1
COMPRESSER RLA EACH	17.9
CONDENSER FAN MOTOR FLA EACH	1.1
MINIMUM CIRCUIT AMPACITY	23.5
MAXIMUM FUSE SIZE	40
EER (SEER)	-
UNIT REQUIREMENTS	
UNIT WEIGHT (LBS)	350
ACCESSORIES	-
NOTES	1
NOTES	
1. MOUNT ON 14 INCH TALL ROOF RAILS. SECURE UNIT TO RAILS TO WITHSTAND 140 MPH WINDS. ATTACH RAILS TO ROOF PER DETAILS 1 AND 2 ON SHEET S302.	



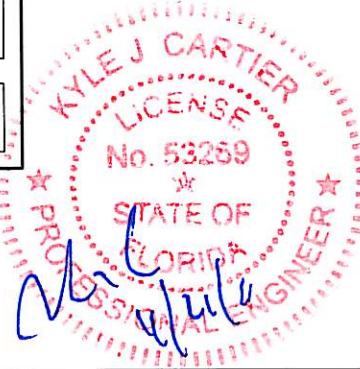
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DATE	BY	DESCRIPTION	DATE	BY			DESCRIPTION	ROAD NO.	COUNTY		

ROOFTOP UNIT SCHEDULE	
MARK	RTU-N1
LOCATION	ROOF
MANUFACTURER	TRANE
MODEL	THC 037
EVAPORATOR FAN	
TOTAL AIR FLOW (CFM)	1125
OUTSIDE AIR FLOW (CFM)	180
S.P. IN. WG. (TOT./EXT.)	-/0.6
DRIVE/TYPE	BELT/CENT
H.P./RPM	3/4 / 800
VOLTS/ø	208/3
DX COOLING COIL	
ENT. AIR TEMP. (DB/WB)	78.2/65.3
LVG. AIR TEMP. (DB/WB)	55.2/55.0
SENS. CAPACITY (MBH)	28.0
TOTAL CAPACITY (MBH)	34.7
FACE AREA (SQ. FT.)	7.71
ROWS/FINS PER INCH	3/16
ELECTRIC HEATING COIL	
NUMBER OF STAGES	2
TOTAL KW	12
VOLTS/ø	208/3
COMPRESSOR	
NUMBER OF STAGES	1
NUMBER OF COMPRESSORS	1
R.L.A. (TOTAL)	11.6
VOLTS/ø	208/3
CONDENSER FAN	
NUMBER OF FANS	1
F.L.A. (TOTAL)	1.5
VOLTS/ø	208/1
UNIT REQUIREMENTS	
M.C.A.	40.4
M.F.S.	45
SEER	17.0
OPERATING WEIGHT (LBS.)	800
ACCESSORIES	1 THRU 7
FILTERS	
(QUANTITY) SIZE	(4) 20x30x2
TYPE	THROWAWAY
ACCESSORIES	
1. PROVIDE SINGLE POINT POWER CONNECTION.	
2. PROVIDE MANUFACTURER'S 14 INCH TALL INSULATED ROOF CURB.	
3. PROVIDE MOTORIZED DAMPER ON OUTSIDE AIR INTAKE THAT OPENS WHEN UNIT STARTS AND CLOSES WHEN UNIT STOPS.	
4. PROVIDE ANTI SHORT CYCLE TIMER.	
5. PROVIDE LOW AND HIGH PRESSURE SWITCHES.	
6. PROVIDE MANUFACTURER'S 24HR, 7 DAY PROGRAMMABLE, DIGITAL DISPLAY WITH HUMIDITY SENSOR, THERMOSTAT W/BATTERY BACKUP.	
7. PROVIDE HOT GAS REHEAT COIL, 6.83 SF FACE AREA, 2 ROW, 18 FINS PER INCH.	
NOTES	
1. SECURE UNIT TO ROOF CURB. ROOF CURB SHALL BE SECURED TO THE ROOF PER DETAILS 1 AND 2 ON SHEET S302.	

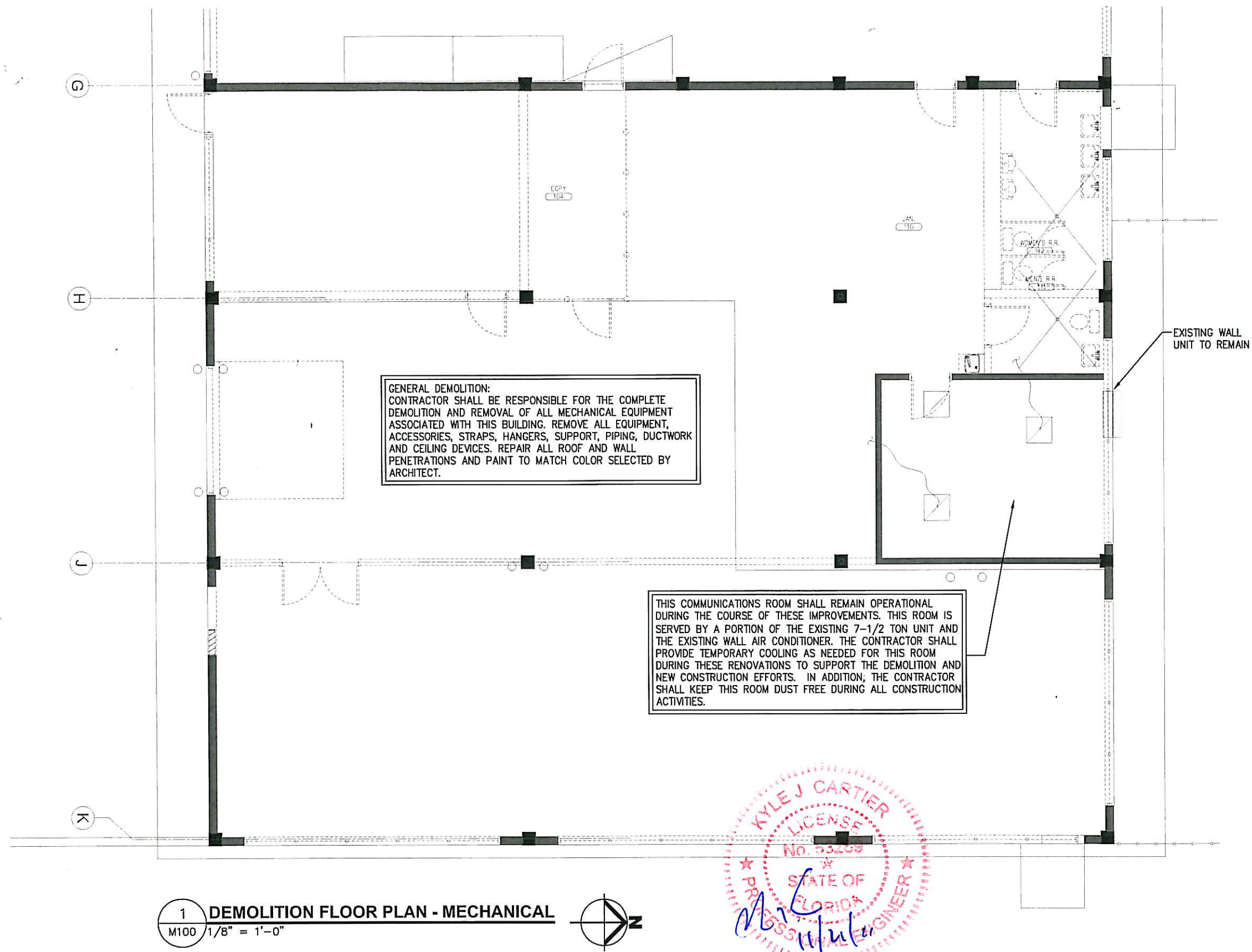
AIR DEVICE SCHEDULE			
MARK	(A)	(B)	(C)
MANUFACTURER	TITUS	TITUS	TITUS
MODEL	TMS-AA	4 FL	TMS-AA
UNIT			
TYPE	SUPPLY	RETURN	SUPPLY
FACE/NECK (INCHES)	24x24/SEE TABLE 1	24x24/SEE TABLE 2	12x12/SEE PLAN
FINISH	WHITE	WHITE	WHITE
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM
ACCESSORIES	1	1	1,2
PERFORMANCE			
MAXIMUM NC LEVEL	27	27	25
MAXIMUM PRESS DROP (IN.W.G.)	0.08	0.08	0.06
ACCESSORIES			
1. PROVIDE SURFACE MOUNT BORDER FOR ALL AIR DEVICES LOCATED IN A HARD CEILING.			
2. PROVIDE ALUMINUM OPPOSED BLADE DAMPER ADJUSTABLE FROM DIFFUSER FACE.			
NOTES			
1. USE NECK SIZES BELOW ONLY IF NOT INDICATED ON PLANS.			
2. PAINT DUCT WORK THAT IS VISIBLE THROUGH FRONT OF AIR DEVICE MATTE BLACK.			
TABLE 1		TABLE 2	
CFM RANGE	NECK SIZE	CFM RANGE	NECK SIZE
0-100	6"ø	326-475	12"ø
101-220	8"ø	476-650	14"ø
221-325	10"ø		
CFM RANGE	NECK SIZE	CFM RANGE	NECK SIZE
0-400	12"ø	401-650	14"ø
401-650	14"ø	651-850	16"ø
NOTE: FLEX DUCT SIZE SHALL EQUAL NECK SIZE UNLESS OTHERWISE NOTED.			

EXHAUST FAN SCHEDULE		
MARK	EF-1,2,3	EF-4
MANUFACTURER	GREENHECK	GREENHECK
MODEL	SP-B70	G-203-B
FAN		
LOCATION	RR/JAN. CEIL.	WAREHOUSE ROOF
AIR FLOW (CFM)	50	5000
STATIC PRESSURE (IN.W.G.)	0.3	0.6
DRIVE/TYPE	DIRECT/CENT	DIRECT/CENT
HP(WATTS)/RPM	(45) / 675	2 / 1140
VOLTS/PHASE	115/1	280/3
UNIT REQUIREMENTS		
OPERATING WEIGHT (LBS)	50	200
ACCESSORIES	1,2,3	1,4,5
NOTES	1	2
ACCESSORIES		
1. PROVIDE BACKDRAFT DAMPER.		
2. PROVIDE SPEED CONTROLLER FOR SYSTEM BALANCING.		
3. PROVIDE MANUFACTURER'S ROOF CAP AND CURB.		
4. PROVIDE 150 MPH HIGH WIND RATED, FLORIDA PRODUCT APPROVED AND MIAMI DADE NOTICE OF ACCEPTANCE APPROVED FAN, CURB AND FAN TO CURB ATTACHMENTS.		
5. PROVIDE TIE DOWN POINTS AND STAINLESS STEEL FASTENERS AS REQUIRED.		
NOTES		
1. INTER-LOCK CORRESPONDING ROOM LIGHTING CIRCUIT TO OPERATE FAN WITH LIGHT.		
2. CONTROL FROM LINE VOLTAGE THERMOSTAT. PROVIDE THERMOSTAT, MOUNT AT 54 INCHES ABOVE FINISH FLOOR, AND CONNECT FAN. SET INITIAL SETTING AT 75° F.		

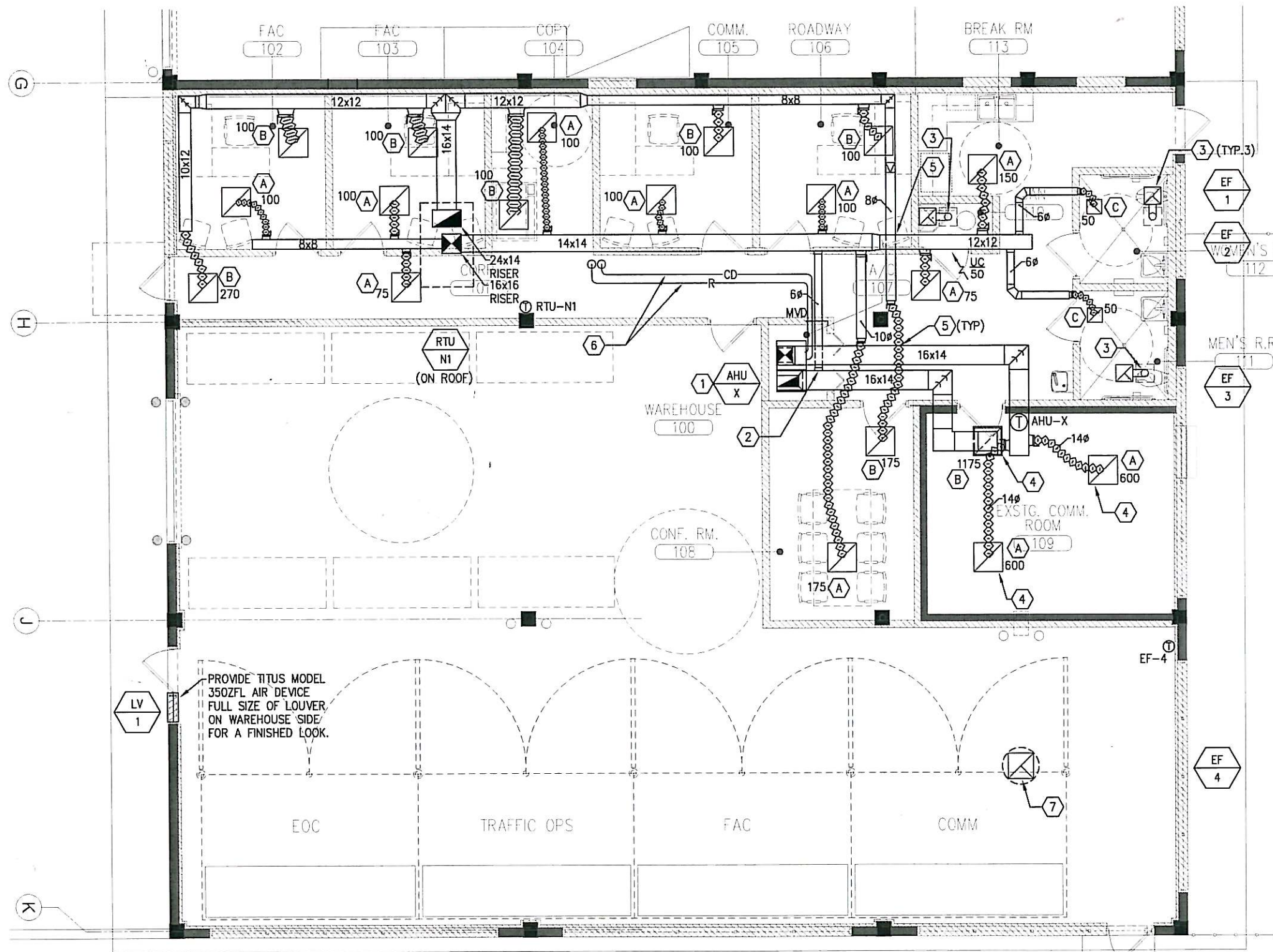
STATIONARY LOUVER SCHEDULE									
PLAN MARK	LOCATION	MATERIAL	LOUVER SIZE WxH (IN)	DESIGN CFM	FREE AREA (SQ FT)	VELOCITY (FPM)	PRESSURE DROP (IN. WG.)	ACCESSORIES	MANUFACTURER & MODEL NO.
LV-1	WAREHOUSE WALL	ALUMINUM	24x80	5000	5.98	825	0.14	1,2,3,4	GREENHECK EHH-601D
ACCESSORIES									
1. PROVIDE RECESSED MOUNTING KIT FOR INSTALLATION INTO CMU WALL.									
2. PROVIDE INSECT SCREEN.									
3. PROVIDE FACTORY PAINTED LOUVER WITH COLOR SELECTION BY ARCHITECT.									
4. PROVIDE WITH VCD 40 MANUAL VOLUME DAMPER FOR WIND DRIVEN RAIN APPLICATION.									
NOTES									
1. REFER TO ARCHITECTURAL AND STRUCTURAL SHEETS FOR MOUNTING HEIGHTS AND ELEVATIONS.									
2. LOUVER SHALL BE WIND DRIVEN RAIN RATED AND SHALL CARRY BOTH A FLORIDA PRODUCT APPROVAL AND MIAMI DADE NOTICE OF ACCEPTANCE.									



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SCHEDULES - MECHANICAL		M004		
						S.R. 91	PALM BEACH	417047-2-91-01					



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						11026	S.R. 91	PALM BEACH	417047-2-91-01		



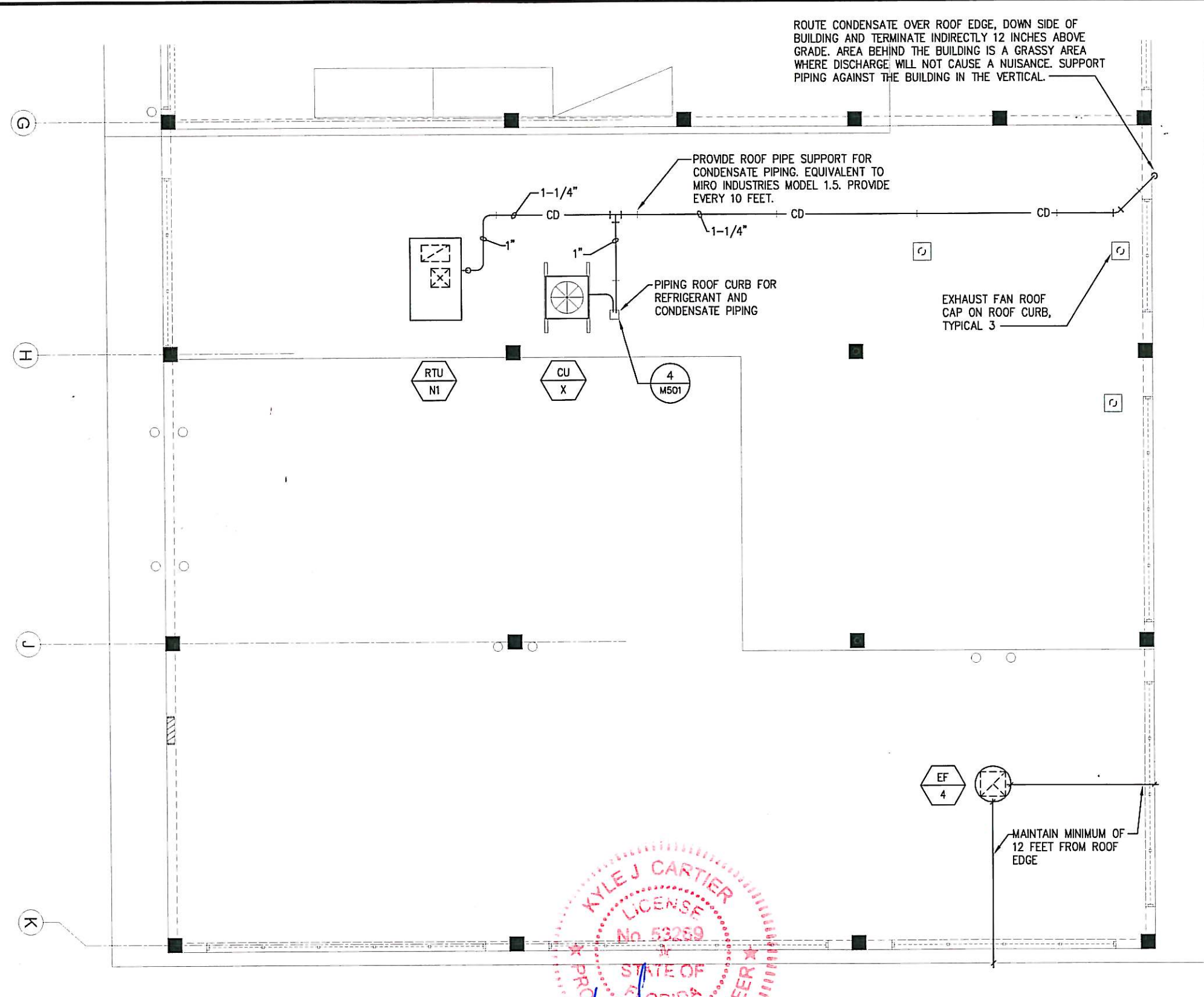
REFERENCE NOTES

- 1) RELOCATED 3.5 TON SPLIT SYSTEM AIR HANDLING UNIT FROM CRD COMPLEX EAST BUILDING (BUILDING 4180). LOCATE IN CLOSET, PROVIDE NEW VERTICAL SUPPORT STAND AND PROVIDE NEW FLOOR MOUNTED SECONDARY DRAIN PAN WITH FLOAT SWITCH. PRIOR TO INSTALLATION, SERVICE THE EXISTING UNIT AND ACCOMPANYING CONDENSING UNIT. SERVICE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACEMENT OF THE FILTERS, CLEANING OF THE EVAPORATOR COIL AND CONDENSER COILS, CLEANING OF THE DRAIN PAN, LUBRICATION OF THE FAN MOTOR BEARINGS AND CHECKING AND FILLING OF THE REFRIGERANT CHARGE.
- 2) CONNECT 6 INCH SUPPLY DUCT FROM RTU-N1 INTO THE RETURN DUCT OF AHU-X AND BALANCE AIRFLOW TO 50 CFM. THE 50 CFM FROM RTU-N1 SHALL SERVE AS THE VENTILATION AIR FOR THE COMMUNICATIONS ROOM.
- 3) PROVIDE 6 INCH EXHAUST AIR DUCT UP TO FAN MANUFACTURER'S ROOF CURB/ROOF CAP COMBINATION. SEAL ROOF PENETRATION WATER TIGHT.
- 4) APPROXIMATE LOCATION OF EXISTING AIR DEVICES IN THE COMMUNICATIONS ROOM. DESIGN INTENT IS TO REUSE THESE LOCATIONS WITH NEW CEILING DEVICES SIZED TO ACCOMMODATE THE INDICATED AIRFLOWS. REUSE OF THESE GRID LOCATIONS IS INTENDED TO REDUCE DISRUPTION TO THIS ROOM.
- 5) COORDINATE CROSSING OF DUCTWORK WITH EXISTING FIELD CONDITIONS AND ROUTE BETWEEN JOISTS WHERE REQUIRED TO ACHIEVE CROSSING.
- 6) FIELD ROUTE NEW REFRIGERANT PIPING TO THE RELOCATED ROOF MOUNTED 3.5 TON CONDENSING UNIT. ROUTE REFRIGERANT AND CONDENSATE PIPING TO THE ROOF THROUGH NEW ROOF PIPING CURB. REFER TO ROOF PLAN FOR ADDITIONAL PIPE ROUTING. SEAL ROOF PENETRATION WATER TIGHT.
- 7) PROVIDE SECTION OF GALVANIZED STEEL DUCTWORK OFF OF FAN INLET, A MAXIMUM OF 4 INCHES BELOW THE EXISTING JOISTS. LEAVE DUCT END OPEN AND PROVIDE 1/2"x1/2" WELDED WIRE MESH ON OPEN END.

1 RENOVATION FLOOR PLAN - MECHANICAL
 M110 1/8" = 1'-0"



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		

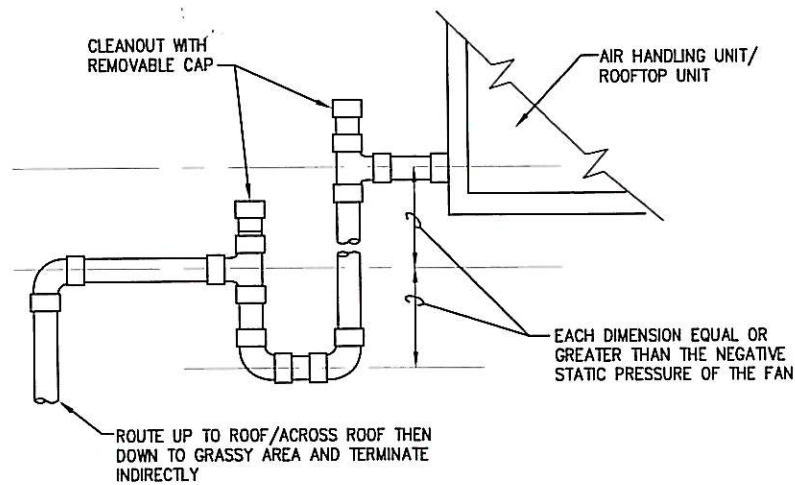


1 ROOF PLAN - MECHANICAL
M130 1/8" = 1'-0"

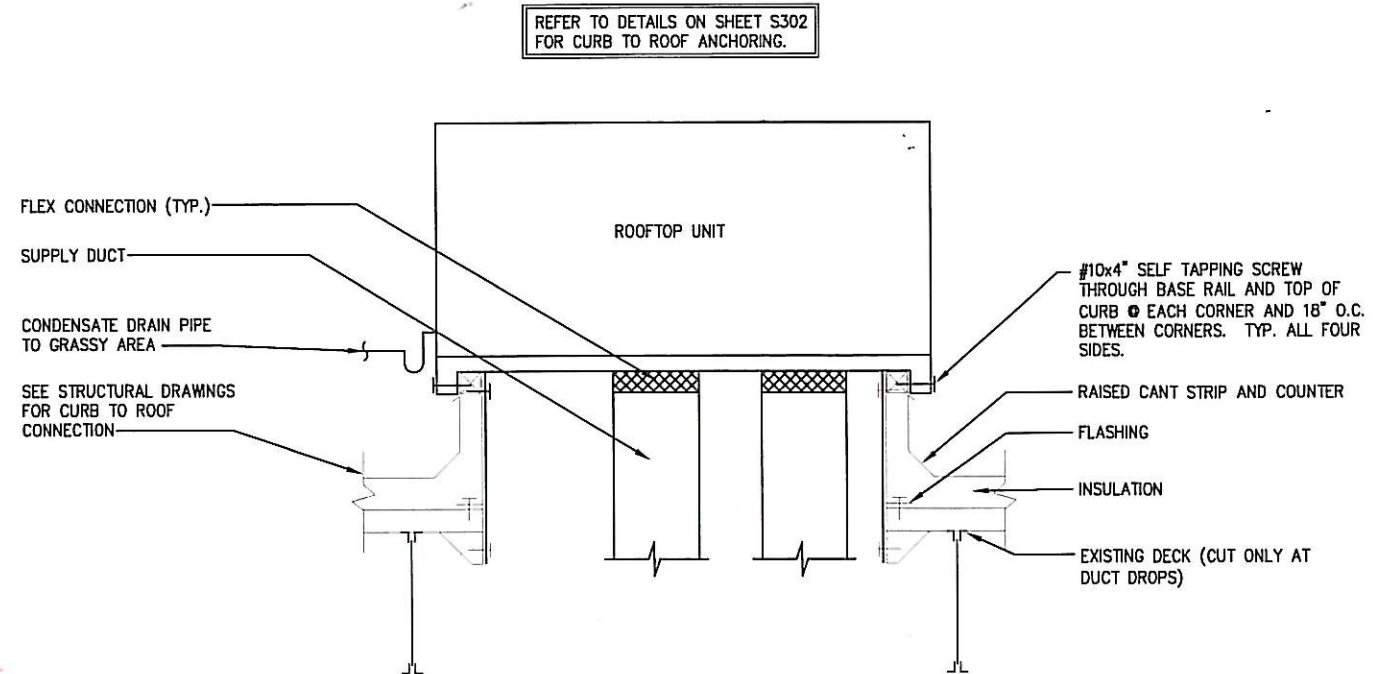


KYLE J. CARTIER
LICENSE
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STATE OF FLORIDA
PROFESSIONAL ENGINEER

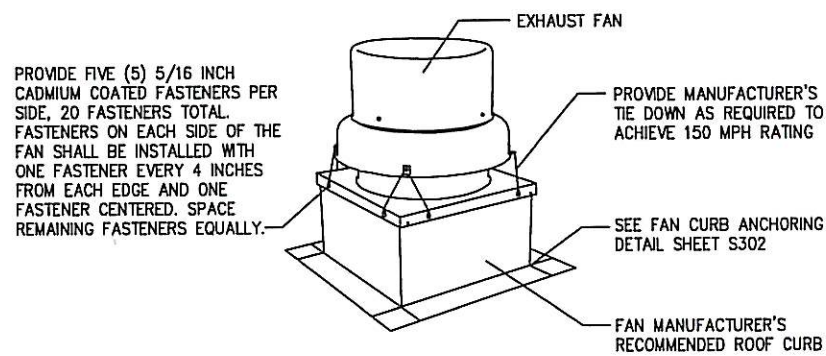
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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	ROOF PLAN - MECHANICAL		M130			
						S.R. 91	PALM BEACH	417047-2-91-01						



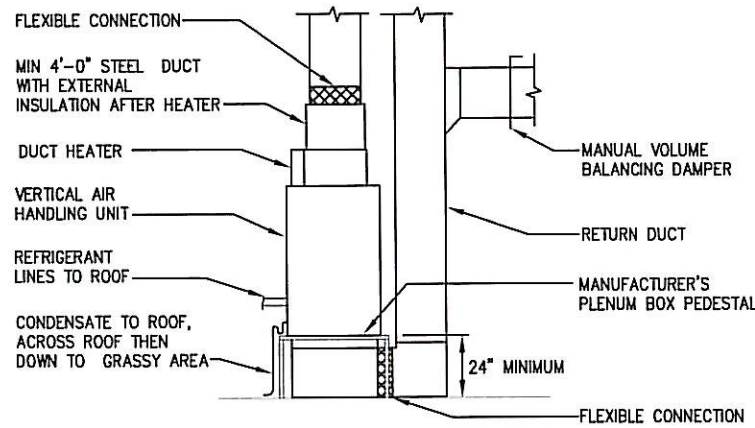
5 CONDENSATE DRAIN
M500 NOT TO SCALE



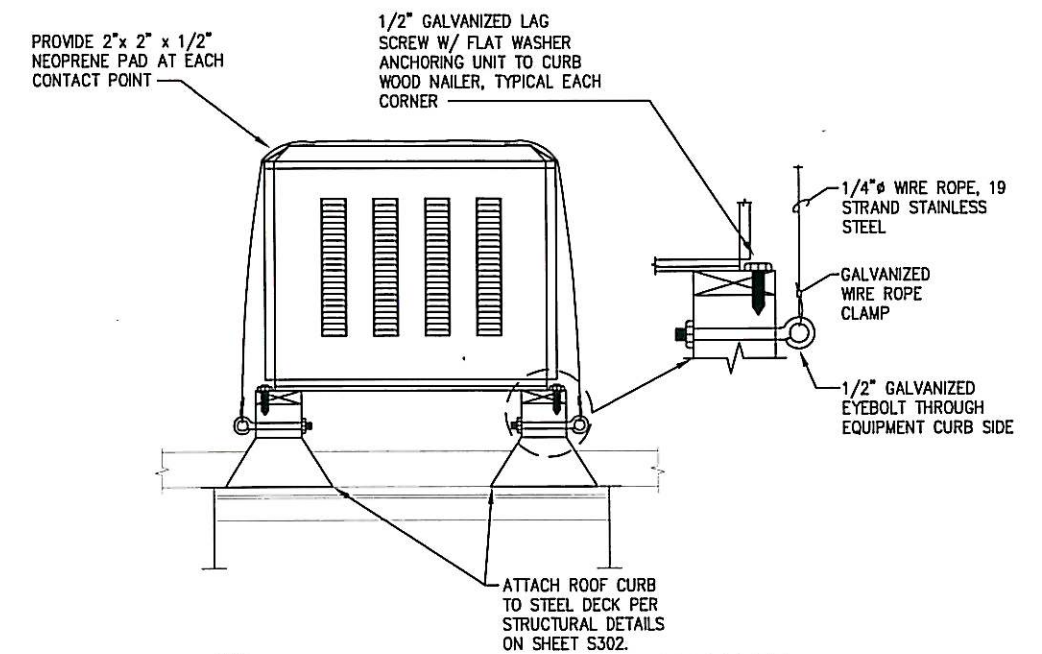
2 TYPICAL ROOFTOP UNIT
M500 NOT TO SCALE



4 FAN TO FAN CURB ANCHORING
M500 NOT TO SCALE



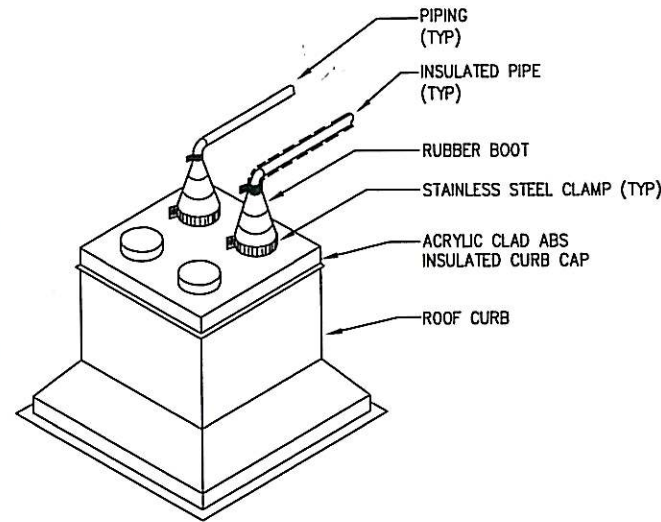
3 VERTICAL DX AIR HANDLING UNIT
M500 NOT TO SCALE



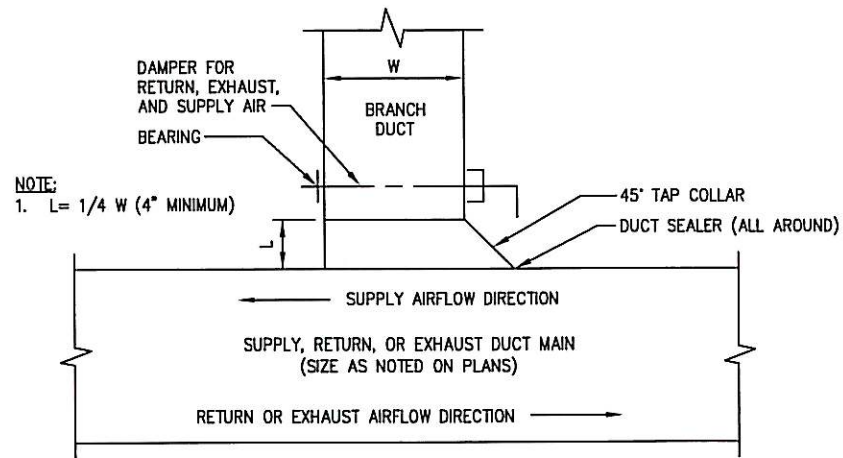
1 ROOFTOP CONDENSER ANCHOR
M500 NOT TO SCALE



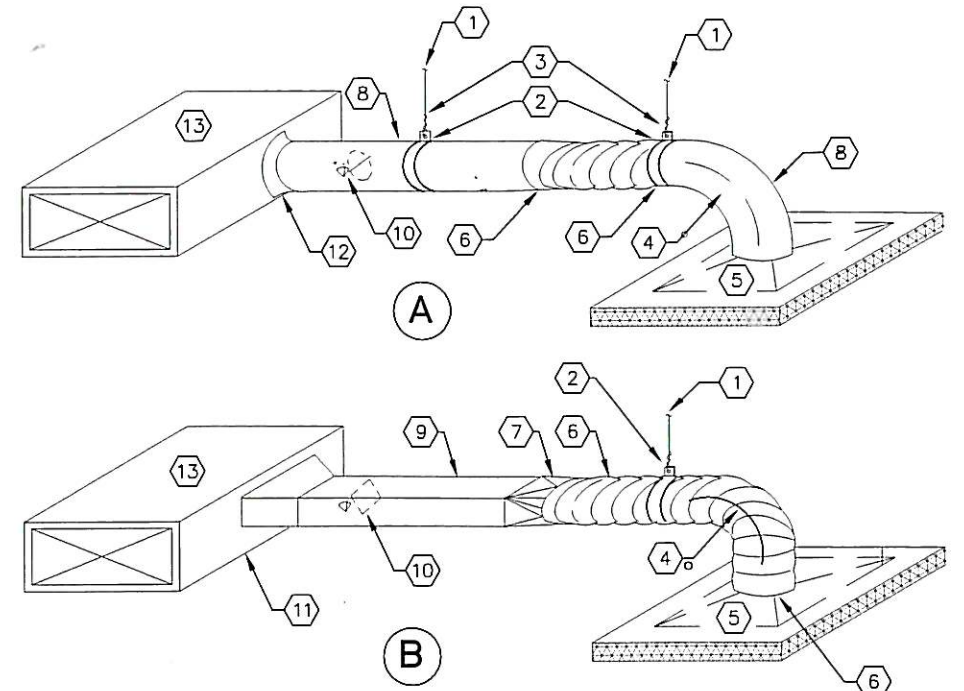
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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						11026	S.R. 91	PALM BEACH	417047-2-91-01	DETAILS - MECHANICAL	



4 PIPE CURB
M501 NOT TO SCALE



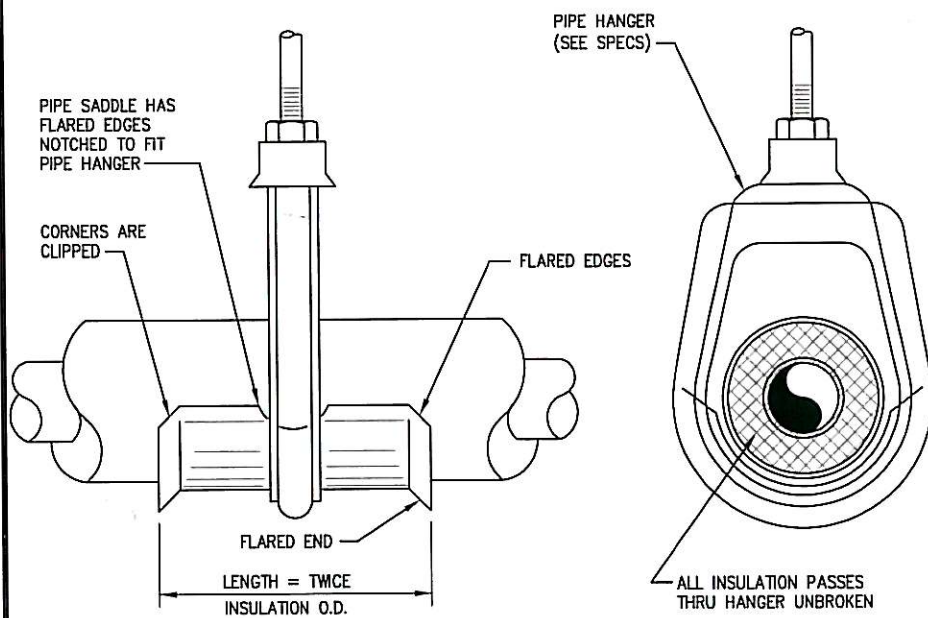
3 TYPICAL BRANCH DUCT CONNECTION
M501 NOT TO SCALE



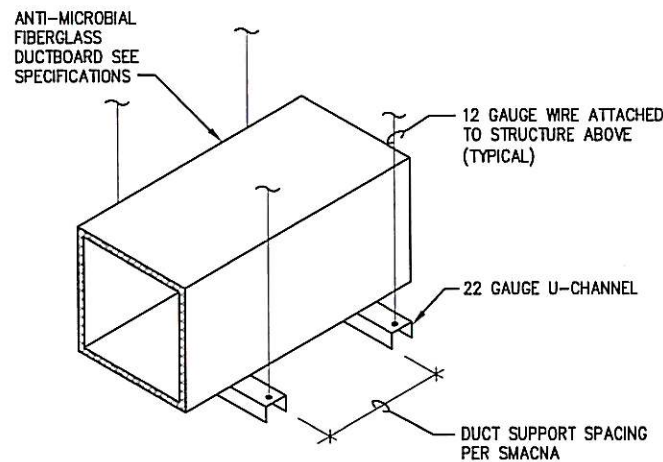
NOTES:

- ① HANG FROM STRUCTURE ABOVE. TOP CHORD OF JOIST.
- ② PROVIDE FULL PERIMETER SUPPORT ON OUTSIDE OF INSULATION OF ALL ROUND DUCTWORK. MINIMUM WIDTH OF STRAP SHALL BE 2 INCHES.
- ③ SUPPORT RIGID DUCTWORK ON EACH SIDE OF FLEXIBLE CONNECTION.
- ④ MINIMUM 1.5 TIMES THE DIAMETER FOR ALL ELBOWS.
- ⑤ 2 INCH BATT INSULATION OVERLAPPING EDGES OF CEILING DIFFUSERS BY 2 INCHES.
- ⑥ DRAW-TIGHT OR SCREW TIGHT BANDS OF NON-CORROSIVE MATERIALS TO ATTACH INNER LINER OF FLEXIBLE DUCT TO RIGID DUCTWORK.
- ⑦ RECTANGULAR TO ROUND TRANSITION.
- ⑧ INSULATED RIGID ROUND DUCTWORK.
- ⑨ INSULATED RECTANGULAR DUCTWORK.
- ⑩ VOLUME DAMPER WITH STAND-OFF FOR INSULATION AND LOCKING QUADRANT PLATE.
- ⑪ RECTANGULAR TAP WITH 45 DEGREE TRANSITION.
- ⑫ BELL MOUTH ROUND TAP. IF FLEX DUCT IS EQUAL TO OR GREATER THAN RECTANGULAR DUCT DEPTH USE METHOD "B".
- ⑬ INSULATED SUPPLY AIR DUCTWORK.

1 SINGLE DIFFUSER TAPS
M501 NOT TO SCALE



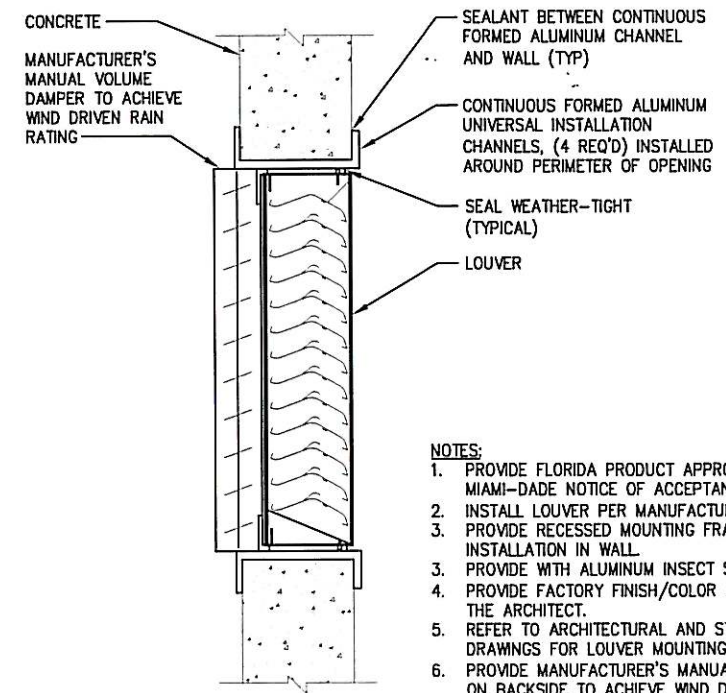
5 INSULATED PIPING HANGER
M501 NOT TO SCALE



2 FIBERGLASS DUCT SUPPORT
M501 NOT TO SCALE



REVISIONS						Sims Wilkerson Cartier Engineering, Inc. 12124 High Tech Avenue - Suite 200 Orlando, Florida 32817 (407)380-0400 Fax (407)380-5900 KYLE J. CARTIER, P.E. 53269 FL. CERT. OF AUTH. NUMBER 6106	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			RENOVATION NORTH BUILDING #4906	SHEET NO. M501
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						S.R. 91	PALM BEACH	417047-2-91-01	DETAILS-MECHANICAL		



NOTES:

1. PROVIDE FLORIDA PRODUCT APPROVED AND MIAMI-DADE NOTICE OF ACCEPTANCE RATED LOUVER.
2. INSTALL LOUVER PER MANUFACTURER'S INSTRUCTIONS.
3. PROVIDE RECESSED MOUNTING FRAME FOR FLUSH INSTALLATION IN WALL.
3. PROVIDE WITH ALUMINUM INSECT SCREEN.
4. PROVIDE FACTORY FINISH/COLOR AS SELECTED BY THE ARCHITECT.
5. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOUVER MOUNTING HEIGHT.
6. PROVIDE MANUFACTURER'S MANUAL VOLUME DAMPER ON BACKSIDE TO ACHIEVE WIND DRIVEN RAIN RATING.

1 STATIONARY LOUVER
M502 NOT TO SCALE



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