

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
MOC	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	DESCRIPTION
PIPING		DUCTWORK	
	REFRIGERANT PIPING		SUPPLY DUCT RISER
	CONDENSATE DRAIN PIPING		RETURN DUCT RISER
	PIPING CONTINUES		EXHAUST DUCT RISER
	PIPE ELBOW DOWN		SUPPLY DUCT DOWN
	PIPE ELBOW UP		RETURN DUCT DOWN
	DIAMETER		EXHAUST DUCT DOWN
SYMBOLS			MVD MANUAL VOLUME DAMPER
	THERMOSTAT		FD FIRE DAMPER
	TEMPERATURE SENSOR		DUCT RISE (R) OR DROP (D) IN DIRECTION OF FLOW
	AIR DEVICE TAG AIR QUANTITY (DEVICE QUANTITY)		SMOKE DETECTOR WITH VISABLE AND AUDIBLE SIGNAL
	UNDER CUT DOOR AIR FLOW AMOUNT		SQUARE TO ROUND DUCT TRANSITION
	REFERENCE NOTE		SINGLE LINE DUCTWORK
	DETAIL NUMBER SHEET DETAIL APPEARS		CONICAL OR BELL MOUTH TAP W/MVD
	TYPE OF EQUIPMENT EQUIPMENT NUMBER		FLEXIBLE DUCT
	SECTION NUMBER SHEET SECTION APPEARS		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



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 EAST BUILDING #4180		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 - E1	+ 400 CFM
RTU - E2	+ 335 CFM
RTU - E3	+ 200 CFM
AHU - E1	+ 140 CFM
AHU - E2	+ 100 CFM
AHU - E3	+ 100 CFM
AHU - E4	+ 100 CFM
TOTAL OUTSIDE AIR	+1375 CFM
EF-E1	- 400 CFM
EF-E2	- 225 CFM
EF-E3	- 175 CFM
TOTAL EXHAUST	- 800 CFM
RESULTING POSITIVE PRESSURE WITH ALL FANS RUNNING	+ 575 CFM
RESULTING POSITIVE PRESSURE WITH ALL FANS OFF	+ 1375 CFM
NUMBER OF DOORS TO OUTSIDE	10
POSITIVE PRESSURE PER DOOR, ALL FANS RUNNING	+57.5 CFM/DOOR
POSITIVE PRESSURE PER DOOR, ALL FANS OFF	+137.5 CFM/DOOR

OUTDOOR AIR CALCULATIONS								
MARK	AREA	PEOPLE	R _o	R _p	V _{bz}	E _z	V _{ot} V _{oz} =V _{bz} /E _z =V _{ot}	SCHEDULED OA CFM
RTU-E1	4136	12	0.06	5	308.2	0.8	385	400
RTU-E2	3287	14	0.06	5	267.2	0.8	334	335
RTU-E3	1329	16	0.06	5	159.7	0.8	199.6	200
AHU-E1	360	18	0.06	5	111.6	0.8	139.5	140
AHU-E2	360	0	0.06	5	21.6	0.8	27	100
AHU-E3	1129	0	0.06	5	67.7	0.8	84.6	100
AHU-E4	402	0	0.06	5	24.1	0.8	30.2	100

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 (R_p) AND THE AREA OUTDOOR AIR RATES (R_o) WERE SELECTED FROM TABLE 6-1 BASED ON THE OCCUPANCY CATEGORY FOR EACH SPACE. THE BREATHING ZONE OUTSIDE AIRFLOW (V_{bz}) 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 (E_z).

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			

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.

STATIONARY LOUVER SCHEDULE								
PLAN MARK	LOCATION	MATERIAL	LOUVER SIZE WxH (IN)	DESIGN CFM	FREE AREA (SQ FT)	VELOCITY (FPM MAX)	ACCESSORIES	MANUFACTURER & MODEL NO.
LV-E1	2ND FLR SOUTH WALL	ALUMINUM	18X12	200	0.36	553	1,2,3,5	GREENHECK EHH-601D
LV-E2	EAST WALL	ALUMINUM	24X16	400	0.86	467	1,3,4,5	GREENHECK EHH-601D

ACCESSORIES

- PROVIDE RECESSED MOUNTING KIT FOR INSTALLATION INTO CMU WALL.
- PROVIDE INSECT SCREEN.
- PROVIDE FACTORY PAINTED LOUVER WITH COLOR SELECTION BY ARCHITECT.
- PROVIDE BIRD SCREEN.
- PROVIDE WITH VCD 40 MANUAL VOLUME DAMPER FOR WIND DRIVEN RAIN APPLICATION.

NOTES

- REFER TO ARCHITECTURAL AND STRUCTURAL SHEETS FOR MOUNTING HEIGHTS AND ELEVATIONS.
- LOUVERS SHALL BE WIND DRIVEN RAIN RATED AND SHALL CARRY BOTH A FLORIDA PRODUCT APPROVAL AND A MIAMI DADE NOTICE OF ACCEPTANCE.

VENTILATION REQUIREMENTS		
OUTDOOR AIRFLOW CALCULATIONS FOR CONSTANT VOLUME SYSTEMS		
THE VENTILATION AIR FOR THE SPACES IS INTRODUCED AT THE ROOFTOP UNIT OR THROUGH LOUVERED WALL OPENINGS		
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-E1	385 CFM	400 CFM
RTU-E2	334 CFM	335 CFM
RTU-E3	199.6 CFM	200 CFM
AHU-E1	139.5 CFM	140 CFM
AHU-E2	27 CFM	100 CFM
AHU-E3	84.6 CFM	100 CFM
AHU-E4	30.2 CFM	100 CFM



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SCHEDULES - MECHANICAL		M002			
						S.R. 91	PALM BEACH	417047-2-91-01						

AIR COOLED CONDENSING UNIT SCHEDULE

MARK	CU-1	CU-2	CU-3	CU-4
LOCATION	GRADE	GRADE	GRADE	GRADE
MANUFACTURER	TRANE	TRANE	TRANE	TRANE
MODEL NUMBER	4TTA3048	4TTA3036	4TTA3036	4TTA060
COMPRESSER				
OUTDOOR DESIGN TEMPERATURE (DEG F)	95	95	95	95
NUMBER OF STAGES	1	1	1	1
NUMBER OF COMPRESSORS	1	1	1	1
NOMINAL TONNAGE	4	3	3	3
CONDENSER FAN				
NUMBER OF FANS	1	1	1	1
MOTOR HP	1/4	1/8	1/8	1/4
ELECTRICAL				
VOLTAGE/PHASE	208/3	208/3	208/3	208/3
COMPRESSOR RLA EACH	14.6	11.5	11.5	18.1
CONDENSER FAN MOTOR FLA EACH	1.3	0.6	0.6	1.3
MINIMUM CIRCUIT AMPACITY	20	15	15	24
MAXIMUM FUSE SIZE	30	25	25	40
EER (SEER)	13	13	13	13
UNIT REQUIREMENTS				
UNIT WEIGHT (LBS)	350	350	350	350
ACCESSORIES	1,2,3,4,5,6,7,9	1,2,3,4,5,6,7,8,9	1,2,3,4,5,6,7,8,9	1,2,3,4,5,6,7,9
NOTES	-	-	-	-
ACCESSORIES				
1. PROVIDE TIME DELAY RELAY. 2. PROVIDE VIBRATION ISOLATION. 3. PROVIDE ANTI-SHORT-CYCLE TIMER. 4. PROVIDE REFRIGERANT SHUT-OFF TYPE SERVICE VALVES. 5. PROVIDE LOW PRESSURE SWITCH. 6. PROVIDE HIGH PRESSURE SWITCH. 7. PROVIDE LIQUID LINE FILTER DRIER. 8. PROVIDE LOW AMBIENT PRESSURE CONTROL. 9. PROVIDE PROGRAMMABLE THERMOSTAT, 24HR/7 DAY WITH BATTERY BACK-UP				
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.				

SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE

MARK	AHU-E1	AHU-E2	AHU-E3	AHU-E4
LOCATION	2ND FLR MECH CLST	RM 206	RM 206	2ND FLR MECH CLST
MANUFACTURER	TRANE	TRANE	TRANE	TRANE
MODEL	4TEC3F48	4TEC3F36	4TEC3F36	4TEC3F60
FAN				
TOTAL AIR FLOW (CFM)	1600	1200	1200	1950
OUTSIDE AIR FLOW (CFM)	140	100	100	100
S.P. IN. WG. (TOT./EXT.)	-/0.8	-/0.8	-/0.8	-/0.8
DRIVE/TYP	DIRECT/CENT.	DIRECT/CENT.	DIRECT/CENT	DIRECT/CENT
H.P./RPM	1/2 / 1000	-	-	-
VOLTS/Ø	208/3	208/3	208/3	208/3
EVAPORATOR COIL				
ENT. AIR TEMP. (DB/WB)	76.8/64.1	76.7/64.0	76.7/64.0	76.0/63/4
LVG. AIR TEMP. (DB/WB)	56.8/54.6	57.4/54.4	57.4/54.4	56.1/53.6
SENS. CAPACITY (MBH)	34.2	24.8	24.8	42.6
TOTAL CAPACITY (MBH)	44.3	33.4	33.4	56.1
FACE AREA (SQ. FT.)	6.19	3.67	3.67	6.19
ROWS/FINS PER INCH	3/14	3/14	3/14	3/16
ELECTRIC HEATING COIL				
INPUT (KW) @ 208V	11.53	7.2	7.2	14.4
CONTROL STEPS	2	1	1	2
VOLTS/Ø	208/3	208/3	208/3	208/3
ELECTRICAL				
MINIMUM CIRCUIT AMPACITY	47	46	46	60
MAXIMUM FUSE SIZE	50	50	50	60
FILTERS				
(QUANTITY) SIZE	(1) 20X20X1	(1) 20X20X1	(1) 20X20X1	(1) 20X22X1
TYPE	THROWAWAY	THROWAWAY	THROWAWAY	THROWAWAY
UNIT REQUIREMENTS				
OPERATING WEIGHT (LBS.)	200	200	200	200
ACCESSORIES	1,2,3	1,2,3	1,2,3	1,2,3
NOTES	1	1	1	1
ACCESSORIES				
1. PROVIDE SINGLE POINT POWER CONNECTION. 2. PROVIDE VERTICAL MOUNTING PEDESTAL. 3. PROVIDE CONDENSATE PUMP.				
NOTES				
1. MOUNT ON EQUIPMENT PEDESTAL, 24 INCHES TALL. PROVIDE NEOPRENE PAD AT EACH UNIT CORNER.				



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SCHEDULES - MECHANICAL		M003			
						S.R. 91	PALM BEACH	417047-2-91-01						

ROOFTOP UNIT SCHEDULE

MARK	RTU-E1	RTU-E2	RTU-E3
LOCATION	ROOF	ROOF	ROOF
MANUFACTURER	TRANE	TRANE	TRANE
MODEL	THC 120	THC 102	THC 037
EVAPORATOR FAN			
TOTAL AIR FLOW (CFM)	3400	3100	1200
OUTSIDE AIR FLOW (CFM)	400	335	200
S.P. IN. WG. (TOT./EXT.)	-/1.5	-/1.5	-/1.5
DRIVE/TYPE	BELT/CENT	BELT/CENT	BELT/CENT
H.P./RPM	3.75/1450	3.75/1400	3/4 / 825
VOLTS/ø	208/3	208/3	208/3
DX COOLING COIL			
ENT. AIR TEMP. (DB/WB)	77.4/64.6	77.2/64.6	78.3/65.6
L.V.G. AIR TEMP. (DB/WB)	56.4/54.3	57.1/64.6	57/55
SENS. CAPACITY (MBH)	78.7	68.7	26.2
TOTAL CAPACITY (MBH)	111.0	97.6	35.4
FACE AREA (SQ. FT.)	16.65	16.65	7.71
ROWS/FINS PER INCH	4/16	4/16	3/16
ELECTRIC HEATING COIL			
NUMBER OF STAGES	2	2	1
TOTAL KW	18	18	6
VOLTS/ø	208/3	208/3	208/3
COMPRESSOR			
NUMBER OF STAGES	1	1	1
NUMBER OF COMPRESSORS	1	1	1
R.L.A. (TOTAL)	20.5	17.6	11.6
VOLTS/ø	208/3	208/3	208/3
CONDENSER FAN			
NUMBER OF FANS	1	1	1
F.L.A.	2.7	2.7	1.5
VOLTS/ø	208/3	208/3	208/3
UNIT REQUIREMENTS			
M.C.A.	57.5	57.5	24.8
M.F.S.	60	60	30
E.E.R. / (SEER)	12.5	13.0	(17)
OPERATING WEIGHT (LBS.)	1600	1600	800
ACCESSORIES	1,2,3,4,5,6,7	1,2,3,4,5,6,7	1,2,3,4,5,6,7
FILTERS			
(QUANTITY) SIZE	-	-	(4) 20X30X2
TYPE	THROWAWAY	THROWAWAY	THROWAWAY
ACCESSORIES			
<ol style="list-style-type: none"> 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, AVERAGING THERMOSTAT W/BATTERY BACKUP. PROVIDE TEMPERATURE SENSORS WITH THERMOSTAT FOR AVERAGING. 7. PROVIDE HOT GAS REHEAT COIL. 			
NOTES			
1. SECURE UNIT TO ROOF CURB. ROOF CURB SHALL BE SECURED TO THE ROOF PER DETAILS 1 AND 2 ON SHEET S302.			



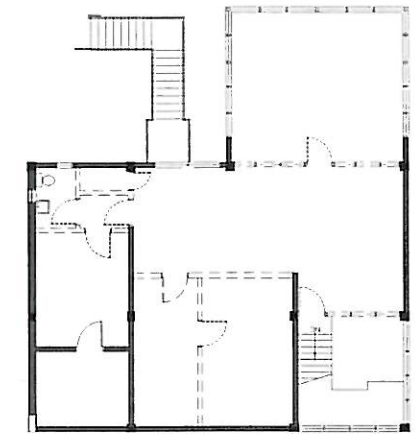
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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SCHEDULES - MECHANICAL		M004
						S.R. 91	PALM BEACH	417047-2-91-01				

AIR DEVICE SCHEDULE						
MARK	(A)	(B)	(C)	(D)	(E)	(F)
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL	TMS-AA	4 FL	272 FL	350 ZFL	TMS-AA	50F
UNIT						
TYPE	SUPPLY	RETURN	SIDEWALL SUPPLY	SIDEWALL RETURN	SUPPLY	EXHAUST
FACE/NECK (INCHES)	24x24/SEE TABLE 1	24x24/SEE TABLE 2	SEE PLAN	SEE PLAN	12x12/SEE PLAN	12x12/SEE PLAN
FINISH	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
ACCESSORIES	1	1	1,2	1,2	1,2	1,2
PERFORMANCE						
MAXIMUM NC LEVEL	27	27	25	25	25	25
MAXIMUM PRESS DROP (IN.W.G.)	0.08	0.08	0.06	0.06	0.06	0.06
ACCESSORIES						
1. PROVIDE SURFACE MOUNT BORDER FOR ALL AIR DEVICES LOCATED IN A HARD CEILING OR SOLID WALL. 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. 3. PRIME AND PAINT ALL EXPOSED DIFFUSERS COLOR SELECTED BY ARCHITECT.						
TABLE 1				TABLE 2		
CFM RANGE	NECK SIZE	CFM RANGE	NECK SIZE	CFM RANGE	NECK SIZE	
0-100	6"φ	326-475	12"φ	0-400	12"φ	
101-220	8"φ	476-650	14"φ	401-650	14"φ	
221-325	10"φ			651-850	16"φ	
NOTE: FLEX DUCT SIZE SHALL EQUAL NECK SIZE UNLESS OTHERWISE NOTED.						

EXHAUST FAN SCHEDULE			
MARK	EF-E1	EF-E2	EF-E3
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK
MODEL	SQ-95-VG	SQ-95-D	SQ-85-D
FAN			
LOCATION	RM. 111 CEILING	RR CEILING	RR CEILING
AIR FLOW (CFM)	400	225	175
STATIC PRESSURE (IN.W.G.)	0.3	0.4	0.4
DRIVE/TYPE	DIRECT/CENT	DIRECT/CENT	DIRECT/CENT
HP/RPM	(1/4)/1240	1/8 / 1240	1/12 / 1320
VOLTS/PHASE	115/1	115/1	115/1
UNIT REQUIREMENTS			
OPERATING WEIGHT (LBS)	100	75	75
ACCESSORIES	1,2,3,4	1,2	1,2
NOTES	2	1	1
ACCESSORIES			
1. PROVIDE BACKDRAFT DAMPER. 2. PROVIDE SPEED CONTROLLER FOR SYSTEM BALANCING. 3. PROVIDE MANUFACTURER'S ROOF CAP AND CURB. 4. PROVIDE MANUFACTURER'S SPRING ISOLATORS AT EACH CORNER.			
NOTES			
1. INTER-LOCK WITH CORRESPONDING ROOM LIGHTING CIRCUIT TO OPERATE FAN WITH LIGHT. 2. CONTROL FAN FROM WALL SWITCH. PROVIDE WALL SWITCH.			

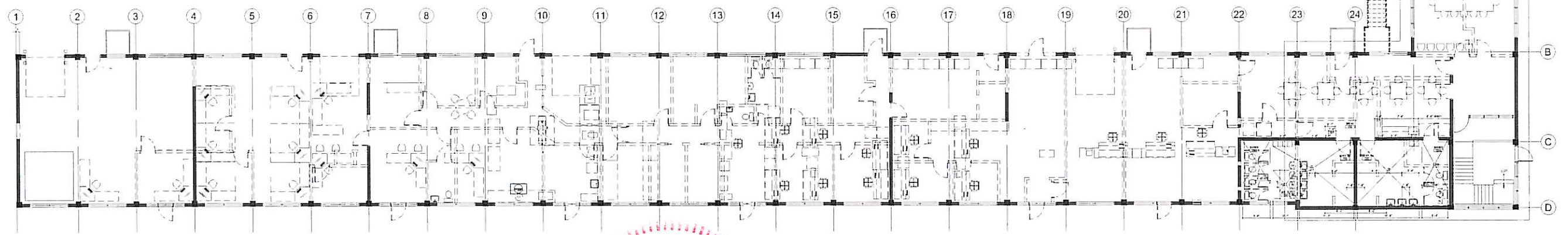


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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	11026	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SCHEDULES - MECHANICAL		M005		
						FL. CERT. OF AUTH. NUMBER 6106	S.R. 91	PALM BEACH	417047-2-91-01					

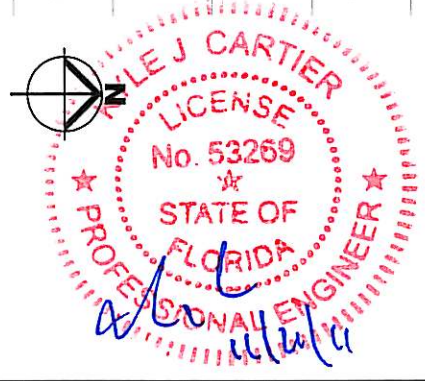


SECOND FLOOR PLAN

GENERAL DEMOLITION:
 CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND REMOVAL OF ALL MECHANICAL EQUIPMENT ASSOCIATED WITH THIS BUILDING WITH THE EXCEPTION OF THE EXISTING 3.5 TON SPLIT SYSTEM, MANUFACTURER AND MODEL - TRANE FEM4P420UA AIR HANDLING UNIT AND DAY AND NIGHT N4A342AKA300 CONDENSING UNIT. OTHER THAN THE EQUIPMENT LISTED ABOVE, REMOVE ALL EQUIPMENT, ACCESSORIES, STRAPS, HANGERS, SUPPORTS, PIPING, DUCTWORK, CEILING DEVICES, FANS AND LOUVERS. REPAIR ALL ROOF AND WALL PENETRATIONS AND PAINT TO MATCH COLOR SELECTED BY ARCHITECT.



1 OVERALL DEMOLITION FLOOR PLAN - MECHANICAL
 M100 N.T.S.



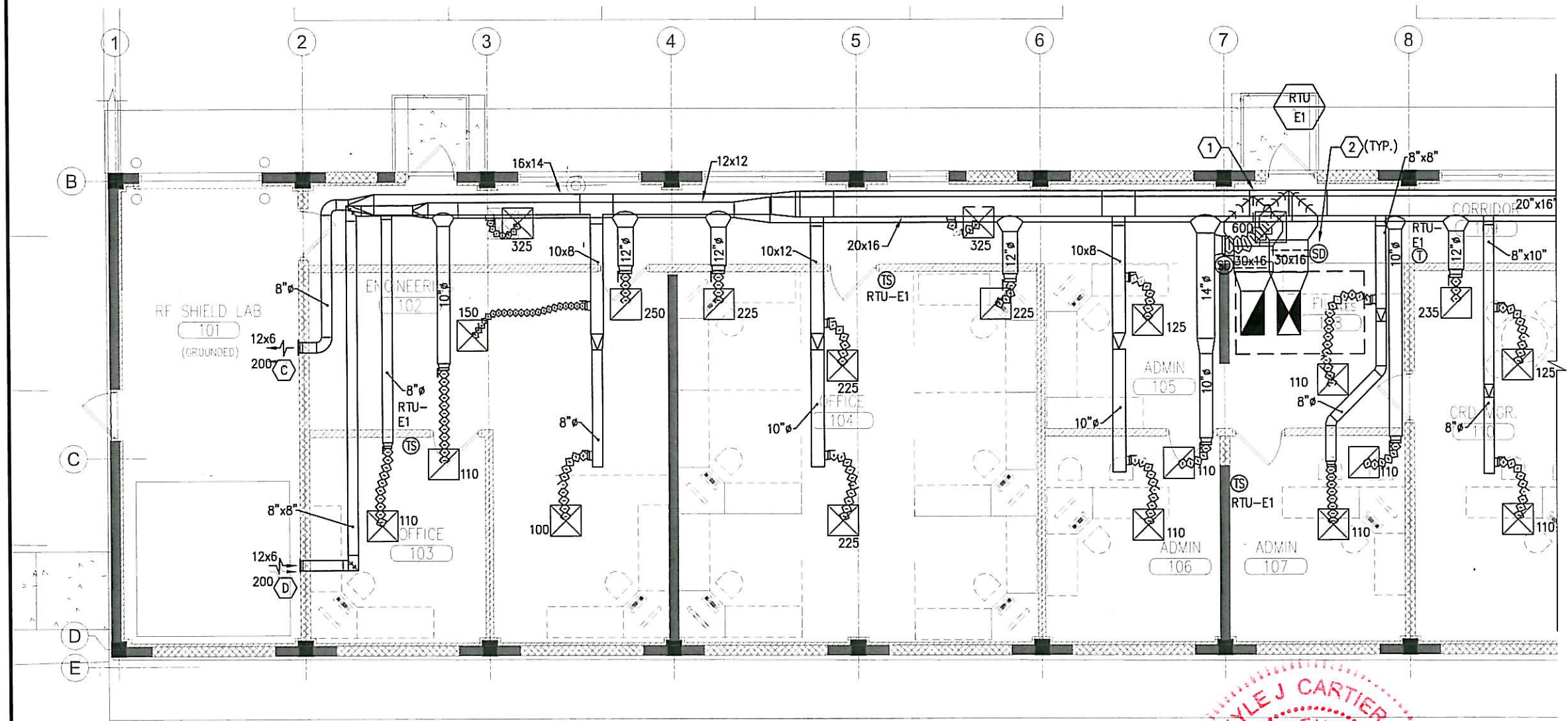
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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	OVERALL DEMOLITION FLOOR PLAN - MECHANICAL		M100			
						S.R. 91	PALM BEACH	417047-2-91-01						

KEY SHEET
N.T.S.

M111

PLAN REFERENCE NOTES

- ① DESIGN INTENT IS TO STACK THE SUPPLY AND RETURN DUCTWORK IN THE CORRIDOR TO PREVENT DUCTWORK FROM PENETRATING SHEAR WALLS. DUCT IS DRAWN OFFSET FOR CLARITY BUT INTENT IS TO STACK AND AVOID SUPPLY AND RETURN DUCT CROSSING.
- ② PROVIDE VISIBLE AND AUDIBLE ANNUNCIATOR ASSOCIATED WITH EACH SMOKE DETECTOR. COORDINATE FINAL LOCATION OF ANNUNCIATOR WITH OWNER AND AUTHORITY HAVING JURISDICTION.



1 PARTIAL FLOOR PLAN - MECHANICAL
M111 1/8" = 1'-0"



ALL AIR DEVICE TYPES SHALL BE AS INDICATED UNLESS OTHERWISE NOTED:

⊗ A
⊙ B



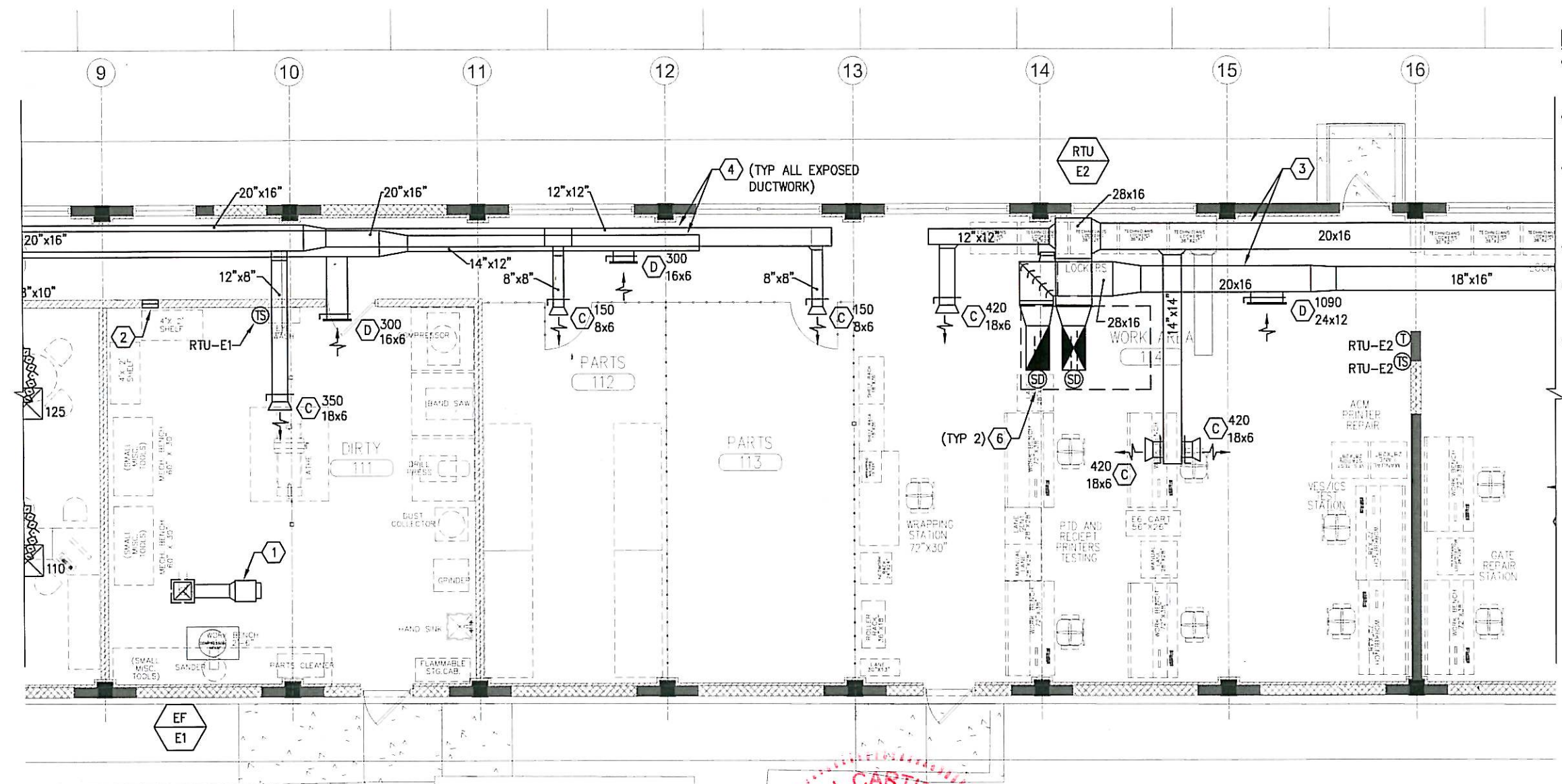
REVISIONS						Sims Wilkerson Cartier Engineering, Inc. 12124 High Tech Avenue - Suite 200 Orlando, Florida 32817 (407)380-0400 Fax (407)380-5900 KYLE J. CARTIER, P.E. 53269	11026 FL. CERT. OF AUTH. NUMBER 6106	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			RENOVATION EAST BUILDING #4180	SHEET NO. M111
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
								S.R. 91	PALM BEACH	417047-2-91-01	PARTIAL FLOOR PLAN - MECHANICAL	

KEY SHEET
N.T.S.

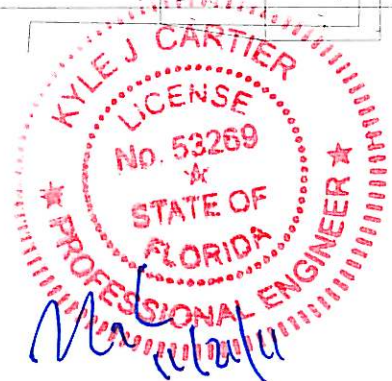
M112

PLAN REFERENCE NOTES

- 1 PROVIDE 10x10 EXHAUST AIR DUCT UP TO FAN MANUFACTURER'S ROOF CURB/ROOF CAP COMBINATION. SEAL ROOF PENETRATION WATERTIGHT.
- 2 12x6 SIDEWALL TRANSFER DUCT WITH TYPE (D) GRILLE, BOTH SIDES. MOUNT AS HIGH AS POSSIBLE IN THE WALL.
- 3 DESIGN INTENT IS TO STACK THE SUPPLY AND RETURN DUCTWORK IN THE CORRIDOR TO PREVENT DUCTWORK FROM PENETRATING SHEAR WALLS. DUCT IS DRAWN OFFSET FOR CLARITY BUT INTENT IS TO STACK AND AVOID SUPPLY AND RETURN DUCT CROSSING.
- 4 PRIME AND PAINT EXPOSED DUCTWORK, COLOR SELECTED BY ARCHITECT.
- 5 IN-LINE EXHAUST FAN SUPPORTED FROM STRUCTURE ABOVE. PROVIDE 1/2x1/2 WELDED WIRE MESH FULL SIZE OF FAN INLET.
- 6 PROVIDE VISIBLE AND AUDIBLE ANNUNCIATOR ASSOCIATED WITH EACH SMOKE DETECTOR. COORDINATE FINAL LOCATION OF ANNUNCIATOR WITH OWNER AND AUTHORITY HAVING JURISDICTION.



1 PARTIAL FLOOR PLAN - MECHANICAL
M112 1/8" = 1'-0"

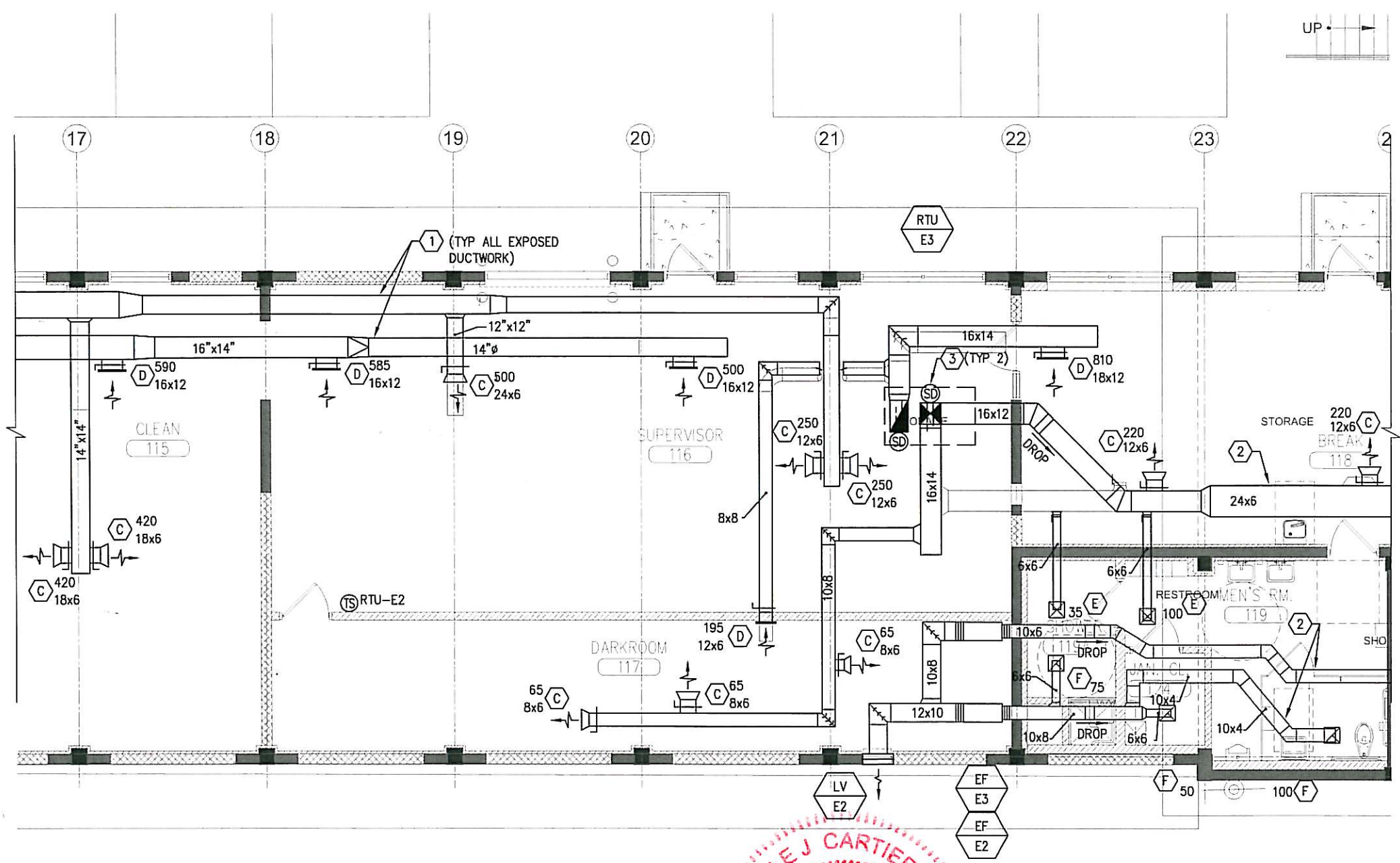


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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						S.R. 91	PALM BEACH	417047-2-91-01			

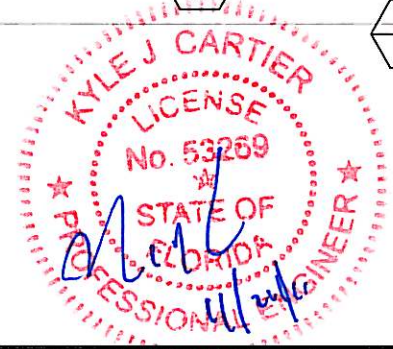
KEY SHEET
N.T.S.

M113

- PLAN REFERENCE NOTES**
- ① PRIME AND PAINT EXPOSED DUCTWORK, COLOR SELECTED BY ARCHITECT.
 - ② HOLD DUCT AS TIGHT TO THE UNDERSIDE OF THE STRUCTURE AS POSSIBLE.
 - ③ PROVIDE VISIBLE AND AUDIBLE ANNUNCIATOR ASSOCIATED WITH EACH SMOKE DETECTOR. COORDINATE FINAL LOCATION OF ANNUNCIATOR WITH OWNER AND AUTHORITY HAVING JURISDICTION.



1 PARTIAL FLOOR PLAN - MECHANICAL
M113 1/8" = 1'-0"



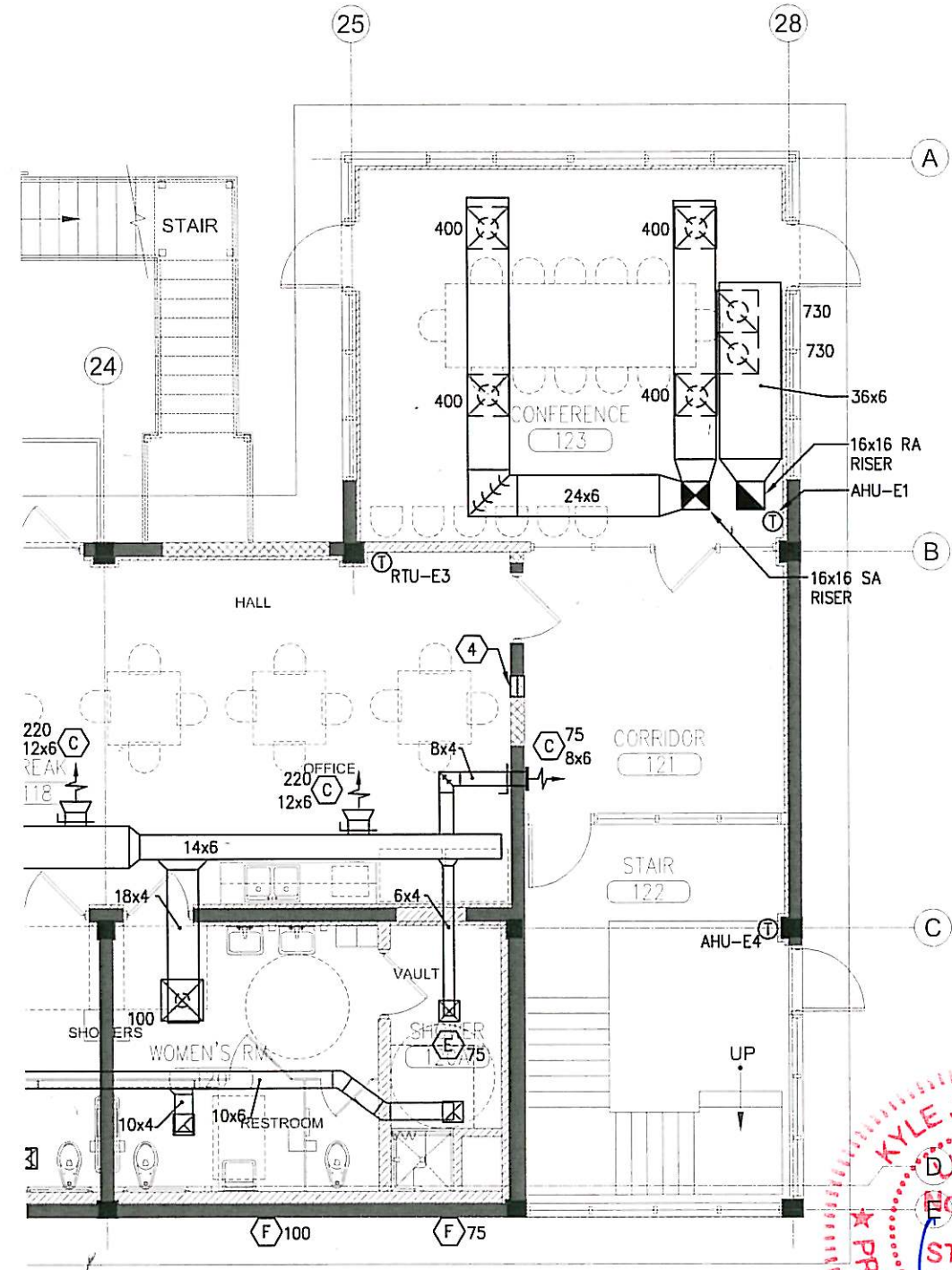
REVISIONS					Sims Wilkerson Cartier Engineering, Inc. 12124 High Tech Avenue - Suite 200 Orlando, Florida 32817 (407)380-0400 Fax (407)380-5900 KYLE J. CARTIER, P.E. 53269	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			RENOVATION EAST BUILDING #4180	SHEET NO. M113
DATE	BY	DESCRIPTION	DATE	BY		DESCRIPTION	ROAD NO.	COUNTY		
						S.R. 91	PALM BEACH	417047-2-91-01		

PLAN REFERENCE NOTES

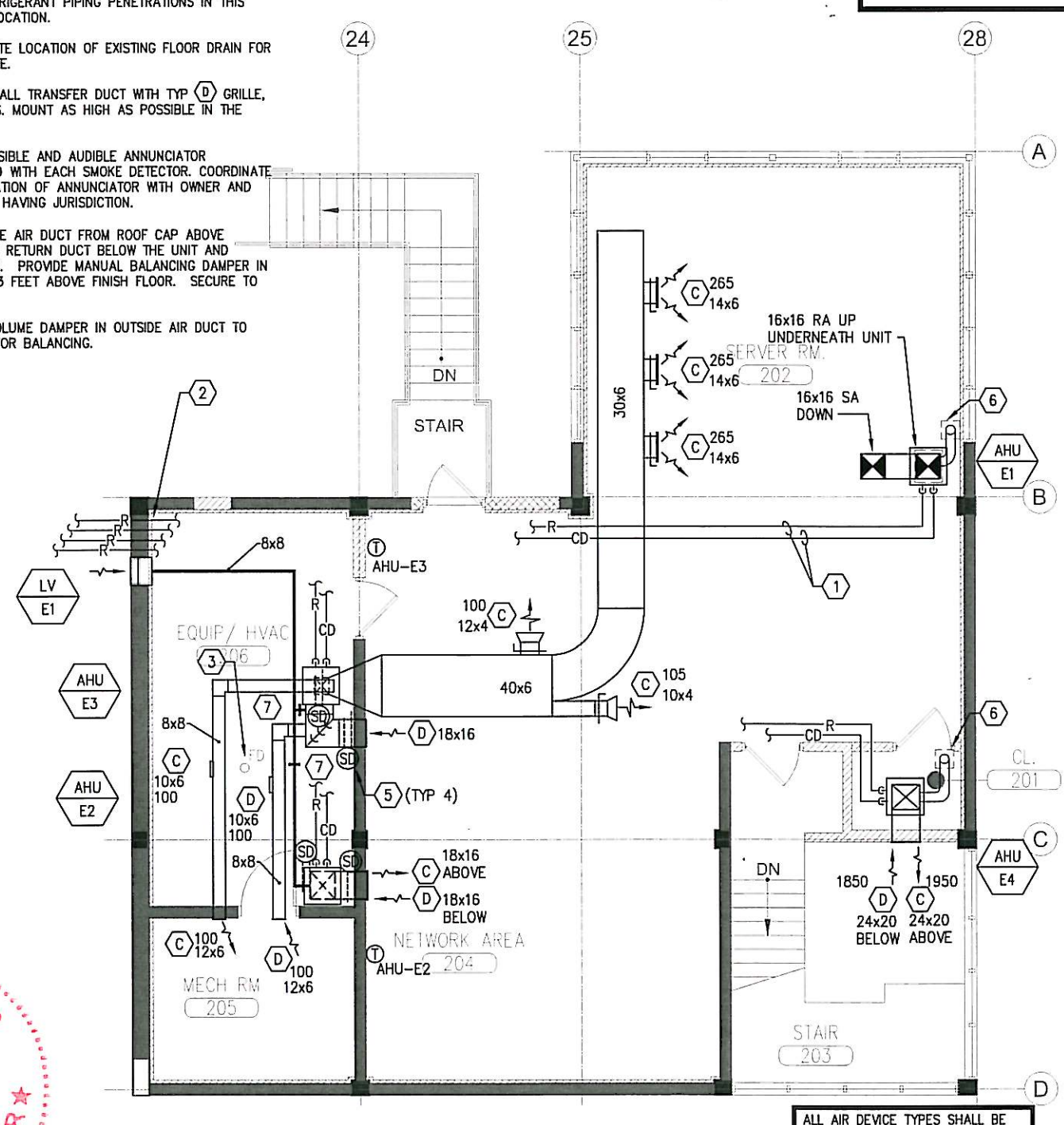
- ① FIELD ROUTE REFRIGERANT PIPING ABOVE CEILING TO CONDENSING UNIT LOCATED ON LOW ROOF. SUPPORT PIPING FROM STRUCTURE ABOVE. FIELD ROUTE CONDENSATE PIPING TO 2ND FLOOR MECHANICAL ROOM FLOOR DRAIN AND TERMINATE INDIRECTLY.
- ② GROUP REFRIGERANT PIPING PENETRATIONS IN THIS GENERAL LOCATION.
- ③ APPROXIMATE LOCATION OF EXISTING FLOOR DRAIN FOR CONDENSATE.
- ④ 12x6 SIDEWALL TRANSFER DUCT WITH TYP D GRILLE, BOTH SIDES. MOUNT AS HIGH AS POSSIBLE IN THE WALL.
- ⑤ PROVIDE VISIBLE AND AUDIBLE ANNUNCIATOR ASSOCIATED WITH EACH SMOKE DETECTOR. COORDINATE FINAL LOCATION OF ANNUNCIATOR WITH OWNER AND AUTHORITY HAVING JURISDICTION.
- ⑥ 8" Ø OUTSIDE AIR DUCT FROM ROOF CAP ABOVE ROUTED TO RETURN DUCT BELOW THE UNIT AND CONNECTED. PROVIDE MANUAL BALANCING DAMPER IN VERTICAL, 3 FEET ABOVE FINISH FLOOR. SECURE TO WALL.
- ⑦ MANUAL VOLUME DAMPER IN OUTSIDE AIR DUCT TO THE UNIT FOR BALANCING.

KEY SHEET
N.T.S.

M114



1 PARTIAL FLOOR PLAN - MECHANICAL
M114 1/8" = 1'-0"



2 SECOND FLOOR PLAN - MECHANICAL
M114 1/8" = 1'-0"

ALL AIR DEVICE TYPES SHALL BE AS INDICATED UNLESS OTHERWISE NOTED:

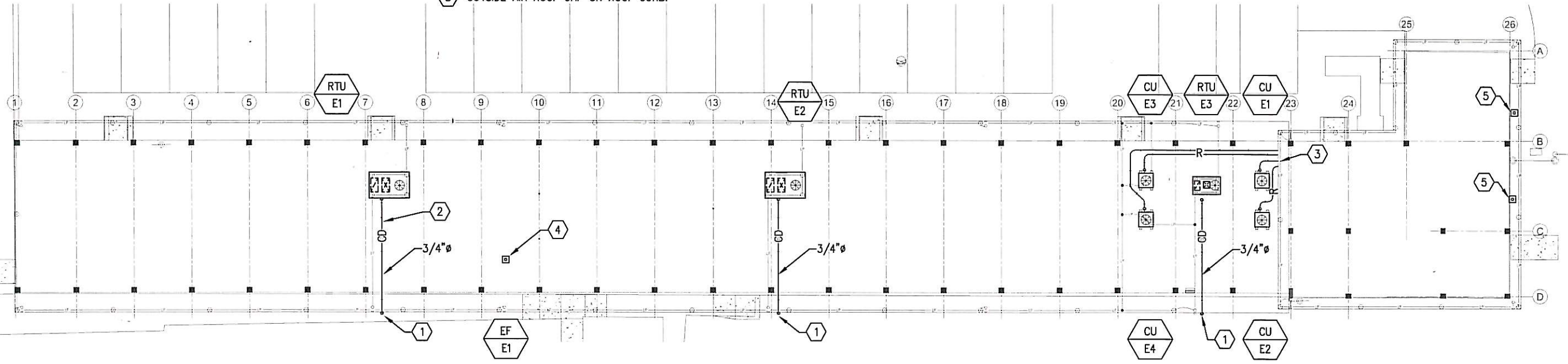
⊗ A
⊗ B

KYLE J. CARTIER
LICENSE
No. 53269
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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 EAST BUILDING #4180		SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PARTIAL FLOOR PLAN & SECOND FLOOR PLAN - MECHANICAL		M114			
						S.R. 91	PALM BEACH	417047-2-91-01						

PLAN REFERENCE NOTES

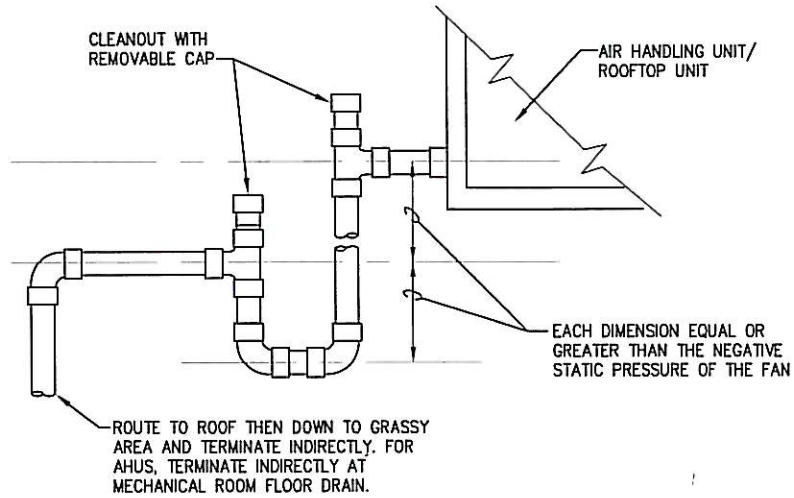
- ① ROUTE CONDENSATE OVER ROOF EDGE, DOWN SIDE OF BUILDING AND TERMINATE INDIRECTLY 12 INCHES ABOVE GRADE. AREA EAST OF THE BUILDING IS A GRASSY AREA WHERE DISCHARGE WILL NOT CAUSE A NUISANCE. SUPPORT PIPING AGAINST THE BUILDING IN THE VERTICAL EVERY 5 FEET.
- ② PROVIDE ROOF PIPE SUPPORT. EQUIVALENT TO MIRO INDUSTRIES MODEL 1.5. PROVIDE EVERY 10 FEET.
- ③ SEAL REFRIGERANT PIPING WALL PENETRATION WATERTIGHT. SEE DETAIL ON M502.
- ④ EXHAUST FAN ROOF CAP ON ROOF CURB.
- ⑤ OUTSIDE AIR ROOF CAP ON ROOF CURB.



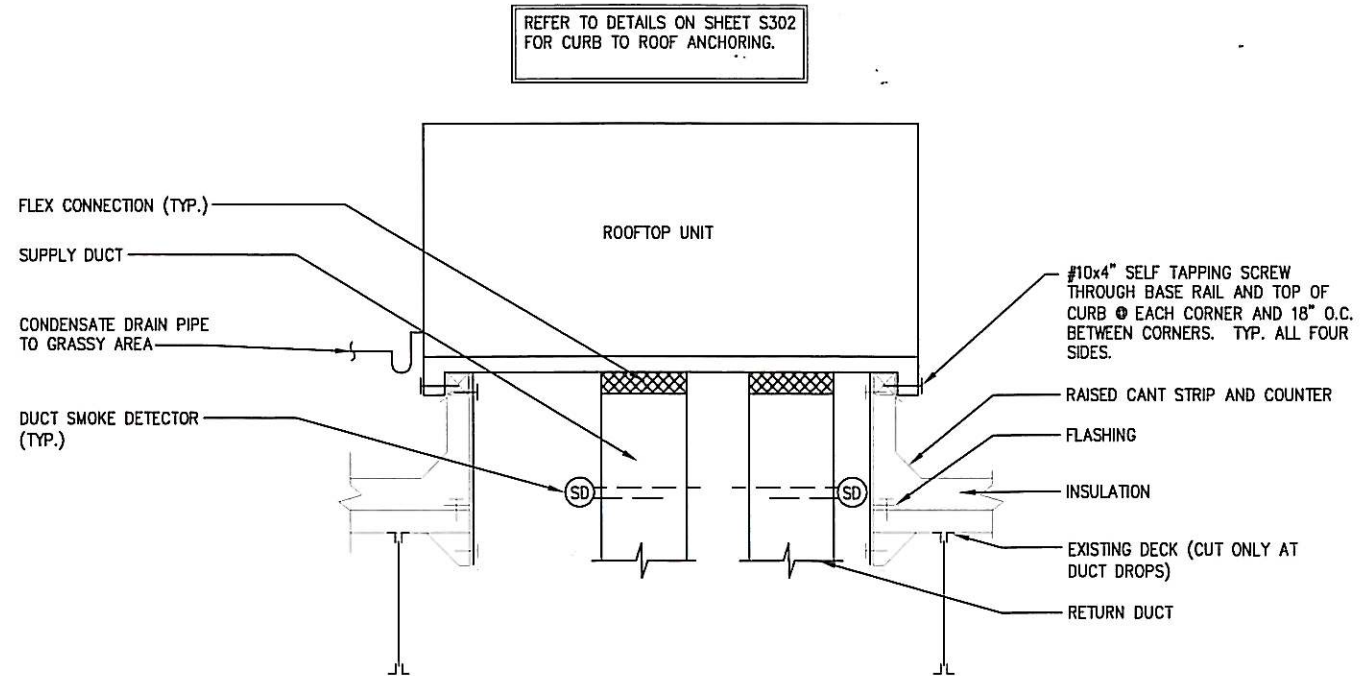
1 OVERALL ROOF PLAN - MECHANICAL
M130 N.T.S.



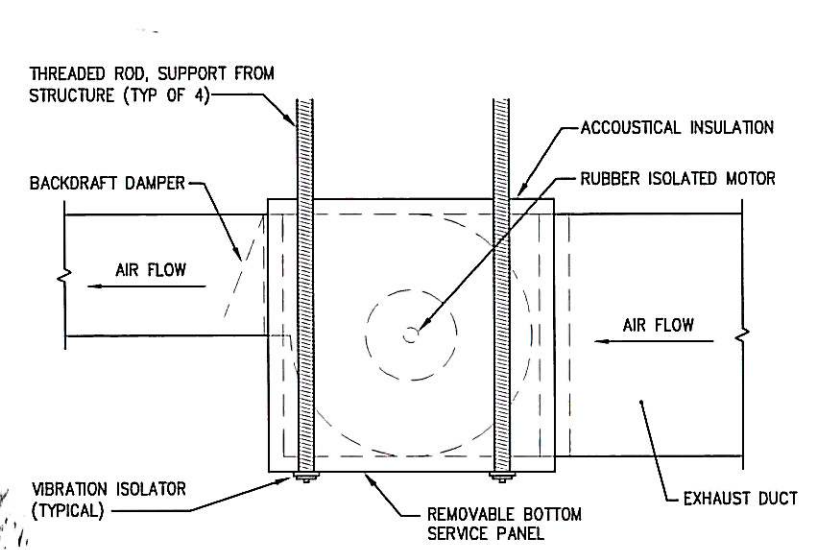
REVISIONS						Sims Wilkerson Cartier Engineering, Inc. 12124 High Tech Avenue - Suite 200 Orlando, Florida 32817 (407)380-0400 Fax (407)380-5900 KYLE J. CARTIER, P.E. 53269 FL. CERT. OF AUTH. NUMBER 6106	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			RENOVATION EAST BUILDING #4180	SHEET NO. M130
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						S.R. 91	PALM BEACH	417047-2-91-01	OVERALL ROOF PLAN - MECHANICAL		



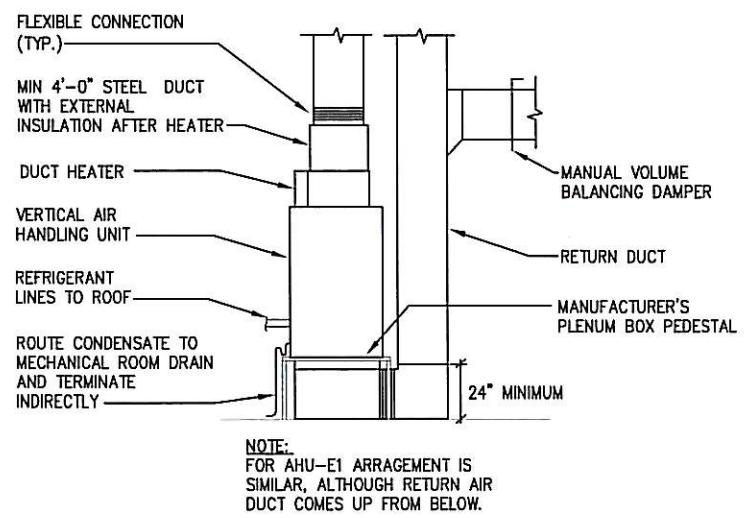
5 CONDENSATE DRAIN
M500 NOT TO SCALE



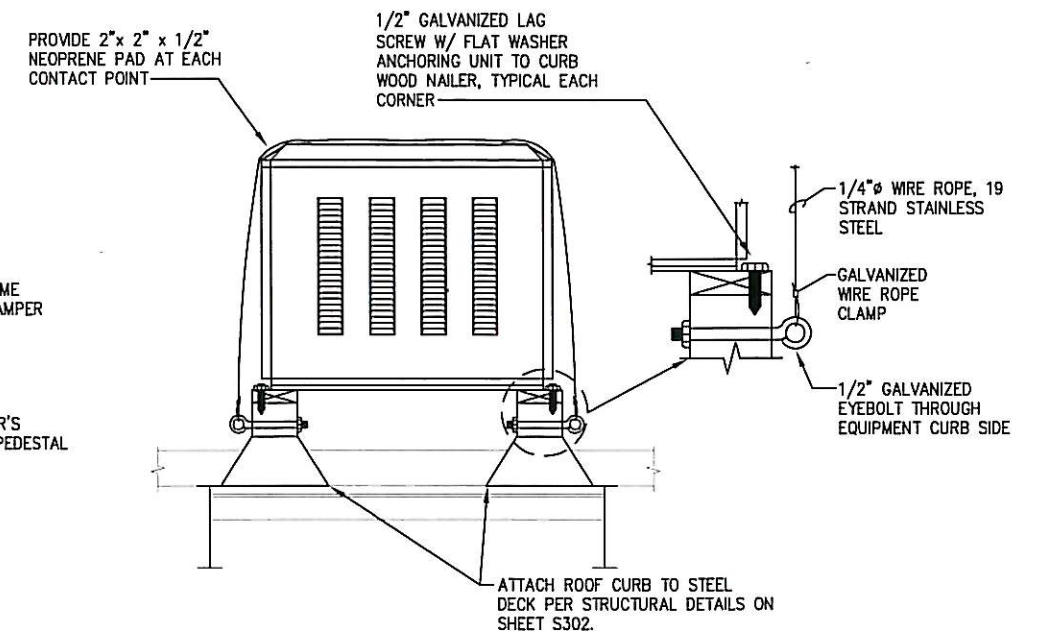
2 TYPICAL ROOFTOP UNIT
M500 NOT TO SCALE



4 TYPICAL CABINET FAN (DIRECT DRIVE)
M500 NOT TO SCALE

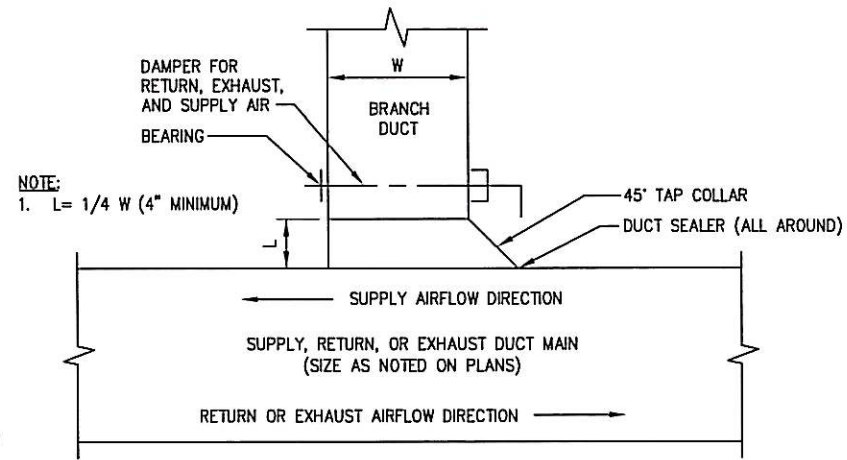


3 VERTICAL DX AIR HANDLING UNIT
M500 NOT TO SCALE

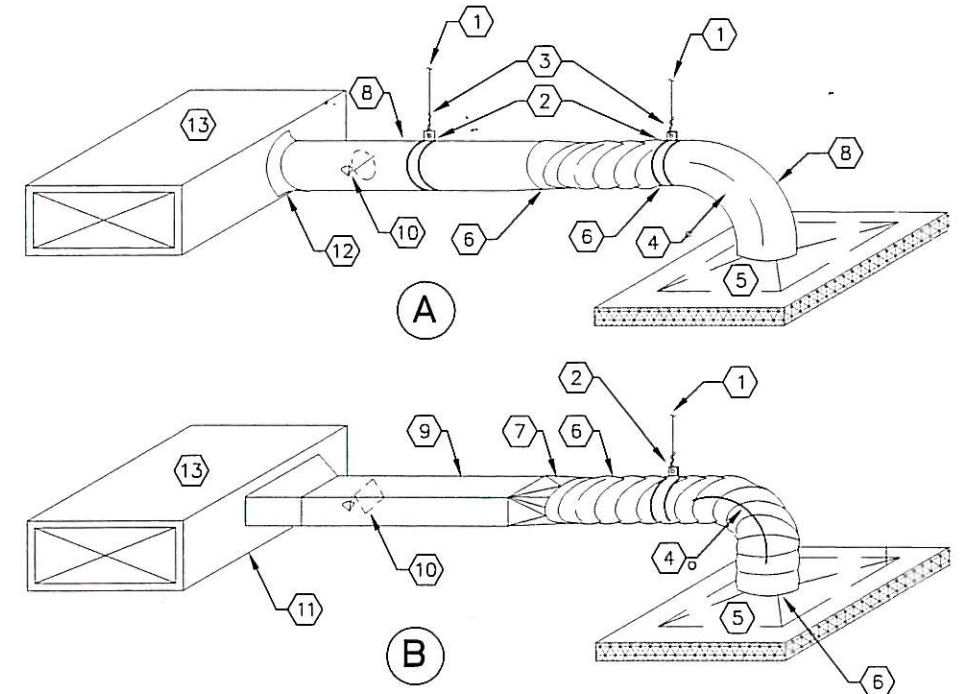


1 ROOFTOP CONDENSER ANCHOR
M500 NOT TO SCALE

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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	



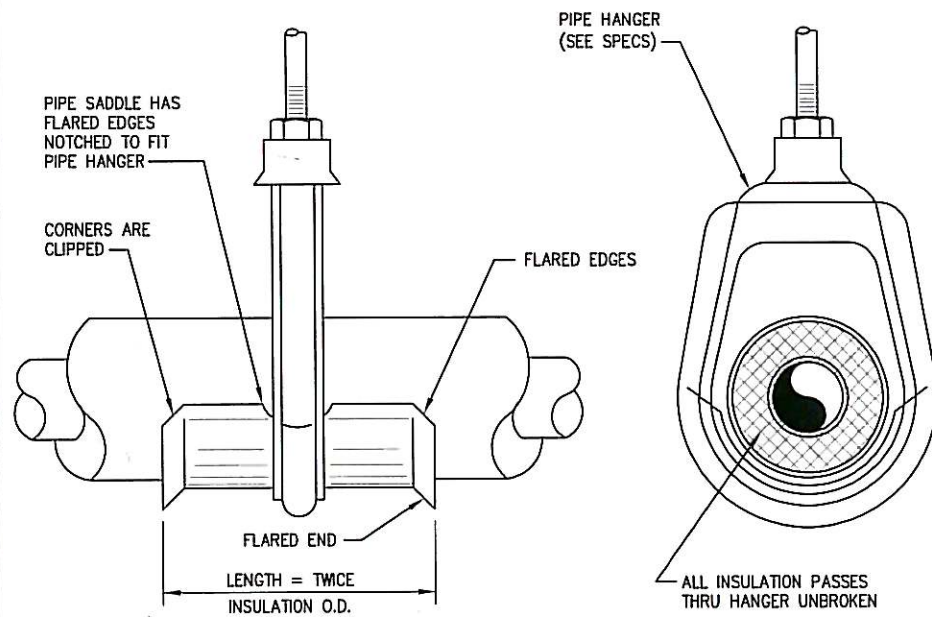
3 TYPICAL BRANCH DUCT CONNECTION
M501 NOT TO SCALE



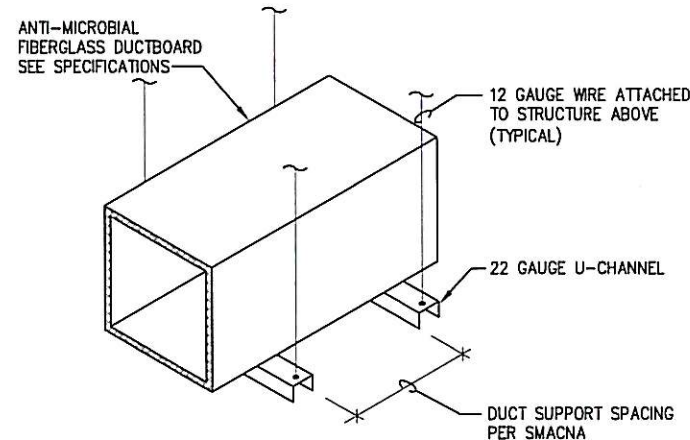
NOTES:

- 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

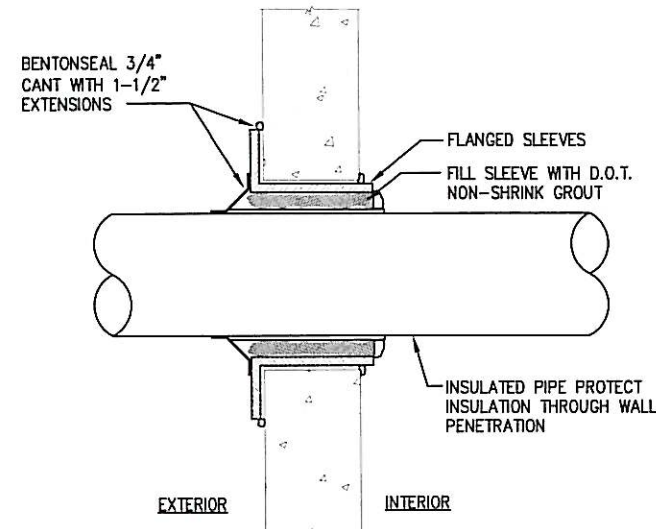


4 INSULATED PIPING HANGER
M501 NOT TO SCALE

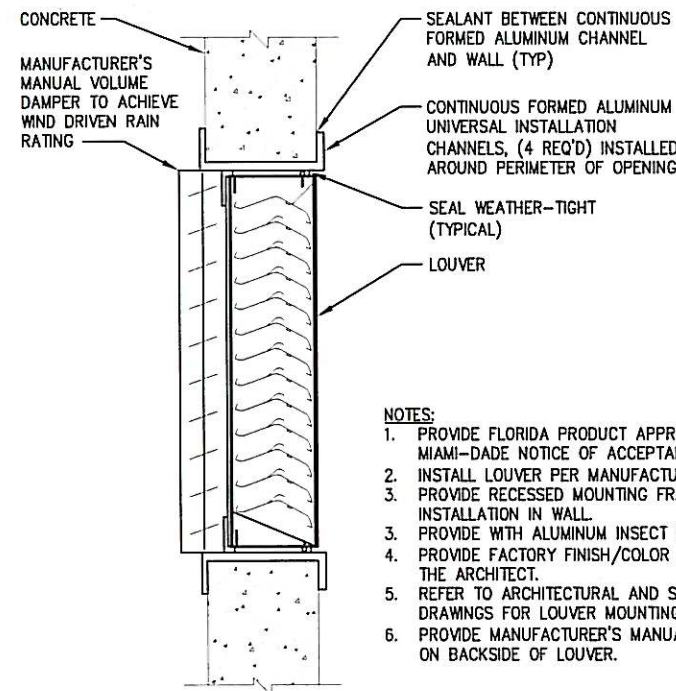


2 FIBERGLASS DUCT SUPPORT
M501 NOT TO SCALE

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

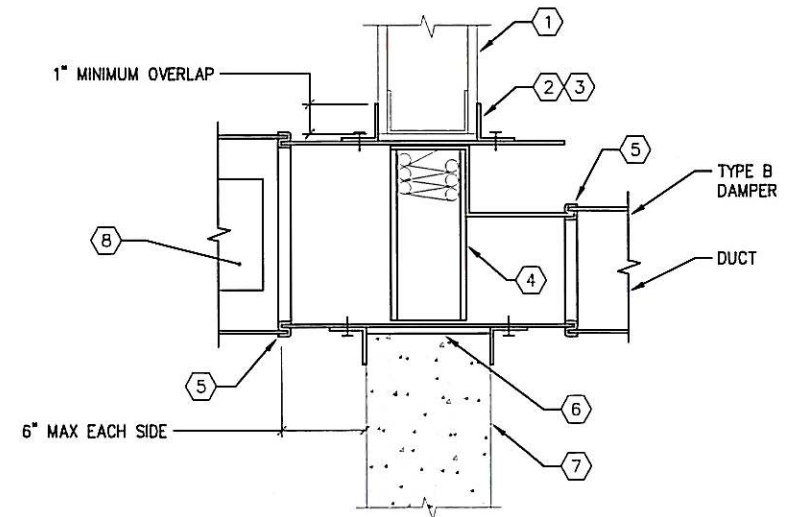


3 WALL PENETRATION DETAIL
M502 NOT TO SCALE



- 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 OF LOUVER.

2 STATIONARY LOUVER
M502 NOT TO SCALE



NOTES:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. TYPICAL DRYWALL CONSTRUCTION 2. MINIMUM 1-1/2" x 1-1/2", 16 GAUGE STEEL RETAINING SLEEVE ONLY, ON 8" CENTERS WITH: <ol style="list-style-type: none"> 1. PREFERRED: No. 10 SHEET METAL SCREWS OR 1/4" BOLTS AND NUTS MINIMUM 3/16" STEEL RIVETS 1/2" LONG WELDS 3. NO CAULKING IS REQUIRED ON FIRE DAMPERS OR FIRE DAMPER RETAINING ANGLES. 4. UL LISTED FIRE DAMPER WITH 165 DEG F FUSIBLE LINK, SECURE DAMPER TO SLEEVE ON 8" CENTERS WITH: <ol style="list-style-type: none"> 1. PREFERRED: No. 10 SHEET METAL SCREWS OR 1/4" BOLTS AND NUTS MINIMUM 3/16" STEEL RIVETS 1/2" LONG WELDS | <ol style="list-style-type: none"> 5. BREAKAWAY CONNECTION MAY CONNECT TO DUCT OR SLEEVE. 6. ANNULAR SPACE BETWEEN DAMPER AND WALL OPENING SHALL BE 1/8" PER FOOT OF WIDTH OF DAMPER, UNLESS OTHERWISE RECOMMENDED BY DAMPER MANUFACTURER. 7. TYPICAL MASONRY CONSTRUCTION 8. ACCESS DOOR SIZED TO ACCESS AND REPLACE FUSIBLE LINK |
|--|--|

ACCESS DOOR SIZE	
DUCT WIDTH	DOOR SIZE
6" THRU 18"	6" x 12"
19" THRU 36"	12" x 18"
37" AND ABOVE	18" x 18"

1 FIRE DAMPER ASSEMBLY
502-1 NOT TO SCALE

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