

EXHAUST AIR CALCULATIONS

FLOOR	SPACE SERVED OR UNIT TAG	SPACE AREA (SQ.FT.)	SPACE HEIGHT (FT)	SPACE VOLUME (CU.FT.)	VENTILATION REQ'D AG/HR OR CFM	TOTAL CFM REQUIRED	TOTAL CFM PROVIDED	NOTES
FIRST FLOOR	MEN'S LOCKER 110	186	10'	1,860	0.5 CFM/SF	93	150	1
	MEN 112	103	10'	1,030	50 CFM/WC	150	150	1
	WOMEN'S LOCKER 111	67	10'	670	0.5 CFM/SF	34	100	1
	WOMEN 113	43	10'	430	50 CFM/WC	50	50	1
	#1 STORAGE 117	187	10'	1,870	.15 CFM/SF	28	300	1
SECOND FLOOR	MEN 112	66	10'	660	50 CFM/WC	50	75	1
	WOMEN 113	67	10'	670	50 CFM/WC	50	75	1

NOTES:

- CALCULATIONS ARE BASED ON LOCAL CODE REQUIREMENTS, FLORIDA BUILDING CODE 2004 (TABLE 403.3) AND ASHRAE 62-89.

AIR BALANCE SCHEDULE

AREA SERVED	EQUIPMENT TAG	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	MAKE-UP AIR (CFM)	EXHAUST AIR (CFM)	
ADMINISTRATION BUILDING	FIRST FLOOR	EF-1	X	X	X	450
		EF-3	X	X	X	300
		AHU-1	1600	-	X	X
		AHU-2	1600	-	X	X
		AHU-3	800	-	X	X
SECOND FLOOR		EF-2	X	X	X	150
		AHU-4	2000	-	X	X
		AHU-5	2000	-	X	X
1ST & 2ND FLOOR	OA AHU-6	1200	1200	X	X	
	TOTAL	8000	1200	X	900	
PUMP BLDG	1ST & 2ND FLOOR	AHU-7	1200	X	X	X
		EF-4	X	X	X	X
		EF-5	X	X	X	X
		EF-6	X	X	X	X

NOTES:

- BUILDING IS 1200-900=300 POSITIVE WHEN ALL EXHAUST FANS OPERATING

OUTSIDE AIR CALCULATIONS

FLOOR	AREA SERVED OR UNIT TAG	NET OCCUPIABLE AREA SQ.FT.	MAX. OCCUPANCY P/1000 SQ.FT.	TOTAL NO. OF PEOPLE	VENTILATION RATE CFM/P OR SQ.FT.	TOTAL CFM O/A REQUIRED	TOTAL CFM O/A PROVIDED	NOTES
1ST FLOOR	OFFICES	651	-	9	20 CFM/P	180	475	1,2
	CORRIDORS	689	-	-	0.05 CFM/SF	35		1
	STORAGE	425	-	-	0.05 CFM/SF	25	250	1
2ND FLOOR	OFFICES	1,627	-	12	20 CFM/P	240	475	1,2
	CORRIDORS	783	-	-	0.05 CFM/SF	40		1
	CONFERENCE	192	-	5	10 CFM/P	50		1,3

NOTES:

- CALCULATIONS ARE BASED ON ESTIMATED MAX. OCCUPANCY RATES PER ARCHITECTURAL PLANS AND ASHRAE 62-89. VENTILATION RATES PER FLORIDA BUILDING CODE 2004 (TABLE 403.3) AND ASHRAE 62-89.
- FOR OFFICE AND OTHER SIMILAR AREAS CALCULATIONS ARE BASED ON CONTINUOUS OCCUPANCY
- FOR ASSEMBLY ROOMS, CONFERENCE ROOMS AND OTHER SIMILAR AREAS CALCULATIONS ARE BASED ON INTERMITTENT OR VARIABLE OCCUPANCY IN CONFORMITY WITH PAR. 6.1.3.4 OF ASHRAE 62-01.

MECHANICAL NOTES

- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE FLORIDA BUILDING CODE 2004 AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS: SMACNA-85, 92, 95; ASHRAE 15-01, 34-01, 62-01; NFPA 70-02, 72-02, 90A-02, 90B-02, 91-99, 96-01; ANSI Z10.1-98, Z10.3-98, Z21.8-94, Z21.83-98.
- THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
- THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES.
- THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH "AS-BUILT" DRAWINGS.
- CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE (5) COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT.
- ALL MATERIAL SHALL BE NEW OF U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED.
- DUCTWORK:
 - AAA, ALL AIR CONDITIONING DUCT WORK SHALL BE OF 1" (R-4.2) SPECIAL DUTY FSK FOIL REINFORCED FIBERGLASS WITH MANUFACTURER'S LOGO PRINTED ON VAPOR BARRIER, WITH A HIGH-TENSILE, RESISTANT MAT COATING, EQUAL TO "SUPERDUCT" BY MANVILLE OR "TOUGHGARD" BY CERTAINTEED, AND ANTI-MICROBIAL PROPERTIES.
 - ALL FLEXIBLE DUCT TO BE R-4.2 WITH A MAX. TOTAL LENGTH NOT TO EXCEED 15 FT. INSTALL UL LISTED FOR PLENUM, FLEXIBLE DUCTWORK ELBOW SUPPORTS AT EACH DIFFUSER, GRILLE, AND REGISTER EQUAL TO "FLEXFLOW ELBOW" AS MANUFACTURED BY "THERMAFLEX".
- ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS. ALL OUTSIDE AIR DUCT SHALL BE INSULATED WITH EXTERNAL BLANKET INSULATION R-6 MIN. ALL METAL EXHAUST, MAKE-UP OR OTHERWISE DUCTS INSTALLED IN LOCATIONS WHERE DEWPOINT CONDITIONS CAN OCCUR INSIDE THE DUCT SHALL BE EXTERNALLY INSULATED WITH R-6 MIN.
- OUTSIDE AIR INTAKES SHALL BE SCREENED WITH A CORROSION RESISTANT MATERIAL NOT LARGER THAN 1/2" MESH. O/A INTAKES SHALL NOT BE TAKEN FROM A LOCATION CLOSER THAN 10 FT. FROM ANY CHIMNEY, VENT OUTLET OR SANITARY SEWER VENT OUTLET, UNLESS SUCH VENT IS NOT LESS THAN 24 INCHES ABOVE THE OUTSIDE AIR VENT. OUTSIDE AIR INTAKE VENTS LOCATED ON ROOFS WILL BE PROPERLY MARKED WITH A UNIVERSAL MARKING "INTAKE", PERMANENTLY ATTACHED PER FMC 2004, SEC. 401.5.1
- DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
- ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE ALL ALUMINUM CONSTRUCTION WITH EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. DEVICES SHALL BE AS SPECIFIED OR EQUAL TO TITUS OR METALAIR. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS AS INDICATED ON PLANS. PROVIDE BALANCING DAMPERS FOR ALL AIR DEVICES TO ENSURE COMPLIANCE WITH FMC 2004, PAR. 601.4 AND PAR. 603.15 FOR BALANCED AIR FLOW.
- THERMOSTAT
 - A. FOR NEW UNITS: SHALL BE COMBINATION COOLING/HEATING, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. PROVIDE PROGRAMMABLE TYPE AS RECOMMENDED BY MANUFACTURER, HONEYWELL OR EQUAL. PROVIDE TAMPER PROOF COVERS.
 - B. FOR EXISTING UNITS: SHALL BE SERVICED AND RELOCATED AS SHOWN. IF NEW THERMOSTAT IS PROVIDED IT SHALL MATCH BUILDING STANDARDS.
 - C. FOR VAV BOXES: CONTROLS TO BE DDC, PROVIDE ROOM THERMOSTAT/SENSOR WITH OVERRIDE
- BRAZING-JOINT TYPE FITTINGS, USE BRAZING MATERIALS FOR HIGH PRESSURE PIPING PER AWS A5.8: BCUP SERIES COPPER-PHOSPHORUS ALLOY OR BAg1 SILVER ALLOY. REFRIGERANT LINES SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATIONS. SOFT COPPER TYPE "M" SHALL BE ALLOWED FOR RISER PIPING INSIDE CHASE TO LIMIT NUMBER OF JOINTS. COORDINATE WITH ENGINEER FOR PRIOR APPROVAL. ALL EXPOSED INSULATION SHALL BE PROTECTED WITH UV RESISTANT PAINT OR ALUMIN. SHIELD.
- ARMAFLEX INSULATION SHALL BE USED FOR SUCTION LINES (1/2" FOR ABOVE 40° F AND 1" FOR BELOW 40° F) PER FLORIDA ENERGY CODE TABLE 4-11 FOR PIPING INSULATION. FILTER/DRYER AND SIGHT GLASS SHALL BE PROVIDED AT LIQUID LINES.
- ALL BRANCH TAKE-OFFS TO BE PROVIDED W/ MANUAL VOLUME DAMPERS. PROVIDE RADIUS ELBOWS WHERE FEASIBLE, SQUARE ELBOWS AND TEE'S SHALL BE FURNISHED W/SINGLE FOIL TURNING VANES. PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL FLEX TAKE-OFFS. PROVIDE REMOTE, CABLE OPERATED VOLUME DAMPERS IN INACCESSIBLE AND HARD CEILING AREAS, "YOUNG REGULATOR" OR EQUAL.
- PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE START-UP, REPLACE PRIOR TO FINAL ACCEPTANCE BY OWNER.
- PROVIDE SMOKE DETECTORS WITH SERVICE ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON PLENUM OF 2000 CFM OR ABOVE. FOR SMOKE DETECTORS NOT VISIBLE, IN CONCEALED SPACES, PROVIDE REMOTE ANNUNCIATION/TEST STATION AS REQUIRED BY AUTHORITY HAVING JURISDICTION, COORDINATE PRIOR TO INSTALLATION. DETECTORS SHALL BE BY ONE MANUFACTURER, COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
- PROVIDE TYPE "B" DYNAMIC FIRE DAMPERS WITH SERVICE ACCESS DOORS IN ALL DUCTS AND OPENINGS PENETRATING FIRE RATED WALLS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, TENANT SEPARATION, PARTITIONS, FLOOR OR ROOF SLABS AND AT OUTSIDE AIR INTAKES AS REQUIRED. PROVIDE RADIATION DAMPERS IN RATED CEILINGS FOR ALL CEILING OPENINGS, CEILING FANS, DIFFUSERS OR GRILLES RATED FOR USE IN THE CEILING ASSEMBLY. PROVIDE LOW-LEAKAGE CLASS DAMPERS FOR ALL SITUATIONS WHERE THE AIRFLOW CFM HAS TO BE CONTROLLED. VERIFY AND REPLACE AS REQUIRED FOR EXISTING SYSTEMS.
- HVAC CONTRACTOR SHALL PROVIDE A T & B REPORT PER F.B.C. 2004, CH. 13, 410.1.ABCD.4 (THE T & B REPORT SHALL BE INDEPENDENT FOR SYSTEMS OVER 15 TONS) FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHU'S AND FANS. THE TEST AND BALANCE REPORT SHALL BE IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY GRILLES, RETURN GRILLES AND EXHAUST GRILLES AND THE LEAVING AND ENTERING AIR TEMPERATURE (°F) FROM SUPPLY GRILLES AND EVAPORATORS.
- THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION. INSTALL THERMOSTAT 48" TO 54" A.F.F. PER A.D.A REQUIREMENTS WHERE APPLICABLE. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR ALL REQUIREMENTS FOR JUNCTION BOXES, CONDUITS, CONTROL WIRING, POWER, ETC. AND DEFINE RESPONSIBILITIES AND SCOPE OF WORK FOR EACH TRADE PRIOR TO ANY PURCHASING OR INSTALLATION.
- RUN INSULATED FIRE RATED CONDENSATE DRAINS AS REQUIRED.
- ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
- MECHANICAL EQUIPMENT ON ROOF OR ELEVATED STRUCTURES SHALL COMPLY WITH FBC 2004 PAR. 306.5 IF INSTALLED HIGHER THAN 16 FEET A.F.F. MECHANICAL EQUIPMENT INSTALLED IN ATTICS SHALL MEET THE REQUIREMENTS OF FBC 2004 PAR. 306.3 IF THE EQUIPMENT CAN NOT BE SERVICED/REMOVED THROUGH REQUIRED OPENING. MECHANICAL EQUIPMENT SHALL BE PROTECTED WITH MECHANICAL BARRIERS IF EXPOSED TO MECH. DAMAGE. ALL EQUIPMENT SHALL BE INSTALLED ON 6" CONCRETE PAD AT GRADE LEVEL.
- ALL WIND LOAD AND OTHER COMPLIANCE CALCULATIONS FOR ROOF MOUNTED EQUIPMENT, AS REQUIRED BY FBC 2004, SEC. 1509, 1522 AND CHAPTER 16, SHALL BE PROVIDED BY STRUCTURAL ENGINEER/ARCHITECT.
- PROVIDE A MIN. OF 36" CLEARANCE IN FRONT OF ALL 120-208 VOLT PANELS AND MIN. 42" CLEARANCE IN FRONT OF ANY 240-480 VOLT PANEL. PROVIDE ADEQUATE SIDE CLEARANCE PER NEC.
- MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, FIRE SPRINKLER, AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS SHALL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES IN DUCTWORK SIZE AND ROUTE WILL BE REQUIRED TO AVOID STRUCTURAL, PLUMBING, FIRE SPRINKLER AND ARCHITECTURAL BUILDING FEATURES. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IF DUCT AREA WILL NOT FIT.
- THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT.
- CONDENSATE DRAIN PIPING TO BE AS SPECIFIED PER PLUMBING PLANS, IF NOT SPECIFIED TO BE TYPE "L" COPPER OR PVC WHERE ALLOWED BY CODE WITH 1/2" ARMAFLEX INSULATION. PROVIDE APPROVED WATER LEVEL DETECTOR OR FLOAT SWITCH TO AUTOMATICALLY SHUT DOWN THE AIR COND. UNIT, AS A SECONDARY DRAIN SYSTEM TO COMPLY WITH FMC 2004, SEC. 307 SUPPLY CONDENSATE PUMP WHERE NECESSARY AS IMPOSED BY FIELD CONDITIONS OR INSTALLATION CHANGES AND PIPE TO CONDENSATE DRAIN PER PLUMBING PLANS.
- MANUFACTURER'S WARRANTY: CONTRACTOR SHALL PROVIDE WARRANTY FOR A PERIOD OF (1) ONE YEAR AFTER BUILDING C.O. FOR ALL MECHANICAL SYSTEMS, DUCTWORK, CONTROLS ACCESSORIES AND ALL OTHER EQUIPMENT, PARTS AND LABOR UNDER THESE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE WARRANTY FOR COMPRESSORS FOR (5) FIVE YEARS. ANY REPAIRS REQUIRING SYSTEM SHUTDOWN WILL BE DONE DURING NON-OPERATIONAL PERIODS OR AS AGREED WITH OWNER.
- AUXILIARY DRAIN PANS SHALL BE INSTALLED UNDER ALL COILS ON WHICH CONDENSATION CAN OCCUR AND UNDER ALL UNITS IN CONCEALED SPACES OR ANY AREA WHERE BLDG. DAMAGE CAN OCCUR AS A RESULT OF AN OVERFLOW, TO COMPLY WITH FBC 2004, PAR. 307.2.

HVAC SHEET INDEX

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H-3	SECOND FLOOR UTILITIES AND ENGINEERING BUILDING MECHANICAL PLAN
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MECHANICAL LEGEND

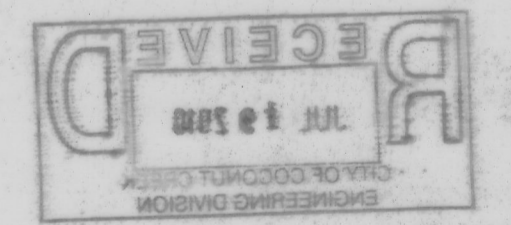
	SUPPLY AIR CEILING DIFFUSER		CONDENSING UNITS ON A ROOF RACK
	RETURN AIR CEILING GRILLE		AIR HANDLING UNIT
	SIDE WALL GRILLE		ROOF MOUNTED EXHAUST FAN
	FIRE DAMPER		SUPPLY AIR
	VOLUME CONTROL DAMPER		RETURN AIR
	THERMOSTAT		DUCT SMOKE DETECTOR
	REDUCER		MOTORIZED DAMPER
	NEW FLEX DUCT		
	NEW DUCTWORK		
	SUPPLY AIR DIFFUSER DESIGNATION		
	RETURN AIR GRILLE DESIGNATION		

HVAC ABBREVIATION LEGEND

AFF	ABOVE FINISH FLOOR	MCA	MINIMUM CIRCUIT AMPS (FOR WIRE SIZING)
AHU	AIR HANDLING UNIT	MOCF	MAXIMUM OVERCURRENT PROTECTION DEVICE AMPS
CD	CONDENSATE DRAIN	LWT	LEAVING WATER TEMPERATURE
CD	CEILING DIFFUSER	R/A	RETURN AIR
CU	CONDENSING UNIT	VD	VOLUME CONTROL DAMPER
EWT	ENTERING WATER TEMPERATURE	RAG	RETURN AIR GRILLE
EAG	EXHAUST AIR GRILLE	SAR	SUPPLY AIR REGISTER
EF	EXHAUST FAN	O/A	OUTSIDE AIR
EXH	EXHAUST	RTU	ROOF TOP UNIT
FD	FIRE DAMPER		
AD	ACCESS DOOR		

GENERAL NOTE

MECHANICAL CONTRACTOR SHALL INSTALL ACTUAL EQUIPMENT WITH PROPER CLEARANCES FOR SERVICING OF EQUIPMENT. CONTRACTOR SHALL PROVIDE STATEMENT THAT THE INSTALLATION OF THE EQUIPMENT COMPLIES WITH MANUFACTURERS SPECIFICATION AND CLEARANCES REQUIREMENTS. ALL EQUIPMENT SHALL BE BASED ON APPROVED SUBMITTALS.



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REVISIONS		REMARKS
NO.	BY	DATE

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 DWN: NP
 CKD: MP

CITY OF COCONUT CREEK
 UTILITIES AND ENGINEERING DEPARTMENT
 HILLSBORO WATER STORAGE TANK,
 ADMINISTRATION BUILDING AND GREENWAY DESIGN

CONTRACT DOCUMENTS

UTILITIES & ENGINEERING BUILDING
 MECHANICAL NOTES, LEGEND AND
 CALCULATIONS

DATE: **DECEMBER 2007**

H-1 SHEET 68 OF 122
 CAD REF. NO. 2006-0658

ISSUED FOR PERMIT
 ISSUED FOR CONSTRUCTION

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THERMOSTAT SCHEDULE

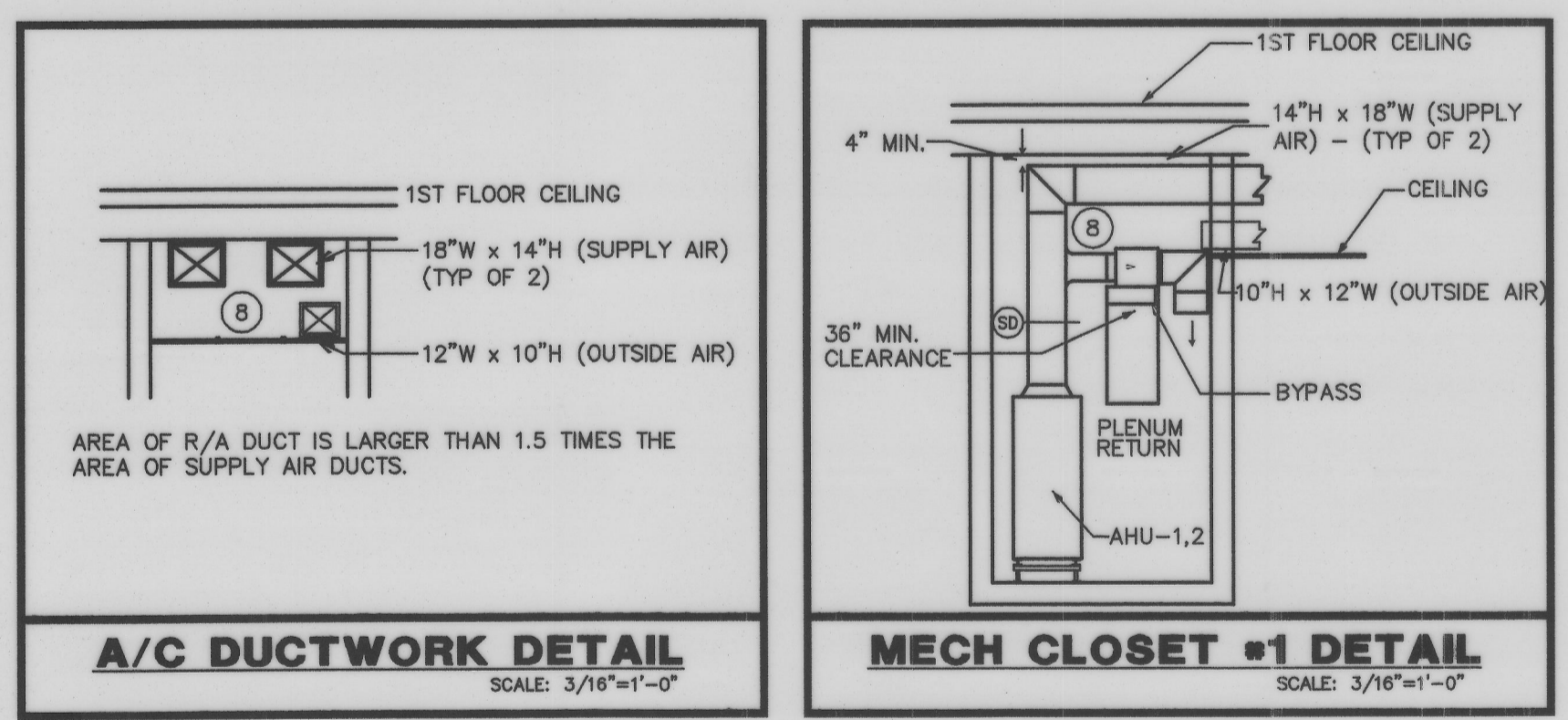
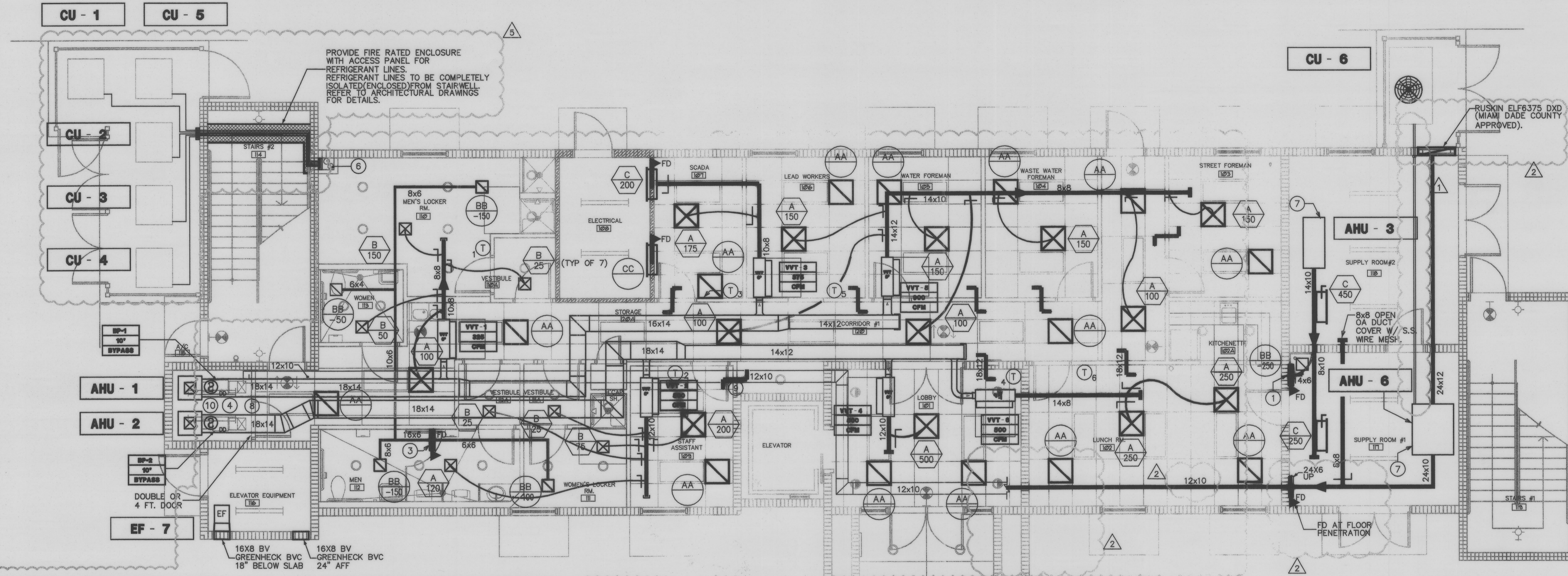
SPACE SERVED	VVT #	LOCATION OF THERMOSTAT
MENS LOCKER 110, VESTIBULE 110A, CORRIDOR 120.	VVT 1	MENS LOCKER RM 110
STAFF ASS 109, WOMENS LOCKER 111, VESTIBULE 112A, MENS BATH 112	VVT 2	STAFF ASSISTANT 109
ELECTRICAL RM 108, SCADA 107	VVT 3	SCADA 107
LOBBY 101	VVT 4	LOBBY 101
LEAD WORK 106, WATER FOR 105, WASTE WATER FOR 104, STREET FOR 104, 120	VVT 5	LEAD WORKERS 106
LUNCH RM 102, KITCHENETTE 102A	VVT 6	LUNCH RM 102

NOTE

SPACE ABOVE CEILING IS A RETURN AIR PLENUM
NO COMBUSTIBLE MATERIALS ALLOWED.

KEY NOTES

- 1 14x6 EXHAUST AIR DUCT UP TO EF-2 ON ROOF (8" WALL).
- 2 26x8 OUTSIDE AIR DUCT TO 2ND FLOOR (8" WALL).
- 3 30x4 EXHAUST AIR DUCT UP TO EF-1 ON ROOF (IN 6" WALL). PROVIDE CEILING ACCESS DOOR.
- 4 12x10 OPEN DUCT IN COMMON PLENUM FOR OUTSIDE AIR. (COVER WITH S.S. WIRE MESH).
- 5 14x10 SHEET METAL DUCT FOR AIR TRANSFER. (TYPICAL OF 7)
- 6 REFRIGERANT LINES UP IN CHASE FOR AIR HANDLING UNITS IN SECOND FLOOR.
- 7 UNITS ARE EXPOSED ALLOWING FOR REQUIRED ACCESS FOR SERVICE.
- 8 FREE AREA SERVING AS RETURN AIR MEDIA
- 9 TRANSFER AIR DUCT AND O/A DUCT ARE STACKED O/A RUNS ABOVE TRANSFER.
- 10 PLENUM RETURN, NO COMBUSTIBLE MATERIALS ALLOWED.



FIRST FLOOR UTILITIES AND ENGINEERING BUILDING MECHANICAL PLAN

3/16"=1'-0" NORTH

CONTRACT DOCUMENTS

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REVISIONS			
NO.	BY	DATE	REMARKS
1		03-21-08	BLDG. DEPT. COMMENTS
2		08-06-08	DUCTWORK/FIELD COORDINATION
3		06-03-09	BLDG. DEPT. COMM.

DES NP
DWN NP
CKD MP



CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT
HILLSBORO WATER STORAGE TANK,
ADMINISTRATION BUILDING AND GREENWAY DESIGN

UTILITIES & ENGINEERING BUILDING
FIRST FLOOR MECHANICAL PLAN

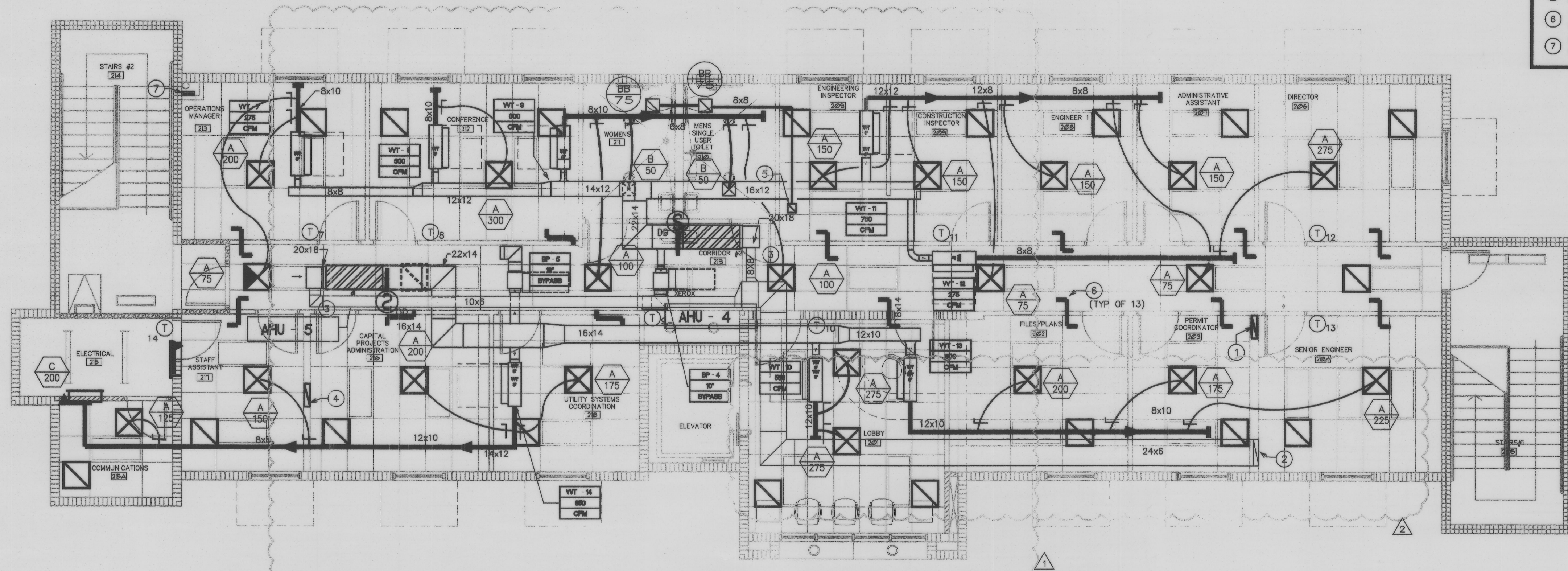
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DATE: **DECEMBER 2007**
H-2 SHEET 69 OF 122
CAD REF. NO. 2006-0658

THERMOSTAT SCHEDULE		
SPACE SERVED	VVT #	LOCATION OF THERMOSTAT
OPERATIONS MANAGER 213, CORRIDOR 219	VVT 7	OPERATIONS MANAGER 213
CONFERENCE 112	VVT 8	CONFERENCE 112
WOMENS 212, MENS 210, CORRIDOR 219	VVT 9	CORRIDOR 219
LOBBY 201	VVT 10	LOBBY 201
ENGINEERING INS 209, CONSTRUCT INS 209, ENGINEER 208, ADMIN ASS 207, 219	VVT 11	CONSTRUC. INSPECTOR 209
DIRECTOR 206	VVT 12	DIRECTOR 206
SENIOR ENGINEER 204, PERMIT COORD 203, FILES/PLANS 202	VVT 13	SENIOR ENGINEER 204
UTILITY SYSTEMS 218, STAFF ASSIST 217, CAPITAL PROJECTS 216, COMM 215, 215A	VVT 14	ELECTRICAL 215

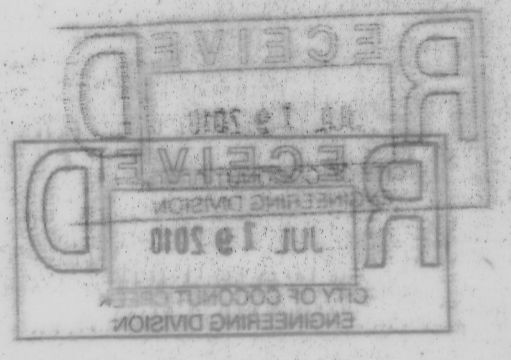
NOTE

SPACE ABOVE CEILING IS A RETURN AIR PLENUM
NO COMBUSTIBLE MATERIALS ALLOWED.

- KEY NOTES**
- 20x6 EXHAUST AIR DUCT UP TO EF-2 ON ROOF DOWN TO 1ST FLOOR.
 - 26x6 OUTSIDE AIR DUCT FROM 1ST FLR
 - CONNECT O/A DUCTWORK TO PLENUM RETURN BOX
 - 30x4 EXHAUST AIR DUCT UP TO EF-1 ON ROOF DOWN TO 1ST FLOOR.
 - 8x6 EXHAUST AIR DUCT UP TO EF-3 ON ROOF.
 - 14x10 SHEET METAL DUCT FOR AIR TRANSFER. (TYPICAL OF 12)
 - REFRIGERANT LINES FROM FIRST FLOOR IN CHASE.



SECOND FLOOR PLAN UTILITIES AND ENGINEERING BUILDING
MECHANICAL PLAN
3/16"=1'-0" NORTH



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UTILITIES & ENGINEERING BUILDING
**SECOND FLOOR
MECHANICAL PLAN**

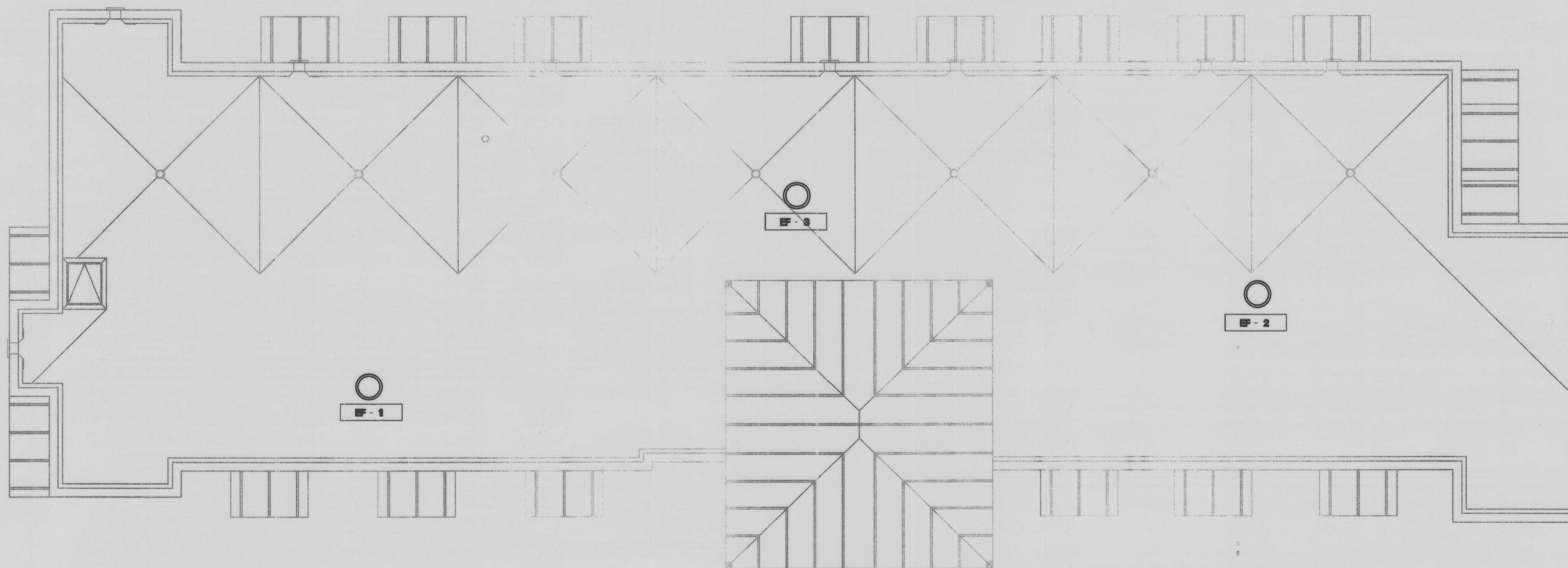
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DATE: **DECEMBER 2007**
H-3 SHEET **70** OF **122**
CAD REF. NO. 2006-0658

MALCOLM PIRNIE
CERTIFICATE OF AUTHORIZATION NO. 67
INDEPENDENT ENVIRONMENTAL ENGINEERS,
SCIENTISTS & CONSULTANTS
2301 MAITLAND CENTER PARKWAY
MAITLAND, FLORIDA 32751

PREPARED BY: **MIRCEA PELLA**
FLORIDA P.E. NO 48798

REVISIONS		REMARKS
NO.	DATE	REMARKS
03-21-08		BLDG. DEPT. COMMENTS
08-06-08		DUCTWORK/FIELD COORDINATION

DES: NP
DWN: NP
CKD: MP

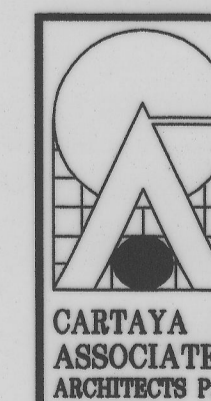


**UTILITIES AND ENGINEERING BUILDING
MECHANICAL ROOF PLAN**

3/16"=1'-0" NORTH

CONTRACT DOCUMENTS

ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	
KAMM CONSULTING PROJECT #: 2006-0658	
PROJECT MANAGER: NEVENA PARSONS	
KAMM Consulting	1407 West Newport Center Drive Deerfield Beach, Florida 33442 Phone 954.949.2200 Fax 954.949.2201 engineering@kammconsulting.com Certification of Authorization #8189
DIRECTOR OF ELECTRICAL ENGINEERING Lon T. Carter Florida License #35249	06-27-09 signed
DIRECTOR OF MECHANICAL ENGINEERING Mircea Pella Florida License #48798	



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**MALCOLM
PIRNIE**

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MAITLAND, FLORIDA 32751

PREPARED BY :

MIRCEA PELLA
FLORIDA P.E. NO 48798

REVISIONS			
NO.	BY	DATE	REMARKS

DES NP
DWN NP
CKD MP



CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT
HILLSBORO WATER STORAGE TANK,
ADMINISTRATION BUILDING AND GREENWAY DESIGN

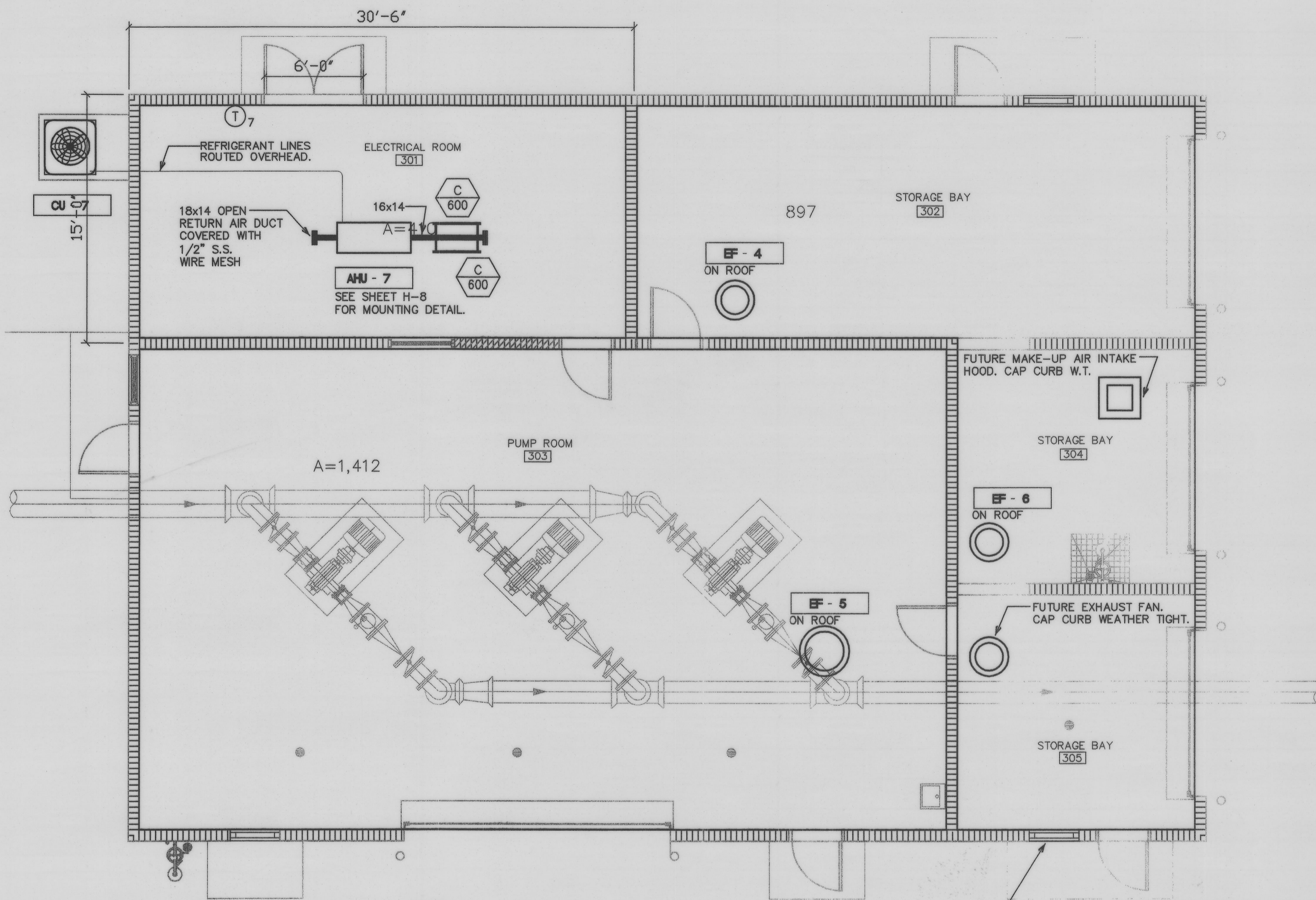
UTILITIES & ENGINEERING BUILDING
MECHANICAL ROOF PLAN

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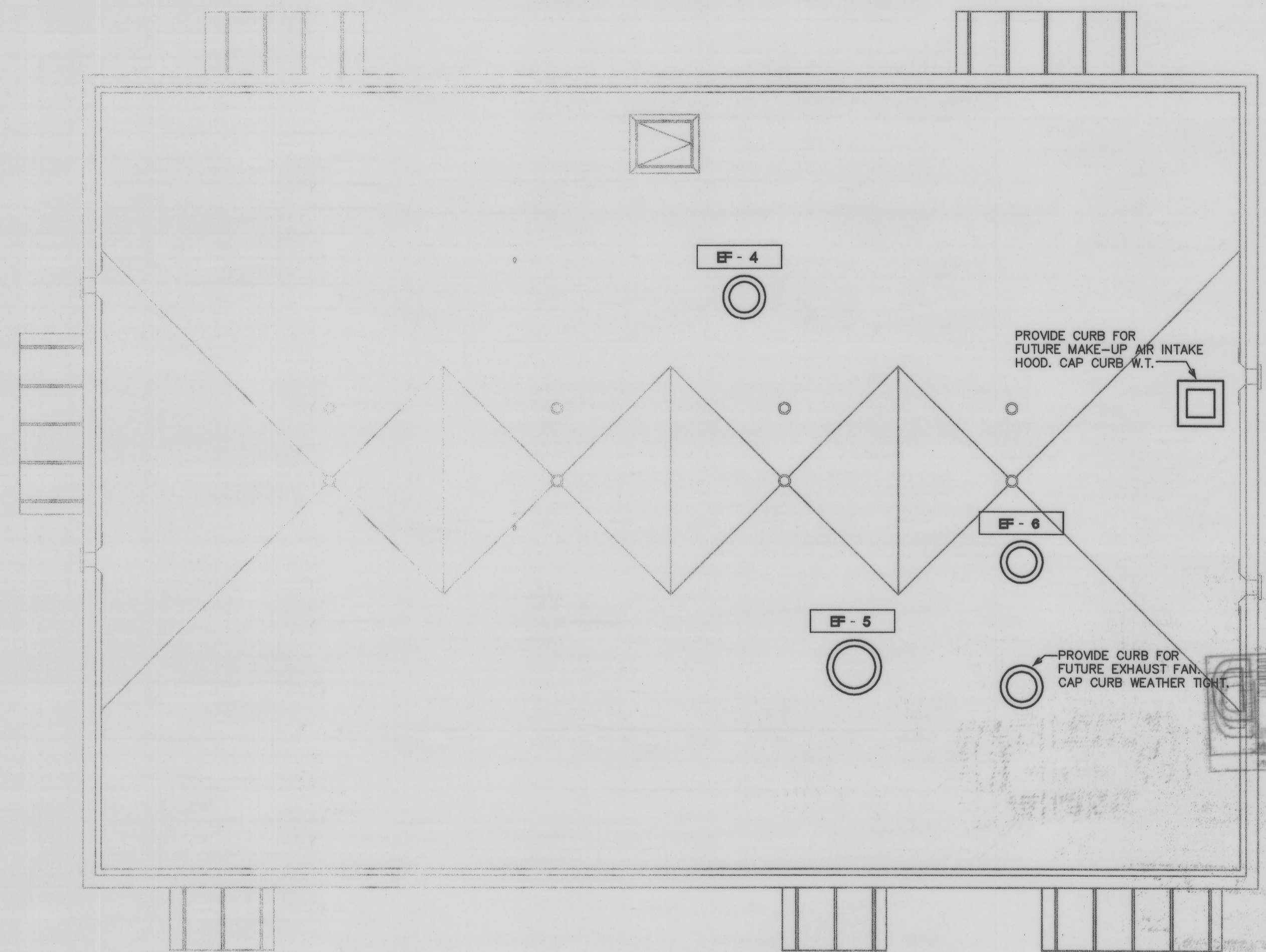
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H-4 SHEET 71 OF 122

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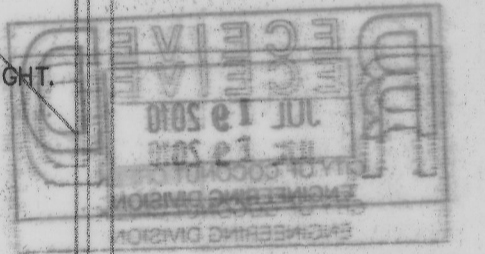


**PUMP BLDG.
MECHANICAL FLOOR PLAN**
3/16"=1'-0" NORTH



**PUMP BUILDING
ROOF PLAN**
3/16"=1'-0" NORTH

MIAMI DADE COUNTY APPROVED LOUVER
36x50 RUSKIN ELF811D WITH ROLL
DOWN HURRICANE SHUTTER IN TRACK.
(COORDINATE EXACT SIZE AND LOCATION
WITH ARCHITECT).
(TYPICAL OF 4)



CONTRACT DOCUMENTS

ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	
KAMM CONSULTING PROJECT #:	2006-0658
PROJECT MANAGER:	NEVENA PARSONS
1407 West Newport Center Drive Deerfield Beach, Florida 33442 Phone: 954-949-2200 Fax: 954-949-2201 engineering@kammconsulting.com	
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Lois T. Carter	Florida License #35349
DIRECTOR OF MECHANICAL ENGINEERING:	08-27-06
Mircea Pella	Florida License #48798



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**MALCOLM
PIRNIE**
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2301 MATLAND CENTER PARKWAY
MATLAND, FLORIDA 32751

PREPARED BY :
MIRCEA PELLA
FLORIDA P.E. NO 48798

REVISIONS			
NO.	BY	DATE	REMARKS

DES NP
DWN NP
CKD MP



CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT
HILLSBORO WATER STORAGE TANK,
ADMINISTRATION BUILDING AND GREENWAY DESIGN

UTILITIES & ENGINEERING BUILDING
MECHANICAL
FLOOR AND ROOF PLAN

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H-5 SHEET 72 OF 122
CAD REF. NO. 2006-0658

AIR CONDITIONING SPLIT SYSTEM SCHEDULE

CONDENSING UNIT															
CU TAG	MANUFACTURER & MODEL	NOMINAL TONNAGE	CAP. STAGES	(S)EER/IPLV	REFRIG./LBS	LIQ./SUCTION	NO. FANS	FAN FLA(EA)	NO. COMP.	COMP.RLA(EA)	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
CU-1	LENNOX/XC21-048-2303	4.0	1	17.8	R-410A	3/8-7/8	1	-	1	21.2	208/1/60	29.3/50	337	36X40X47	
CU-2	LENNOX/XC21-048-2303	4.0	1	17.8	R-410A	3/8-7/8	1	-	1	21.2	208/1/60	29.3/50	337	36X40X47	
CU-3	LENNOX/XC21-024-230	2.0	1	19.7	R-410A	3/8-7/8	1	-	1	10.3	208/1/60	15.7/25	314	36X40X47	
CU-4	LENNOX/XC21-060-230	5.0	1	17.0	R-410A	3/8 / 1-1/8	1	-	1	25.7	208/1/60	34.9/60	357	36X40X47	
CU-5	LENNOX/XC21-060-230	5.0	1	17.0	R-410A	3/8 / 1-1/8	1	-	1	25.7	208/1/60	34.9/60	357	36X40X47	
CU-6	SEE SHEET H-7														
CU-7	LENNOX/XC21-036-230	3.0	1	19.2	R-410A	3/8-7/8	1	-	1	16.7	208/1/60	23.7/40	331	36X40X47	

AIR HANDLING UNIT															
AHU TAG	MANUFACTURER & MODEL	TOTAL MBH	SENSIBLE MBH	TOTAL CFM	O/A CFM	E.S.P. ("W.G.)	ENT. DB/WB	LEAV. DB/WB	ROWS/FPI	FAN HP/FLA	HEATER KW	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)
AHU-1	LENNOX/CBX32MV-048-230	48.75	38.9	1600	-	0.6	80/67	56/54	3/15	3/4 / 6.8	-	230/1/60	-/-	207	25X22X59
AHU-2	LENNOX/CBX32MV-048-230	48.75	38.9	1500	-	0.6	80/67	56/54	3/15	3/4 / 6.8	-	230/1/60	-/-	207	25X22X59
AHU-3	LENNOX/CBX32MV-024-230	24.2	18.7	800	-	0.4	80/67	56/54	3/14	0.5/-	5	208/1/60	28/30	126	21X16X45.25
AHU-4	LENNOX/CBX32MV-068-230	60.5	48.3	2000	-	0.6	80/67	56/54	3/15	1.0 / -	-	208/1/60	-/-	244	27X22X64
AHU-5	LENNOX/CBX32MV-068-230	60.5	48.3	2000	-	0.6	80/67	56/54	3/15	1.0 / -	-	208/1/60	-/-	244	27X22X64
AHU-6	SEE SHEET H-7														
AHU-7	LENNOX/CBX32MV-036-230	36.0	28.3	1,200	-	0.4	80/67	56/54	3/14	0.5/-	-	208/1/60	-/-	183	23X22X51

- NOTES:**
- UNITS RATED PER ARI 210, 240 AND 270, APPROVED EQUAL: LENNOX, TRANE
 - PROVIDE WITH ORIFICE METERING DEVICE, LIQUID LINE FILTER DRYER AND MULTI-USE SERVICE VALVES
 - PROVIDE COMPRESSOR WITH CRANKCASE HEATER AND MIN. 5-YEAR WARRANTY
 - PROVIDE HIGH AND LOW PRESSURE CONTROL AND OVER TEMPERATURE PROTECTION.
 - PROVIDE WEATHERPROOF ELECTRIC CONTROLS AND SINGLE SIDE SERVICE ACCESS
 - PROVIDE SINGLE POINT POWER ENTRY AND HEAVY DUTY NICKEL-CHROMIUM ELEMENT HEATER
 - PROVIDE 2" THROWAWAY, MIN. 30% EFF. FILTER AND VIBRATION ISOLATION FOR AHU
 - PROVIDE FACTORY MOUNTED DISCONNECT/STARTER FOR A.H.U., COORDINATE PRIOR TO PURCHASING
 - PROVIDE DISCONNECT/STARTER BY CONTRACTOR FOR C.U., COORDINATE PRIOR TO PURCHASING
 - PROVIDE 24/7 PROGRAMMABLE FACTORY THERMOSTAT
 - PROVIDE REFRIGERANT LINES SIZE AS RECOMMENDED BY MANUFACTURER, NOT TO EXCEED 100 FT. EQUIV. LENGTH FOR LONGER RUNS COORDINATE WITH MANUFACTURER PRIOR TO PURCHASE OR ANY WORK.
 - PROVIDE SMOKE DETECTOR IN SUPPLY AIR DUCT
 - PROVIDE TWO STAGE COMPRESSOR
 - PROVIDE VARIABLE SPEED AHU
 - PROVIDE INFINITY ZONE CONTROL DAMPER SYSTEM

COORDINATION NOTE:
MECHANICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS AND ACCESSORIES WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASING AND INSTALLATION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF ENGINEER

FAN SCHEDULE

SELECTION DATA		FAN DATA				MOTOR DATA				GENERAL DATA						
TAG	SERVICE AREA	MANUF.(*)	MODEL	CONFIG.	CFM	ESP ("WG)	SONES	HP	RPM	DRIVE	VOLTAGE	WEIGHT (LBS)	DIMENSIONS L"xW"xH"	OPENING L"xW"	CONTROL	ACCESSORIES
EF-1	1ST FL TOILETS/LOCKERS	GREENHECK	GB 091-4	ROOF CENTRIF.	450	0.50	6.8	1/4	1,135	BELT	120/1/60	50	25"x 30"H	14.5x14.5	TIME CLOCK	1,2,3,4,5,6,7,8
EF-2	STORAGE ROOM	GREENHECK	GB 081-6	ROOF CENTRIF.	250	0.50	5.3	1/4	1,112	BELT	120/1/60	50	25"x 30"H	14.5x14.5	TIME CLOCK	1,2,3,4,5,6,7,8
EF-3	GUEST TOILET	GREENHECK	GB 071-6	ROOF CENTRIF.	150	0.375	4.8	1/4	1,132	BELT	120/1/60	50	25"x 30"H	14.5x14.5	TIME CLOCK	1,2,3,4,5,6,7,8
EF-4	PUMP BLDG. - STORAGE	GREENHECK	GB 101-4	ROOF CENTRIF.	1,000	0.25	7.8	1/4	1,393	BELT	120/1/60	58	25"x 30"H	14.5x14.5	CONTINUOUS	1,2,3,4,5,6,7
EF-5	PUMP ROOM	GREENHECK	GB 300-10	ROOF CENTRIF.	7,500	0.25	12.2	1	522	BELT	480/3/60	323	25"x 38"H	32.5x32.5	CONTINUOUS	1,2,3,4,5,6,7
EF-6	PUMP BLDG. - STORAGE	GREENHECK	GB 101-4	ROOF CENTRIF.	1,000	0.25	7.8	1/4	1,393	BELT	120/1/60	58	25"x 30"H	14.5x14.5	CONTINUOUS	1,2,3,4,5,6,7
EF-7	ELEVATOR EQUIP.ROOM	GREENHECK	SP A710	CEILING CENTRIF.	650	0.25	7.0	285(W)	1080	DIRECT	120/1/60	43	18X15X15	N/A	CONTINUOUS	1,2,3,4,7

- (*) APPROVED EQUAL MANUFACTURER: COOK, TWIN-CITY, ACME, PENN
- ACCESSORIES NOTES:**
- PROVIDE BACKDRAFT DAMPER
 - PROVIDE FACTORY MOUNTED DISCONNECT SWITCH
 - BEARINGS WITH GREASE FITTINGS
 - PROVIDE MOTOR WITH THERMAL OVERLOADS
 - PROVIDE W/FACTORY CURB
 - PROVIDE MINIMUM 2 SETS OF BELTS
 - PROVIDE W/CORROSION RESISTANT COATING
 - MECHANICAL CONTRACTOR TO FURNISH TIME CLOCK FOR ON-OFF CONTROL. SEE ELECTRICAL DWGS FOR WIRING OF FAN THRU TIME CLOCK.

- GENERAL FAN NOTES:**
- ALL CONTINUOUS-DUTY MOTORS SHALL BE PROVIDED WITH OVERLOAD PROTECTION ACCORDING TO NATIONAL ELECTRICAL CODE PAR. 430-32.
 - FIELD ADJUST OPENINGS WITH STRUCTURE.
 - ALL OUTDOOR EQUIPMENT SHALL COMPLY WITH LOCAL ZONING NOISE ORDINANCE OR NOT EXCEED A NOISE LEVEL OF 65dB AS MEASURED RADIALLY 30 FT. FROM THE EQUIPMENT IN ALL DIRECTIONS.
 - COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE BIDDING OR ORDERING ANY EQUIPMENT.
 - SEE PROJECT PLANS AND SPECIFICATIONS FOR OTHER FIELD SUPPLIED ITEMS AND ADDITIONAL INFORMATION.
 - ALL FANS ON ROOF SHALL BE PAINTED AS PER ARCHITECTURAL SPECS.

VVT BOX UNIT SCHEDULE

SELECTION DATA		PRIMARY AIR DATA			HEATER DATA		GEN. DATA					
UNIT TAG	MANUF. & MODEL	TYPE	INLET DIA.	MIN. CFM	MAX. CFM	MIN. Ps(")	KW	STEPS	VOLTAGE	LxWxH(")	WEIGHT(LB)	NOTES
VVT-1	TITUS DESV	SGL DUCT	6"	300	500	0.5	1	1	208/1	-	*	1,2,3,4,5
VVT-2	TITUS DESV	SGL DUCT	6"	360	500	0.5	3	1	208/1	-	*	1,2,3,4,5
VVT-3	TITUS DESV	SGL DUCT	6"	360	500	0.5	2	1	208/1	-	*	1,2,3,4,5
VVT-4	TITUS DESV	SGL DUCT	6"	360	500	0.5	3	1	208/1	-	*	1,2,3,4,5
VVT-5	TITUS DESV	SGL DUCT	8"	500	900	0.5	5	1	208/1	-	*	1,2,3,4,5
VVT-6	TITUS DESV	SGL DUCT	6"	360	500	0.5	2	1	208/1	-	*	1,2,3,4,5
VVT-7	TITUS DESV	SGL DUCT	5"	200	350	0.5	2	1	208/1	-	*	1,2,3,4,5
VVT-8	TITUS DESV	SGL DUCT	5"	200	350	0.5	2	1	208/1	-	*	1,2,3,4,5
VVT-9	TITUS DESV	SGL DUCT	5"	200	350	0.5	2	1	208/1	-	*	1,2,3,4,5
VVT-10	TITUS DESV	SGL DUCT	6"	360	500	0.5	3	1	208/1	-	*	1,2,3,4,5
VVT-11	TITUS DESV	SGL DUCT	8"	710	900	0.5	4	1	208/1	-	*	1,2,3,4,5
VVT-12	TITUS DESV	SGL DUCT	5"	200	350	0.5	2	1	208/1	-	*	1,2,3,4,5
VVT-13	TITUS DESV	SGL DUCT	8"	500	900	0.5	3	1	208/1	-	*	1,2,3,4,5
VVT-14	TITUS DESV	SGL DUCT	8"	500	900	0.5	5	1	208/1	-	*	1,2,3,4,5
BP-1,2,4,5	TITUS ZECV	SGL DUCT	10"	0	1400	0.5	-	-	208/1	-	*	1,2,3,4,5

- NOTES:**
- CONTROLS TO BE DDC, PROVIDE ROOM THERMOSTAT/SENSOR WITH OVERRIDE CAPABILITY. PROVIDE LOCKING COVER
 - POWER BY DIV. 16. CONTROL WIRING BY CONTROL CONTRACTOR. CONTROL POWER TRANSFORMER BY VVT MANUFACTURER.
 - FOR LONGER DUCT CONNECTION TO BOX THAN RECOMMENDED INLET RUN, MAKE THE TAP FOR BOXES AT THE MAIN DUCTWORK SIZED FOR MAIN STATIC PRESSURE LOSS. REDUCE TAP DOWN TO BOXES INLET SIZE JUST BEFORE CONNECTION AND PROVIDE MIN. LENGTH OF DUCT TO INLET AS RECOMMENDED BY MANUFACTURER FOR PROPER PRESSURE READING
 - FOR BOXES WITH ELECTRICAL HEATER, BOX SHALL BE FUSED BY MANUFACTURER IF REQUIRED MCA (AMPS) IS BELOW THE MIN. AVAILABLE SIZE OF COMMERCIAL BREAKER. CONTRACTOR SHALL COORDINATE PRIOR TO PURCHASING.
 - REFER TO DRAWINGS FOR SERVICE ACCESS CONFIGURATION (RIGHT OR LEFT)

AIR DISTRIBUTION SCHEDULE

TAG	MANUF. & MODEL	FACE SIZE	NECK SIZE	MATERIAL	FRAME	FINISH	DAMPER	THROW	NC	CFM RANGE	NOTES
SUPPLY AIR											
A	TITUS / TMSA-AA	24x24	PER FLEX	ALUM.	LAY-IN	OFF WHITE	OBD	VERTICAL	MAX. 30	SEE SCH.	1,2,3,4,5,6
B	TITUS / TMSA-AA	12x12	PER FLEX	ALUM.	LAY-IN	OFF WHITE	OBD	SEE NOTE #2	MAX. 30	SEE SCH.	1,2,3,4,5,6
C	TITUS / 300FS	24x6	24x6	ALUM.	FLUSH	OFF WHITE	OBD	SEE	MAX. 30	SEE SCH.	1,4,6,12
RETURN AIR											
AA	TITUS / PAR-AA	24x24	SEE SCHEDULE	ALUM.	LAY-IN	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	3,4,6,7
BB	TITUS / 350FL	24x24	24x24	ALUM.	LAY-IN	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	3,4,6
CC	TITUS / 350FL	30x6	30x6	ALUM.	LAY-IN	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	3,4,6

(*) EQUIVALENT MANUFACTURER: PRICE, METALAIR, CARNES, T & B, NAOR

- GENERAL NOTES:**
- PROVIDE SPIN-IN COLLAR WITH VOLUME DAMPER AT TRUNK TO FLEX DUCT CONNECTION (SEE DETAIL).
 - PROVIDE TYPICAL 4-WAY DIFFUSION, 2-WAY, 3-WAY OR VERTICAL ONLY WHERE INDICATED ON PLANS.
 - REFER TO ARCHITECT PLANS FOR CEILING TYPE.
 - FINAL COLOR SELECTION SUBJECT TO ARCHITECT APPROVAL.
 - FLEX DUCT SIZE TO BE SAME AS DIFFUSER NECK SIZE.
 - CONTRACTOR TO COORDINATE FINAL SELECTION WITH ARCHITECT AND OWNER
 - DOUBLE DEFLECTION, FRONT BLADES PARALLEL TO SHORT (VERTICAL) DIMENSION

TITUS PAR-AA SCHEDULE				FLEX SCHEDULE	
NECK SIZE	CFM RANGE	NECK SIZE	CFM RANGE		
6X6	0-200 CFM	15X15	0-1000 CFM	6"	50-125 CFM
8X8	0-350 CFM	16X16	0-1300 CFM	8"	130-200 CFM
10X10	0-540CFM	18X18	0-1350 CFM	10"	205-330 CFM
12X12	0-700 CFM	22X22	0-2000 CFM	12"	335-450 CFM
				14"	455-700 CFM

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PREPARED BY: **MIRCEA PELLA**
FLORIDA P.E. NO 48788

REVISIONS	
NO.	DATE



CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT
HILLSBORO WATER STORAGE TANK,
ADMINISTRATION BUILDING AND GREENWAY DESIGN

CONTRACT DOCUMENTS
UTILITIES & ENGINEERING BUILDING
MECHANICAL SCHEDULES

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DATE: **DECEMBER 2007**
H-6 SHEET 73 OF 122
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PROJECT MANAGER: NEYENA PARSONS

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Mircea Pella Florida License #48788 12/07/07



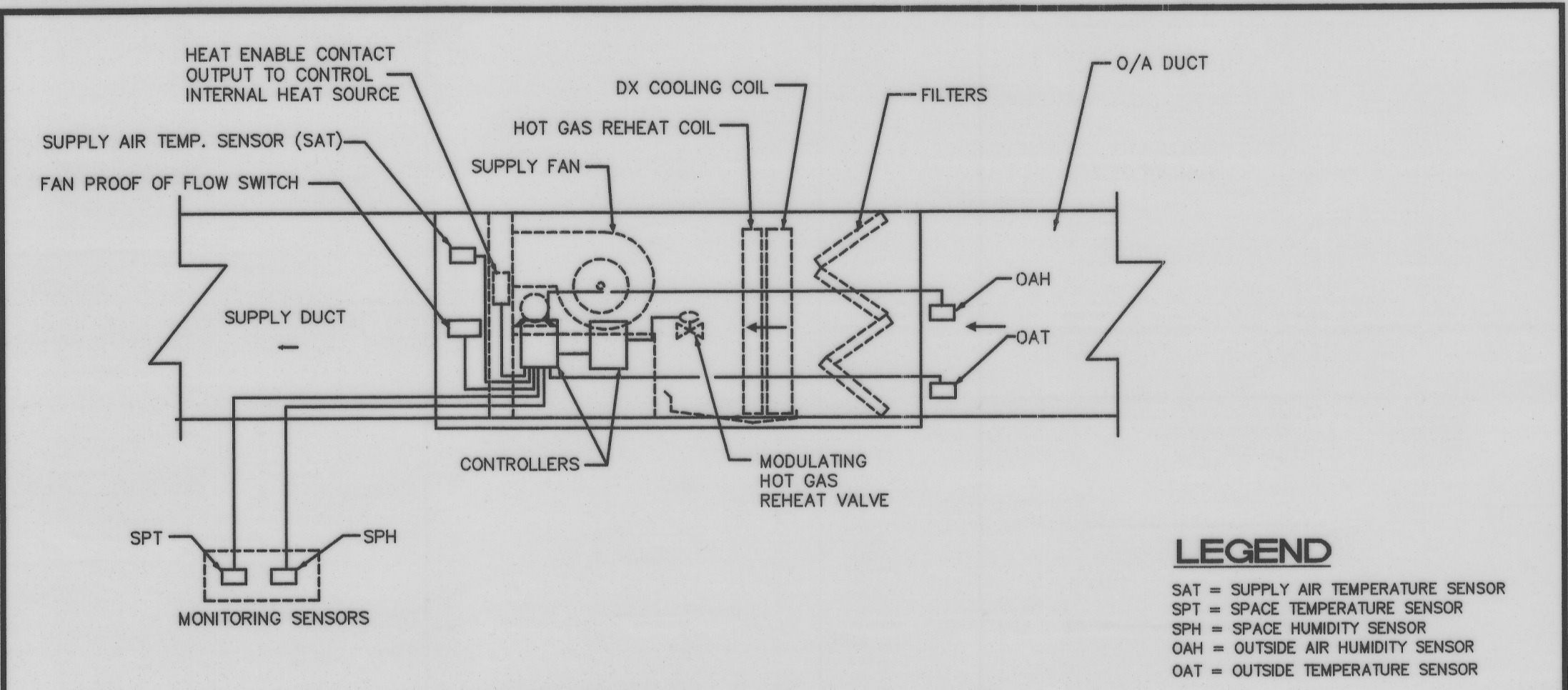
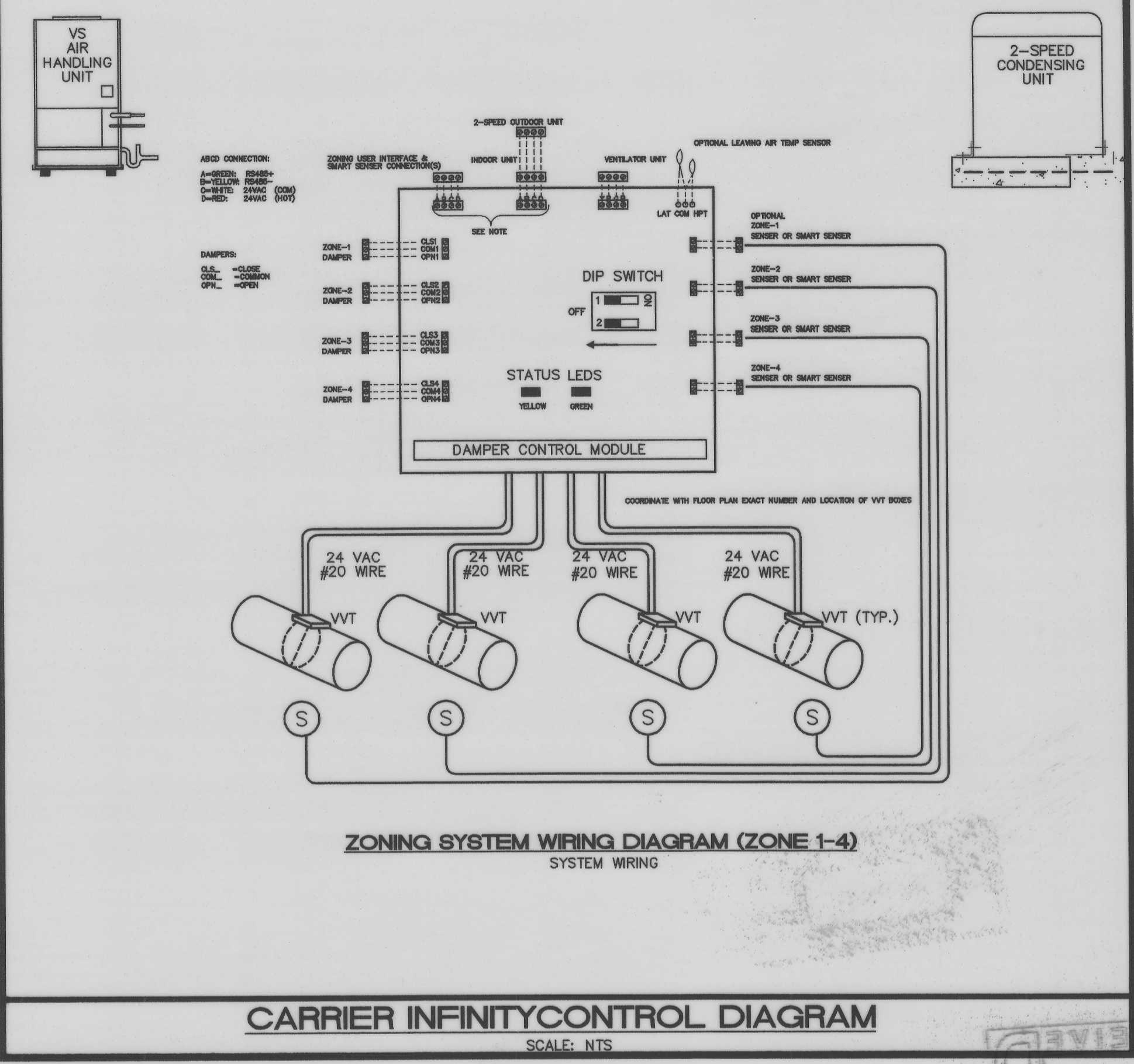
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100% O/A AAON AIR CONDITIONING SPLIT SYSTEM SCHEDULE

CONDENSING UNIT															
CU TAG	MANUFACTURER & MODEL	NOMINAL TONNAGE	CAP. STAGES	(S)EER/IPLV	REFRIG./LBS	LIQ./SUCT.	NO. FANS	FAN FLA(EA)	NO. COMP.	COMP.RLA(EA)	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
CU-6	AAON/CA-08-2;ADA0A0	8.0	2	13.0	-	-	-	-	1	-	208/3/60	35/45	750	-	SEE NOTES THIS SHEET

AIR HANDLING UNIT																
AHU TAG	MANUFACTURER & MODEL	TOTAL MBH	SENSIBLE MBH	TOTAL CFM	O/A CFM	E.S.P.(\"W.G.)	ENT. DB/WB	LEAV. DB/WB	ROWS/FPI	FAN HP/FLA	HEATER KW	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
AHU-6	AAON/000ADAADAO	84.8	37.5	1,200		.75	91/79	56/54	6/12	1/3.4	10.5	208/3/60	42/45	385	52X42X18	SEE NOTES THIS SHEET

COORDINATION NOTE:
MECHANICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS AND ACCESSORIES WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASING AND INSTALLATION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF ENGINEER



SEQUENCE OF OPERATION

SET-BACK MODE:
IN THIS MODE THE CONTROLLER WILL RESET THE HVAC UNIT COOLING, HEATING, DEHUMIDIFICATION MODES USER CONFIGURED. THE MUA II CONTROLLER WILL REMAIN IN THE SET-BACK MODE OF OPERATION BASED ON A TIME SCHEDULE AS DETERMINED BY USER.

OCCUPIED MODE:

COOLING MODE:
WHEN THE SPACE AIR TEMPERATURE RISES ABOVE THE COOLING SETPOINT, THE CONTROLLER WILL PLACE THE HVAC UNIT INTO THE COOLING MODE. THE SPACE COOLING SETPOINT SHALL BE MAINTAINED AT 74° (SPT) PLUS A COOLING DEADBAND OF A MAX OF 2°F. ONCE IN THE COOLING MODE, THE CONTROLLER WILL BRING ON THE HVAC UNIT COLLING STAGES TO MAINTAIN THE SPT AT ITS SETPOINT.

HEATING MODE:
WHEN THE SPACE AIR TEMPERATURE FALLS BELOW THE HEATING SETPOINT, (65°F,ADJUSTABLE) THE CONTROLLER WILL PLACE THE HVAC UNIT INTO THE HEATING MODE. THE HEATING SETPOINT WILL MAINTAIN HEATING DEADBAND OF 2°F. ONCE IN THE HEATING MODE, THE CONTROLLER WILL CLOSE A CONTACT TO ENABLE THE HEATER TO MAINTAIN THE SPT AT ITS SETPOINT.

DEHUMIDIFICATION MODE:
REGARDLESS OF SPACE TEMPERATURE, WHENEVER THE SPACE (SPH) HUMIDITY LEVEL RISES ABOVE THE (SPH) SETPOINT. THE CONTROLLER WILL BRING ON HVAC UNIT INTO DEHUMIDIFICATION MODE. ONCE IN THE DEHUMIDIFICATION MODE, THE CONTROLLER WILL BRING ON HVAC UNIT COLLING STAGES BASED ON THE CALCULATED OUTDOOR AIR ENTHALPY IN REFERENCE TO THE OUTDOOR AIR ENTHALPY SETPOINT AND OUTDOOR AIR ENTHALPY DEADBANDS.

REHEAT CONTROL:
DURING DEHUMIDIFICATION MODE THE REHEAT CONTROL WILL BE ACTIVATED TO MAINTAIN THE SPT SETPOINT. THE CONTROLLER WILL MODULATE HOT GAS REHEAT VALVE TO CONTROL THE HVAC UNIT TO MAINTAIN THE SPT SETPOINT

THE AAON CONTROLLER:
SHALL BE CAPABLE TO BE PROGRAMMED FOR A SEVEN DAY PERIOD WITH NIGHT SET-BACK MODE, WORKDAY AND WEEKEND SCHEDULE. ALL SETPOINTS SHALL BE FIELD ADJUSTABLE TO ALLOW FOR TWO SETS OF SPACE CONDITIONS DEPENDING ON THE TYPE OF SPACE ACTIVITY.

MECHANICAL CONTROL DIAGRAM FOR 100% O/A AAON UNIT

- Specification Notes for 100% O/A AAON SPLIT SYSTEM
- Provide the following features:
1. Basis of design is AAON; acceptable alternate manufacturers are Addison, Munters Dectron, DesChamps, and Desert Aire. Any alternate manufacturer must provide ALL of the features listed below. The contractor is responsible for coordinating all dimensional, weight and electrical changes.
 2. Unit shall be UL or ETL listed and labeled by the final point of manufacture or modification. If the contractor supplies a unit in violation to this, they will be responsible to have each individual unit field inspected and labeled by UL at no cost to the owner.
 3. Provide G90 galvanized steel and the unit exterior coated to exceed the 2,000 hour salt spray test in accordance with ASTM B 117-95 procedures. If the manufacturer's coating process does not meet this requirement, the contractor shall have the entire cabinet coated with Adal.
 4. Provide the interior cabinet with a minimum of 1" 1.5# black mat insulation.
 5. The unit shall have Scroll Compressors with independent refrigerant circuits. Refrigerant circuits shall include liquid line filter driers, TXV, crankcase heaters, high and low pressure cutouts and Schrader service fittings on the high and low pressure sides of the system.
 6. Provide a single point power connection with phase and brown out protection.
 7. Provide a factory mounted and wired molded case disconnect switch.
 8. Provide a factory installed and field wired 115V, 15 amp GFI outlet.
 9. Provide time clock control and motor overload and thermal protection.
 10. Provide a 2" filter rack and 30% pleated filters.
 11. Provide a double sloped and pitched - 304 stainless steel drain pan under the cooling coil.
 12. Provide a cooling coil with a MINIMUM of 6-rows for dehumidification.
 13. Provide hot gas by-pass & Modulating hot gas reheat coil - factory mounted, piped and tested.
 14. Provide controllable Modulating hot gas reheat with space temperature reset of the discharge set-point.
 15. Provide an electric heating coil with 2-step control, fuses and resettable high temperature limit switch.
 16. Provide forward curved (FC) fans supplied by the manufacturer shall have fan wheel and assembly coated with adal or baked phenolic.
 17. The FC wheel will be rebalanced after the coating process as required.
 18. Provide copper tube / aluminum finned condenser coils with baked phenolic or Adal cooling.
 19. Provide a factory five year compressor parts warranty.
 20. Provide a Unit Controller with a programmable 365 day scheduler and holiday scheduling stored in a non-volatile EPROM memory. The controller must contain logic for cooling, heating and dehumidification. Controller shall be mounted in the designated area. Contractor shall coordinate final Controller location w/ owner prior final installation.
 21. Provide dehumidification control that stages the compressors based on outside air enthalpy and supplies discharge air based on supply air temperature (adjustable modulating hot gas reheat). The supply air set-point will automatically be reset based on a space temperature reset sensor.
 22. Provide service clearances per manufacturer's recommendations.
 23. Provide time clock control and motor overload and thermal protection.

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CITY OF COCONUT CREEK
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HILLSBORO WATER STORAGE TANK,
ADMINISTRATION BUILDING AND GREENWAY DESIGN

CONTRACT DOCUMENTS

UTILITIES & ENGINEERING BUILDING
MECHANICAL SCHEDULES AND CONTROLS

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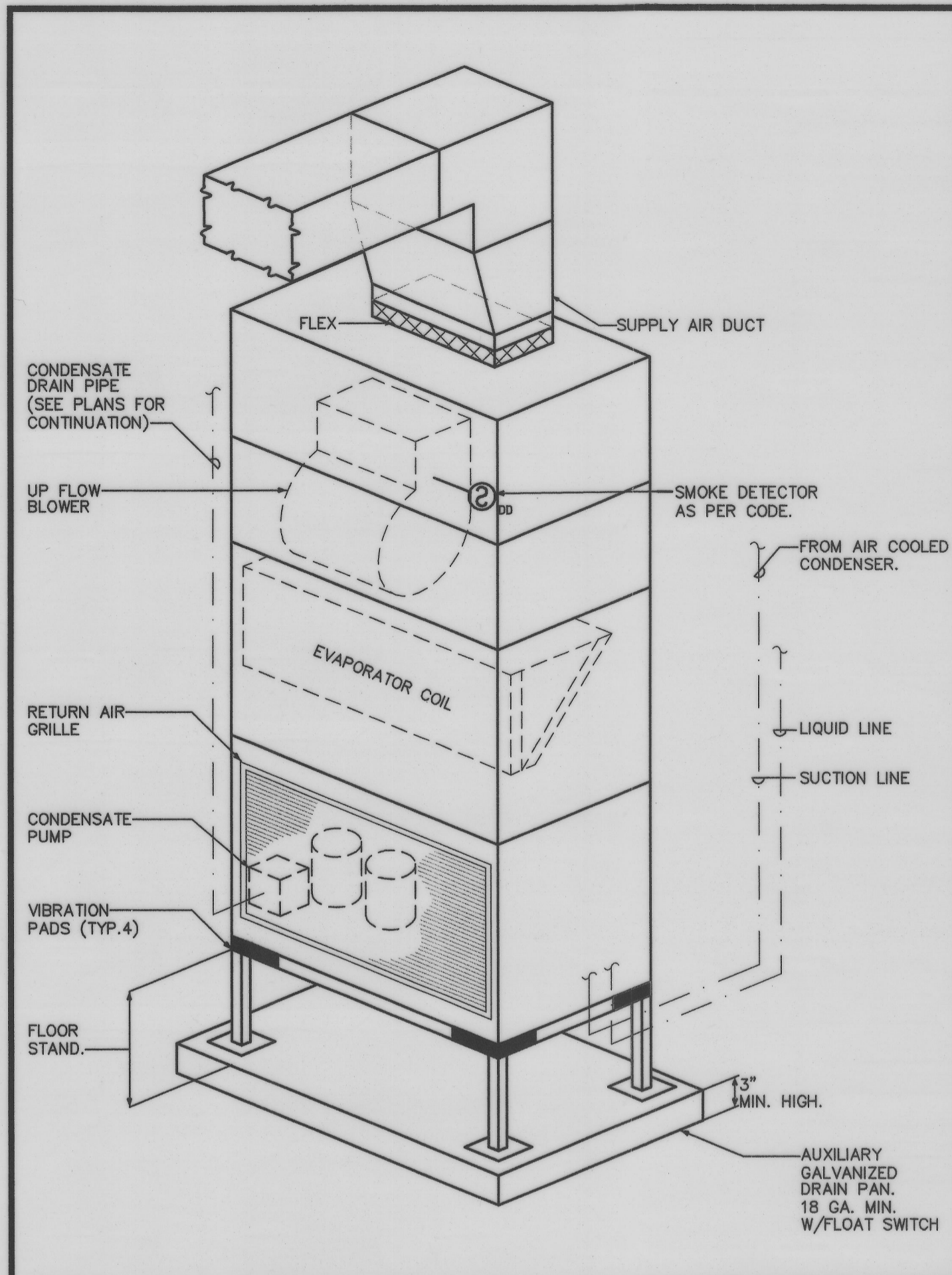
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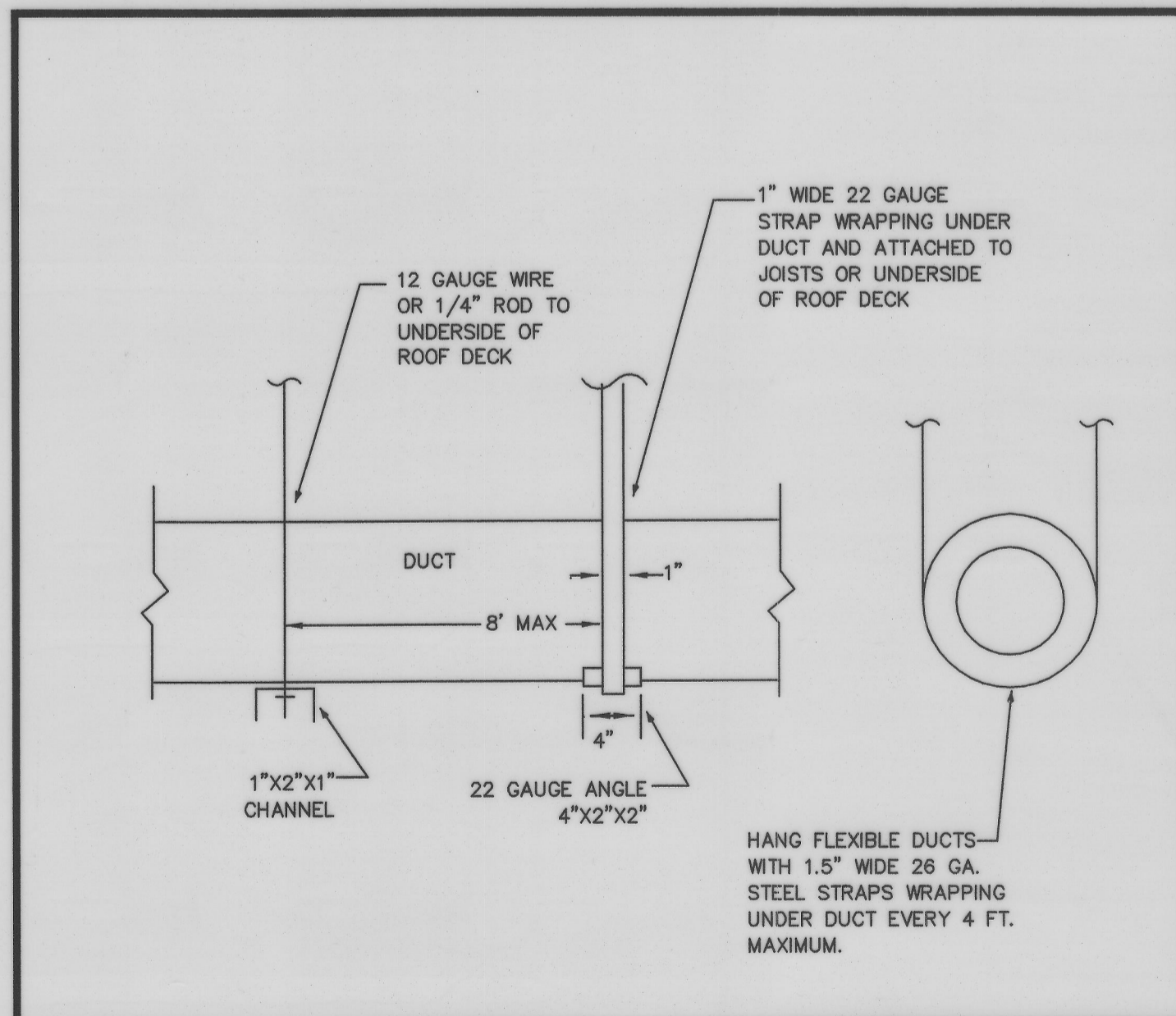
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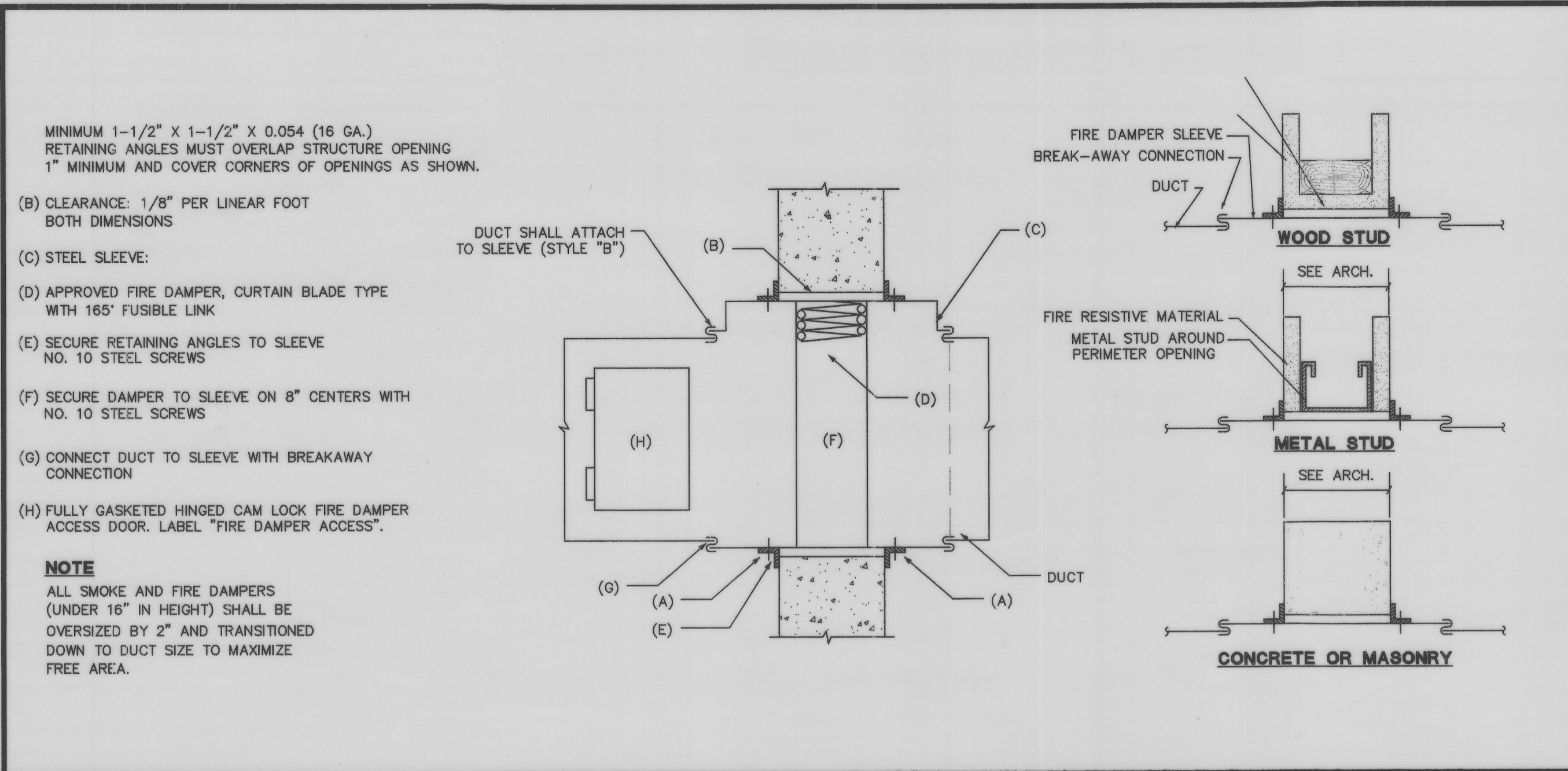
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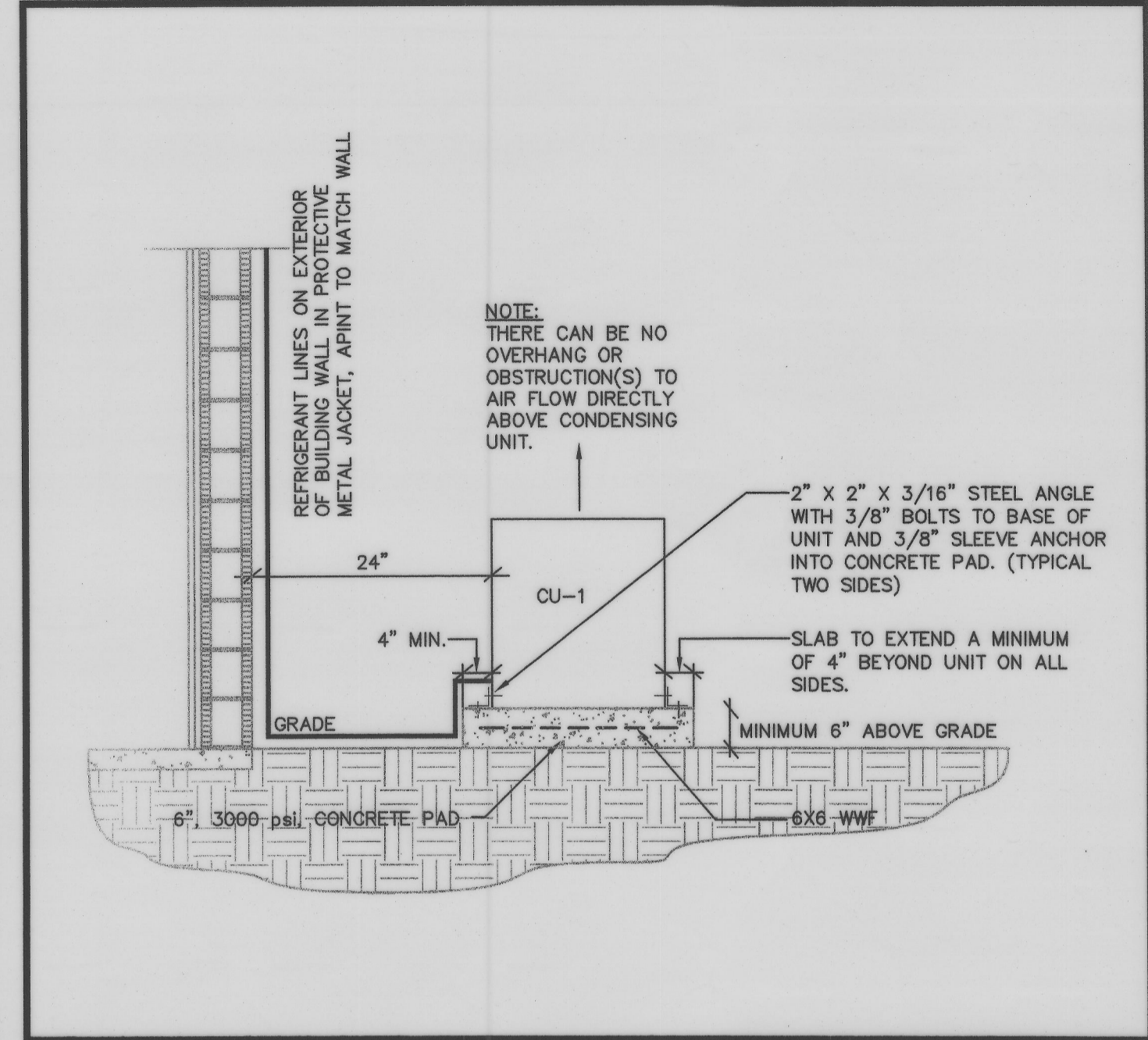
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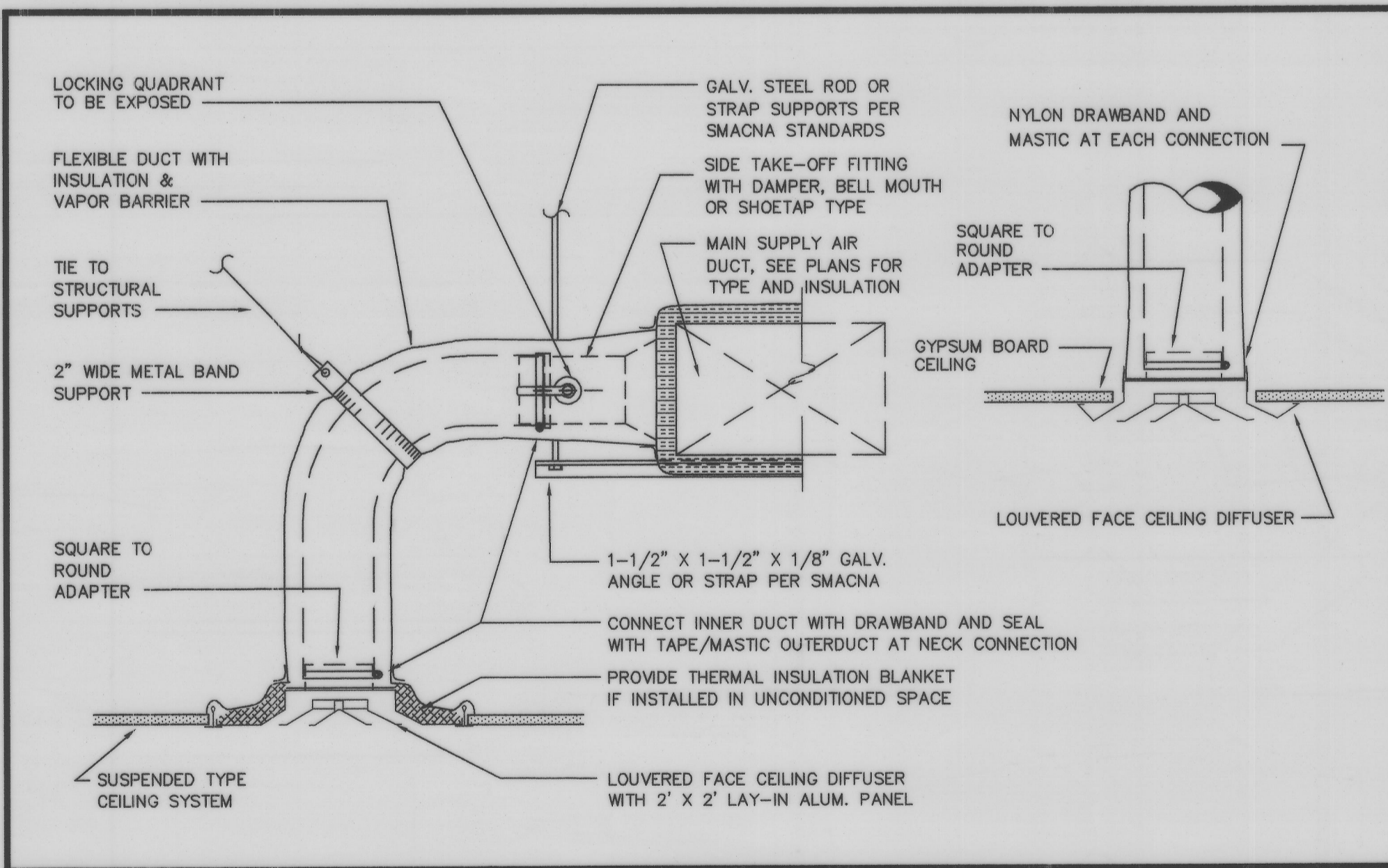
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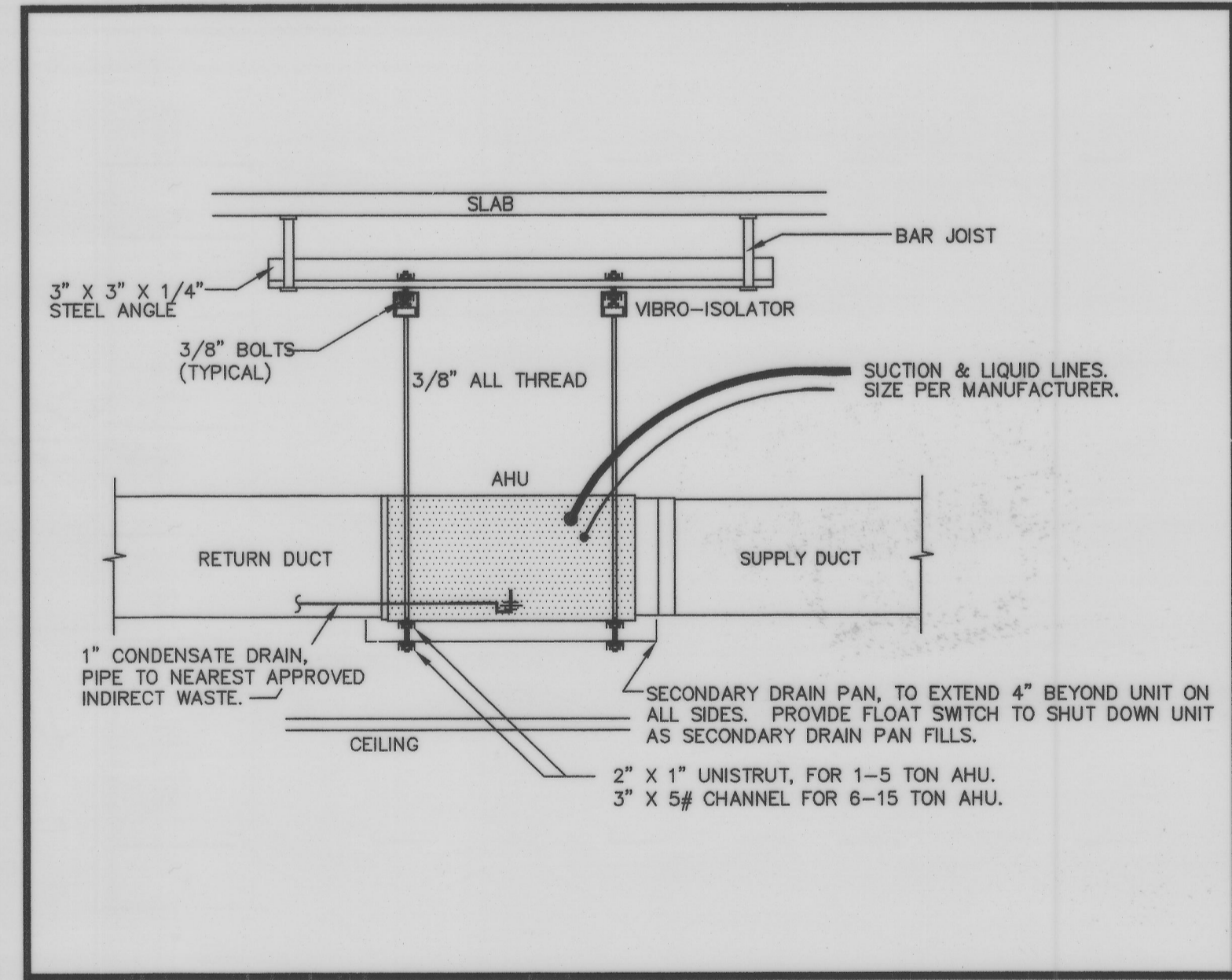
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NOT TO SCALE



CONDENSING UNIT MOUNTING DETAIL
NOT TO SCALE



TYPICAL DIFFUSER DETAIL
NOT TO SCALE



HORIZONTAL AHU MOUNTING DETAIL
NOT TO SCALE



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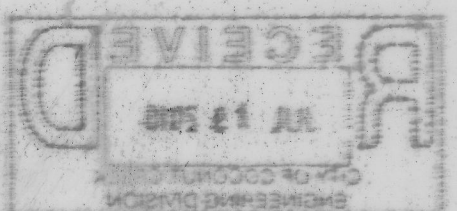
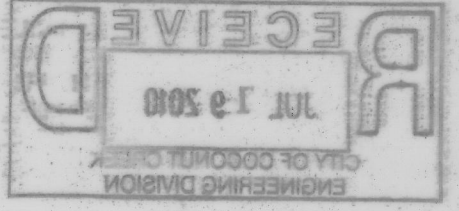
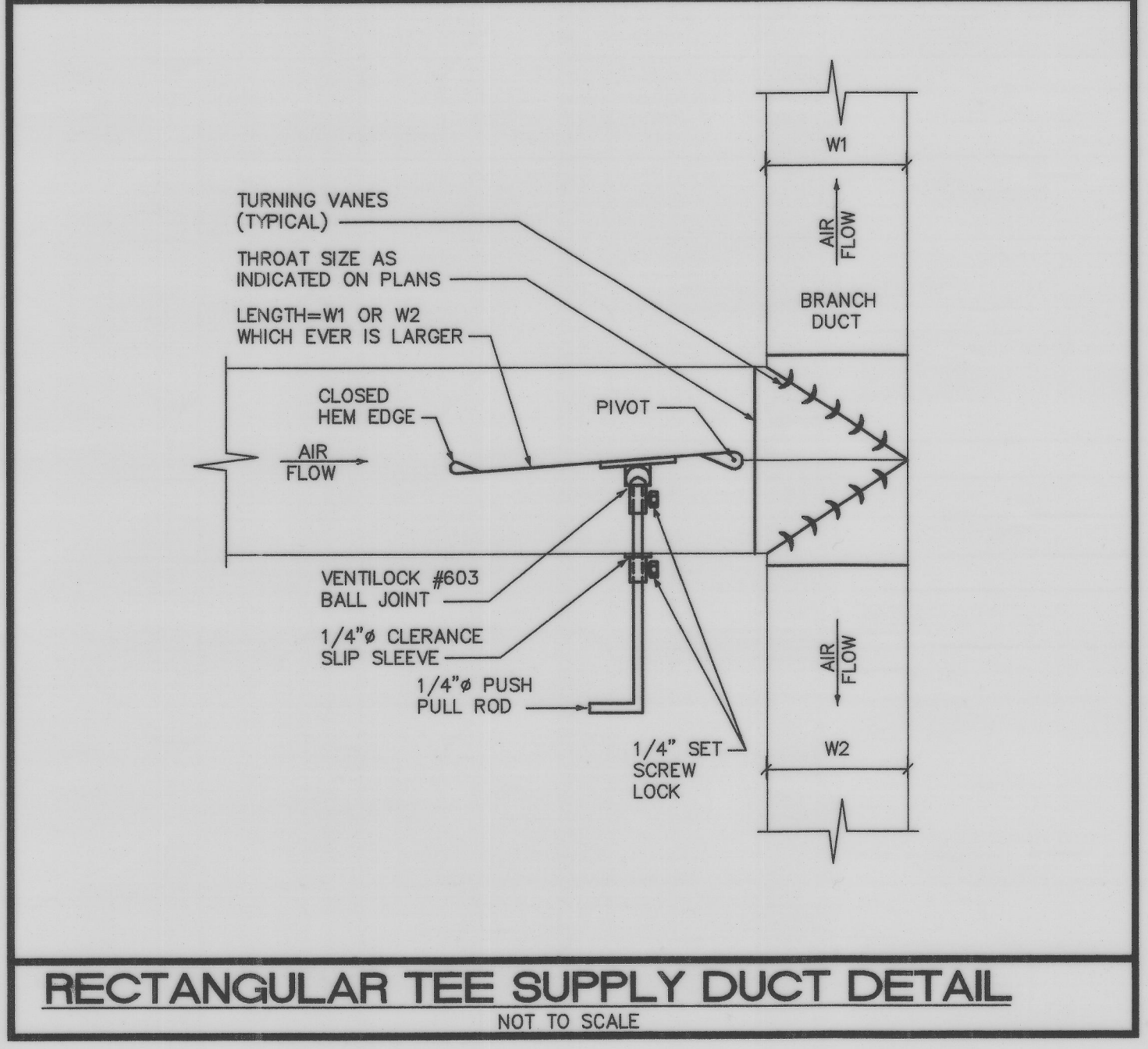
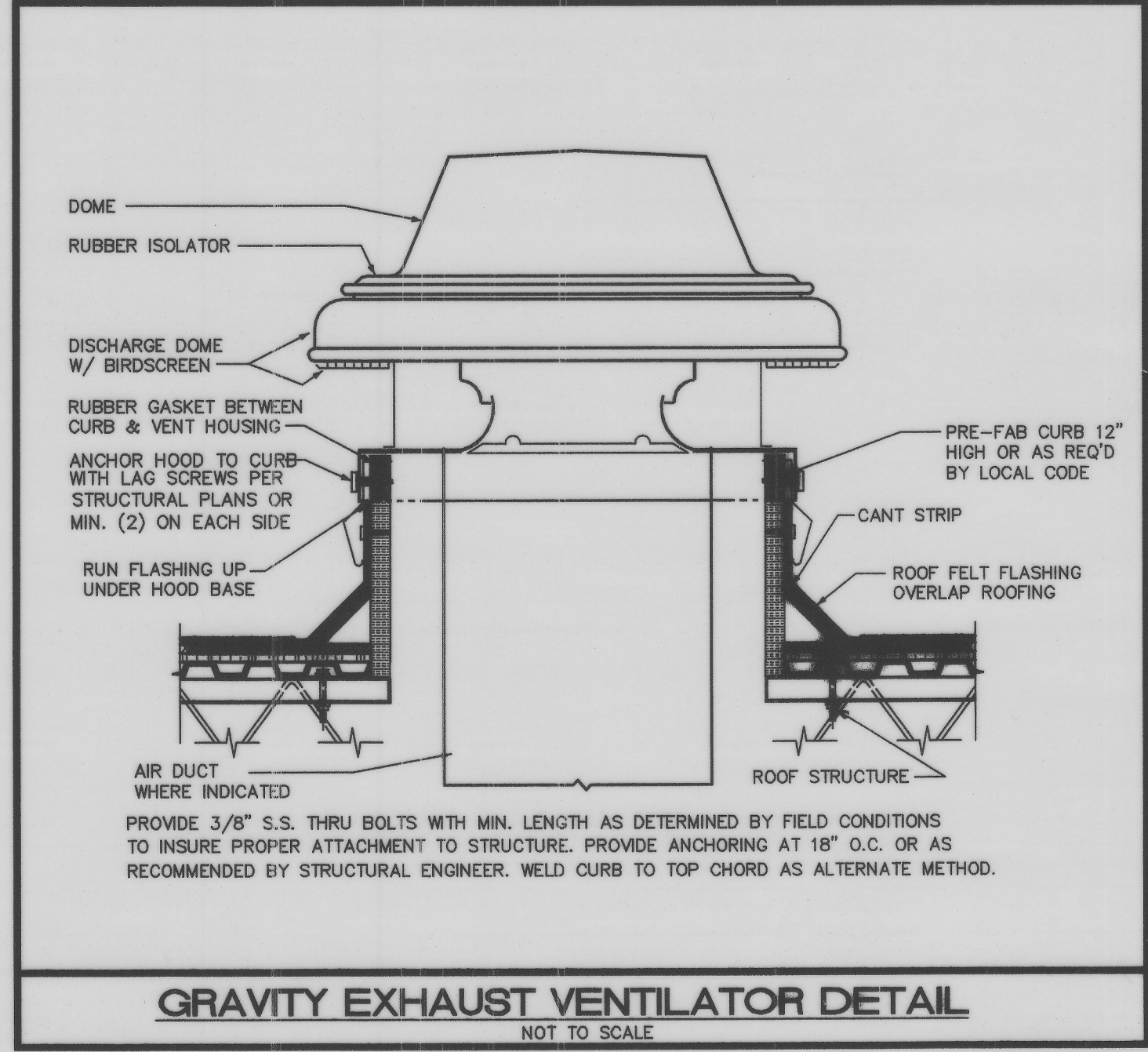
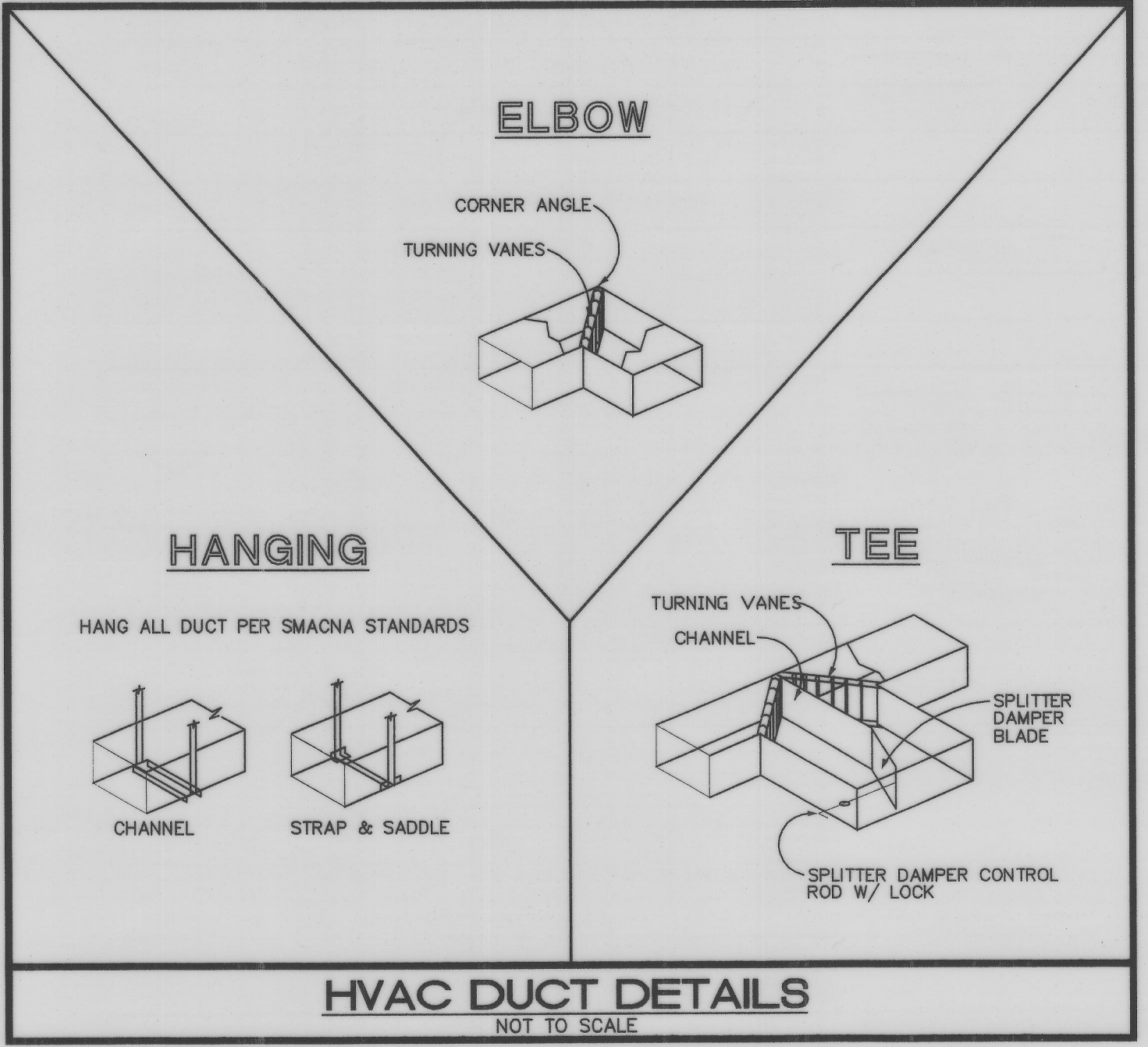
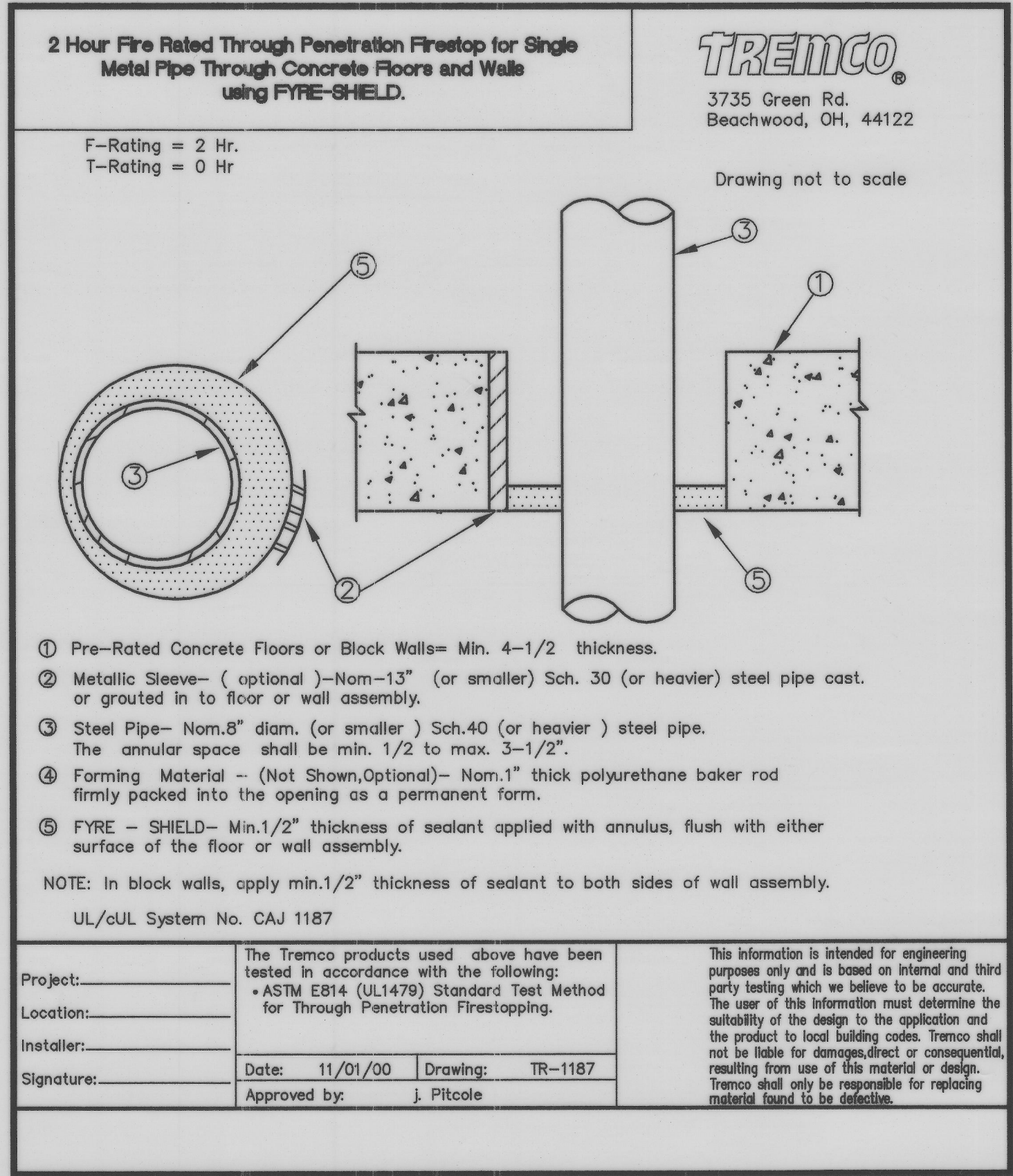
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DWN NP
CKD MP



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