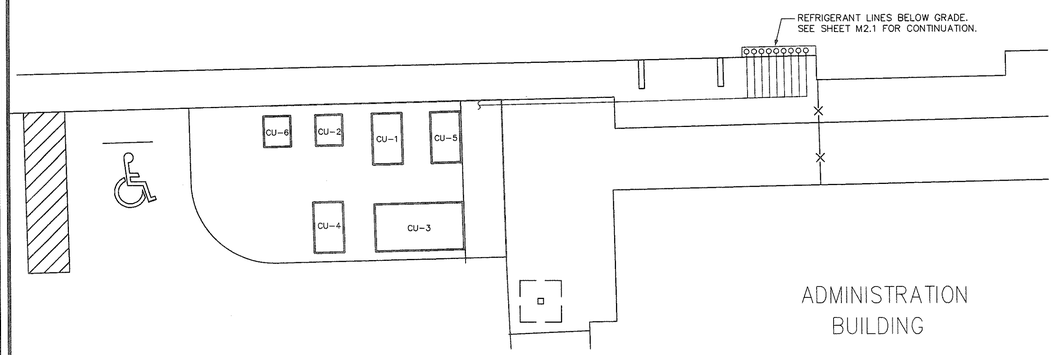

PARTIAL MECHANICAL SITE PLAN
NOT TO SCALE

VENTILATION LEGEND

- SUPPLY AIR CEILING DIFFUSER
- RETURN AIR CEILING GRILLE
- WALL LOUVER – EXHAUST
- F.D. FIRE DAMPER
- FSD FIRE SMOKE DAMPER
- VOLUME CONTROL DAMPER
- EF EXHAUST FAN
- T THERMOSTAT
- DD DUCT SMOKE DETECTOR
- M MOTORIZED DAMPER
- REDUCER
- NEW DUCT WORK
- EXISTING DUCTWORK
- O/A OUTSIDE AIR (O/A) DUCTWORK
- NEW FLEX DUCT
- NEW RETURN DUCTWORK
- NEW SUPPLY DUCTWORK
- NEW EXHAUST DUCTWORK
- NEW (OTHER) DUCTWORK
- EXISTING RETURN DUCTWORK
- EXISTING SUPPLY DUCTWORK
- EXISTING EXHAUST DUCTWORK
- EXISTING (OTHER) DUCTWORK

HVAC ABBREVIATION LEGEND

AFF	ABOVE FINISH FLOOR	F/A	FRESH AIR
AHU	AIR HANDLING UNIT	GPM	GALLONS PER MINUTE
CD	CONDENSATE DRAIN	GR	GRILLE
CD	CEILING DIFFUSER	MCA	MINIMUM CIRCUIT AMPS (FOR WIRE SIZING)
CU	CONDENSING UNIT	MOCP	MAXIMUM OVERCURRENT PROTECTION DEVICE AMPS
EWT	ENTERING WATER TEMPERATURE	LWT	LEAVING WATER TEMPERATURE
EAG	EXHAUST AIR GRILLE	R/A	RETURN AIR
EF	EXHAUST FAN	REG	REGISTER
EXH	EXHAUST	SP	SAFE PAN
FSD	FIRE SMOKE DAMPER	VCD	VOLUME CONTROL DAMPER
AD	ACCESS DOOR	RAG	RETURN AIR GRILLE
FD	FIRE DAMPER	SAR	SUPPLY AIR REGISTER
		O/A	OUTSIDE AIR

VENTILATION SHEET INDEX

V.1	VENTILATION NOTES, LEGENDS & SITE PLANS	1	.
V.2	1ST FLOOR VENTILATION PLAN	1	.
V.3	2ND FLOOR VENTILATION PLAN	1	.
V.4	VENTILATION SCHEDULES	1	.
V.5	VENTILATION DETAILS	1	.
V.6	VENTILATION DETAILS	1	.

VENTILATION NOTES

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE APPLICABLE BUILDING CODE AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS; SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B-9.1 MECHANICAL REFRIGERATION.
2. THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
3. THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES.
4. THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH "AS-BUILT" DRAWINGS.
5. CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE [5] COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT.
6. 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.
7. ALL AIR CONDITIONING DUCT WORK SHALL BE OF 1-1/2" (R-6) STANDARD DUTY FOIL REINFORCED FIBERGLASS WITH MANUFACTURER'S LOGO PRINTED ON VAPOR BARRIER ALL FLEX TO BE R-6.
8. ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS.
9. DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
10. 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 TITUS, METALAIRE, AIRGUIDE. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS.
11. THERMOSTAT 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.
12. REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER SOLDER-JOINT TYPE FITTINGS, USE 95/5 SOLDER. REFRIGERANT LINES SHALL SIZED AS PER MANUFACTURER RECOMMENDATIONS.
13. ARMAFLEX 3/4" INSULATION SHALL BE USED FOR SUCTION LINES, FILTER/DRYER AND SIGHT GLASS SHALL BE PROVIDED AT LIQUID LINES.
14. ALL BRANCH TAKE-OFFS TO BE PROVIDED W/ MANUAL VOLUME DAMPERS. ALL ELBOWS AND TEE'S MUST BE FURNISHED W/TURNING VANES. PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL FLEX TAKE-OFFS.
15. PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
16. PROVIDE SMOKE DETECTORS WITH ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON PLENUM OF 2000 CFM OR ABOVE. ALL SMOKE 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.
17. PROVIDE TYPE "B" FIRE DAMPERS IN ALL DUCTS OR OPENINGS PENETRATING FIRE RATED WALLS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, TENANT SEPARATION, PARTITIONS, FLOOR OR ROOF SLABS AND AT O/A INTAKES. PROVIDE RADIATION RADIATION DAMPERS IN RATED CEILINGS FOR ALL CEILING OPENINGS, CEILING FANS, DIFFUSERS OR GRILLES RATED FOR USE IN THE CEILING ASSEMBLY.
18. HVAC CONTRACTOR SHALL PROVIDE AN INDEPENDENT (FOR SYSTEMS OVER 15 TONS) T & B REPORT 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.
19. THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEERS BEFORE INSTALLATION.
20. RUN INSULATED FIRE RATED CONDENSATE DRAINS AS REQUIRED.
21. ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
22. PROVIDE A MIN. OF 3' CLEARANCE IN FRONT OF ALL 120-240 VOLT PANELS AND 4' CLEARANCE IN FRONT OF ANY 480 VOLT PANEL. PROVIDE ADEQUATE SIDE CLEARANCE PER NEC.
23. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH. PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
24. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT.
25. NO COMBUSTIBLE MATERIALS ARE ALLOWED IN RETURN AIR PLENUMS OR ABOVE CEILINGS USED AS RETURN AIR PLENUM. IF SPACE WITH RETURN AIR PLENUM HAS ANY DECK TO DECK PARTITIONS, AIR TRANSFER DUCTS MUST BE INSTALLED.
26. CONDENSATE DRAIN PIPING TO BE TYPE "L" COPPER WITH 1" THICK INSULATION. SUPPLY CONDENSATE PUMP FOR EACH FAN COIL UNIT AND PIPE TO EXISTING CONDENSATE DRAIN.

RECORD DRAWING
6/2003

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3077 E. COMMERCIAL BLVD. SUITE 201
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771-2724 FAX 776-4280

NO.	DATE	ISSUED FOR	BY
3	6-13-03	RECORD DRAWING	K.A.P.
2	5-10-00	AS BID	H.J.V.
1	4-0-00	BIDDING	HJV

DESIGNED DF
DRAWN DF
CHECKED KAMM
PROJ. ENGR. H.J.V.

KAMM CONSULTING PROJECT #: 99428
PROJECT MANAGER: DARIN FRICK

KAMM Consulting
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Lon T. Carter Florida License #35249 date
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SCALE 1/8"=1'-0"

CONTRACT: –
CLIENTS PROJECT: –
ENGINEERS PROJECT: 40162
CAD REFERENCE: 9428M2-1

CITY OF POMPANO BEACH

10 MGD MEMBRANE FILTRATION W.T.P.

MF PROCESS BUILDING
VENTILATION NOTES

DATE: APRIL 2000
SHEET: 229 OF 242
DRAWING: V-1

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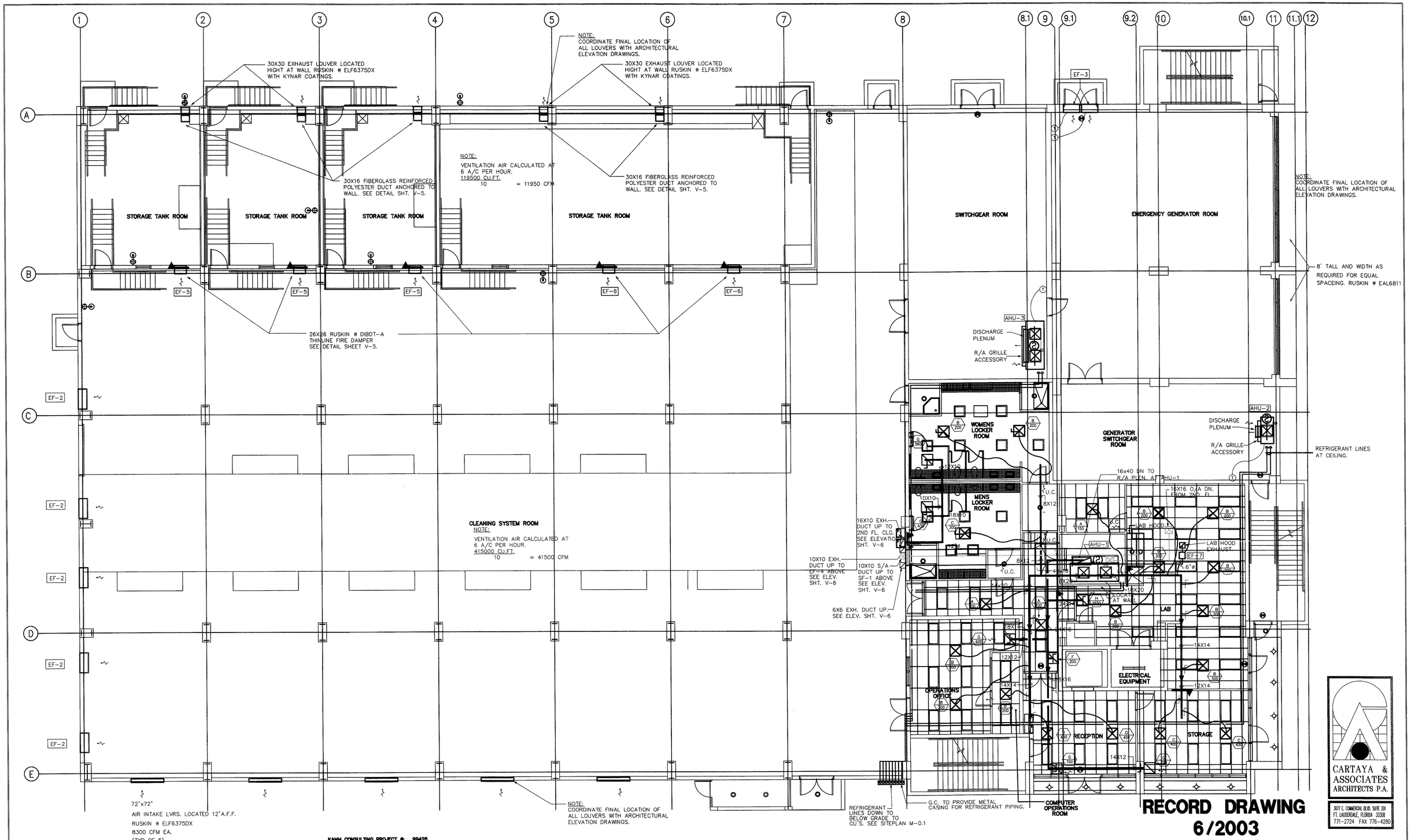

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SCALE 1/8"=1'-0"

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CITY OF POMPANO BEACH
10 MGD MEMBRANE FILTRATION W.T.P.

MF PROCESS BUILDING
FIRST FLOOR
VENTILATION PLAN

DATE: APRIL 2000
SHEET: 230 OF 242
DRAWING: V-2

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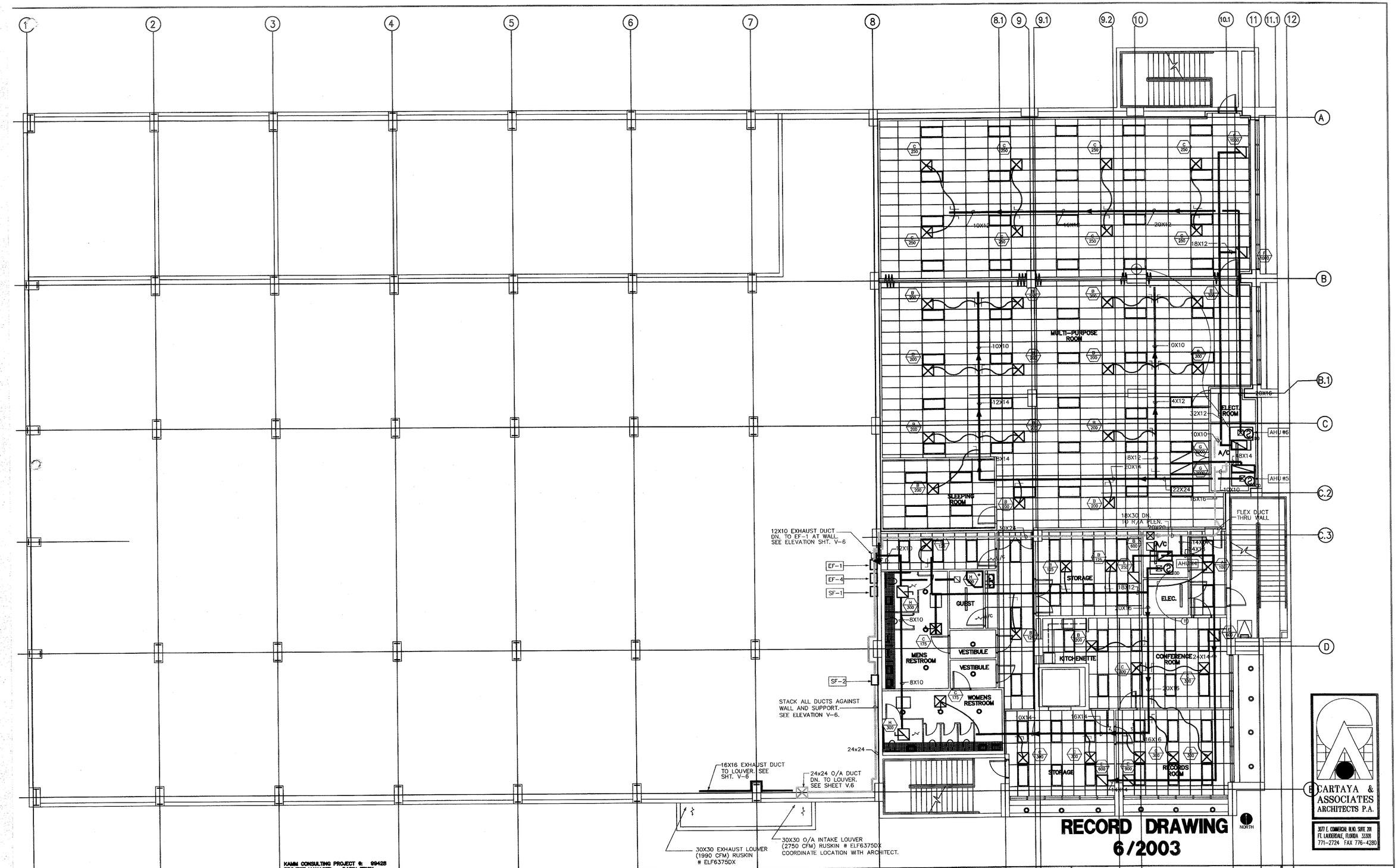

RECORD DRAWING
6/2003

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PROJECT MANAGER: DARIN FRICK

RECORD DRAWING	K.A.P.	
AS BID	H.J.V.	
BIDDING	HJV	
ISSUED FOR	BY	

DESIGNED DF
DRAWN DF
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SCALE 1/8"=1'-0"

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CLIENTS PROJECT: –
ENGINEERS PROJECT: 40162
CAD REFERENCE: 9428M2-1

CITY OF POMPANO BEACH
10 MGD MEMBRANE FILTRATION W.T.P.

MF PROCESS BUILDING
SECOND FLOOR
VENTILATION PLAN

DATE: APRIL 2000
SHEET: 231 OF 242
DRAWING: V-3

AIR CONDITIONING SPLIT SYSTEM EQUIPMENT 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-1	CARRIER/38AKS014	12.5	1	9.9	R22/23	5/8"/1-3/8"	2	2.3/1.9	1	22.1	460V/3ø	31.7/50	780	76"X41"X40"	1-12
CU-2	CARRIER/38CKC060	5.0	1	9.9	R22/10	3/8"/1-1/8"	1	1.9	1	9.0	460V/3ø	12.1/15	213	30"X30"X35"	1-12
CU-3	CARRIER/38AKS034	30.0	3	8.5	R22/43.5	1/8"/2-1/8"	2	3.1	2	50.0	460V/3ø	68.7/110	1803	127"X64"X51"	1-12
CU-4	CARRIER/38AKS009	8.5	1	9.0	R22/23	5/8"/1-3/8"	1	1.4	1	19.9	460V/3ø	26.3/35	564	45"X41"X20"	1-12
CU-5	CARRIER/38AKS008	7.5	1	9.9	R22/22	5/8"/1-3/8"	1	1.4	1	15.7	460V/3ø	21/25	510	45"X41"X20"	1-12
CU-6	CARRIER/38AK007	6.0	1	9.8	R22/22	1/2"/1-1/8"	1	1.0	1	9.5	460V/3ø	12.9/15	340	45"x41"x20"	1-12

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 QTY/HP/FLA	HEATER KW	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
AHU-1	CARRIER/40RM014	142.7	114.0	5000	1150	.5	80/67	56/55	3/15	2.7/3.4	20	460V/3ø	24.1/50	670	83"X28"X56"	1-13
AHU-2	CARRIER/FB4AN	55.4	45.8	1800	–	.2	80/67	56/55	3/15	3/4/5.4	–	208V/1ø	6.8/15	175	22"X21"X53"	1-13
AHU-3	CARRIER/40RM034	342.3	292.2	14900	–	1.0	80/67	56/55	3/15	10/13.4	–	460V/3ø	16.8/30	1030	99"X32"X65"	1-13
AHU-4	CARRIER/40RM012	111.9	87.9	3950	600	.75	80/67	56/55	3/17	2.4/2.6	9.2	460V/3ø	18.3/20	405	49"x28"x56"	1-13
AHU-5	CARRIER/40RM008	91.7	70.4	3000	400	.6	80/67	56/55	3/15	2.4/2.6	9.2	460V/3ø	18.3/20	385	49"x28"x56"	1-13
AHU-6	CARRIER/40RM007	61.9	51.1	2000	300	.5	80/67	56/55	3/15	1/2.4/5.8	9.2	460V/3ø	18.3/20	385	49"x28"x56"	1-13

NOTES:
1. UNITS RATED PER ARI 210, 240 AND 270, APPROVED EQUAL: AAON, CARRIER, LENNOX, RHEEM, RUUD, TRANE, YORK
2. PROVIDE WITH THERMAL EXPANSION VALVES, LIQUID LINE FILTER DRYER AND MULTI-USE SERVICE VALVES
3. PROVIDE COMPRESSOR WITH CRANKCASE HEATER AND MIN. 5-YEAR WARRANTY
4. PROVIDE HIGH AND LOW PRESSURE CONTROL AND OVER TEMPERATURE PROTECTION.
5. PROVIDE WEATHERPROOF ELECTRIC CONTROLS AND SINGLE SIDE SERVICE ACCESS
6. PROVIDE SINGLE POINT POWER ENTRY AND HEAVY DUTY NICKEL-CHROMIUM ELEMENT HEATER
7. PROVIDE 2" THROWAWAY FILTER MIN. 30% EFF. AND VIBRATION ISOLATION
8. PROVIDE FULL FACE ACTIVE, INTERTWINED COIL FOR MULTIPLE CIRCUIT SYSTEM
9. PROVIDE COASTAL CORROSION PROTECTION FOR CONDENSING UNIT BY MANUFACTURER
10. PROVIDE MAX. REFRIGERANT RUN 100 FEET. FOR LONGER RUNS SEE MANUFACTURER FOR RECOMMENDED SIZES.
11. PROVIDE FACTORY MOUNTED DISCONNECT/STARTER OR BY ELECTRICAL DIV. 16, COORDINATE PRIOR TO PURCHASING
12. PROVIDE FACTORY THERMOSTAT TO MATCH CAPACITY STAGES .
13. PROVIDE DISCHARGE PLENUM, R/A GRILLE AND SUBBASE ACCESSORIES.
13. INSTALL DUCT SMOKE DETECTOR AS SHOWN ON PLAN. DETECTOR SHALL BE SUPPLIED & WIRED BY ELECTRICAL CONTRACTOR.

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

TAG	SERVICE	DESIGN BASE			FAN			MOTOR DATA				WEIGHT	DIMENSIONS/ WALL OPENING (L"xW"xH")	NOTES
		MANUF.	MODEL	CONFIG.	CFM	ESP	SONES	HP/WATTS	RPM	VOLTAGE	DRIVE	(LBS.)		
EF-1	TOILETS	GREENHECK	BSQ130-3	INLINE	1690	.375"	13.0	1/3 HP	1420	120/1ø	BELT	110	21x21x21	1-4,6-11
EF-2	CLEANING SYS. ROOM	GREENHECK	SB-1L30-5	SIDEWALL PROPELLER	8300	.25"	22	3/4 HP	650	460/3ø	BELT	100	38X38X18 W.O.	3-5,8
EF-3	EMERGENCY GEN. ROOM	GREENHECK	SB-2L30-15	SIDEWALL PROPELLER	10000	.3"	17.2	1-1/2" HP	812	460/3ø	BELT	100	38x38x18. W.O.	3-5,8
EF-4	LAB HOOD	GREENHECK	BSQ70-4	INLINE	300	.25"	2.4	1/4 HP	1870	120/1/60	BELT	75	21x15X15	2,6,7,9-12
EF-5	STORAGE TANK ROOM	GREENHECK	SB-1L20-4	SIDEWALL PROPELLER	1700	.25"	13.5	1/4 HP	892	120/1/6ø	BELT	60	26X26X18	3,4,8,9,13
EF-6	STORAGE TANK ROOM	GREENHECK	SB-1L20-4	SIDEWALL PROPELLER	2850	.2"	13.5	1/4 HP	892	460/3ø	BELT	60	26X26X18	3,4,8,9,13
EF-7	LAB HOOD	GREENHECK	SQ75-D	INLINE	150	.25"	3.5	1/25 HP	1500	120/1/60	DIRECT	25	13X12X9	2,6,7,9-12
SF-1	LAB HOOD	GREENHECK	BSQ70-4	INLINE	300	.25"	16	1/4 HP	1870	120/1ø	BELT	75	21X15X15	1,2
SF-2	O/A	GREENHECK	BSQ-160	INLINE	2450	.65"	11	3/4HP	1100	460/3ø	BELT	160	26X26X26	2,4,6,7,9,11

APPROVED EQUAL MANUFACRTURER: COOK, PENN, ACME
1. PROVIDE GRILLE COLOR PER ARCH. SPECS
2. PROVIDE BACKDRAFT DAMPER
3. PROVIDE DISCONNECT SWITCH
4. PROVIDE CONTINUOUS OPERATION
5. PROVIDE INLET BIRDSCREEN
6. LOCATE BACKDRAFT DAMPER AT DISCHARGE
7. INLINE FAN CONFIGURATION
8. SIDEWALL FAN CONFIGURATION
9. SUPPORT FROM WALL COMPLETE WITH VIBRATION ISOLATORS
10. PROVIDE UPBLAST CONFIGURATION.
11. PROVIDE MOTOR OUT OF AIR STREAM
12. INTERLOCK WITH HOOD SWITCH.
13. PROVIDE TOTALLY ENCLOSED FAN COOLED MOTOR

GENERAL FAN NOTES:
1. MOTOR STARTERS, DISCONNECTS AND ALL EQUIPMENT NORMAL POWER WIRING BY DIV. 16.
2. FIELD ADJUST OPENINGS WITH STRUCTURE.
3. 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.
4. COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE BIDDING OR ORDERING ANY EQUIPMENT.
5. SEE PROJECT PLANS AND SPECIFICATIONS FOR OTHER FIELD SUPPLIED ITEMS AND ADDITIONAL INFORMATION.

EXTERNAL STATIC PRESSURE CALCULATIONS

UNIT	AHU-1	AHU-2	AHU-3	AHU-4	AHU-5	AHU-6
R/A GRILLE	.02"	.01"	.07"	.04"	.04"	.02"
R/A DUCT	32' @ .05"=.016"	–	–	52' @.05"=.026"	5' @.05"=.0025"	40' @.05"=.02"
R/A FITTINGS	15' @ .05"=.0075"	–	–	80' @ 05"=.04"	–	40' @ 05"=.02"
FINAL FILTER	.10"	.08"	.40"	.17"	.17"	.11"
ELECTRIC HTR	.07"	.04"	–	.17"	.17"	.10"
S/A DUCT	52 '@ .08"=.042"	–	–	60' @ .08"=.048"	90' @ .08"=.072"	100' @ .08"=.08"
S/A FITTINGS	145' @ .08"=.116"	.06"**	.46**	210' @ .08"=.168"	60' @ .08"=.048"	60' @ .08"=.048"
S/A C.D.	.08"	–	–	.08"	.08"	.08"
TOTAL (" WG)	.45"	.19"	1.0	.74"	.58"	.48"

NOTE:
1. ** DISCHARGE PLENUM
2. TO DETERMINE TOTAL STATIC PRESSURE REQUIRED ADD UNIT CASING AND COIL LOSSES PER MANUFACTURER SUPPLIED DATA

AIR DISTRIBUTION SCHEDULE

TAG CFM	MANUFACTURER & MODEL NO.	FACE SIZE	NECK SIZE	CFM RANGE	MATERIAL	FRAME	FINISH	DAMPER	THROW	NOTES
A	TITUS TMS-AA	24x24	6ø"	50 TO 125	ALU.	LAYIN	3	*	*	1-4
B	TITUS TMS-AA	24x24	8ø"	130 TO 200	ALU.	LAYIN	3	*	*	1-5
C	TITUS TMS-AA	24X24	10"ø	205 TO 325	ALU.	LAYIN	3	*	*	1-5
D	TITUS TMS-AA	24X24	12"ø	330 TO 450	ALU.	LAYIN	3	*	*	1-4
E	TITUS TMS-AA	12X12	6"ø	50 TO 125	ALU.	LAYIN	3	*	*	1-4
F	TITUS 355 2FS	12X12	–	205 TO 400	ALU.	LAYIN	3	*	*	1-4
G	TITUS 355 2FS	18X18	–	405 TO 1000	ALU.	LAYIN	3	*	*	3,5
H	TITUS 355 2FS	24X24	–	1000 TO 1500	ALU.	LAYIN.	3	*	*	3
I	TITUS 355 2FS	24X48	–	2000 TO 4000	ALU.	LAYIN.	3	*	*	3

GENERAL NOTES:
1. USE SPIN IN COLLAR WITH VOLUME DAMPER AT TRUNK TO FLEX DUCT CONNECTION (SEE DETAIL).
2. PROVIDE 4-WAY DIFFUSION UNLESS OTHERWISE SHOWN ON PLAN .
3. OFF WHITE (SUBJECT TO ARCHITECT APPROVAL).
4. FLEX DUCT SIZE TO BE SAME AS DIFFUSER NECK SIZE.
5. PROVIDE SURFACE MOUNTED DIIFUSERS ON 1ST & 2ND FLOOR BATHROOMS.

FLEX SIZE SCHEDULE

50-125 CFM	6"ø	205-325 CFM	10"ø
130-200 CFM	8"ø	330-450 CFM	12"ø

OUTSIDE AIR CALCULATIONS

(PER TABLE 2, ASHRAE 62-89)

	AREA SERVED OR UNIT TAG	NET OCCUPIABLE AREA SQ.FT.	MAX. OCCUPANCY 7P/1000	TOTAL NO. OF PEOPLE	VENTILATION RATE CFM/P OR SQ.FT.	TOTAL CFM O/A REQUIRED	NOTES
1st & 2ND FLOOR	AHU-1	3152	22	22	20	440	1,3
	AHU-2	700	0	0	0	0	1,4
	AHU-3	1250	0	0	0	0	1,4
	AHU-4	2469	18	18	20	360	1,3
	AHU-5	2700	20	20	20	400	1,2
	AHU-6	2000	15	15	20	300	1,2

NOTES:
1. CALCULATIONS ARE BASED ON ESTIMATED MAX. OCUPPANCY RATES PER ARCHITECTURAL PLANS AND ASHRAE 62-89. VENTILATION RATES PER ASHRAE 62-89, NET OCCUPIABLE SPACE ESTIMATED AT 60 % OF GROSS AREA
2. 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 62-89.
3. FOR OFFICE AND OTHER SIMILAR AREAS CALCULATIONS ARE BASED ON CONTINUOUS OCCUPANCY
4. EQUIPMENT ROOM- NO OCCUPANCY.

AIR BALANCE SCHEDULE

B105B

AREA SERVED	EQUIPMENT TAG	SUPPLY AIR (CFM)	RETURN AIR (CFM)	OUTSIDE AIR (CFM)	MAKE-UP AIR (CFM)	EXHAUST AIR (CFM)
1ST FLOOR	AHU-1	5000	3850	1150	–	–
1ST FLOOR	AHU-2	1800	1800	–	–	–
1ST FLOOR	AHU-3	14900	14900	–	–	–
1ST FLOOR	EF-1	–	–	–	–	990
1ST FLOOR	EF-4	–	–	–	–	300
1ST FLOOR	SF-1	–	–	–	300	–
1ST FLOOR TOTALS		21700	20550	1150	300	1290
2ND FLOOR	AHU-4	3950	3350	600	–	–
2ND FLOOR	AHU-5	3000	2600	400	–	–
2ND FLOOR	AHU-6	2000	1700	300	–	–
2ND FLOOR	EF-1	–	–	–	–	700
2ND FLOOR TOTALS		8950	7550	1300	–	700
BUILDING TOTALS		30650	28100	2450	300	1990

NOTES:
1. 1ST FLOOR IS 160 CFM POSITIVE WHEN ALL EXHAUST FANS OPERATING
2. 2ND FLOOR IS 600 CFM POSITIVE WHEN ALL EXHAUST FANS OPERATING
3. BUILDING IS 2750-1990=760 POSITIVE WHEN ALL EXHAUST FANS OPERATING

RECORD DRAWING
6/2003

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DESIGNED DF
DRAWN DF
CHECKED KAMM
PROJ. ENGR. H.J.V.

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ENGINEERS PROJECT: 40162
CAD REFERENCE: 9428M2-1

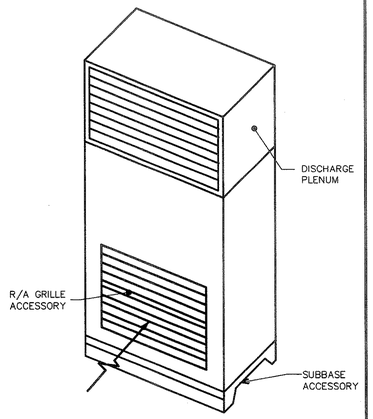
CITY OF POMPANO BEACH

10 MGD MEMBRANE FILTRATION W.T.P.

MF PROCESS BUILDING
VENTILATION SCHEDULES

DATE: APRIL 2000
SHEET: 232 OF 242
DRAWING: V-4

PLOT DATE 09/28/06 11:14am FILE= H:\40162\RECORD\9428V-4 by BWAGSTAFF XREFs=Job-99\9400-499\99428\9428TB,



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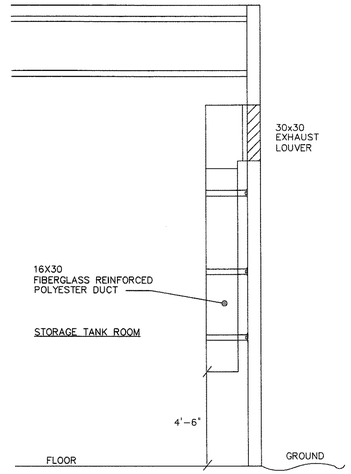
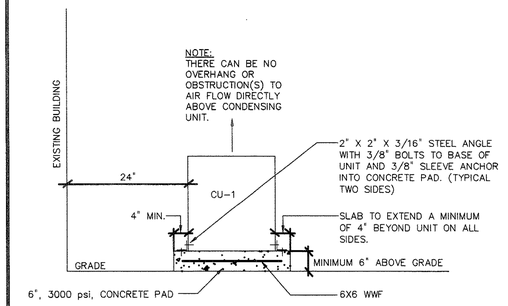


REF V-2 — STORAGE TANK ROOM EXHAUST DUCT DETAIL



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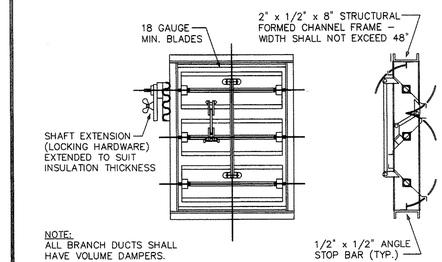

REF V2&3 — OPPOSED BLADE VOL. DAMPER
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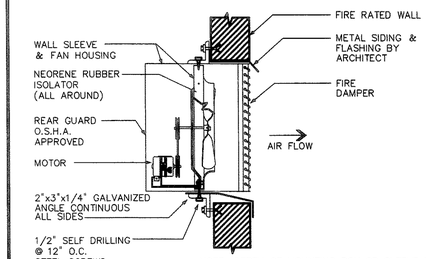

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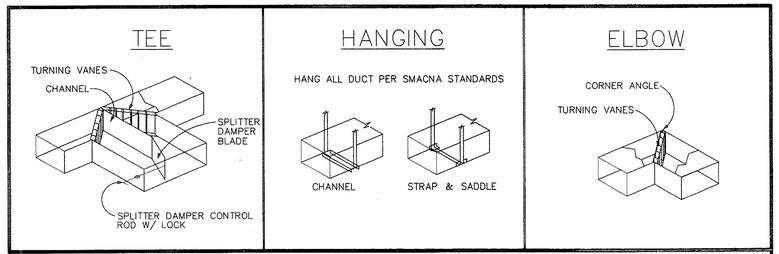

REF V2&3 — HVAC DUCT DETAILS
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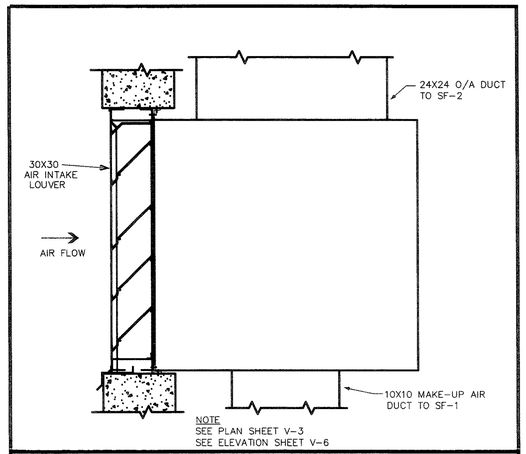
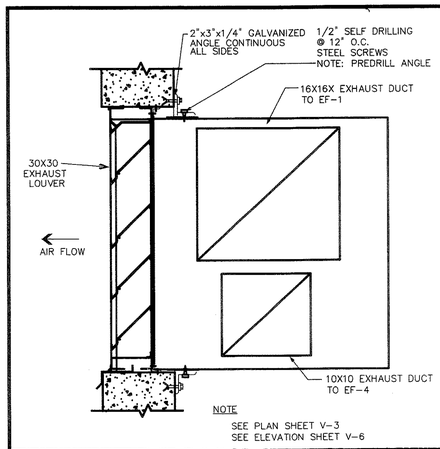


REF V3&6 — AIR INTAKE LVR. AND DUCT DETAIL
NOT TO SCALE



REF V3&6 — EXHAUST LVR. AND DUCT DETAIL
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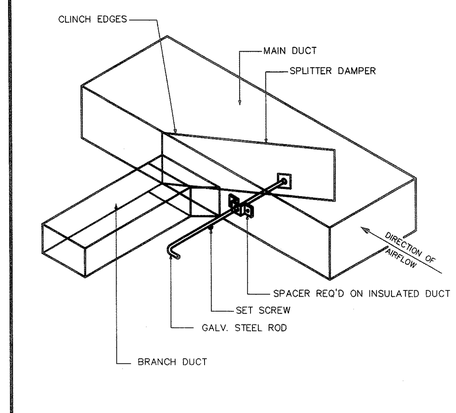

REF V2&3 — TYPICAL DUCT TAP-OFF
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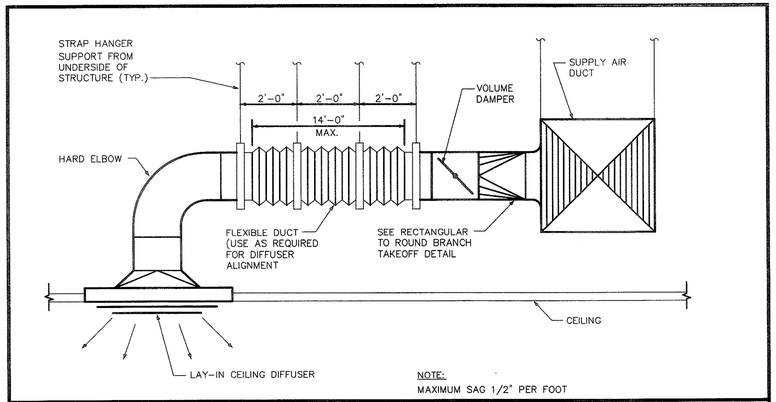

REF V2&3 — CEILING DIFFUSER BRANCH DUCT W/FLEX CONNECTION
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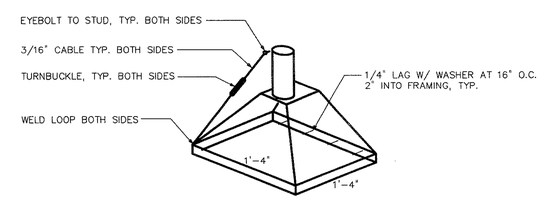

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CITY OF POMPANO BEACH
10 MGD MEMBRANE FILTRATION W.T.P.

MF PROCESS BUILDING VENTILATION DETAILS

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SHEET: 233 OF 242
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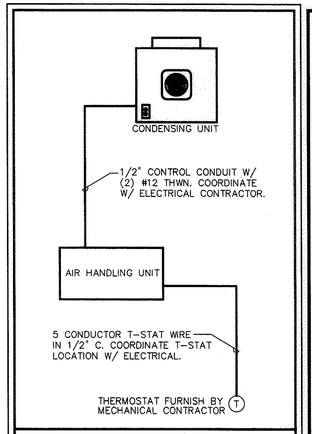

HVAC CONTROL WIRING

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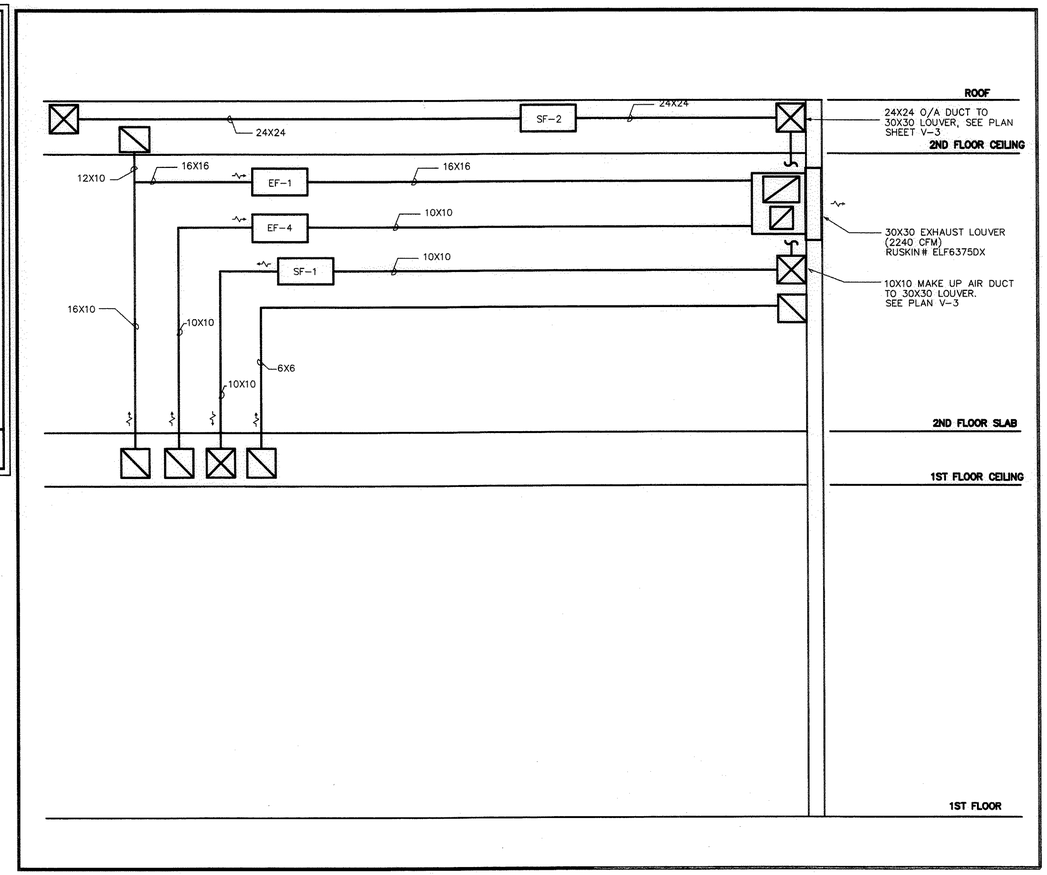

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CITY OF POMPANO BEACH

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