

### HVAC GENERAL NOTES

THE SUB-CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIARIZED WITH ALL THE REQUIREMENTS OF THE CONTRACTOR PRIOR TO SUBMISSION OF BID. THE SUB-CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY CONFLICTS PRIOR TO BID OR START OF INSTALLATION.

THE SUB-CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS WHEN THEY BECOME DUE AND SHALL NOT COVER ANY WORK UNTIL APPROVED BY THE INSPECTION AUTHORITY.

ANY AND ALL FEES ASSOCIATED WITH THE MECHANICAL WORK, INCLUDING CONSTRUCTION AND INSPECTIONS SHALL BE PAID FOR BY THE SUB-CONTRACTOR IN ORDER TO DELIVER A COMPLETE AND FINISHED BUILDING, READY FOR OCCUPANCY AND 100% USAGE.

THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE SUB-CONTRACTOR HAS FAMILIARIZED HIMSELF/HERSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND LABOR BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE.

ANY COSTS DUE TO LACK OF COOPERATION AMONG TRADES SHALL BE BORNE BY THE SUB-CONTRACTOR.

THE INFORMATION PRESENTED IN THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. IT DOES NOT NECESSARILY REPRESENT ALL THE FITTINGS, HANGERS, ETC. FOR A COMPLETE WORKING SYSTEM. PROVIDE ALL MATERIALS AND LABOR FOR COMPLETELY FINISHED AND OPERATIONAL SYSTEMS.

REFER TO LATEST ARCHITECTURAL DRAWINGS FOR EXACT WALL LOCATIONS AND REQUIREMENTS.

SUB-CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY ALTERATIONS REQUIRED BY THE OWNER, ARCHITECT, OR FIELD CONDITIONS.

ALL EQUIPMENT SHALL BE NEW. SHALL COMPLY WITH APPLICABLE INDUSTRY STANDARDS, WITH SPECIFICATIONS ON DRAWINGS, AND ENERGY CODE COMPLIANCE CERTIFICATION AS ADOPTED BY THE STATE, AS WELL AS LOCAL JURISDICTIONAL BUILDING DEPARTMENT. SUBMIT DATA FOR APPROVAL PRIOR TO ORDERING EQUIPMENT. SUBMITTAL SHALL INCLUDE ENERGY CODE COMPLIANCE CERTIFICATION.

SUB-CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT INCLUDING FIXTURES SPECIFIED IN EQUIPMENT SCHEDULE ON DRAWINGS FOR REVIEW/APPROVAL (5) DAYS PRIOR TO BID. EQUIPMENT IS NOT TO BE ORDERED WITHOUT SUBMITTAL TO ARCHITECT/OWNER/ENGINEER.

ALL SPACE HEATING SUPPLY AIR DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST S.M.A.C.N.A. DUCT CONSTRUCTION STANDARDS AND BE INSULATED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL JURISDICTIONAL ENERGY CONSERVATION STANDARDS AND THE LATEST EDITION INTERNATIONAL MECHANICAL CODE.

ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS. INCREASE LISTED DUCT SIZE TO ACCOMMODATE LINER.

FLEX SHALL NOT EXCEED 8 FT. IN LENGTH AND SHALL BE TYPE '1' FACTORY DUCT. PROVIDE WITH 1 IN. EXTERNAL INSULATION IF MAIN.

THIS SUB-CONTRACTOR SHALL FIELD VERIFY 10 FT. MINIMUM CLEARANCE BETWEEN FRESH AIR INTAKE AND ALL VENTS.

WALL THERMOSTATS FOR HEATING/COOLING UNITS TO BE AUTOMATIC CHANGEOVER TYPE AND INSTALLED 48 IN. ABOVE FINISHED FLOOR.

EXHAUST DUCTS THROUGH ROOF SHALL MAINTAIN MINIMUM OUTSIDE AIR AS SHOWN ON SCHEDULE OR SHOWN IN FRESH AIR CALCULATIONS.

ALL GAS APPLIANCE FLUES TO BE TYPE 'B' FLUE UP THROUGH ROOF TO APPROVED ROOF CAP. MATERIALS AND INSTALLATION SHALL COMPLY WITH LATEST EDITION INTERNATIONAL MECHANICAL CODE AND WATER HEATER VENTING SHALL COMPLY WITH LATEST EDITION INTERNATIONAL PLUMBING CODE.

ALL COMBUSTION AIR DUCTS SHALL DROP NEAR BURNER SECTION, WITHIN 12 IN. OF FLOOR, AND UP THROUGH ROOF TO APPROVED 135° GOOSE NECK WITH BIRD SCREEN.

ALL RELIEF AIR DUCTS SHALL OPEN WITHIN 12 IN. OF CEILING, AND UP THROUGH ROOF TO APPROVED 135° GOOSE NECK WITH BIRD SCREEN.

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# Equipment Detail Schedules

Unico - CFM SCHEDULE														
Zone #1 - Pool/Fitness														
Zone	Room Name	Area	Loads				CFM				Zoning			
			Heating	Cooling	Heating	Cooling	Design	CFM	Heating	Cooling	Increase %	Heating	Cooling	Heating
1	Dn Pool Mech	155	1122	60	33	30	33	3	1	125	41	38	2	2
	Dn Fitness	930	6452	295	189	151	33	6	5	125	236	189	8	6
	Dn Bath 1	165	1065	55	31	28	33	1	1	125	39	35	2	2
	Dn Mech 1	127	433	19	13	10	33	1	1	125	16	13	1	1
	Dn Wine	107	1163	159	34	81	33	2	3	125	43	101	2	4
	Totals	1484	10235	588	300	300	33	11	11	125	375	375	15	15

Unico - HOUSE LOADS														
Zone	Heating Loads	Sensible	Latent	Total	Cooling Loads			Req. Load						
					SHR	Glycol %	Multiplier							
Pool/Fitness	15547	1448	1632	3080	0.47	40	0.81	3802						
Master/Library	46774	16598	5002	21600	0.77	40	0.81	26667						
Lounge/Great	50261	20713	6726	27439	0.75	40	0.81	33875						
Games/Kitchen	35134	17679	4346	22025	0.80	40	0.81	27191						
Conserve/Guest	26109	26355	2032	28387	0.93	40	0.81	35046						
Dn Kitchen/Mud	24953	14816	2371	17187	0.86	40	0.81	21219						
Up Bed/Office	59718	28010	7120	35130	0.80	40	0.81	43370						
Bed4/Up Library	94064	28266	11793	40059	0.71	40	0.81	49456						
Totals	352560	153885	41022	194907	0.76			240826						

Unico - HEATING LOADS														
Zone	BTU Load	Glycol %	Multiplier	Req. BTU	Design CFM	Blower	Water Coil	Static in/wc	Temp °F	GPM	Design BTU	Head Ft.	Glycol Factor	Heat Ft. Adj.
Master/Library	46774	0	1	46774	1000	MB3642L+CB	MH3660W	1.90	140	4	56200	2.6	100	2.6
Lounge/Great	50261	0	1	50261	1000	MB3642L+CB	MH3660W	1.90	140	4	56200	2.6	100	2.6
Games/Kitchen	35134	0	1	35134	1000	MB3642L+CB	MH3660W	1.90	140	4	56200	2.6	100	2.6
Conserve/Guest	26109	0	1	26109	1000	MB3642L+CB	MH3660W	1.90	140	4	56200	2.6	100	2.6
Dn Kitchen/Mud	24953	0	1	24953	800	MB3642L+CB	MH3660W	2.20	140	4	49300	2.6	100	2.6
Up Bed/Office	59718	0	1	59718	1250	MB4860L+CB	MH3660W	1.70	140	4	63400	2.6	100	2.6
Bed4/Up Library	94064	0	1	94064	1250	MB4860L+CB	MH3660W	1.70	140	6	95800	9.6	100	9.6
Totals	352560			352560					36	452900	28.3			28.3

Unico - COOLING LOADS														
Zone	75°F Db Factor	Req. BTU	SHR	SHR Calc.	Design CFM	Blower	Water Coil	Static in/wc	Temp °F	GPM	Head Ft.	Glycol Factor	Heat Ft. Adj.	
														Pool/Fitness
Master/Library	0.80	33333	0.68	0.43	1000	MB3642L+CB	MC3642W	1.90	40	4	2.1	1.42	2.98	
Lounge/Great	0.80	42344	0.63	0.40	1000	MB3642L+CB	MC3642W	1.90	40	8	8.9	1.42	12.64	
Games/Kitchen	0.80	33989	0.63	0.34	1000	MB3642L+CB	MC3642W	1.90	40	8	8.9	1.42	12.64	
Conserve/Guest	0.80	43807	0.63	0.51	1000	MB3642L+CB	MC3642W	1.90	40	8	8.9	1.42	12.64	
Dn Kitchen/Mud	0.80	26523	0.63	0.36	800	MB3642L+CB	MC3642W	2.20	40	6	5.2	1.42	7.38	
Up Bed/Office	0.80	54213	0.63	0.43	1250	MB4860L+CB	MC4860W	1.70	40	10	10.7	1.42	15.19	
Bed4/Up Library	0.80	61819	0.62	0.41	1250	MB4860L+CB	MC4860W	1.70	40	12	14.9	1.42	21.16	
Totals		300781	0.64	0.37					58	60.8			86.33	

REGISTER DETAIL																
Label	Location	Mon.	Model #	Core	Width	Length	Border	Fastening	Size	Duct	CFM	FPM	SP	NC	Description	Comments
1R-A	Fitness Room	Price	635	45"	16"	16"	0.75"	N/A	16"x16"	12"	375	250	0.30	15C	Aluminum Return Grille	Wall Mounting Grille
2R-A	Master Suite	Price	LBP	15B	5"	72"	1000	C	5"x72"	16"	918		0.36	22C	Aluminum Linear Bar Grille	Wall Mounting - Vertical Slot
2R-B	Library	Price	LBP	15B	3"	60"	1000	C	3"x60"	12"	460		0.57	22C	Aluminum Linear Bar Grille	Wall Mounting - Vertical Slot
3R-A	Great Room	Price	LBP	15B	6"	72"	1000	B	6"x72"	12"x25"	1012		0.46	15C	Aluminum Linear Bar Grille	Floor Mounting Slot
3R-B	Dn Stair Hall	Price	635	45"	12"	12"	0.75"	N/A	12"x12"	10"	280	300	0.35	15C	Aluminum Linear Bar Grille	Wall Mounting Grille
4R-A	Entry	Price	LBP	15B	5"	72"	1000	C	5"x72"	16"	1108		0.48	23C	Aluminum Linear Bar Grille	Wall Mounting - Vertical Slot
4R-B	Dn Media	Price	LBP	15B	4"	36"	1000	C	4"x36"	8"	444		0.48	23C	Aluminum Linear Bar Grille	Ceiling Mounting - Slot
5R-A	Back Stairs	Price	LBP	15B	5"	96"	1000	N/A	5"x96"	12"x25"	1250		0.37	18C	Aluminum Linear Bar Grille	Floor Mounting Slot
5R-B	Dining	Price	LBP	15B	8"	168"	1000	C	8"x168"	N/A	1118		N/A	N/A	Aluminum Linear Bar Grille - Transfer Slot	Ceiling Mounting - Slot
5R-C	Conservatory	Price	LBP	15B	8"	168"	1000	C	8"x168"	N/A	1118		N/A	N/A	Aluminum Linear Bar Grille - Transfer Slot	Wall Mounting - Slot
6R-A	Dn Kitchen	Price	635	45"	14"	38"	0.75"	N/A	14"x38"	8" - 10"	890	300	0.35	17C	Aluminum Return Grille	Wall Mounting Grille
6R-B	Office	Price	635	45"	8"	38"	0.75"	N/A	6"x38"	8"x12"	305	500	0.34	15C	Aluminum Return Grille	Wall Mounting Grille
7R-A	Up Stairs	Price	635	45"	14"	14"	0.75"	N/A	14"x14"	N/A	255	220	N/A	N/A	Aluminum Return Grille - Transfer Grill	Wall Mounting Grille
7R-B	WIC 2	Price	LBP	15B	4"	24"	1000	C	4"x24"	10"	170		0.20	15C	Aluminum Linear Bar Grille	Ceiling Mounting - Slot
7R-C	WIC 3	Price	LBP	15B	4"	24"	1000	C	4"x24"	10"	230		0.36	15C	Aluminum Linear Bar Grille	Ceiling Mounting - Slot
7R-D	Loft Office	Price	635	N/A	20"	18"	0.75"	N/A	20"x18"	16"	1020	410	0.70	25C	Aluminum Return Grille	Wall Mounting Grille
7R-E	Loft Mech 2	Price	635	N/A	16"	16"	0.75"	N/A	16"x16"	12"	465	300	0.35	15C	Aluminum Return Grille	Wall Mounting Grille
7S-A	Loft Mech 2	Price	620	N/A	14"	4"	0.75"	N/A	14"x4"	5"	233	800	0.35	22C	Aluminum Supply Register	Wall Mounting Register
8R-A	Sitting 4	Price	635	45"	14"	14"	0.75"	N/A	14"x14"	5"	352	225	0.35	15C	Aluminum Return Grille	Ceiling Mounting Grille
8R-B	Open to Library	Price	LBP	15B	4"	120"	1000		4"x120"	12"x22"	1010		0.28	15C	Aluminum Linear Bar Grille	Ceiling Mounting - Slot
9R	Dn Mech 4	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
10R-A	Pool	Price	730	45"	20"	18"	0.75"	N/A	20"x18"	12"x22"	950	300	0.44	20C	Stainless Steel Return Grille	Ceiling Mounting Grille
10S-A	Pool	Price	710-L	ADJ.	4"	14"	0.75"	N/A	4"x14"	7"	95	190	0.06	15C	Stainless Steel Supply Register	Ceiling Mounting Grille
EA	Pool	Price	730	45"	14"	14"	0.75"	N/A	14"x14"	10"	200	190	0.11	15C	Stainless Steel Return Grille	Ceiling Mounting Grille

ZONING EQUIPMENT DETAIL														
Label	Location	Mon.	Model #	Size	CFM	Description	Comments							
2A	Dn Mech 1	Honeywell	RRD	7"	417	Motorized Round Damper								
2B-1	Dn Mech 1	Honeywell	RRD	7"	534	Motorized Round Damper								
2B-2	Dn Mech 1	Honeywell	RRD	7"	534	Motorized Round Damper								
2C	Dn Mech 1	Honeywell	RRD	7"	460	Motorized Round Damper								
2P	Dn Mech 1	Honeywell	MARD	10"	Variable	Motorized Round Damper	includes Honeywell SPC Control							
3A-1	Dn Mech 3	Honeywell	RRD	7"	107	Motorized Round Damper								
3A-2	Dn Mech 3	Honeywell	RRD	7"	231	Motorized Round Damper								
3B-1	Dn Mech 3	Honeywell	RRD	7"	439	Motorized Round Damper								
3B-2	Dn Mech 3	Honeywell	RRD	8"	534	Motorized Round Damper								
3P	Dn Mech 3	Honeywell	MARD	8"	Variable	Motorized Round Damper	includes Honeywell SPC Control							
4A	Dn Mech 5	Honeywell	RRD	7"	444	Motorized Round Damper								
4B-1	Dn Mech 5	Honeywell	RRD	8"	490	Motorized Round Damper								
4B-2	Dn Mech 5	Honeywell	RRD	8"	618	Motorized Round Damper								
4P	Dn Mech 5	Honeywell	MARD	8"	Variable	Motorized Round Damper	includes Honeywell SPC Control							
5A	Dn Mech 4	Honeywell	ARD	10"	1118	Motorized Round Damper								
5B	Dn Mech 4	Honeywell	RRD	7"	337	Motorized Round Damper								
5P	Dn Mech 4	Honeywell	MARD	10"	Variable	Motorized Round Damper	includes Honeywell SPC Control							
6A	Dn Mech 4	Honeywell	RRD	7"	444	Motorized Round Damper								
6B-1	Dn Mech 4	Honeywell	RRD	7"	305	Motorized Round Damper								
6B-2	Dn Mech 4	Honeywell	RRD	7"	313	Motorized Round Damper								
6P	Dn Mech 4	Honeywell	MARD	10"	Variable	Motorized Round Damper	includes Honeywell SPC Control							
7A	Loft Office	Honeywell	RRD	7"	255	Motorized Round Damper								
7B	Loft Office	Honeywell	RRD	7"	170	Motorized Round Damper								
7C	Loft Office	Honeywell	RRD	7"	228	Motorized Round Damper								
7D	Loft Office	Honeywell	RRD	8"	765	Motorized Round Damper								
7E	Loft Office	Honeywell	RRD	7"	465	Motorized Round Damper								
7P	Loft Office	Honeywell	MARD	10"	Variable	Motorized Round Damper	includes Honeywell SPC Control							
8A-1	Loft Mech 1	Honeywell	RRD	7"	511	Motorized Round Damper								
8A-2	Loft Mech 1	Honeywell	ARD	10"	1010	Motorized Round Damper								
8B	Loft Mech 1	Honeywell	RRD	7"	352	Motorized Round Damper								
8P	Loft Mech 1	Honeywell	MARD	10"	Variable	Motorized Round Damper	includes Honeywell SPC Control							
9A	Dn Mech 4	Honeywell	ARD	10"	1300	Motorized Round Damper								
9B	Dn Mech 4	Honeywell	ARD	10"	1300	Motorized Round Damper								
9D	Dn Mech 4	Honeywell				Motorized Round Damper	Outside Air Damper-Interlocked							

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# Equipment Detail Schedules

## BOILER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FUEL TYPE	INPUT LOAD (BTU/H)	OUTPUT LOAD (BTU/H)	FLUID			ELECTRICAL				PHYSICAL		NOTES
							FLOW RATE (GPM)	ENTERING/LEAVING TEMP (°F)	WORKING FLUID	HEAD LOSS (FT)	MOTOR QUAN.	MOTOR SIZE (HP)	MOTOR VOLT/PH/Hz	CONTROL CIRCUIT VOLT/PH/Hz	STACK DIAMETER (IN)	
PRESTIGE - SOLO 399	TRIANGLE TUBE PRESTIGE - SOLO 399	POOL MECH (HEATING)	Modulating	NAT GAS	399000	379000	47.1	160/180	WATER	15				4"	21 125/24 75/37.5	1

1. ASME CERTIFIED

## AIR-COOLED CHILLER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	REFRIG.	LOAD (TONS)	AMBIENT ENTERING TEMP (DB/WB) (°F)	FLOW RATE (GPM)	ENTERING/LEAVING TEMP (°F)	WORKING FLUID	HEAD LOSS (FT)	MAXIMUM KW	TOTAL MCA	MAXIMUM UNIT EFFICIENCY (KW/TON)	EFFICIENCY RATING	CHILLER AND CONTROL CIRCUIT VOLT/PH/Hz	LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
UNI-CHILLER #2	UNICO UNI-CHILLER UCHR-0604-1P2S	See Drawing	SCROLL SM PUMP	R-22	3.9	89.78/73.04	10.9	49.1/40	35% P.GLY	13.6	17.6	42	3.52	7.8 (EER)	230/1/60 24/1/60	37.8/18.9/45.8	1
UNI-CHILLER #3	UNICO UNI-CHILLER UCHR-0604-1P2S	See Drawing	SCROLL SM PUMP	R-22	3.9	89.78/73.04	10.9	49.1/40	35% P.GLY	13.6	17.6	42	3.52	7.8 (EER)	230/1/60 24/1/60	37.8/18.9/45.8	1
UNI-CHILLER #4	UNICO UNI-CHILLER UCHR-0604-1P2S	See Drawing	SCROLL SM PUMP	R-22	3.9	89.78/73.04	10.9	49.1/40	35% P.GLY	13.6	17.6	42	3.52	7.8 (EER)	230/1/60 24/1/60	37.8/18.9/45.8	1
UNI-CHILLER #5	UNICO UNI-CHILLER UCHR-0604-1P2S	See Drawing	SCROLL SM PUMP	R-22	3.9	89.78/73.04	10.9	49.1/40	35% P.GLY	15.1	17.8	42	3.52	7.8 (EER)	230/1/60 24/1/60	37.8/18.9/45.8	1

1. INCLUDES INTEGRAL PUMP

## FAN COIL SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR FAN HEATING COIL	COOLING COIL	COILS	ELECTRICAL			PHYSICAL LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
							2-PIPE HYDRONIC	FAN QUAN	MOTOR SIZE (HP)		
AHU-1 (POOL/FITNESS)	UNICO SYSTEMS - M1218+CB	POOL MECH	VERTICAL	375 1.93	MEDIUM	2-PIPE HYDRONIC	NO	1	0.33	230/1/60	SEE DETAIL
AHU-2 (MASTER LIBRARY)	UNICO SYSTEMS - M3642+CB - MC3642W - MH3660H - MV3642	MECH 1	VERTICAL	1250 1.90	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-3 (LOUNGE/GREAT)	UNICO SYSTEMS - M3642+CB - MC3642W - MH3660H - MV3642	MECH 3	VERTICAL	1250 1.90	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-4 (GAMES/KITCHEN)	UNICO SYSTEMS - M3642+CB - MC3642W - MH3660H - MV3642	MECH 5	VERTICAL	1250 1.90	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-5 (CONSERVE/GUEST)	UNICO SYSTEMS - M3642+CB - MC3642W - MH3660H - MV3642	MECH 4	VERTICAL	1250 1.90	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-6 (DN KITCHEN/MD)	UNICO SYSTEMS - M3642+CB - MC3642W - MH3660H - MV3642	MECH 4	VERTICAL	1000 2.20	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-7 (UP BED/OFFICE)	UNICO SYSTEMS - M4860+CB - MC4860W - MH3660H - MV4860	LOFT MECH 1	VERTICAL	1250 1.70	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-8 (BED 4/UP LIBRARY)	UNICO SYSTEMS - M4860+CB - MC4860W - MH3660H - MV4860	LOFT MECH 2	VERTICAL	1250 1.70	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-9 (MAKE-UP AIR)	UNICO SYSTEMS - M4860+CB - MC4860W - MH3660H - MV4860	MECH 4	VERTICAL	1250 1.70	HYDRONIC	HYDRONIC	NO	1	1.00	230/1/60	SEE DETAIL
AHU-10 (DESERT AIR)	DESERT AIR - L02	POOL MECH	HORIZONTAL	950 0.50	4 KW Duct Heater	HYDRONIC	N/A	1	0.50	230/1/60	SEE DETAIL

## FAN COIL, COIL SCHEDULE

ID	USAGE	AIR			HYDRONIC			PHYSICAL MINIMUM NO. ROWS/ INCH	NOTES			
		AIRFLOW RATE (CFM)	LOAD (BTU/H)	SENSIBLE LOAD (BTU/H)	ENTERING TEMP (DB/WB) (°F)	LEAVING TEMP (DB/WB) (°F)	FLOW RATE (GPM)			ENTERING/LEAVING TEMP (°F)	WORKING FLUID	HEAD LOSS (FT)
AHU-1 (POOL/FITNESS)	HEATING	375	15,500	15,500	72/44.2	111.4/60.5	1.6	160/140	WATER	3.10	NO	4/10
	COOLING	375	2,900	1,400	75/62	71.6/52.6	0.7	40/49	35% P.GLY	1.70	NO	6/15
AHU-2 (MASTER LIBRARY)	HEATING	1250	46,800	46,800	72/44.2	107.5/59.1	5.0	160/140	WATER	2.60	NO	4/12
	COOLING	1250	20,800	15,600	75/62	63.2/53.8	4.9	40/49	35% P.GLY	2.98	NO	6/15
AHU-3 (LOUNGE/GREAT)	HEATING	1250	50,300	50,300	72/44.2	110.2/60.1	5.3	160/140	WATER	2.60	NO	4/12
	COOLING	1250	26,400	19,500	75/62	60.2/52.4	6.3	40/49	35% P.GLY	2.98	NO	6/15
AHU-4 (GAMES/KITCHEN)	HEATING	1250	35,100	35,100	72/44.2	98.7/55.8	3.7	160/140	WATER	2.60	NO	4/12
	COOLING	1250	21,000	16,600	75/62	62.4/54.1	5.0	40/49	35% P.GLY	2.98	NO	6/15
AHU-5 (CONSERVE/GUEST)	HEATING	1250	26,100	26,100	72/44.2	91.8/53	2.8	160/140	WATER	2.60	NO	4/12
	COOLING	1250	26,900	24,700	75/62	56.2/53.7	6.4	40/49	35% P.GLY	2.98	NO	6/15
AHU-6 (DN KITCHEN/MD)	HEATING	1000	25,000	25,000	72/44.2	95.7/54.6	2.6	160/140	WATER	2.60	NO	4/12
	COOLING	1000	16,400	13,900	75/62	61.8/54.9	3.9	40/49	35% P.GLY	2.98	NO	6/15
AHU-7 (UP BED/OFFICE)	HEATING	1250	56,300	56,300	72/44.2	114.8/61.7	6.0	160/140	WATER	2.60	NO	4/12
	COOLING	1250	32,100	25,000	75/62	56.5/51.3	7.6	40/49	35% P.GLY	2.98	NO	1/14
AHU-8 (BED 4/UP LIBRARY)	HEATING	1250	90,200	90,200	72/44.2	140.6/69.9	9.6	160/140	WATER	2.60	NO	4/12
	COOLING	1250	36,400	25,100	75/62	55.9/49.7	8.6	40/49	35% P.GLY	2.98	NO	1/14
AHU-9 (MAKE-UP AIR)	HEATING	1250	100,000	100,000	72/44.2	148/72	10.6	160/140	WATER	2.60	NO	4/12
	COOLING	1250	42,000	42,000	75/62	43.1/43	10.0	40/49	35% P.GLY	2.98	NO	1/14
AHU-10 (DESERT AIR)	COOLING	950	8,300	5,000	75/62	70/54.1	2.0	40/49	35% P.GLY	5.00	----	0/0

## PUMP SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	PUMP			ELECTRICAL			NOTES		
				FLOW RATE (GPM)	WORKING FLUID	HEAD LOSS (FT)	CONSTRUCTION	MOTOR SIZE (HP)	MOTOR BHP (HP)		MOTOR SPEED (RPM)	VOLT/PH/Hz
AHU-1 PUMP (COOLING)	TACO 006	POOL MECH	CIRCULATOR	0.7	35% P.GLY	4.7	N/A	IRON	0.025	N/A	3250	120/1/60
AHU-1 PUMP (HEATING)	TACO 006	POOL MECH	CIRCULATOR	1.6	WATER	4.8	N/A	IRON	0.025	N/A	3250	120/1/60
AHU-2 PUMP (COOLING)	TACO 008	MECH 1	CIRCULATOR	4.9	35% P.GLY	11.0	N/A	IRON	0.040	N/A	3250	120/1/60
AHU-2 PUMP (HEATING)	TACO 007	POOL MECH	CIRCULATOR	5.0	WATER	5.7	N/A	IRON	0.040	N/A	3250	120/1/60
AHU-3 PUMP (COOLING)	TACO 009	MECH 3	CIRCULATOR	6.3	35% P.GLY	11.0	N/A	IRON	0.125	N/A	3250	120/1/60
AHU-3 PUMP (HEATING)	TACO 0011	POOL MECH	CIRCULATOR	9.0	WATER	14.3	N/A	IRON	0.125	N/A	3250	120/1/60
AHU-4 PUMP (COOLING)	TACO 008	MECH 5	CIRCULATOR	5.0	35% P.GLY	9.2	N/A	IRON	0.040	N/A	3250	120/1/60
AHU-5 PUMP (COOLING)	TACO 009	MECH 4	CIRCULATOR	6.4	35% P.GLY	10.4	N/A	IRON	0.125	N/A	3250	120/1/60
AHU-5-6-9 PUMP (HEATING)	TACO 0013	POOL MECH	CIRCULATOR	16.0	WATER	19.4	N/A	IRON	0.163	N/A	3250	120/1/60
AHU-6 PUMP (COOLING)	TACO 008	MECH 4	CIRCULATOR	3.9	35% P.GLY	7.7	N/A	IRON	0.040	N/A	3250	120/1/60
AHU-7 PUMP (COOLING)	TACO 0011	MECH 1	CIRCULATOR	7.6	35% P.GLY	18.4	N/A	IRON	0.125	N/A	3250	120/1/60
AHU-7 PUMP (HEATING)	TACO 008	POOL MECH	CIRCULATOR	6.0	WATER	7.1	N/A	IRON	0.040	N/A	3250	120/1/60
AHU-8 PUMP (COOLING)	TACO 0011	MECH 1	CIRCULATOR	8.6	35% P.GLY	21.5	N/A	IRON	0.125	N/A	3250	120/1/60
AHU-8 PUMP (HEATING)	TACO 0011	POOL MECH	CIRCULATOR	9.6	WATER	15.5	N/A	IRON	0.125	N/A	3250	120/1/60
AHU-9 PUMP (COOLING)	TACO 0011	MECH 4	CIRCULATOR	10.0	35% P.GLY	16.4	N/A	IRON	0.125	N/A	3250	120/1/60
AHU-10 PUMP (DESERT AIR)	TACO 008	POOL MECH	CIRCULATOR	2.0	35% P.GLY	13.0	N/A	IRON	0.040	N/A	3250	120/1/60
PRIMARY PUMP (COOLING)	TACO 1470	MECH 1	CIRCULATOR	55.3	35% P.GLY	8.6	N/A	IRON	0.500	N/A	3450	120/1/60
PRIMARY PUMP (HEATING)	TACO 1470	POOL MECH	CIRCULATOR	47.1	WATER	19.3	N/A	IRON	0.500	N/A	3450	120/1/60

## MIXING STORAGE TANK SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	USAGE	LOAD (BTU/H)	WORKING FLUID	SOURCE		TRANSFER		PHYSICAL		NOTES		
							FLOW RATE (GPM)	ENTERING/LEAVING TEMP. (°F)	FLOW RATE (GPM)	ENTERING/LEAVING TEMP. (°F)	DIAMETER/ LENGTH (IN)	TANK SIZE (GAL)			
175 GAL. CHILLED WATER STORAGE	SUPER STOR GL-175 AMSE	MECH 1 (COOLING)	CLOSED, VERTICAL	COOLING	233,200	35% P.GLY	54.7	40/49.1	1/1	55.3	49/40	1/1	32.25/67.25	175	1-6

1. REMOVE MAGNESIUM RODS
2. CHILLER SUPPLY "D"
3. CHILLER RETURN "HOT WATER OUT"
4. FAN COIL SUPPLY "C"
5. FAN COIL RETURN "COLD IN"

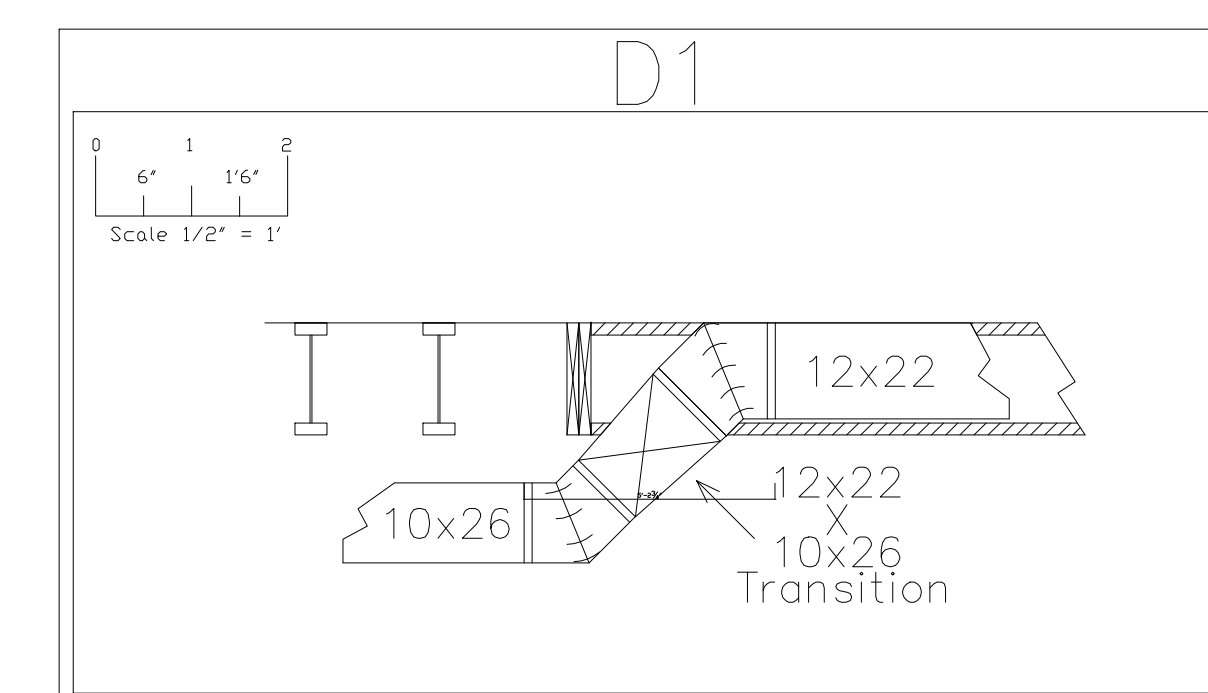
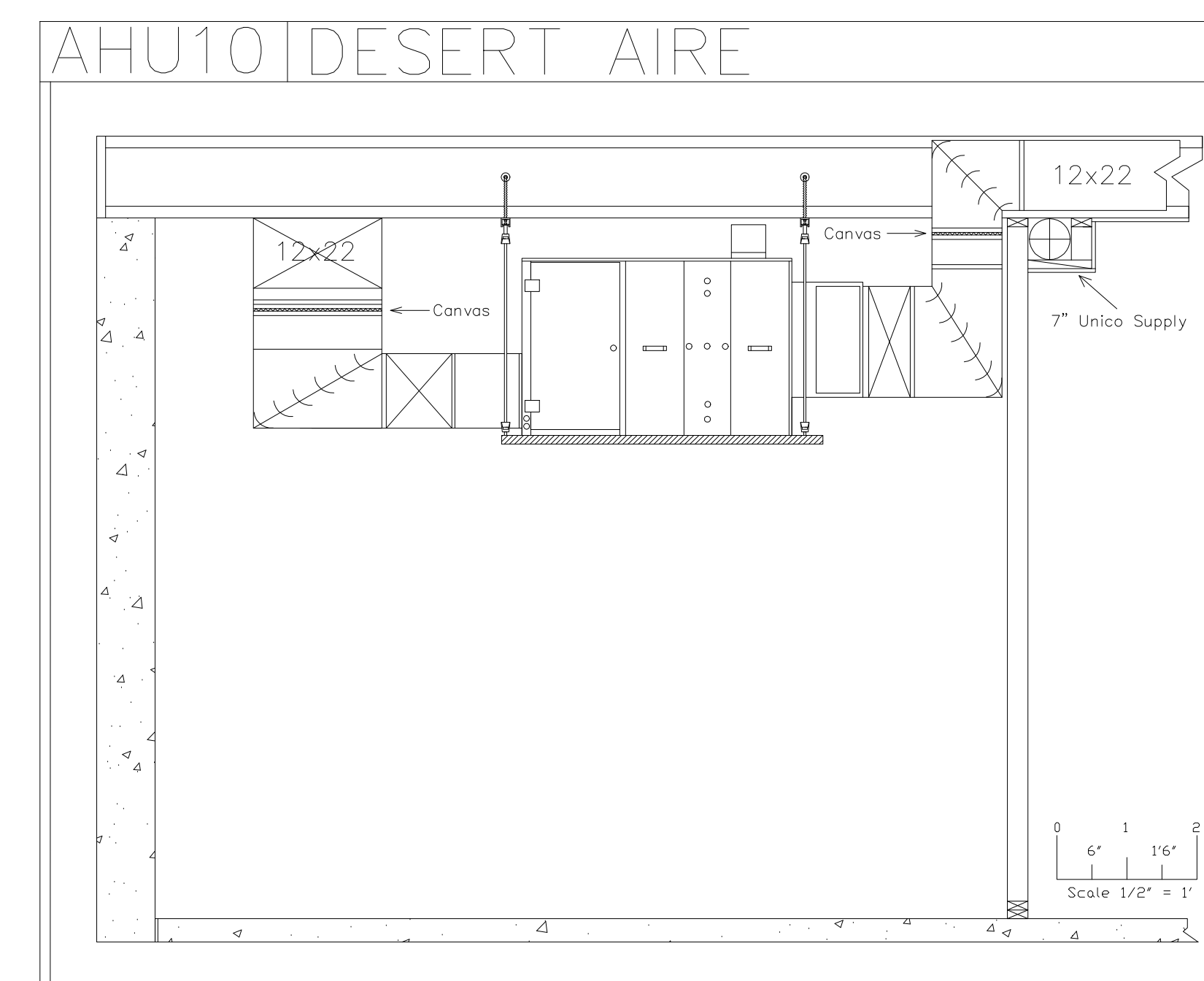
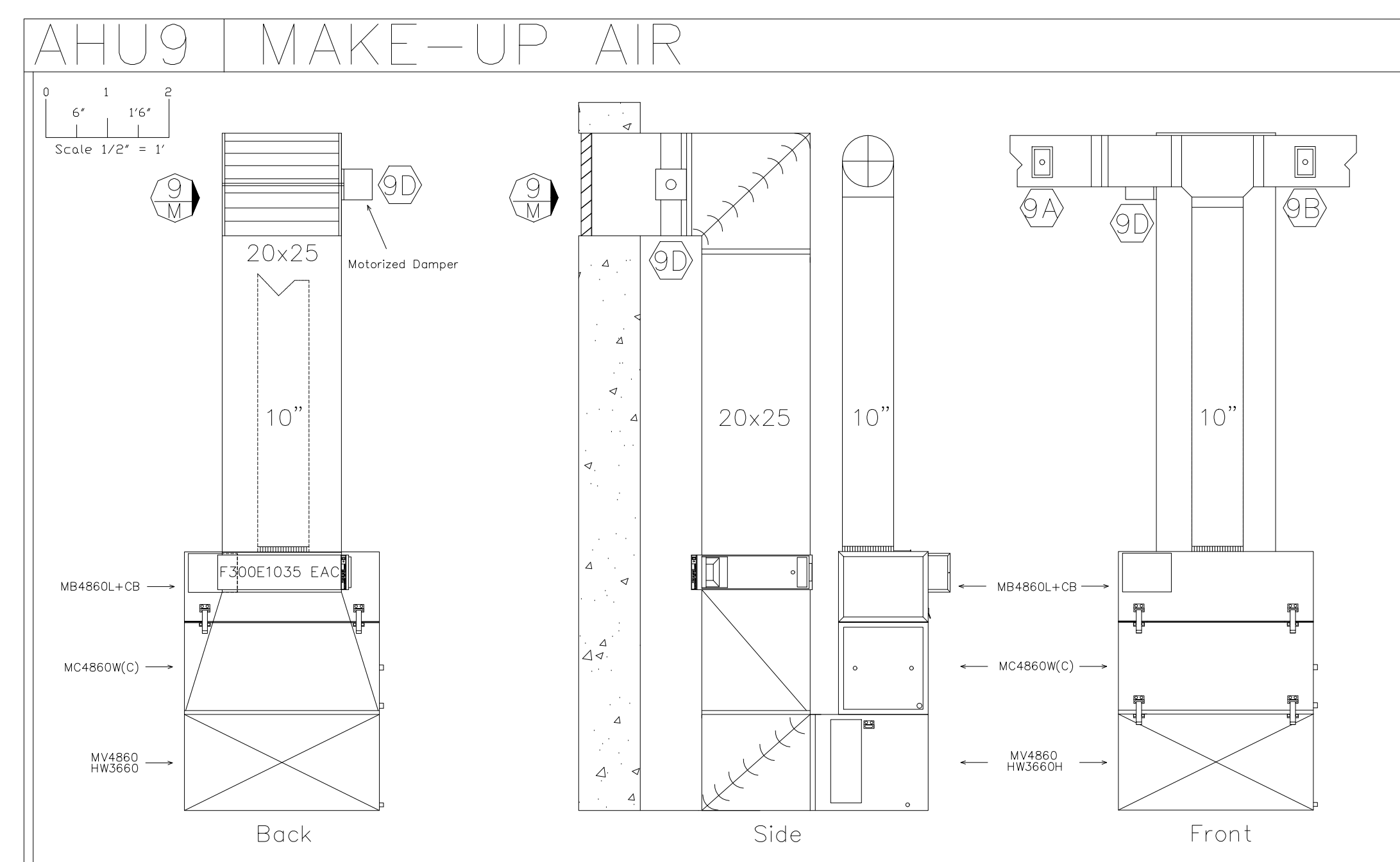
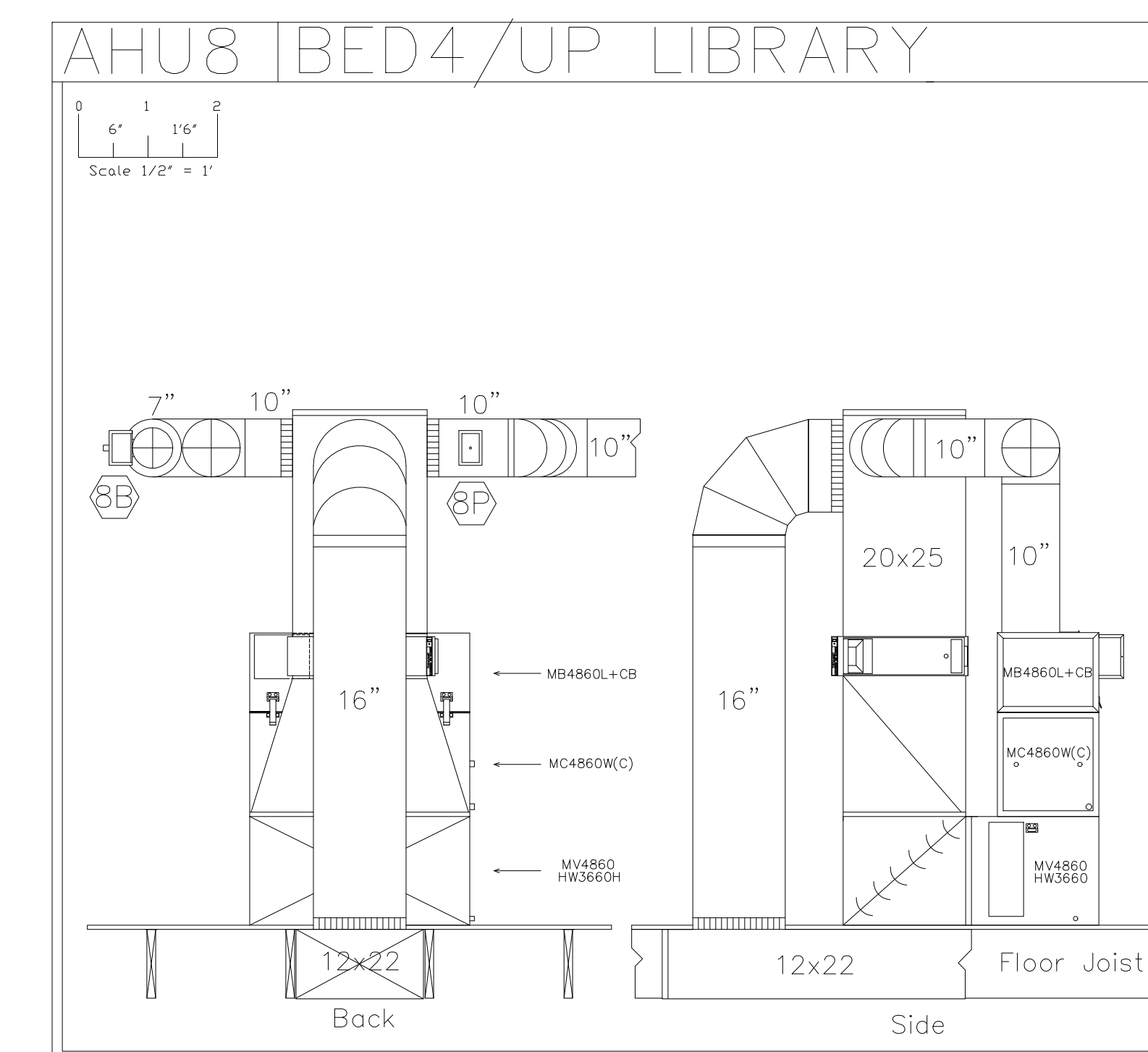
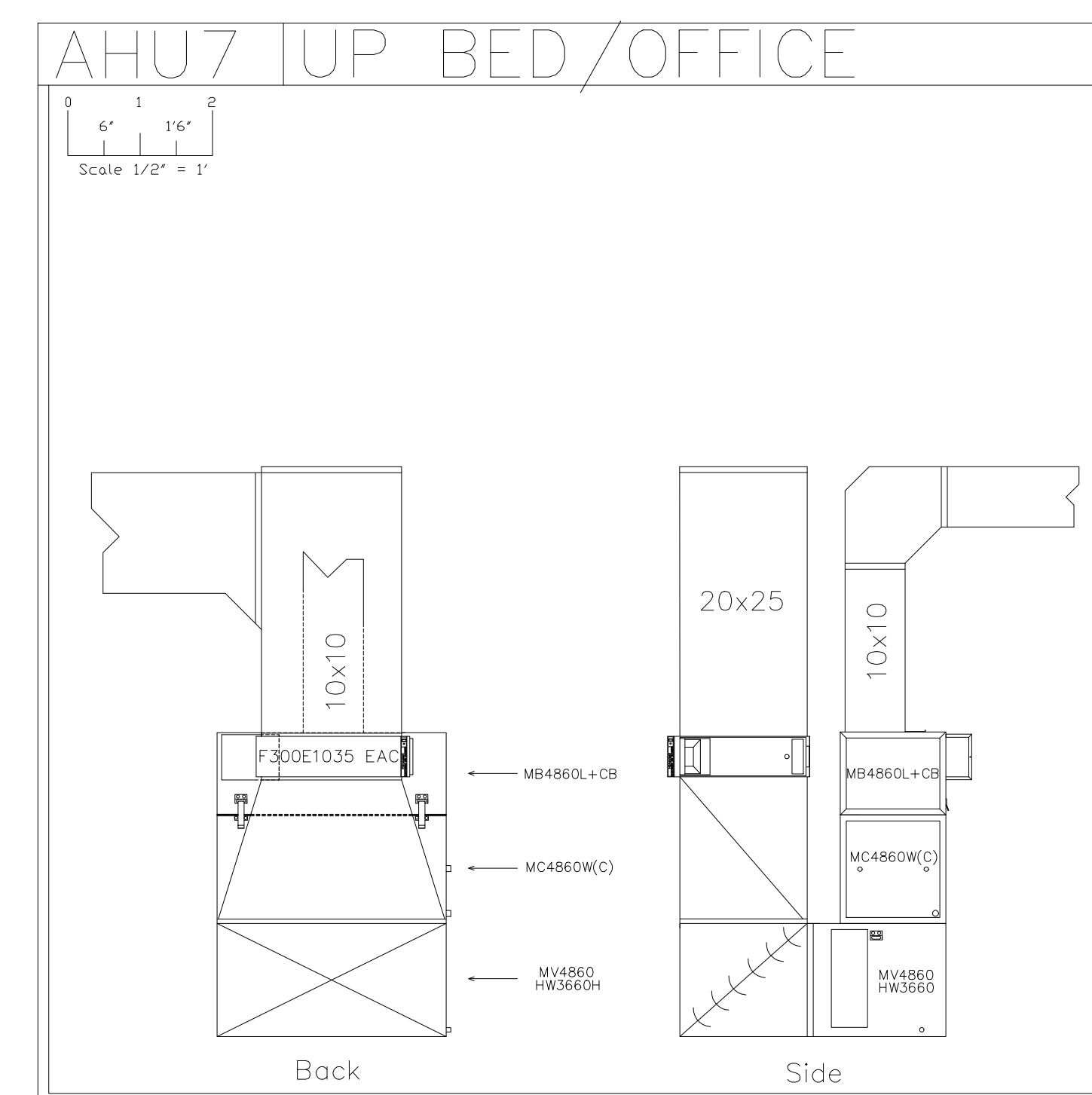
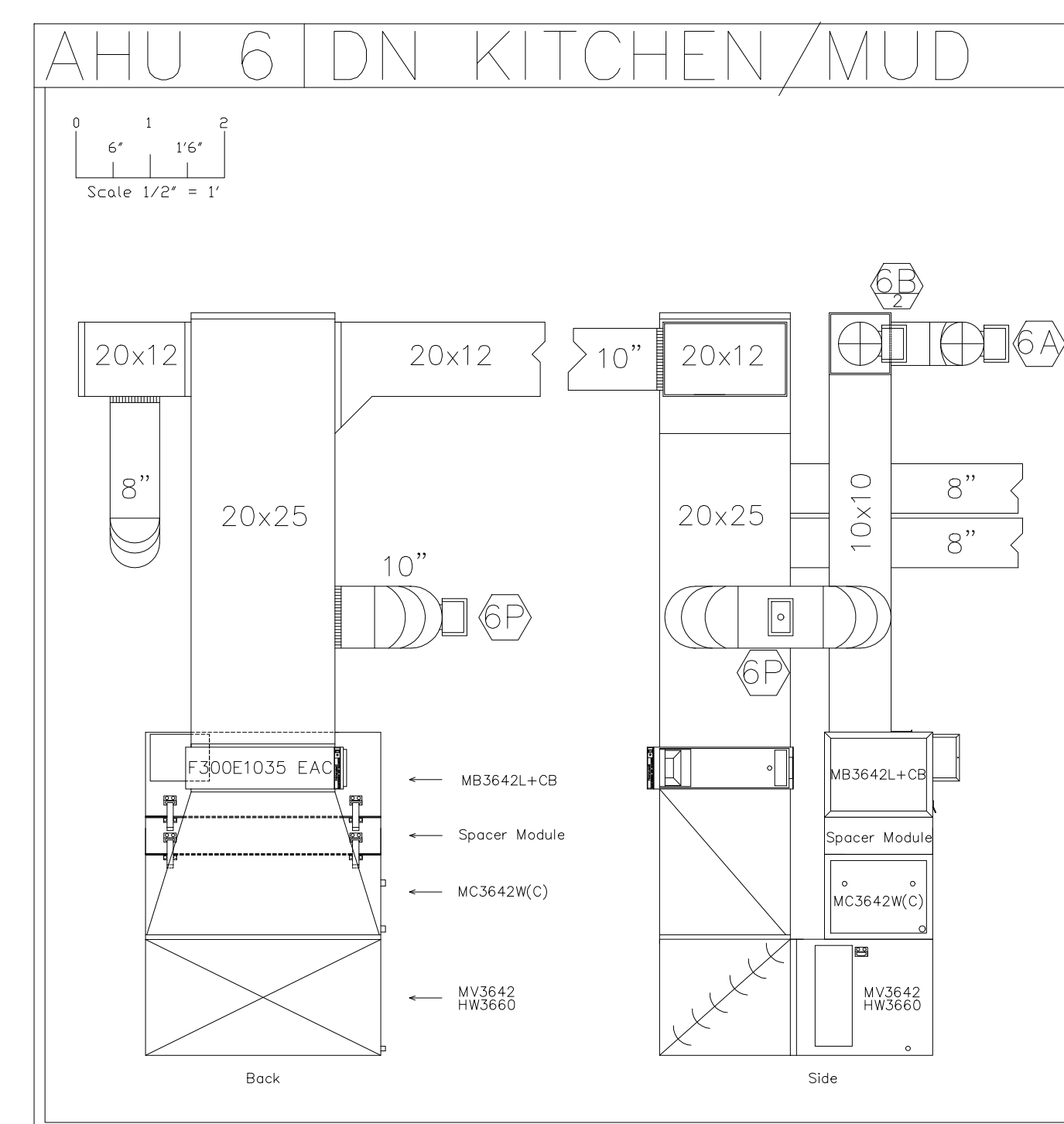
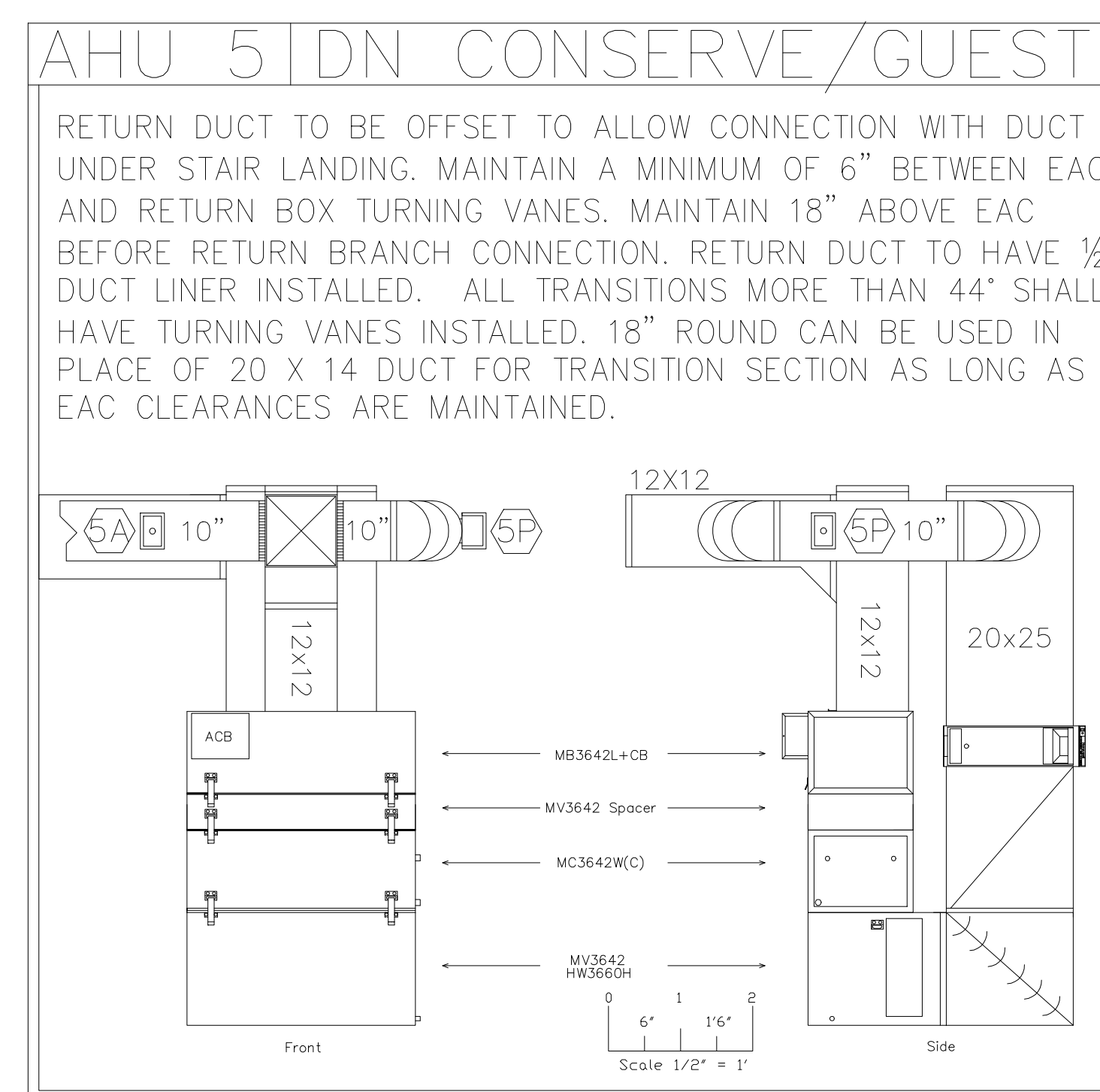
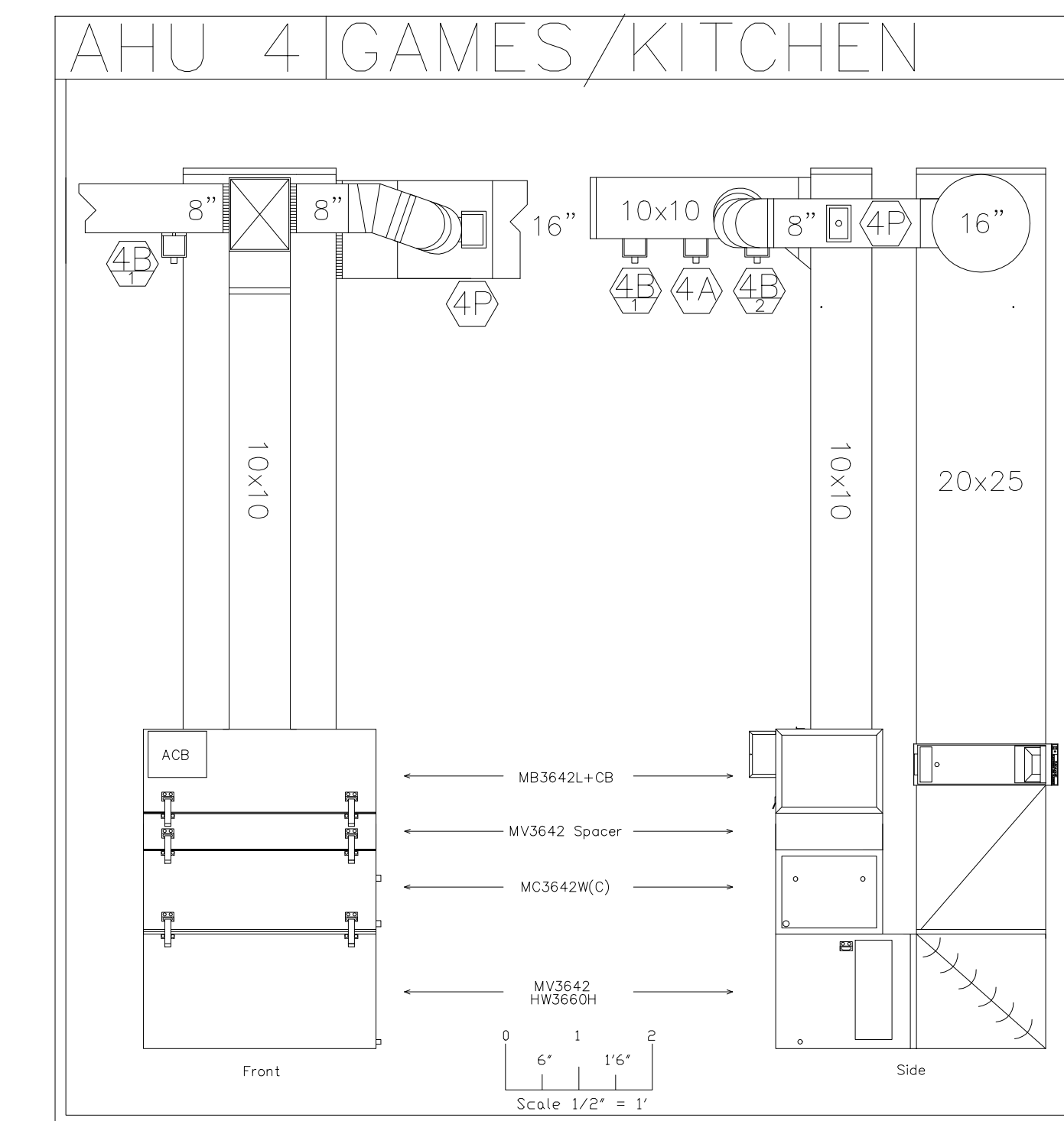
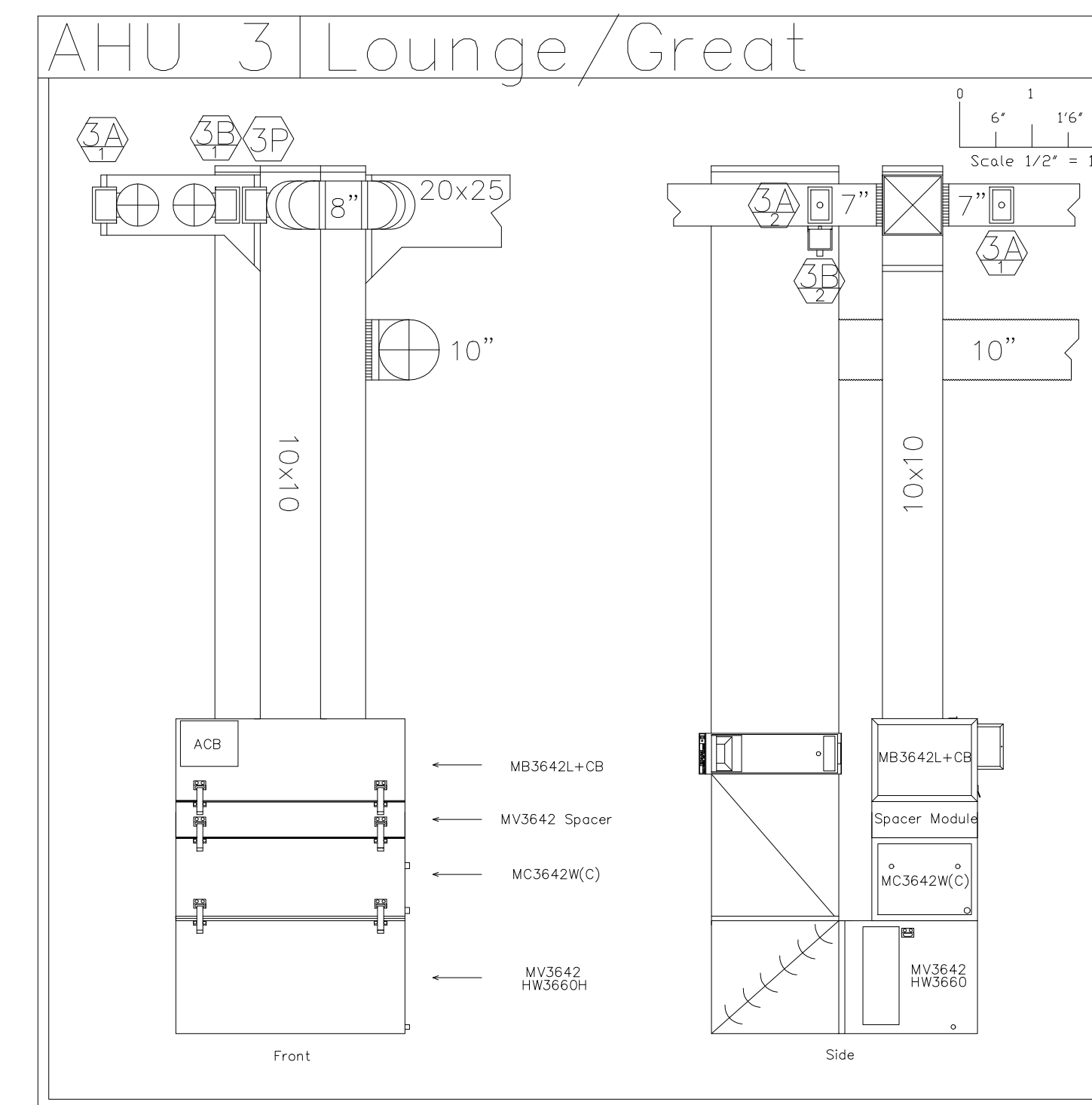
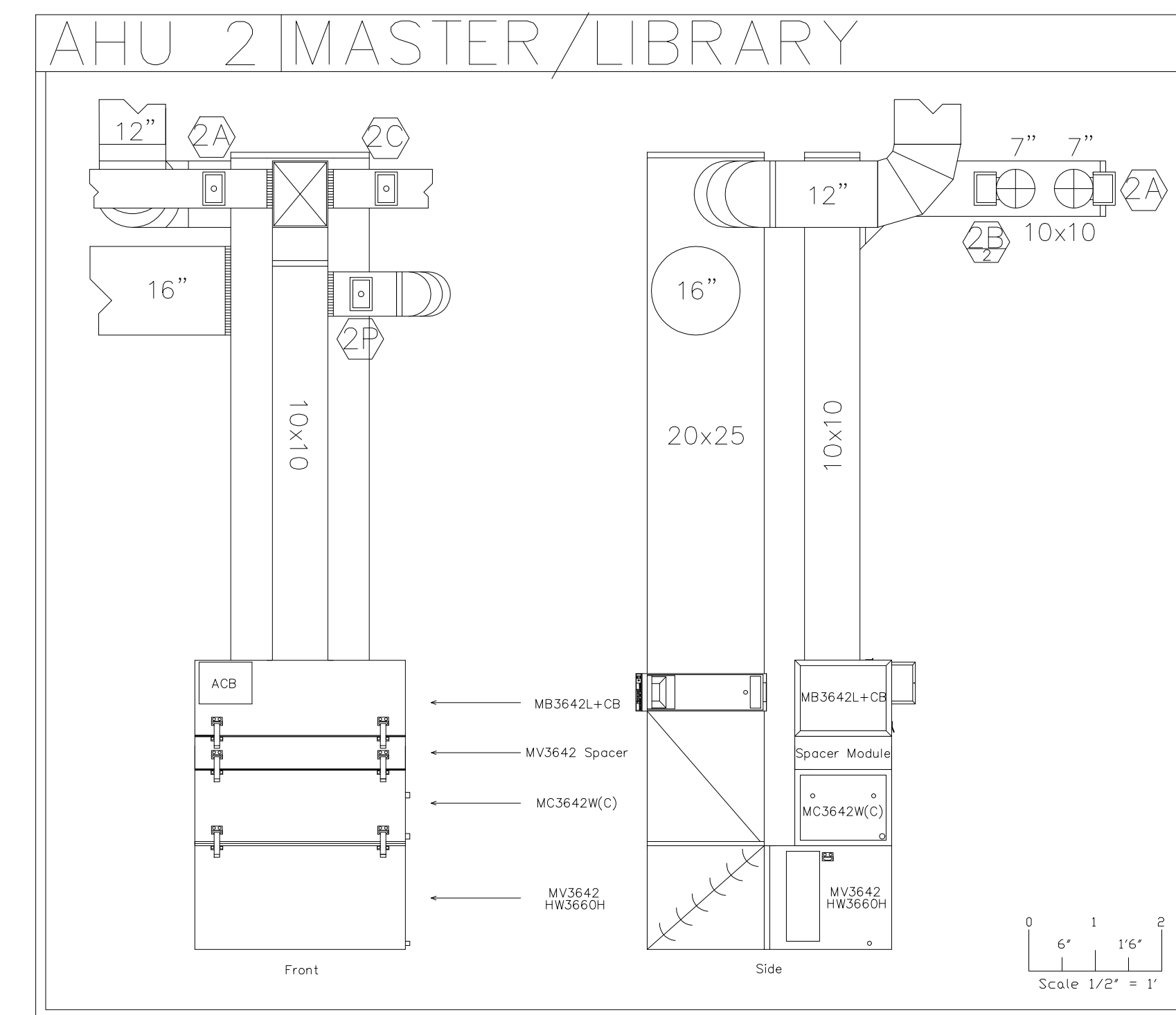
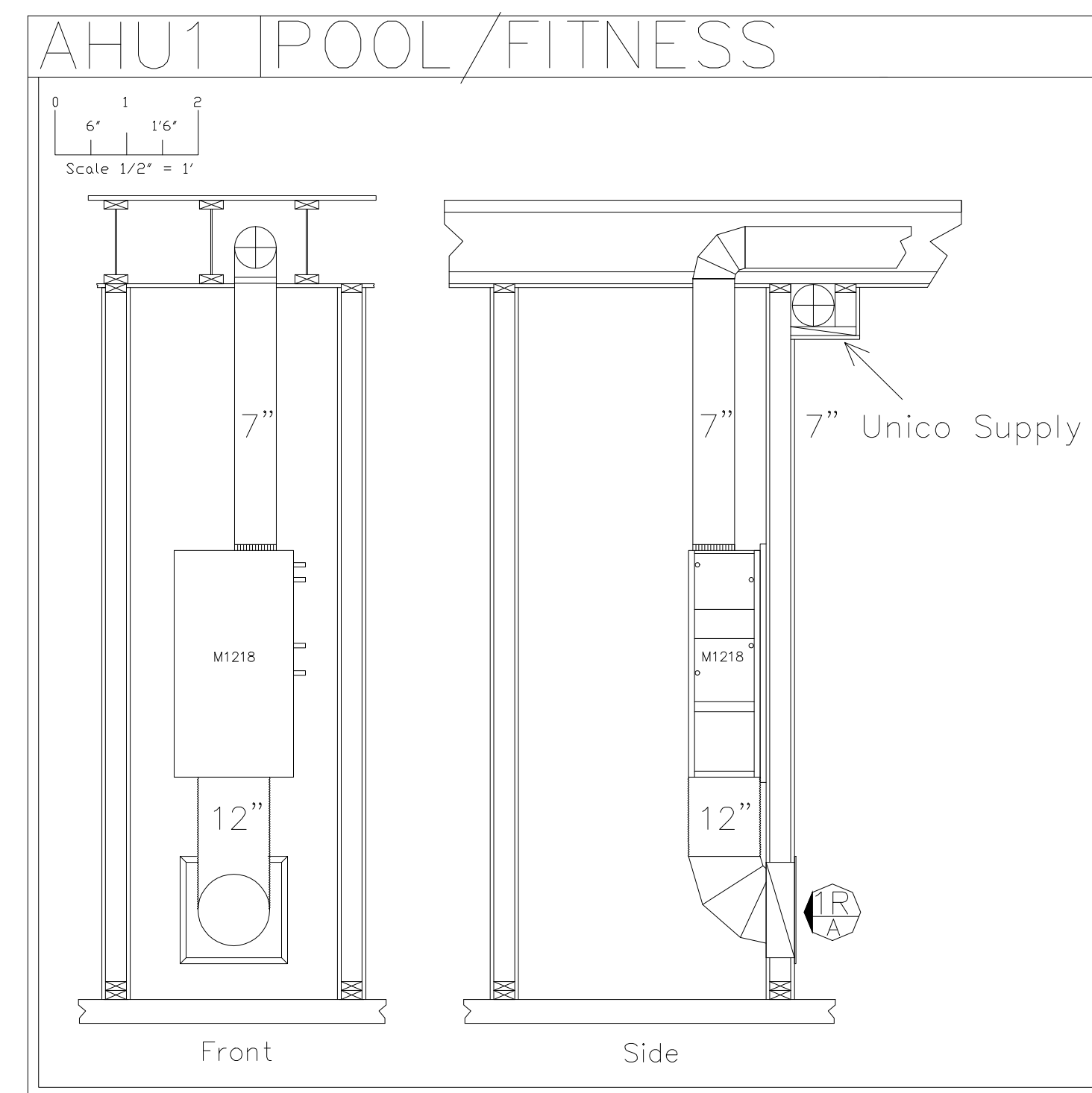
## BALANCING VALVE SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	BODY CONSTRUCTION	FLUID		ELECTRICAL	PHYSICAL CONNECT SIZE (IN)	NOTES
					FLOW RATE (GPM)	HEAD LOSS (FT)			
ISTEC-2908	ISTEC-2908	AHU-1 (COOLING)	MANUAL STRAIGHT	BRONZE	0.70	0.06		0.75	
ISTEC-2911	ISTEC-2911	AHU-2 (COOLING)	MANUAL STRAIGHT	BRONZE	4.90	1.25		1.00	
ISTEC-2911	ISTEC-2911	AHU-3 (COOLING)	MANUAL STRAIGHT	BRONZE	6.30	2.21		1.00	
ISTEC-2911	ISTEC-2911	AHU-4 (COOLING)	MANUAL STRAIGHT	BRONZE	5.00	1.40		1.25	
ISTEC-2911	ISTEC-2911	AHU-5 (COOLING)	MANUAL STRAIGHT	BRONZE	6.40	2.29		1.00	
ISTEC-2911	ISTEC-2911	AHU-6 (COOLING)	MANUAL STRAIGHT	BRONZE	3.90	0.85		1.00	
ISTEC-2912	ISTEC-2912	AHU-7 (COOLING)	MANUAL STRAIGHT	BRONZE	7.60	1.21		1.25	
ISTEC-2912	ISTEC-2912	AHU-8 (COOLING)	MANUAL STRAIGHT	BRONZE	8.60	1.56		1.25	
ISTEC-2911	ISTEC-2911	AHU-9 (COOLING)	MANUAL STRAIGHT	BRONZE	10.00	5.59		1.00	
ISTEC-2908	ISTEC-2908	AHU-10 DESERT AIR	MANUAL STRAIGHT	BRONZE	2.00	0.54		0.75	
ISTEC-2912	ISTEC-2912	UNI-CHILLER #1	MANUAL STRAIGHT	BRONZE	10.90	2.50		1.25	
ISTEC-2912	ISTEC-2912	UNI-CHILLER #2	MANUAL STRAIGHT	BRONZE	10.90	2.50		1.25	
ISTEC-2912	ISTEC-2912	UNI-CHILLER #3	MANUAL STRAIGHT	BRONZE	10.90	2.50		1.25	
ISTEC-2912	ISTEC-2912	UNI-CHILLER #4	MANUAL STRAIGHT	BRONZE	10.90	2.50		1.25	
ISTEC-2912	ISTEC-2912	UNI-CHILLER #5	MANUAL STRAIGHT	BRONZE	10.90	2.50		1.25	

## AIR SEPARATOR SCHEDULE



# Unico Equipment Detail



Authority Air Designs, LLC.  
6608 W. 95th Place  
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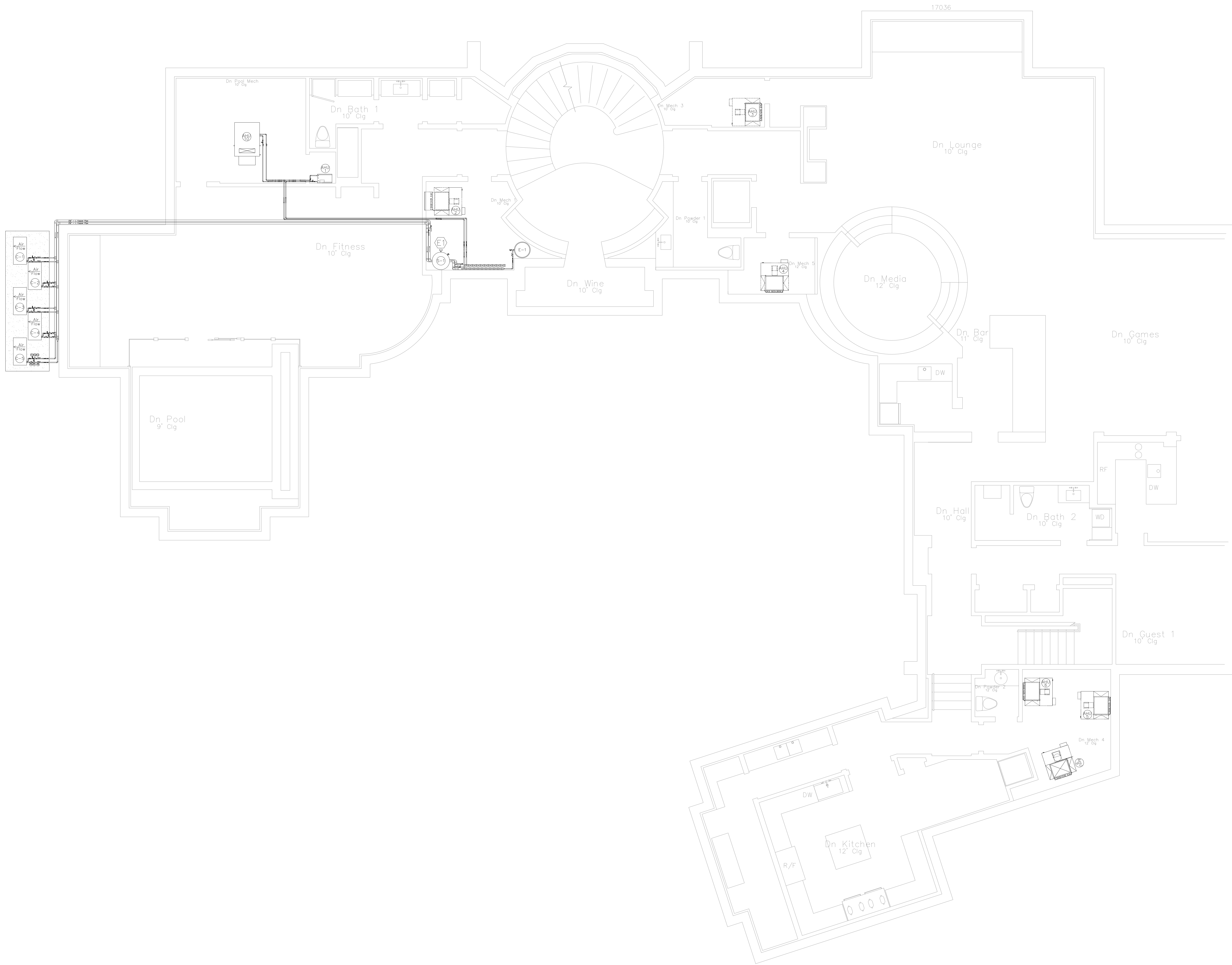
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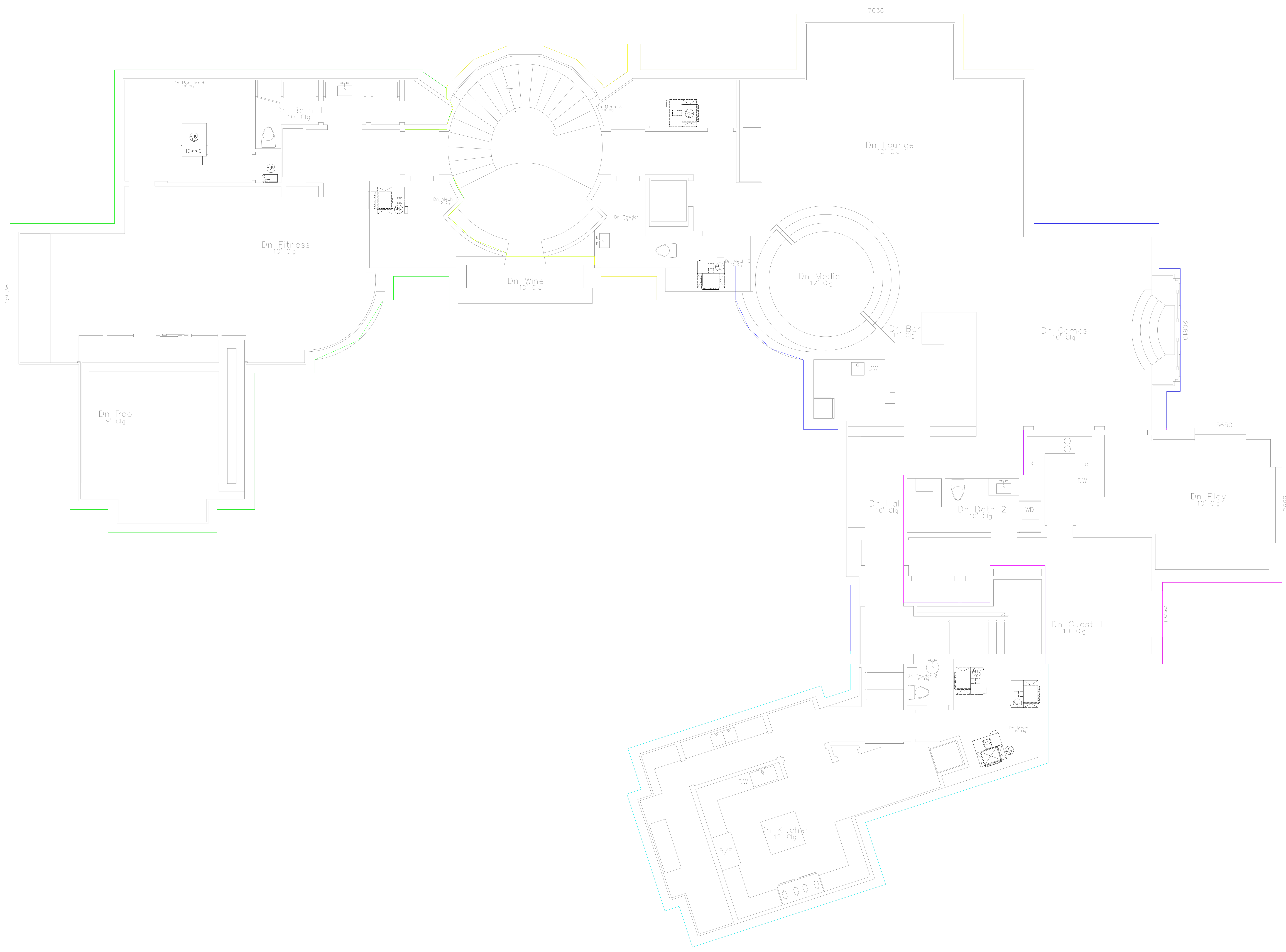
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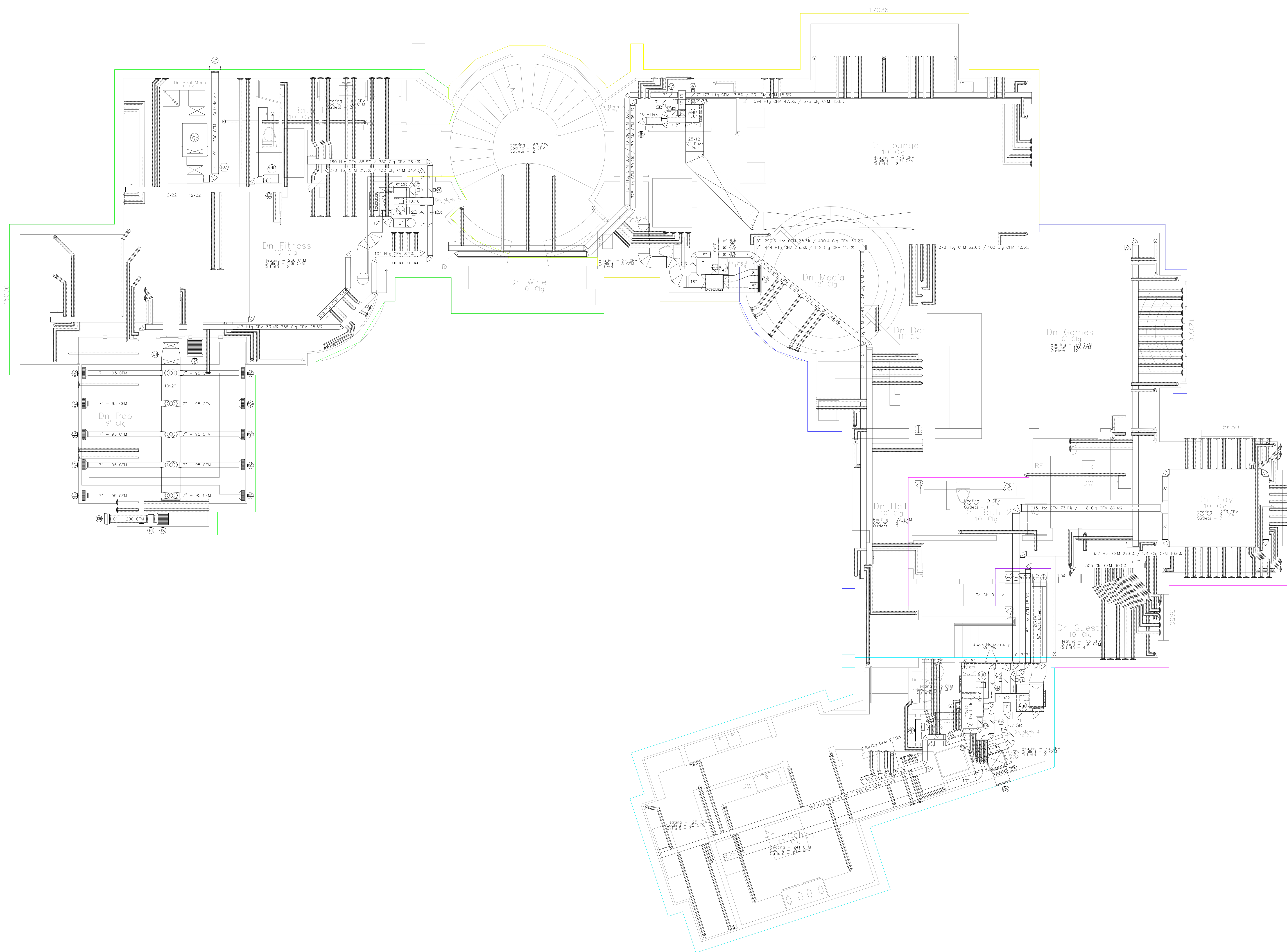
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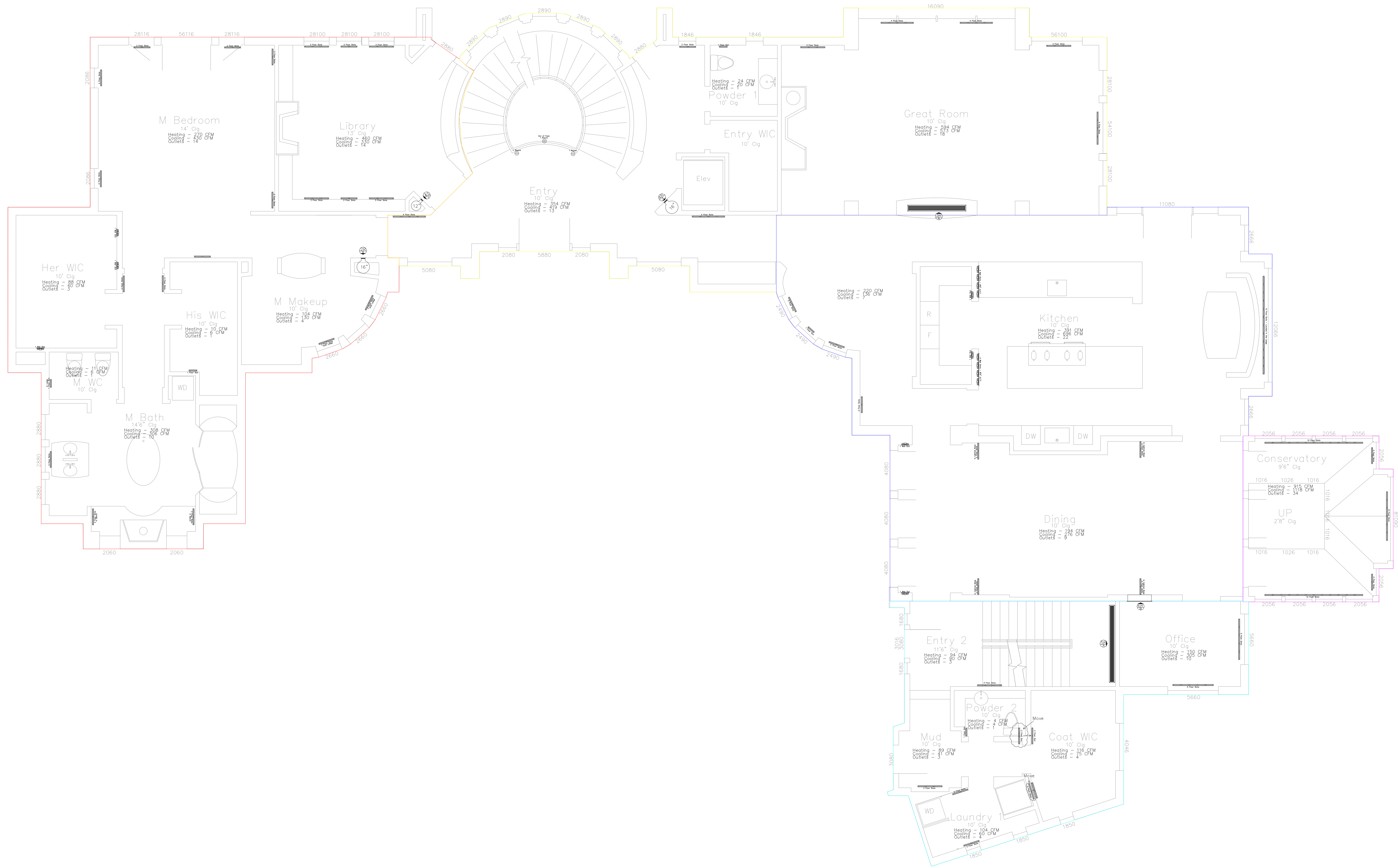
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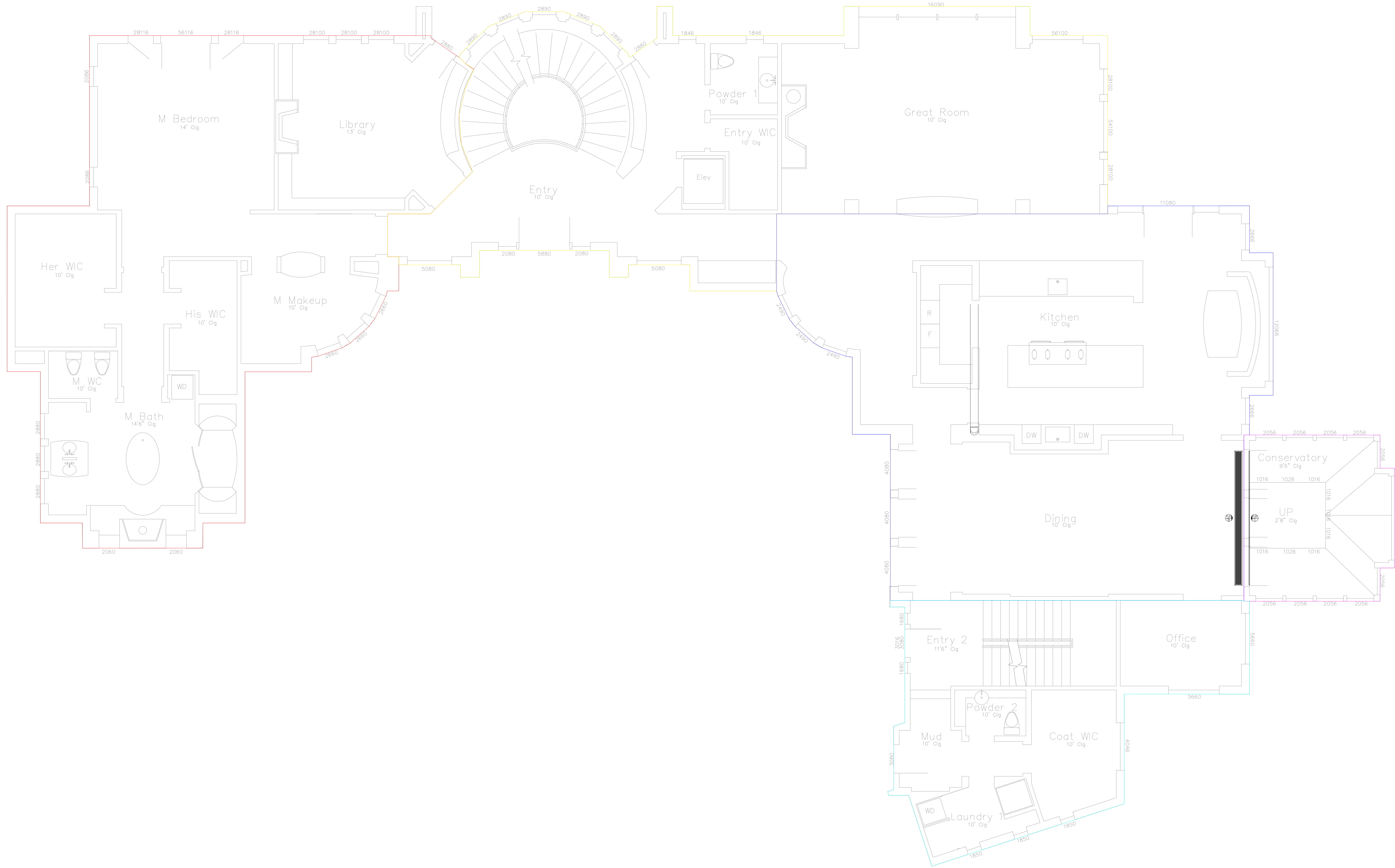
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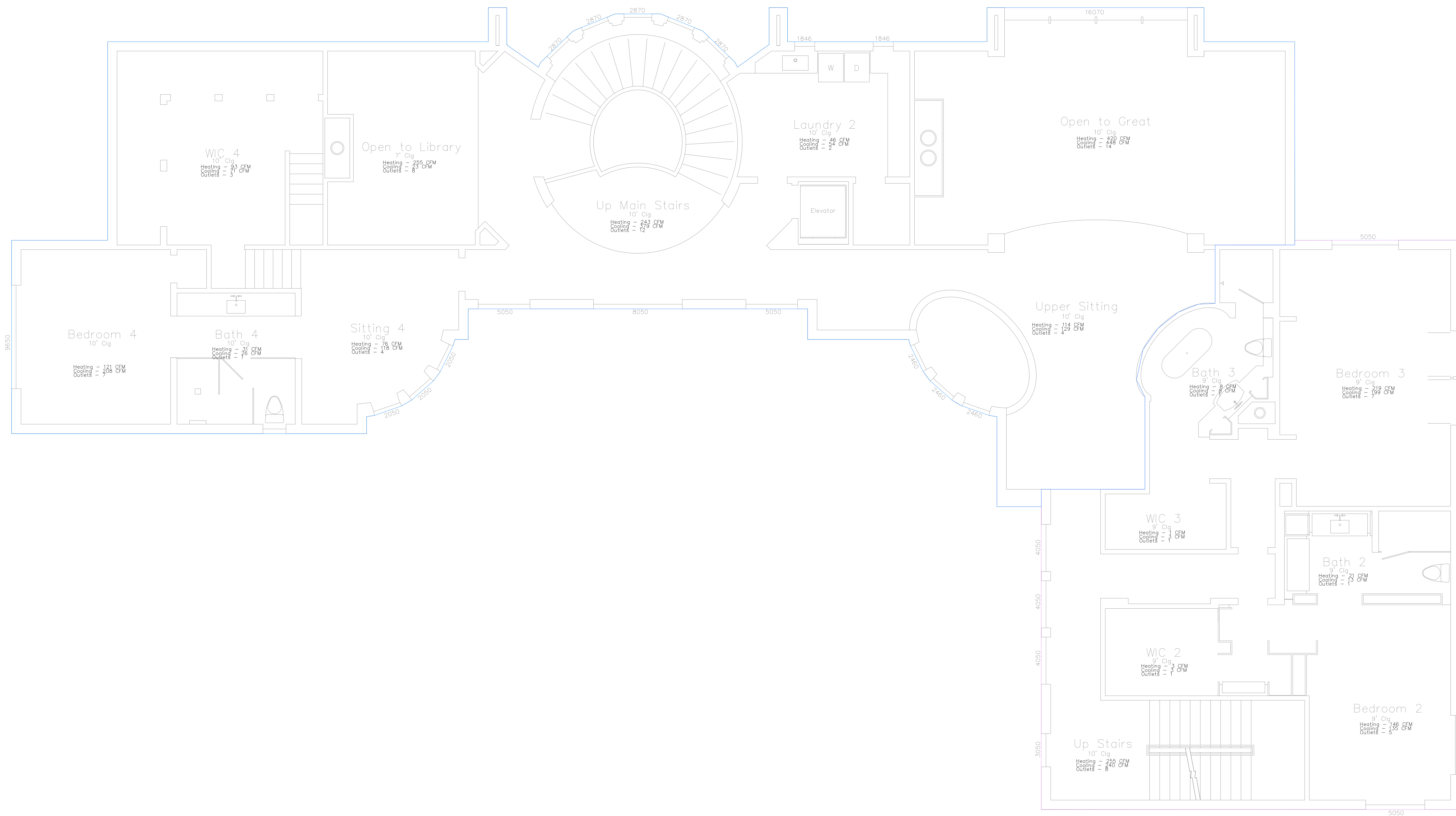
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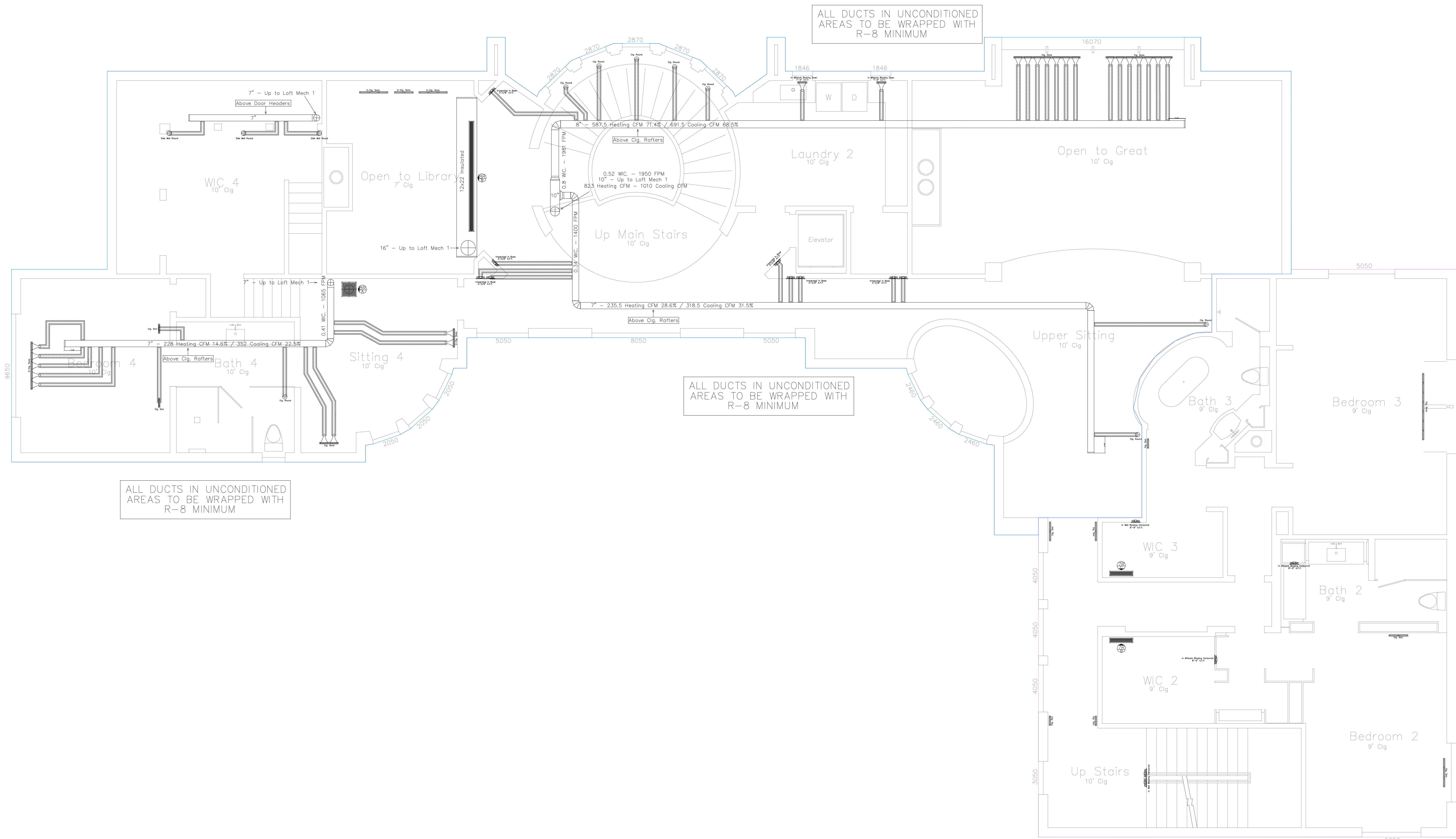
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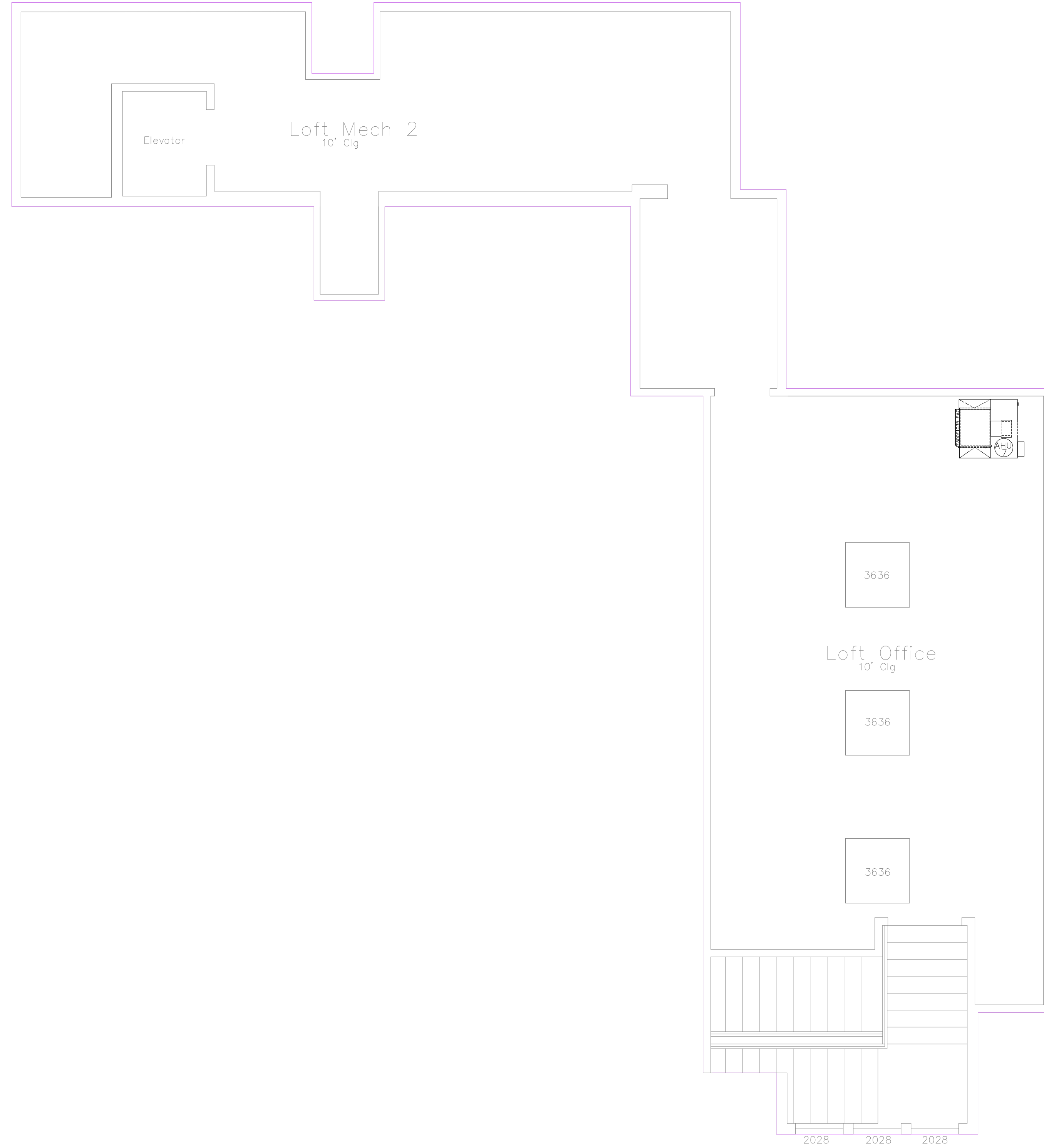
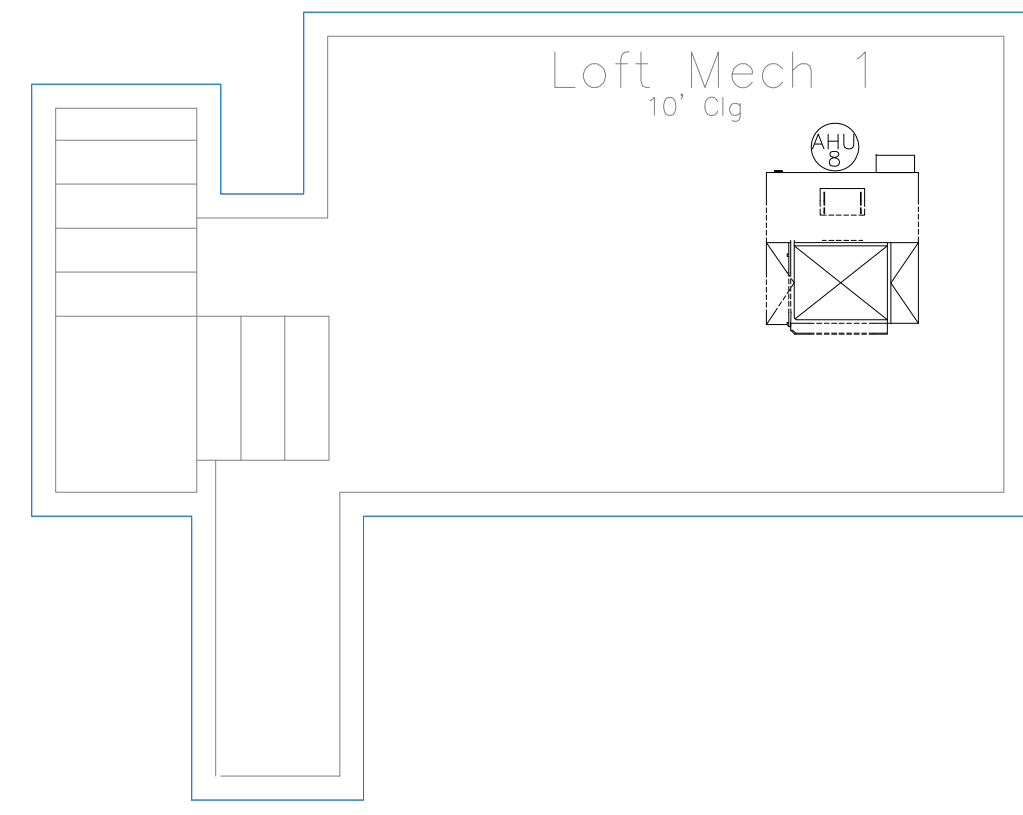
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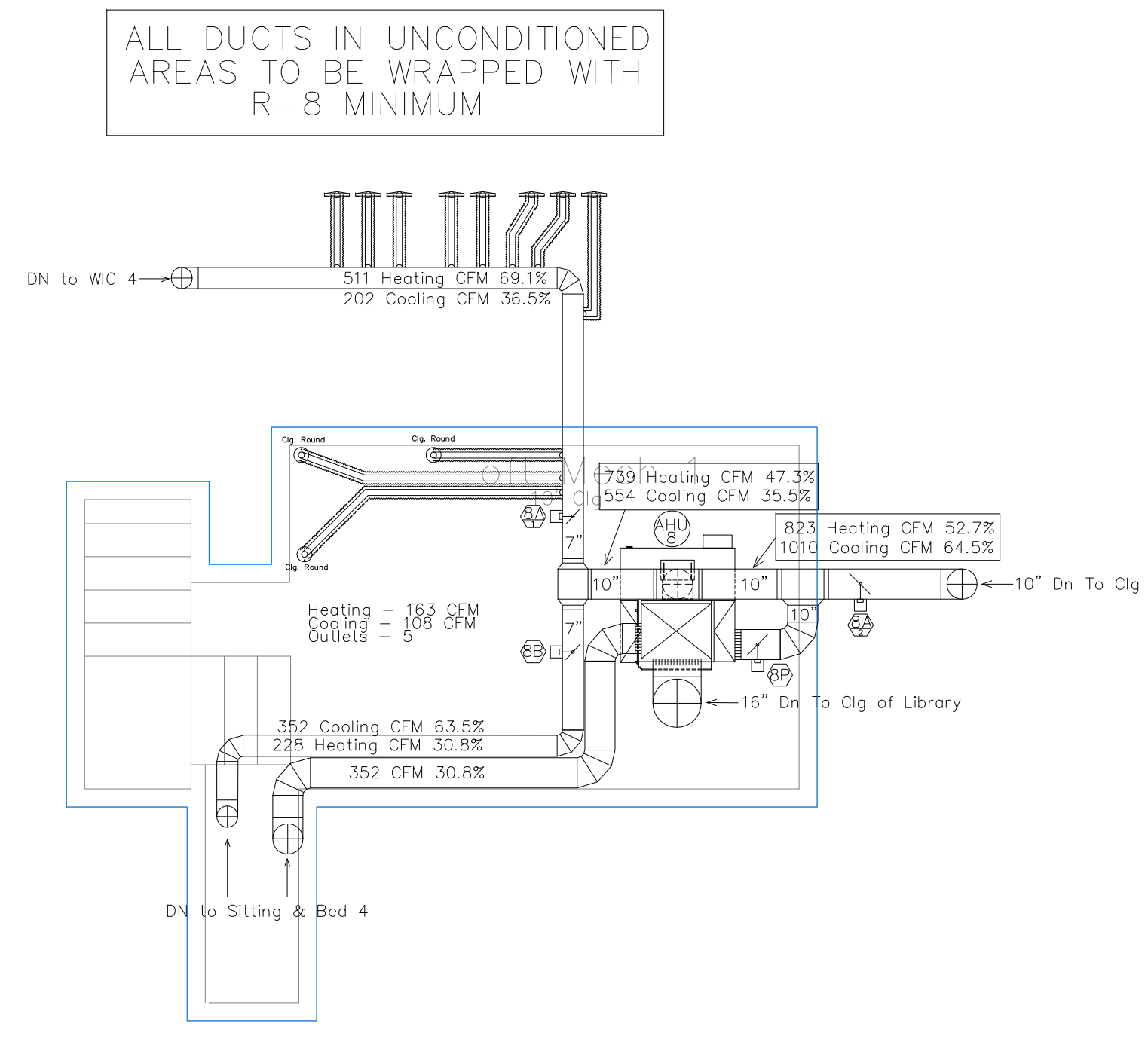
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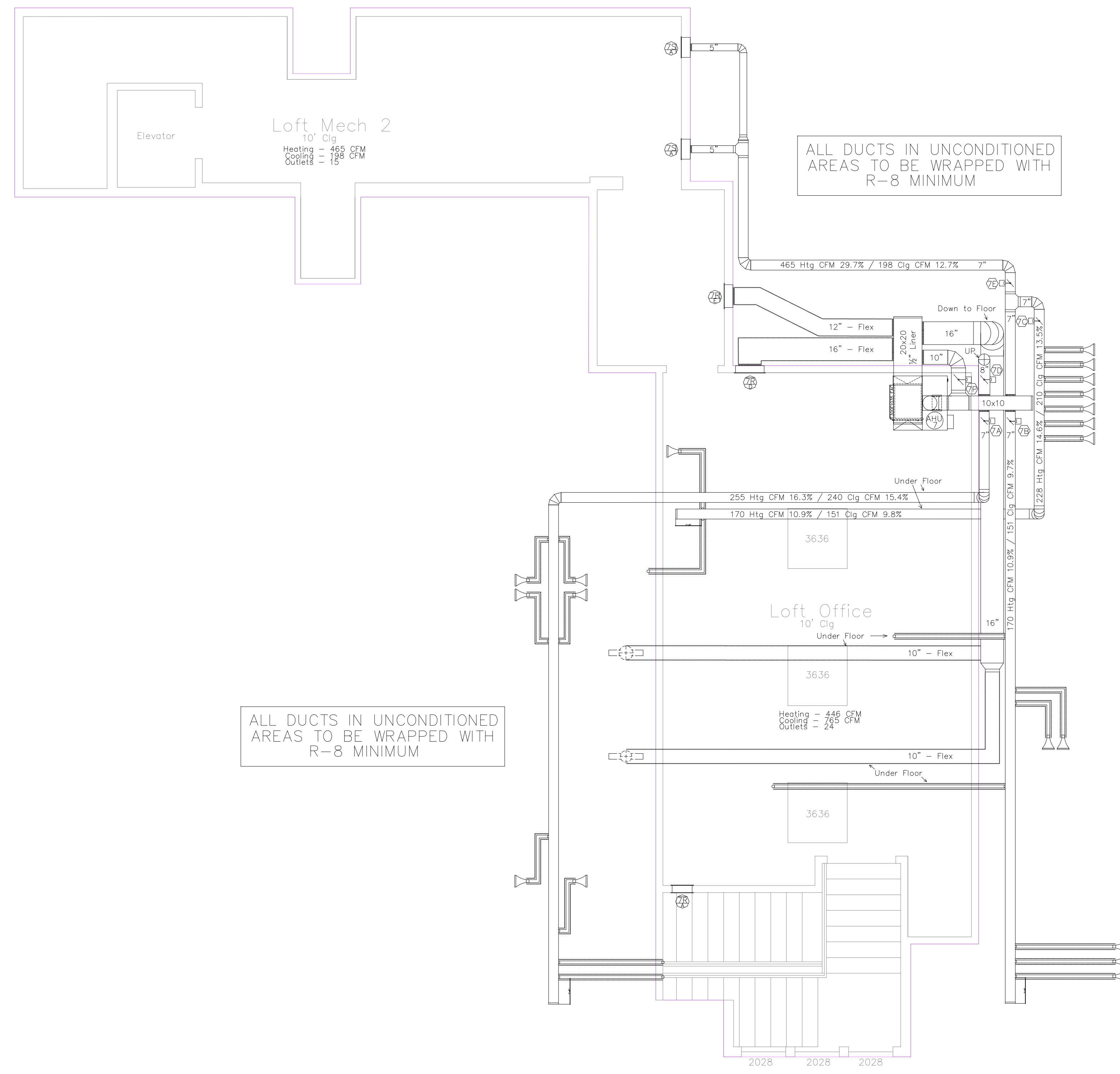
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**Cooper Heating & Cooling, Inc.**  
11780 Olde Wadsworth Blvd.  
Broomfield, CO 80020  
(303) 466-4209

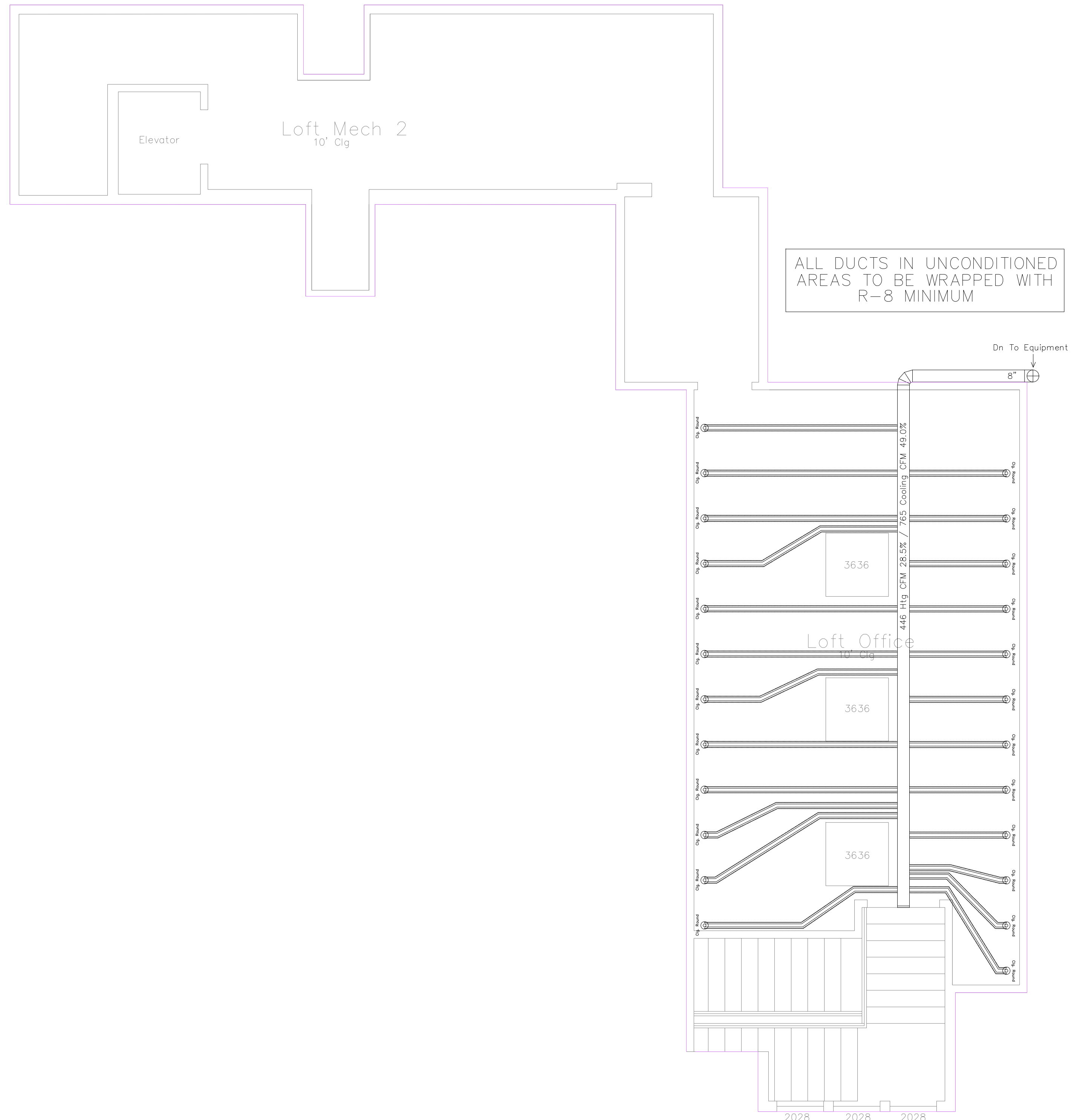
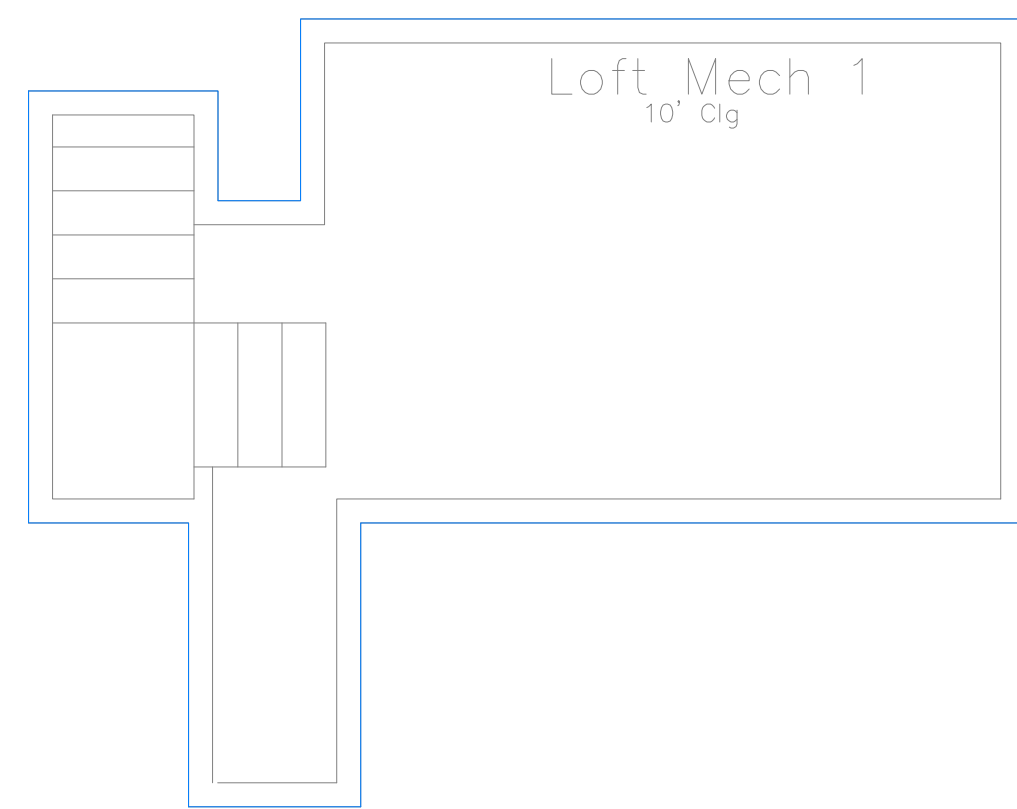
**Norton Residence**  
1011 Orchard Rd.  
Bloomfield Hills, Michigan  
(248) 755-9915

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