COST SUMMARY

Project:	**HIDDEN FOR PRIVACY**
Address:	**HIDDEN FOR PRIVACY**
Scope:	**HVAC**
Date:	**-**

Website: www.alfasquareestimationa.com
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ALPHA SQUARE
ESTIMATIONS

	CSI DIV.	DESCRIPTION	TOTAL TRADE COST	REMARKS		
	DIV. 01	GENERAL REQUIREMENTS	$ -			
	DIV. 23	HEATING, VENTILATION, AND AIR CONDITIONING	$ -			
		SUBTOTAL	$ -			
		OVERHEAD & PROFIT - 15%	$ -			
		TOTAL BID	$ -			
		EXCLUSIONS				
		ALL ITEMS NOT MENTIONED ABOVE ARE EXCLUDED				

Estimate of Materials and Cost of Construction

Project: HIDDEN FOR PRIVACY
Address: HIDDEN FOR PRIVACY
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SR #	REF. SHEET	DETAIL SHEET	DESCRIPTION	QTY.	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT MANHOURS	MANHOUR RATE	UNIT LABOR RATE	TOTAL LABOR COST	UNIT MATERIAL	TOTAL MATERIAL COST	UNIT ITEM COST	TOTALCOST
		DIV. 01	GENERAL REQUIREMENTS												
1			Permits Documentation And Fees	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
2			Hazardous Waste Or Disposal Work	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
3			Owner Purchased, Contractor Installed Items	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
3			Contractors Use Of New And Existing Facilities	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
4			Correction Of Unsatisfactory Conditions	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
4			Restoration Of Unit Damaged During Installation	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
5			Replacement Of Units Which Cannot Be Restored	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
5			Maintaining Existing Construction In Weather High Conditions	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
6			Signage	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
6			Supervisory Personnel	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
7			Temporary Services	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
7			Water	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
8			Lighting And Power	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
8			Toilet Facilities	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
9			Material Storage	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
10			Contractor's Safety Program	1	0%	1	LS	0.00	$ -	$ -	$ -	$ -	$ -	$ -	
							SUBTOTAL								$ -
		DIV. 23	HEATING, VENTILATION, AND AIR CONDITIONING												
			LEVEL 1												
			DUCTWORK												
11			6" Dia Mechanical Duct	124	10%	136	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12			8" Dia Mechanical Duct	634	10%	697	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13			10" Dia Mechanical Duct	43	10%	47	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14			22"X8" Mechanical Duct	17	10%	19	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15			14"x8" Mechanical Duct	66	10%	72	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16			16"x10" Mechanical Duct	91	10%	100	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17			18"x10" Mechanical Duct	46	10%	51	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18			20"X10" Mechanical Duct	3	10%	3	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19			24"x8" Mechanical Duct	34	10%	37	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20			24"x10" Mechanical Duct	14	10%	16	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
21			28"x10" Mechanical Duct	28	10%	31	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22			30"x10" Mechanical Duct	3	10%	3	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23			32"x10" Mechanical Duct	47	10%	52	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24			36"x14" Mechanical Duct	12	10%	13	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25			40"x10" Mechanical Duct	68	10%	75	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26			16"x8" Mechanical Duct	136	10%	150	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27			22"X10" Mechanical Duct	64	10%	70	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28			30"x8" Mechanical Duct	4	10%	5	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
29			4" Dia Mechanical Duct	24	10%	26	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30			20"X10" Mechanical Duct	15	10%	17	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31			30"x12" Up	10	10%	11	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32			8" Dia Flexible Duct	149	10%	164	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
33			6" Dia 90 Degree Bend	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34			8" Dia 45 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35			8" Dia 90 Degree Bend	46	0%	46	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36			(14"x8") To 8" Dia Transition	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37			(14"x8") To 45 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38			(16"x8") To 45 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39			(16"x10") 45 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40			(16"x10") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41			(20"x8") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42			(22"x10") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43			(36"x14") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44			(40"x10") 45 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45			(40"x10") 90 Degree Bend	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46			(16"x8") To 6" Dia Transition	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47			(16"x8") To 8" Dia Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48			(16"x10") To 8" Dia Transition	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49			(16"x10") To 8" Dia Transition	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50			(18"x10") To 8" Dia Transition	9	0%	9	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51			(20"x10") To 8" Dia Transition	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52			(22"x10") To 8" Dia Transition	5	0%	5	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
53			(22"x10") To 8" Dia Transition	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54			(24"x8") To 8" Dia Transition	9	0%	9	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55			(40"x10") To 8" Dia Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56			(28"x10") To 8" Dia Transition	7	0%	7	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57			(40"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58			(40"x10") To 10" Dia Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59			(30"x10") To (16"x10") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60			(32"x10") To (24"x10") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
61			(40"x10") To (36"x14") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62			(40"x10") To (32"x10") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63			(30"x10") To (22"x14") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64			(22"x10") To (16"x10") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
65			CD1 - Condensate Unit , CFM : 90, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
66			CD1 - Condensate Unit , CFM : 140, Manufacturer: Price	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67			CD1 - Condensate Unit , CFM : 150, Manufacturer: Price	5	0%	5	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68			CD1 - Condensate Unit , CFM : 175, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69			CD1 - Condensate Unit , CFM : 200, Manufacturer: Price	40	0%	40	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70			CD1 - Condensate Unit , CFM : 225, Manufacturer: Price	56	0%	56	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
71			EBB-1 , Electric Base Board Radiation, Manufacturer: Price	7	0%	7	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72			EG-1, Exhaust Fan, Baked White Enamel Finish, CFM: 20, Manufacturer: Price	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73			EG-1, Exhaust Fan, Baked White Enamel Finish, CFM: 70, Manufacturer: Price	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74			TG1 - (14X8) Steel Transfer Grill, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75			TG1 - (22x10) Steel Transfer Grill, Manufacturer: Price	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			HVAC EQUIPMENTS												
76			AWH1 - Electric Wall Heater, CFM: 65, Manufacturer: Q-Mark	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
77			FC1A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78			FC1B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
79			FC2A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80			FC2B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81			FC3 - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
82			FC4 - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83			FC5 - Fan Coil Unit, Total CFM: 1000, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
84			FC6A - Fan Coil Unit, Total CFM: 1200, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
85			FC6B - Fan Coil Unit, Total CFM: 1200, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86			FC7A - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87			FC7B - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
88			FC8A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89			FC8B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
90			FC9A - Fan Coil Unit, Total CFM: 900, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91			FC9B - Fan Coil Unit, Total CFM: 900, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
92			FC10A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
93			FC10B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
94			FC11A - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95			FC11B - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
96			FC12A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
97			FC12B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
98			FC13A - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
99			FC13B - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
100			(18"x10") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
101			Combination Fire & Smoke Damper	15	0%	15	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102			Radiation Damper	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
103			Unit Mounted Thermostat	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
104			Wall Mounted Thermostat	15	0%	15	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			MECHANICAL ROOM	1											
			DUCTWORK												

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SR #	REF. SHEET	DETAIL SHEET	DESCRIPTION	QTY.	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT MANHOURS	MANHOUR RATE	UNIT LABOR RATE	TOTAL LABOR COST	UNIT MATERIAL	TOTAL MATERIAL COST	UNIT ITEM COST	TOTALCOST
105			6" Dia Mechanical Duct	57	10%	62	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
106			8" Dia Mechanical Duct	13	10%	14	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
107			14" Dia Mechanical Duct	8	10%	9	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
108			40"x10" Mechanical Duct	26	10%	28	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
109			6" Dia 90 Degree Bend	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
110			(40"x10") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
111			(52"x18") To 14" Dia Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
112			EF2 - Exhaust Fan, CFM: 800, Manufacturer: Green Heck	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
113			EUH1 - Electric Unit Heater, CFM: 350, Manufacturer: Berko	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
114			LVR1-1 - (52"x18") Metal -Steel Louver, CFM: 800, Manufacturer: Boiler Room	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115			LVR1-2 - (52"x18") Metal -Steel Louver, CFM: 800, Manufacturer: Boiler Room	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
116			Combination Fire & Smoke Damper	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
117			Manual Volume Damper W/ Locking Quadrant	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
118			Thermostat	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			TYPICAL UNIT PLAN	**13**											
			DUCTWORK												
119			4" Dia Mechanical Duct	251	10%	276	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
120			6" Dia Mechanical Duct	343	10%	377	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
121			8" Dia Mechanical Duct	99	10%	108	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
122			12x8 Mechanical Duct	175	10%	193	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
123			8" Dia Flexible Duct	92	10%	101	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
124			4" Dia 90 Degree Bend	26	0%	26	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
125			4" Dia To 6" Dia Transition	26	0%	26	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
126			6" Dia 90 Degree Bend	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
127			(12x8) To 8" Dia Transition	39	0%	39	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
128			CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	26	0%	26	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
130			EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
131			EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
132			RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			HVAC EQUIPMENTS												
133			UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: First Company	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
134			7 Days Programmable Thermostat	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
135			Manual Volume Damper W/ Locking Quadrant	65	0%	65	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
136			Motorized Damper	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
137			Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	13	0%	13	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
138			Radiation Damper	65	0%	65	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			TYPICAL UNIT PLAN "A"	**2**											
			DUCTWORK												
139			4" Dia Mechanical Duct	45	10%	49	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
140			6" Dia Mechanical Duct	57	10%	62	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141			8" Dia Mechanical Duct	16	10%	18	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142			12x8 Mechanical Duct	27	10%	29	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
143			8" Dia Flexible Duct	9	10%	10	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
144			4" Dia 90 Degree Bend	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
145			4" Dia To 6" Dia Transition	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146			6" Dia 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
147			(12x8) To 8" Dia Transition	6	0%	6	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
148			CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
149			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
150			EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
151			EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152			RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			HVAC EQUIPMENTS												
153			UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: First Company	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
154			7 Days Programmable Thermostat	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
155			Manual Volume Damper W/ Locking Quadrant	10	0%	10	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
156			Motorized Damper	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
157			Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
158			Radiation Damper	10	0%	10	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			LEVEL 2												
			DUCTWORK												
159			4" Dia Mechanical Duct	23	10%	25	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
160			6" Dia Mechanical Duct	203	10%	223	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
161			8" Dia Mechanical Duct	93	10%	102	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
162			12"x8" Mechanical Duct	40	10%	44	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163			12"x10" Mechanical Duct	5	10%	5	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164			12"x12" Mechanical Duct	73	10%	80	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
165			14"x10" Mechanical Duct	41	10%	45	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
166			14"x10" Mechanical Duct	17	10%	19	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
167			16"x8" Mechanical Duct	42	10%	46	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
168			18"x8" Mechanical Duct	135	10%	148	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
169			20"x12" Mechanical Duct	59	10%	65	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
170			22"x10" Mechanical Duct	52	10%	57	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
171			22"x12" Mechanical Duct	185	10%	204	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
172			30"x8" Mechanical Duct	8	10%	9	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
173			32"x8" Mechanical Duct	2	10%	3	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174			36"x8" Mechanical Duct	9	10%	10	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175			(14"x30") Up	10	10%	11	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
176			(18"x36") Up	10	10%	11	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
177			(36"x10") Up	10	10%	11	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
178			8" Dia Flexible Duct	39	10%	43	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
179			4" Dia 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
180			6" Dia 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
181			8" Dia 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
182			(18"x8") 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
183			(22"x10") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
184			(22"x12") 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185			(14"x10") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
186			(12"x8") To 8" Dia Transition	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
187			(12"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
188			(12"x12") To 6" Dia Transition	7	0%	7	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
189			(14"x10") To 8" Dia Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
190			(20"x12") To 6" Dia Transition	6	0%	6	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
191			(14"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
192			(16"x8") To 8" Dia Transition	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
193			(22"x10") To 8" Dia Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
194			(22"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
195			(22"x12") To 6" Dia Transition	11	0%	11	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
196			(20"x10") To (14"x10") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
197			(22"x10") To (14"x10") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198			(30"x8") To (12"x12") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
199			(30"x8") To (20"x8") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
200			(32"x8") To (22"x12") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
201			(36"x8") To (12"x12") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
202			CD1 - Ceiling Diffuser, CFM: 150, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
203			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	10	0%	10	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
204			EBB-1 - Electric Base Board Radiation, Total Length: 6 Ft., Manufacturer: Q-Mark	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
205			EG-1, Exhaust Fan, Baked White Enamel Finish, CFM: 70, Manufacturer: Price	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
206			Combination Fire & Smoke Damper	5	0%	5	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
207			Manual Volume Damper w/ Locking Quadrant	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Estimate of Materials and Cost of Construction

Project: HIDDEN FOR PRIVACY
Address: HIDDEN FOR PRIVACY
Scope: HVAC
Date: -

ALPHA SQUARE ESTIMATIONS

Website: www.alfasquareestimationa.com
Email: info@alfasquareestimations.com
Contact +17-869-476685

SR #	REF. SHEET	DETAIL SHEET	DESCRIPTION	QTY.	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT MANHOURS	MANHOUR RATE	UNIT LABOR RATE	TOTAL LABOR COST	UNIT MATERIAL	TOTAL MATERIAL COST	UNIT ITEM COST	TOTALCOST
208			Unit Mounted Thermostat	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
209			Wall Box w/ Back Draft Damper, Manufacturer: X-Vent	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
210			Wall Mounted Thermostat	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			TYPICAL UNIT PLAN	22											
			DUCTWORK												
211			4" Dia Mechanical Duct	424	10%	466	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
212			6" Dia Mechanical Duct	580	10%	638	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
213			8" Dia Mechanical Duct	167	10%	183	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
214			12x8 Mechanical Duct	296	10%	326	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
215			8" Dia Flexible Duct	156	10%	171	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
216			4" Dia 90 Degree Bend	44	0%	44	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
217			4" Dia To 6" Dia Transition	44	0%	44	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
218			6" Dia 90 Degree Bend	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
219			(12x8) To 8" Dia Transition	66	0%	66	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
220			CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
221			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	44	0%	44	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
222			EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
223			EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224			RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			HVAC EQUIPMENTS												
225			UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: First Company	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
226			7 Days Programmable Thermostat	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
227			Manual Volume Damper W/ Locking Quadrant	110	0%	110	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
228			Motorized Damper	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
229			Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
230			Radiation Damper	110	0%	110	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			TYPICAL UNIT PLAN "A"	4											
			DUCTWORK												
231			4" Dia Mechanical Duct	89	10%	98	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
232			6" Dia Mechanical Duct	113	10%	124	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
233			8" Dia Mechanical Duct	32	10%	35	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
234			12x8 Mechanical Duct	53	10%	59	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
235			8" Dia Flexible Duct	17	10%	19	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
236			4" Dia 90 Degree Bend	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237			4" Dia To 6" Dia Transition	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
238			6" Dia 90 Degree Bend	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
239			(12x8) To 8" Dia Transition	12	0%	12	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
240			CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
241			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
242			EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
243			EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
244			RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			HVAC EQUIPMENTS												
245			UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: First Company	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
246			7 Days Programmable Thermostat	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
247			Manual Volume Damper W/ Locking Quadrant	20	0%	20	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
248			Motorized Damper	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
249			Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
250			Radiation Damper	20	0%	20	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			LEVEL 3												
			DUCTWORK												
251			4" Dia Mechanical Duct	20	10%	22	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
252			6" Dia Mechanical Duct	216	10%	237	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
253			8" Dia Flexible Duct	41	10%	45	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
254			8" Dia Mechanical Duct	86	10%	95	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
255			12"x8" Mechanical Duct	17	10%	19	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
256			12"x10" Mechanical Duct	29	10%	32	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
257			12"x12" Mechanical Duct	71	10%	78	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
258			16"x8" Mechanical Duct	42	10%	46	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
259			16"x10" Mechanical Duct	71	10%	78	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
260			18"x8" Mechanical Duct	135	10%	148	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
261			20"x12" Mechanical Duct	59	10%	65	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
262			22"x12" Mechanical Duct	227	10%	249	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
263			30"x8" Mechanical Duct	8	10%	9	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
264			32"x8" Mechanical Duct	2	10%	3	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
265			36"x8" Mechanical Duct	9	10%	10	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
266			(14"x30") Up	10	10%	11	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
267			(18"x36") Up	10	10%	11	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
268			(36"x10") Up	10	10%	11	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
269			8" Dia Flexible Duct	149	10%	164	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
270			(36"x8") To (12"x12") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
271			(32"x8") To (22"x12") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
272			(30"x8") To (20"x8") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
273			(30"x8") To (12"x12") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
274			(20"x10") To (14"x10") Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
275			(22"x12") To 6" Dia Transition	12	0%	12	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
276			(22"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
277			(22"x10") To 8" Dia Transition	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
278			(16"x8") To 8" Dia Transition	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
279			(14"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
280			(20"x12") To 6" Dia Transition	6	0%	6	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
281			(14"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
282			(12"x12") To 6" Dia Transition	7	0%	7	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
283			(12"x10") To 8" Dia Transition	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
284			(12"x8") To 8" Dia Transition	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
285			(16"x10") 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
286			(22"x12") 90 Degree Bend	3	0%	3	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
287			(18"x8") 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
288			8" Dia 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
289			6" Dia 90 Degree Bend	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
290			4" Dia 90 Degree Bend	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
291			EG-1 - Exhaust Fan, Baked White Enamel Finish, CFM: 70, Manufacturer: Price	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
292			EBB1 - Electric Base Board Radiation, Total Length: 6 Ft., Manufacturer: Q-Mark	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
293			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	10	0%	10	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
294			CD1 - Ceiling Diffuser, CFM: 150, Manufacturer: Price	5	0%	5	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
295			TG1 - (14X8) Steel Transfer Grill, Manufacturer: Price	2	0%	2	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
296			Wall Mounted Thermostat	6	0%	6	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
297			Wall Box w/ Back Draft Damper, Manufacturer: X-Vent	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
298			Unit Mounted Thermostat	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
299			Manual Volume Damper w/ Locking Quadrant	23	0%	23	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
300			Combination Fire & Smoke Damper	5	0%	5	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			TYPICAL UNIT PLAN	22											
			DUCTWORK												
301			4" Dia Mechanical Duct	424	10%	466	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
302			6" Dia Mechanical Duct	580	10%	638	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
303			8" Dia Mechanical Duct	167	10%	183	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
304			12x8 Mechanical Duct	296	10%	326	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
305			8" Dia Flexible Duct	156	10%	171	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
306			4" Dia 90 Degree Bend	44	0%	44	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307			4" Dia To 6" Dia Transition	44	0%	44	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Estimate of Materials and Cost of Construction

Project: HIDDEN FOR PRIVACY
Address: HIDDEN FOR PRIVACY
Scope: HVAC
Date: -

ALPHA SQUARE ESTIMATIONS

Website: www.alfasquareestimationa.com
Email: info@alfasquareestimations.com
Contact +17-869-476685

SR #	REF. SHEET	DETAIL SHEET	DESCRIPTION	QTY.	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT MANHOURS	MANHOUR RATE	UNIT LABOR RATE	TOTAL LABOR COST	UNIT MATERIAL	TOTAL MATERIAL COST	UNIT ITEM COST	TOTALCOST
308			6" Dia 90 Degree Bend	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
309			(12x8) To 8" Dia Transition	66	0%	66	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
310			CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
311			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	44	0%	44	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
312			EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
313			EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
314			RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			HVAC EQUIPMENTS												
315			UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: First Company	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
316			7 Days Programmable Thermostat	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
317			Manual Volume Damper W/ Locking Quadrant	110	0%	110	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
318			Motorized Damper	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
319			Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	22	0%	22	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
320			Radiation Damper	110	0%	110	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			TYPICAL UNIT PLAN "A"	**4**											
			DUCTWORK												
321			4" Dia Mechanical Duct	89	10%	98	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
322			6" Dia Mechanical Duct	113	10%	124	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
323			8" Dia Mechanical Duct	32	10%	35	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
324			12x8 Mechanical Duct	53	10%	59	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
325			8" Dia Flexible Duct	17	10%	19	LF	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FITTINGS												
326			4" Dia 90 Degree Bend	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
327			4" Dia To 6" Dia Transition	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
328			6" Dia 90 Degree Bend	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
329			(12x8) To 8" Dia Transition	12	0%	12	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			AIR DEVICES												
330			CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
331			CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	8	0%	8	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
332			EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
333			EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
334			RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			HVAC EQUIPMENTS												
335			UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: First Company	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			FIXTURES												
336			7 Days Programmable Thermostat	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
337			Manual Volume Damper W/ Locking Quadrant	20	0%	20	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
338			Motorized Damper	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
339			Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	4	0%	4	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
340			Radiation Damper	20	0%	20	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			ROOF PLAN												
			HVAC EQUIPMENTS												
341			EF1 - Exhaust Fan, CFM: 600, Manufacturer: Green Heck	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
342			EF3 - Exhaust Fan, CFM: 600, Manufacturer: Green Heck	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
343			ERV1 - Energy Recovery Unit, Outdoor Air Fan Total CFM: 1440, Manufacturer: Renew ire	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
344			ERV2 - Energy Recovery Unit, Outdoor Air Fan Total CFM: 3780, Manufacturer: Renew ire	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
345			CU1A - Universal Condensate Unit, CFM: 121, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
346			CU1A - Universal Condensate Unit, CFM: 160, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
347			CU2B - Universal Condensate Unit, CFM: 160, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
348			CU2A - Universal Condensate Unit, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
349			CU3 - Universal Condensate Unit, CFM: 146, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
350			CU4 - Universal Condensate Unit, CFM: 123, Total MBH: 24, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
351			CU5 - Universal Condensate Unit, CFM: 146, Total MBH: 24.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
352			CU6A - Universal Condensate Unit, CFM: 160, Total MBH: 30.2, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
353			CU6B - Universal Condensate Unit, Total MBH: 30.2, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
354			CU7B - Universal Condensate Unit, CFM: 147, Total MBH: 16.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
355			CU7A - Universal Condensate Unit, CFM: 147, Total MBH: 16.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
356			CU8A - Universal Condensate Unit, CFM: 151, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
357			CU8B - Universal Condensate Unit, CFM: 151, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
358			CU9A - Universal Condensate Unit, CFM: 153, Total MBH: 24.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
359			CU9B - Universal Condensate Unit, CFM: 153, Total MBH: 24.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
360			CU10B - Universal Condensate Unit, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
361			CU10A - Universal Condensate Unit, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
362			CU11A - Universal Condensate Unit, CFM: 230, Total MBH: 16.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
363			CU11B - Universal Condensate Unit, CFM: 230, Total MBH: 16.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
364			CU12A - Universal Condensate Unit, CFM: 300, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
365			CU12B - Universal Condensate Unit, CFM: 300, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
366			CU13A - Universal Condensate Unit, CFM: 330, Total MBH: 16.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
367			CU13B - Universal Condensate Unit, CFM: 330, Total MBH: 16.6, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
368			UCU1 - Universal Condensate Unit, CFM: 101, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
369			UCU1 - Universal Condensate Unit, CFM: 102, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
370			UCU1 - Universal Condensate Unit, CFM: 103, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
371			UCU1 - Universal Condensate Unit, CFM: 104, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
372			UCU1 - Universal Condensate Unit, CFM: 105, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
373			UCU1 - Universal Condensate Unit, CFM: 106, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
374			UCU1 - Universal Condensate Unit, CFM: 107, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
375			UCU1 - Universal Condensate Unit, CFM: 108, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
376			UCU1 - Universal Condensate Unit, CFM: 109, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
377			UCU1 - Universal Condensate Unit, CFM: 201, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
378			UCU1 - Universal Condensate Unit, CFM: 202, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
379			UCU1 - Universal Condensate Unit, CFM: 203, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
380			UCU1 - Universal Condensate Unit, CFM: 204, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
381			UCU1 - Universal Condensate Unit, CFM: 205, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
382			UCU1 - Universal Condensate Unit, CFM: 206, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
383			UCU1 - Universal Condensate Unit, CFM: 207, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
384			UCU1 - Universal Condensate Unit, CFM: 208, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
385			UCU1 - Universal Condensate Unit, CFM: 209, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
386			UCU1 - Universal Condensate Unit, CFM: 210, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
387			UCU1 - Universal Condensate Unit, CFM: 211, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
388			UCU1 - Universal Condensate Unit, CFM: 212, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
389			UCU1 - Universal Condensate Unit, CFM: 213, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
390			UCU1 - Universal Condensate Unit, CFM: 214, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
391			UCU1 - Universal Condensate Unit, CFM: 215, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
392			UCU1 - Universal Condensate Unit, CFM: 217, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
393			UCU1 - Universal Condensate Unit, CFM: 219, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
394			UCU1 - Universal Condensate Unit, CFM: 221, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
395			UCU1 - Universal Condensate Unit, CFM: 223, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
396			UCU1 - Universal Condensate Unit, CFM: 223, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
397			UCU1 - Universal Condensate Unit, CFM: 225, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
398			UCU1 - Universal Condensate Unit, CFM: 227, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
399			UCU1 - Universal Condensate Unit, CFM: 229, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
400			UCU1 - Universal Condensate Unit, CFM: 231, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
401			UCU1 - Universal Condensate Unit, CFM: 235, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
402			UCU1 - Universal Condensate Unit, CFM: 301, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
403			UCU1 - Universal Condensate Unit, CFM: 302, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
404			UCU1 - Universal Condensate Unit, CFM: 303, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
405			UCU1 - Universal Condensate Unit, CFM: 304, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
406			UCU1 - Universal Condensate Unit, CFM: 305, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
407			UCU1 - Universal Condensate Unit, CFM: 306, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
408			UCU1 - Universal Condensate Unit, CFM: 307, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
409			UCU1 - Universal Condensate Unit, CFM: 308, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
410			UCU1 - Universal Condensate Unit, CFM: 309, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
411			UCU1 - Universal Condensate Unit, CFM: 310, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
412			UCU1 - Universal Condensate Unit, CFM: 311, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
413			UCU1 - Universal Condensate Unit, CFM: 312, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
414			UCU1 - Universal Condensate Unit, CFM: 313, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
415			UCU1 - Universal Condensate Unit, CFM: 314, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
416			UCU1 - Universal Condensate Unit, CFM: 315, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
417			UCU1 - Universal Condensate Unit, CFM: 316, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
418			UCU1 - Universal Condensate Unit, CFM: 317, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
419			UCU1 - Universal Condensate Unit, CFM: 319, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
420			UCU1 - Universal Condensate Unit, CFM: 321, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
421			UCU1 - Universal Condensate Unit, CFM: 323, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
422			UCU1 - Universal Condensate Unit, CFM: 325, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
423			UCU1 - Universal Condensate Unit, CFM: 327, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Estimate of Materials and Cost of Construction

Project: HIDDEN FOR PRIVACY
Address: HIDDEN FOR PRIVACY
Scope: HVAC
Date: -

Website: www.alfasquareestimationa.com
Email: info@alfasquareestimations.com
Contact +17-869-476685

SR #	REF. SHEET	DETAIL SHEET	DESCRIPTION	QTY.	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT MANHOURS	MANHOUR RATE	UNIT LABOR RATE	TOTAL LABOR COST	UNIT MATERIAL	TOTAL MATERIAL COST	UNIT ITEM COST	TOTALCOST
424			UCU1 - Universal Condensate Unit, CFM: 329, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
425			UCU1 - Universal Condensate Unit, CFM: 331, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
426			UCU1 - Universal Condensate Unit, CFM: 333, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
427			UCU1 - Universal Condensate Unit, CFM: 335, Total MBH: 18, Manufacturer: Carrier	1	0%	1	EA	0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL															**$ -**

TOTAL MATERIAL COST	**$ -**
TOTAL LABOR COST	**$ -**
TOTAL COST	**$ -**
OVERHEAD & PROFIT (15%)	**$ -**
TOTAL BID	**$ -**

FAN COIL UNIT SCHEDULE

REMARKS:
1. ACCEPTABLE MANUFACTURERS ARE: FIRST COMPANY, AIR MARK, ASPEN MANUFACTURING.
2. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES FOR UNIT CASING, FILTERS, OR COILS.
3. REFRIGERANT TYPE TO BE R-410A.
4. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
5. UNIT CFM/COIL CAPACITIES BASED ON HIGH SPEED OPERATION.
6. HEATING COIL SHALL BE COMPATIBLE WITH AQUATHERM TYPE HEATING WATER SYSTEM ALLOW FOR USE OF POTABLE WATER IN HEATING WATER COIL.
7. PROVIDE UNIT WITH ECM MOTOR.
8. PROVIDE MANUFACTURER INSTALLED 2-WAY CONTROL VALVE AND FLOW CYCLE TIMER KIT. TIMER KIT SHALL BE PROGRAMMABLE FOR FLUSHING OF THE HEATING WATER COIL.
9. PROVIDE CONDENSATE PUMP AND CONDENSATE OVERFLOW SWITCH WITH FAN COIL UNIT.
10. PROVIDE CASED UNIT LOUVERED BOTTOM ACCESS PANEL WITH OUTSIDE AIR KNOCKOUT ON BACK OF CASE. MC TO CUTOUT OUTSIDE AIR CONNECTION IF KNOCKOUT OPTION IS NOT AVAILABLE.
11. PROVIDE WITH FACTORY FREEZE PROTECTOR ON HW AND DX COIL.
12. PROVIDE WITH MERV-8 FILTERS MOUNTED IN FILTER GRILLE TO BE FIELD SUPPLIED.
13. PROVIDED CASED UNIT WITH SOLID ACCESS PANEL.

SEQUENCE OF OPERATION (FCU-1A THRU FCU-13B):
1. THE SUPPLY FAN SHALL RUN CONTINUOUSLY.
2. HEATING MODE: ON A CALL FOR HEATING FROM THE THERMOSTAT, THE TWO POSITION VALVE SHALL OPEN AND THE CIRCULATION PUMP SHALL CYCLE TO MAINTAIN SPACE TEMPERATURE.
3. COOLING MODE: ON A CALL FOR COOLING FROM THE THERMOSTAT, THE UNIT SHALL CYCLE THE REFRIGERATION SYSTEM TO MAINTAIN SPACE TEMPERATURE. INTERLOCK THE REFRIGERATION COMPONENTS TO PREVENT OPERATION OF THE COMPRESSOR IF THE EVAPORATOR OR CONDENSER FANS ARE INOPERATIVE.

SEQUENCE OF OPERATION (UFC-1):
1. HEATING MODE: ON A CALL FOR HEATING FROM THE WALL MOUNTED THERMOSTAT, THE SUPPLY FAN SHALL BE ENERGIZED, OUTSIDE AIR DAMPERS TO OPEN AND THETWO POSITION VALVE SHALL OPEN AND THE CIRCULATION PUMP SHALL CYCLE TO MAINTAIN SPACE TEMPERATURE. WHEN THE SPACE TEMPERATURE SETPOINT IS SATISFIED, THE SUPPLY FAN SHALL DE-ENERGIZE, THE OUTSIDE AIR DAMPER SHALL CLOSE, AND THE 2-WAY CONTROL VALVE CLOSE.
2. COOLING MODE: ON A CALL FOR COOLING FROM THE WALL MOUNTED THERMOSTAT, THE SUPPLY FAN SHALL BE ENERGIZED, THE OUTSIDE AIR DAMPER SHALL OPEN, AND THE UNIT SHALL CYCLE THE REFRIGERATION SYSTEM TO MAINTAIN SPACE TEMPERATURE. WHEN THE SPACE TEMPERATURE SETPOINT IS SATISFIED, THE SUPPLY FAN SHALL DE-ENERGIZE, THE OUTSIDE AIR DAMPER SHALL CLOSE, AND THE REFRIGERATION SYSTEM SHALL DE-ENERGIZE. INTERLOCK THE REFRIGERATION COMPONENTS TO PREVENT OPERATION OF THE COMPRESSOR IF THE EVAPORATOR OR CONDENSER FANS ARE INOPERATIVE.

SYMBOL	MANUFACTURER	MODEL	LOCATION	ARRANGEMENT	FAN DATA			COOLING COIL				HEATING COIL						ELECTRICAL DATA				REMARKS
					CFM TOTAL @5300'	CFM O.A. @5300'	S.P. IN W.C. @5300'	ENTERING AIR TEMP DB (F)	ENTERING AIR TEMP WB (F)	LEAVING AIR TEMP DB (F)	LEAVING AIR TEMP WB (F)	MBH TOTAL	ENTERING AIR TEMP DB (F)	LEAVING AIR TEMP DB (F)	HEATING CAPACITY (MBH)	EWT (F)	LWT (F)	HEATING WATER FLOW (GPM)	WATER PD (IN W.C.)	VOLTAGE	PHASE	MCA	MAX. CKT. PROTECTION	
FC-1A	FIRST COMPANY	20CDXQB	L1 MAIL	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	3.3	120	1	10.0	15	1-12
FC-1B	FIRST COMPANY	20CDXQB	L1 LOBBY	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	3.3	120	1	10.0	15	1-12
FC-2A	FIRST COMPANY	20CDXQB	L1 CORRIDOR	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	3.3	120	1	10.0	15	1-12
FC-2B	FIRST COMPANY	20CDXQB	L1 CORRIDOR	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	3.3	120	1	10.0	15	1-12
FC-3	FIRST COMPANY	20CDXQB	CONFERENCE	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	4.1	120	1	10.0	15	1-12
FC-4	FIRST COMPANY	25CDXQB	RECEPTION	HORIZONTAL	800	240	0.4	72	62	55	51	24.0	66	99	23.8	140	120	2.2	4.1	120	1	10.0	15	1-12
FC-5	FIRST COMPANY	31CDXQB	OFFICES	HORIZONTAL	1000	300	0.4	72	62	55	51	24.8	66	95	26.3	140	120	2.6	4.3	120	1	10.0	15	1-12
FC-6A	FIRST COMPANY	37CDXQB	SITTING LOBBY	HORIZONTAL	1200	360	0.4	72	62	55	51	30.2	66	94	30.4	140	120	3.0	5.4	120	1	17.0	20	1-12
FC-6B	FIRST COMPANY	37CDXQB	L1 CORRIDOR	HORIZONTAL	1200	360	0.4	72	62	55	51	30.2	66	94	30.4	140	120	3.0	5.4	120	1	17.0	20	1-12
FC-7A	FIRST COMPANY	26CDXQB	EXERCISE ROOM	HORIZONTAL	800	240	0.4	72	62	55	51	16.6	66	99	23.8	140	120	2.4	4.3	120	1	10.0	15	1-12
FC-7B	FIRST COMPANY	26CDXQB	EXERCISE ROOM	HORIZONTAL	800	240	0.4	72	62	55	51	16.6	66	99	23.8	140	120	2.4	4.3	120	1	10.0	15	1-12
FC-8A	FIRST COMPANY	20CDXQB	COMMUNITY ROOM	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	4.1	120	1	10.0	15	1-12
FC-8B	FIRST COMPANY	20CDXQB	COMMUNITY ROOM	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	4.1	120	1	10.0	15	1-12
FC-9A	FIRST COMPANY	31CDXQB	EVENT ROOM	HORIZONTAL	900	270	0.4	72	62	55	51	24.6	66	99	26.3	140	120	2.6	4.3	120	1	10.0	15	1-12
FC-9B	FIRST COMPANY	31CDXQB	EVENT ROOM	HORIZONTAL	900	270	0.4	72	62	55	51	24.6	66	99	26.3	140	120	2.6	4.3	120	1	10.0	15	1-12
FC-10A	FIRST COMPANY	20CDXQB	L2 CORRIDOR	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	4.1	120	1	10.0	15	1-12
FC-10B	FIRST COMPANY	20CDXQB	L2 CORRIDOR	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	4.1	120	1	10.0	15	1-12
FC-11A	FIRST COMPANY	25CDXQB	L2 CORRIDOR	HORIZONTAL	800	240	0.4	72	62	55	51	16.6	66	97	22.2	140	120	2.2	4.1	120	1	10.0	15	1-12
FC-11B	FIRST COMPANY	25CDXQB	L2 CORRIDOR	HORIZONTAL	800	240	0.4	72	62	55	51	16.6	66	97	22.2	140	120	2.2	4.1	120	1	10.0	15	1-12
FC-12A	FIRST COMPANY	20CDXQB	L3 CORRIDOR	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	4.1	120	1	10.0	15	1-12
FC-12B	FIRST COMPANY	20CDXQB	L3 CORRIDOR	HORIZONTAL	600	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	4.1	120	1	10.0	15	1-12
FC-13A	FIRST COMPANY	25CDXQB	L3 CORRIDOR	HORIZONTAL	800	240	0.4	72	62	55	51	24.0	66	97	22.2	140	120	2.2	4.1	120	1	10.0	15	1-12
FC-13B	FIRST COMPANY	25CDXQB	L3 CORRIDOR	HORIZONTAL	800	240	0.4	72	62	55	51	24.0	66	97	22.2	140	120	2.2	4.1	120	1	10.0	15	1-12
UFC-1	FIRST COMPANY	20CDXQB	DWELLING UNITS	HORIZONTAL	525	180	0.4	72	62	55	51	18.0	66	102	19.2	140	120	1.9	3.3	120	1	10.0	15	1-9, 11-13

AIR DEVICE SCHEDULE

SYMBOL	TYPE	MANUFACTURER	MODEL	FRAME	MATERIAL	FINISH	DAMPER	ACCESSORIES	REMARKS
CD-1	CEILING DIFFUSER	PRICE	SCD	SURFACE	STEEL	BAKED WHITE ENAMEL	OBD	NONE	REMOVABLE CORE, 4-WAY PATTERN UNLESS OTHERWISE SHOWN, 12"X12" FACE, NECK SIZE PER PLANS
SR-1	SIDEWALL SUPPLY REGISTER	PRICE	520	SURFACE	STEEL	WHITE POWDER COAT	OBD	NONE	DOUBLE DEFLECTION, 3/4" SPACING, SEE PLANS FOR GRILLE SIZE
RG-1	RETURN GRILLE	PRICE	PDDR	SURFACE	STEEL	WHITE POWDER COAT	NONE	NONE	PERFORATED 24" x 12" FACE SIZE
EG-1	EXHAUST GRILLE	PRICE	APDDR	LAY-IN	ALUMINUM	BAKED WHITE ENAMEL	OBD	NONE	PERFORATED 12" x 12" FACE SIZE, SEE PLANS FOR NECK SIZE
EG-2	EXHAUST GRILLE	PRICE	535	LAY-IN	STEEL	WHITE POWDER COAT	NONE	NONE	45° DEFLECTION, 1/2" SPACING, SEE PLANS FOR GRILLE SIZE
TG-1	TRANSFER GRILLE	PRICE	ATGH	SURFACE	ALUMINUM	BAKED WHITE ENAMEL	NONE	NONE	3/4" BLADE SPACING, 35 DEGREE SINGLE DEFLECTION, SEE PLANS FOR GRILLE SIZE

NOTES:
1. EQUIPMENT SCHEDULE BASED ON PRICE. ACCEPTABLE MANUFACTURERS: CARNES, KRUGER, METAL-AIRE, PRICE, TITUS, NAILOR
2. MAX NC RATING 30. PROVIDE NECESSARY FRAME AND TRIM FOR CEILING APPLICATION.

DWELLING UNIT VENTILATION	
Floor Area SF	Bedrooms 1
< 500	30

Based on ASHRAE 62.1, 2010, Table 4.1a.

CONTINUOUS LOCAL VENTILATION EXHAUST AIRFLOW RATES		
APPLICATION	AIRFLOW	VOLUME
KITCHEN	5 ACH, 55 CFM	660 CF
BATHROOM	20 CFM	

Based on ASHRAE 62.1, 2010, Table 5.2.

CONDENSING UNIT SCHEDULE

REMARKS:
1. EQUIPMENT BASED ON CARRIER. ACCEPTABLE MANUFACTURER'S INCLUDE COLEMAN, TRANE.
2. UNIT SHALL BE INSTALLED ON ROOF MOUNTED PLATFORM WITH NEOPRENE ISOLATION PAD.
3. PROVIDE WITH MANUFACTURER SIZED REFRIGERANT LINE SET.
4. UNIT SHALL BE DESIGNED TO OPERATE ON R410A REFRIGERANT.
5. PROVIDE UNIT WITH CONDENSER HAIL GUARDS.

SYMBOL	MANUFACTURER	MODEL	PAIR WITH	COOLING CAPACITY			# OF COMPRESSORS	ELECTRICAL				REMARKS
				CAPACITY (MBH)	MIN SEER (SEER)	AMBIENT AIR (F)		VOLTAGE	PHASE	MCA	MOCP	
CU-1A	CARRIER	GA5SAN418	FC-1A	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-1B	CARRIER	GA5SAN418	FC-1B	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-2A	CARRIER	GA5SAN418	FC-2A	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-2B	CARRIER	GA5SAN418	FC-2B	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-3	CARRIER	GA5SAN418	FC-3	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-4	CARRIER	GA5SAN424	FC-4	24	16	95	1	208 V	1	14.2	20 A	1-5
CU-5	CARRIER	GA5SAN424	FC-5	24.6	16	95	1	208 V	1	14.2	20 A	1-5
CU-6A	CARRIER	GA5SAN430	FC-6A	30.2	16	95	1	208 V	1	15.2	25 A	1-5
CU-6B	CARRIER	GA5SAN430	FC-6B	30.2	16	95	1	208 V	1	15.2	25 A	1-5
CU-7A	CARRIER	GA5SAN418	FC-7A	16.6	16	95	1	208 V	1	11.4	20 A	1-5
CU-7B	CARRIER	GA5SAN418	FC-7B	16.6	16	95	1	208 V	1	11.4	20 A	1-5
CU-8A	CARRIER	GA5SAN418	FC-8A	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-8B	CARRIER	GA5SAN418	FC-8B	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-9A	CARRIER	GA5SAN424	FC-9A	24.6	16	95	1	208 V	1	14.2	25 A	1-5
CU-9B	CARRIER	GA5SAN424	FC-9B	24.6	16	95	1	208 V	1	14.2	25 A	1-5
CU-10A	CARRIER	GA5SAN418	FC-10A	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-10B	CARRIER	GA5SAN418	FC-10B	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-11A	CARRIER	GA5SAN418	FC-11A	16.6	16	95	1	208 V	1	11.4	20 A	1-5
CU-11B	CARRIER	GA5SAN418	FC-11B	16.6	16	95	1	208 V	1	11.4	20 A	1-5
CU-12A	CARRIER	GA5SAN418	FC-12A	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-12B	CARRIER	GA5SAN418	FC-12B	18	16	95	1	208 V	1	11.4	20 A	1-5
CU-13A	CARRIER	GA5SAN418	FC-13A	16.6	16	95	1	208 V	1	11.4	20 A	1-5
CU-13B	CARRIER	GA5SAN418	FC-13B	16.6	16	95	1	208 V	1	11.4	20 A	1-5
UCU-1	CARRIER	GA5SAN418	UFC-1	18	16	95	1	208 V	1	11.4	20 A	1-5

ELECTRIC BASEBOARD RADIATION SCHEDULE

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE: BERKO, BRASH, CHROMALOX, INDEECO, MARKEL, Q-MARK

SEQUENCE OF OPERATION:
1. UNIT SHALL BE CONTROLLED BY SINGLE POLE UNIT MOUNTED THERMOSTAT

SYMBOL	MANUFACTURER	MODEL	LOCATION	TOTAL LENGTH (FT)	WATTS PER LF ELEM	TOTAL KW	FLA	VOLTAGE	PHASE	DIMENSIONS (IN) H (IN)	D (IN)	L (IN)	REMARKS
EBB-1	QMARK	DBSL	VARIOUS	6.00	250 W	<varies>	24.0	<varies>	<varies>	<varies>	<varies>	<varies>	<varies>

ELECTRIC WALL HEATER SCHEDULE

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE: BERKO, BRASH, CHROMALOX, INDEECO, MARKEL, Q-MARK, SINGER AND TRANE.
2. PROVIDE UNIT MOUNTED THERMOSTAT.

ELECTRIC UNIT HEATER SEQUENCE OF OPERATION:
A. UNIT MOUNTED THERMOSTAT SHALL CYCLE ITS RESPECTIVE HEATING ELEMENT AND FAN TO MAINTAIN TEMEPRATURE SETPOINT.

SYMBOL	MANUFACTURER	MODEL	ARRANGEMENT	RECESS DEPTH (IN)	FAN DATA CFM	COIL DATA MBH	COIL DATA KW	ELECTRICAL DATA FLA	ELECTRICAL DATA VOLTAGE	ELECTRICAL DATA PHASE	REMARKS
AWH-1	QMARK	CWH	RECESS	4	65	6826	2.0	9.6	208	1	1, 2

EXHAUST FAN SCHEDULE

REMARKS:
1.ACCEPTABLE MANUFACTURERS INCLUDE: ACME, BROAN, CARNES, COOK, GREENHECK, PANASONIC, PENN, SOLER & PALAU, AND TWIN CITY.
2.PROVIDE FAN WITH UNIT MOUNTED SPEED CONTROL SWITCH.
3.PROVIDE WITH DISCHARGE DUCT COLLAR.
4.PROVIDE WITH ROOF CURB.
5.PROVIDE WITH REVERSE ACTING THERMOSTAT.

SEQUENCE OF OPERATION (REVERSE ACTING THERMOSTAT) EF-1, 2, 3
A.FAN TO BE CONTROLLED WITH RESERSE ACTING THERMOSTAT, MOTORIZED DAMPER SHALL OPEN WHEN EXHAUST FAN IS ENERGIZED AND CLOSE WHEN EXHAUST FAN IS DE-ENERGIZED.

SYMBOL	MANUFACTURER	MODEL	FAN TYPE	SERVICE	CFM @5,300'	S.P. IN W.C. @ 5,300'	ELECTRICAL DATA VOLTAGE	PHASE	RPM	HP	DRIVE TYPE	DAMPER TYPE	SONES	ROOF OPENING	WEIGHT (LBS)	HEIGHT (INCLUDING CURB)	REMARKS
EF-1	GREENHECK	G-095-VG	DOWNBLAST	ELEVATOR	600	0.50	120	1	1633	1/6	DIRECT	MOTORIZED	10	12.5X12.5	40.8	30	1, 2, 4, 5
EF-2	GREENHECK	SQ-120-VG	INLINE	BOILER ROOM	800	0.80	120	1	1407	1/2	DIRECT	MOTORIZED	8	15.875X15.875	55.0	19	1-3, 5
EF-3	GREENHECK	G-095-VG	DOWNBLAST	STAIR	600	0.50	120	1	1633	1/6	DIRECT	MOTORIZED	10	12.5X12.5	40.8	30	1, 2, 4, 5

ELECTRIC UNIT HEATER SCHEDULE

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE: BERKO, BRASH, INDEECO, MARKEL, Q-MARK, CHROMALOX, SINGER AND TRANE.
2. PROVIDE WITH FACTORY UNIT MOUNTED THERMOSTAT

ELECTRIC UNIT HEATER SEQUENCE OF OPERATION:
1. A UNIT MOUNTED THERMOSTAT, AS NOTED ON THE DRAWINGS, SHALL CYCLE ITS RESPECTIVE HEATING ELEMENT AND FAN TO MAINTAIN SPACE TEMPERATURE.

SYMBOL	MANUFACTURER	MODEL	ARRANGEMENT	KW	MBH	CFM	RPM	HP	ELECTRICAL VOLTAGE	ELECTRICAL PHASE	ELECTRICAL MAX FLA	WEIGHT (LBS)	REMARKS
EUH-1	BERKO	HUHAAS20	VERTICAL	5.0	17.065	350	1600	0.01	208	1	24.0	30.00	1, 2

LOUVER SCHEDULE

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE GREENHECK, LOUVERS AND DAMPERS AND RUSKIN.
2. PROVIDE WITH 24V MOTORIZED DAMPER.

SYMBOL	MANUFACTURER	MODEL	SERVICE	SIZE (IN) HEIGHT	SIZE (IN) WIDTH	CFM	MIN. FREE AREA (SQ FT)	VELOCITY	PRESSURE DROP	MATERIAL	FRAME STYLE	REMARKS
LVR-1-1	GREENHECK	ESD-635	BOILER ROOM	18	52	800	3	324	0.02	Metal - Steel	BOX	1
LVR-1-2	GREENHECK	ESD-635	BOILER ROOM	18	52	800	3	324	0.02	Metal - Steel	BOX	1, 2

ENERGY RECOVERY UNIT SCHEDULE

REMARKS:
1. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES FOR UNIT CASING OR FILTERS.
2. PROVIDE WITH TIMED EXHAUST FROST CONTROL.
3. PROVIDE 14" ROOF CURB.

SEQUENCE OF OPERATION:
1. UNIT FANS SHALL OPERATE CONTINUOUSLY. WHEN THE FAN IS ENABLED, THE MOTORIZED DAMPER SHALL OPEN. WHEN THE FAN IS DISABLED, THE MOTORIZED DAMPER SHALL CLOSE.

SYMBOL	MANUFACTURER	SERVICE	MODEL	OUTDOOR AIR FAN DATA CFM TOTAL @5,300'	OUTDOOR AIR FAN DATA ESP IN W.C. @5,300'	EXHAUST FAN DATA CFM TOTAL @5,300'	EXHAUST FAN DATA ESP IN W.C. @5,300'	ENERGY RECOVERY WHEEL SUMMER ENTERING AIR TEMP EAT (F) DB	SUMMER ENTERING AIR TEMP EAT (F) WB	SUMMER LEAVING AIR TEMP LAT (F) DB	SUMMER LEAVING AIR TEMP LAT (F) WB	SUMMER EFF %	WINTER ENTERING AIR TEMP EAT (F) DB	WINTER ENTERING AIR TEMP EAT (F) WB	WINTER LEAVING AIR TEMP LAT (F) DB	WINTER LEAVING AIR TEMP LAT (F) WB	WINTER EFF %	ELECTRICAL VOLTAGE	ELECTRICAL PHASE	ELECTRICAL MCA	ELECTRICAL MOCP	FILTER DATA TYPE	APPROX HEIGHT (IN)	APPROX OPER WT (LBS)	REMARKS
ERV-1	RENEWAIRE	FAN COILS	DN-3RT-1 FP-ERV	1,440	1.00	2,435	1.00	94.0	61	77.0	58.0	62.0%	-1.0	-2.0	62.0	45.0	86.0%	208	3	19.4	25	MERV 8	90"	4,500	1-3
ERV-2	RENEWAIRE	FAN COILS	DN-5XRT-1FP-EH	3,780	1.50	2,475	1.50	94.0	61	75.0	62.0	53.0%	-1.0	-2.0	70.0	50.0	86.5%	208	3	39.0	45	MERV 8	107"	6,500	1-3

- FC1A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC1B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC2A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC2B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC3 - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC4 - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company — 1.0 EA
- FC5 - Fan Coil Unit, Total CFM: 1000, Manufacturer: First Company — 1.0 EA
- FC6A - Fan Coil Unit, Total CFM: 1200, Manufacturer: First Company — 1.0 EA
- FC6B - Fan Coil Unit, Total CFM: 1200, Manufacturer: First Company — 1.0 EA
- FC7A - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company — 1.0 EA
- FC7B - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company — 1.0 EA
- FC8A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC8B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC9A - Fan Coil Unit, Total CFM: 900, Manufacturer: First Company — 1.0 EA
- FC9B - Fan Coil Unit, Total CFM: 900, Manufacturer: First Company — 1.0 EA
- FC10A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC10B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC11A - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company — 1.0 EA
- FC11B - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company — 1.0 EA
- FC12A - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC12B - Fan Coil Unit, Total CFM: 600, Manufacturer: First Company — 1.0 EA
- FC13A - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company — 1.0 EA
- FC13B - Fan Coil Unit, Total CFM: 800, Manufacturer: First Company — 1.0 EA

•EG-1, Exhaust Fan, Baked White Enamel Finish, CFM: 20, Manufacturer: Price	3.0 EA
•EG-1, Exhaust Fan, Baked White Enamel Finish, CFM: 70, Manufacturer: Price	2.0 EA
•EBB-1 , Electric Base Board Radiation, Manufacturer: Price	4.0 EA
•Wall Mounted Thermostat	2.0 EA
•CD1 - Condensate Unit , CFM : 200, Manufacturer: Price	13.0 EA
•CD1 - Condensate Unit , CFM : 150, Manufacturer: Price	4.0 EA
•AWH1 - Electric Wall Heater, CFM: 65, Manufacturer: Q-Mark	3.0 EA
•CD1 - Condensate Unit , CFM : 140, Manufacturer: Price	1.0 EA
•TG1 - (14X8) Steel Transfer Grill, Manufacturer: Price	4.0 EA
•TG1 - (22x10) Steel Transfer Grill, Manufacturer: Price	2.0 EA
•8" Dia 90 Degree Bend	2.0 EA
•(30"x10") To (16"x10") Transition	1.0 EA
•(30"x10") To (22"x14") Transition	1.0 EA
•(22"x10") To (16"x10") Transition	1.0 EA
•(16"x10") 90 Degree Bend	1.0 EA
•(16"x10") To 8" Dia Transition	5.0 EA
•(32"x10") To (24"x10") Transition	1.0 EA
•(40"x10") To 8" Dia Transition	1.0 EA
•(18"x10") To 8" Dia Transition	5.0 EA
•(20"x10") To 8" Dia Transition	4.0 EA
•(40"x10") To (32"x10") Transition	1.0 EA
•(24"x8") To 8" Dia Transition	9.0 EA
•(28"x10") To 8" Dia Transition	7.0 EA
•(22"x10") To 8" Dia Transition	4.0 EA
•(40"x10") To 8" Dia Transition	2.0 EA
•(40"x10") To 10" Dia Transition	1.0 EA
•Radiation Damper	2.0 EA

GENERAL NOTES:

1. PROVIDE AND INSTALL FIRE SMOKER DAMPERS AT ALL FIRE RATED DUCT PENETRATIONS.
2. REFERENCE DIAGRAMS FOR INSTALLATION OF NEW HVAC EQUIPMENT AND DEVICES.
3. PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
4. ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS.
5. NOT ALL DUCT TRANSITIONS AND OFFSETS ARE SHOWN. CONTRACTOR SHALL PROVIDE THE NECESSARY FITTING REQUIRED AND INSTALL ACCORDINGLY.
6. COORDINATE NEW AIR DEVICE LOCATIONS WITH SPRINKLER HEADS, FIELD COORDINATE
7. COORDINATE THERMOSTAT LOCATIONS WITH FURNITURE LAYOUT. INSTALL ACCORDINGLY. VERIFY FURNITURE LAYOUT WITH ARCHITECTURAL DRAWINGS.
8. CONTRACTOR SHALL PROVIDE NECESSARY CODE COMPLYING CLEARANCES FOR ALL EQUIPMENT INSTALLED.
9. COORDINATE ALL MECHANICAL EQUIPMENT AND DUCTWORK WITH STRUCTURAL BEAMS AND JOISTS. COORDINATE WITH STRUCTURAL ENGINEER TO PROVIDE CUTOUTS IN STRUCTURAL JOISTS AND/OR BEAMS OR PROVIDE DROP CEILINGS WHERE NECESSARY. COORDINATE ALL FIRE AND SMOKE BARRIERS WITH DAMPER AND ACCESS PANEL REQUIREMENTS.
10. CEILING SPACE IS LIMITED. THEREFORE COORDINATE WITH 3C ON ALL DUCTWORK INSTALLATION WITH PLUMBING PIPING, FIRE SPRINKLER PIPING AND ELECTRICAL INSTALLATION.
11. PROVIDE 12"X12" CEILING ACCESS PANEL AT ALL FIRE SMOKE DAMPER LOCATIONS BY OTHERS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CUTTING AND PATCHING REQUIREMENTS WITH GENERAL CONTRACTOR.

◇DRAWING NOTES:

1. SEE UNIT PLAN FOR CONTINUATION.
2. PROVIDE A RATED SOFFIT. DUCTWORK SHALL NOT RUN OVER ANY ELECTRICAL EQUIPMENT.
3. PROVIDE DUAL AND/OR SINGLE RECESSED WALL BOX WITH BACKDRAFT DAMPER, X-VENT OR EQUAL, FOR ALL EXHAUST OUTLETS. INSTALL AS HIGH AS POSSIBLE. COORDINATE PAINT COLOR WITH ARCHITECT. MAINTAIN 3'-0" MINIMUM CLEARANCE FROM ALL OPERABLE OPENINGS AND 10'-0" FROM OUTSIDE AIR INTAKES. LOCATIONS TO BE COORDINATED WITH ARCH. BUILDING ELEVATIONS.
4. 4"Ø DRYER EXHAUST DUCT FROM DRYER VENT BOX IN WALL, ROUTED OUT TO WALL, BOX THROUGH CEILING JOIST SPACE. COORDINATE WITH STRUCTURAL DRAWINGS. ALL ELBOWS SHALL BE SMOOTH RADIUS. DRYER CONNECTIONS SHALL BE LISTED AND LABELED PER 2018 IMC. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE NEW EQUIPMENT ACCESS PANEL IN THIS AREA. SEE FAN COIL SCHEDULE FOR MORE INFORMATION.

MECHANICAL PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

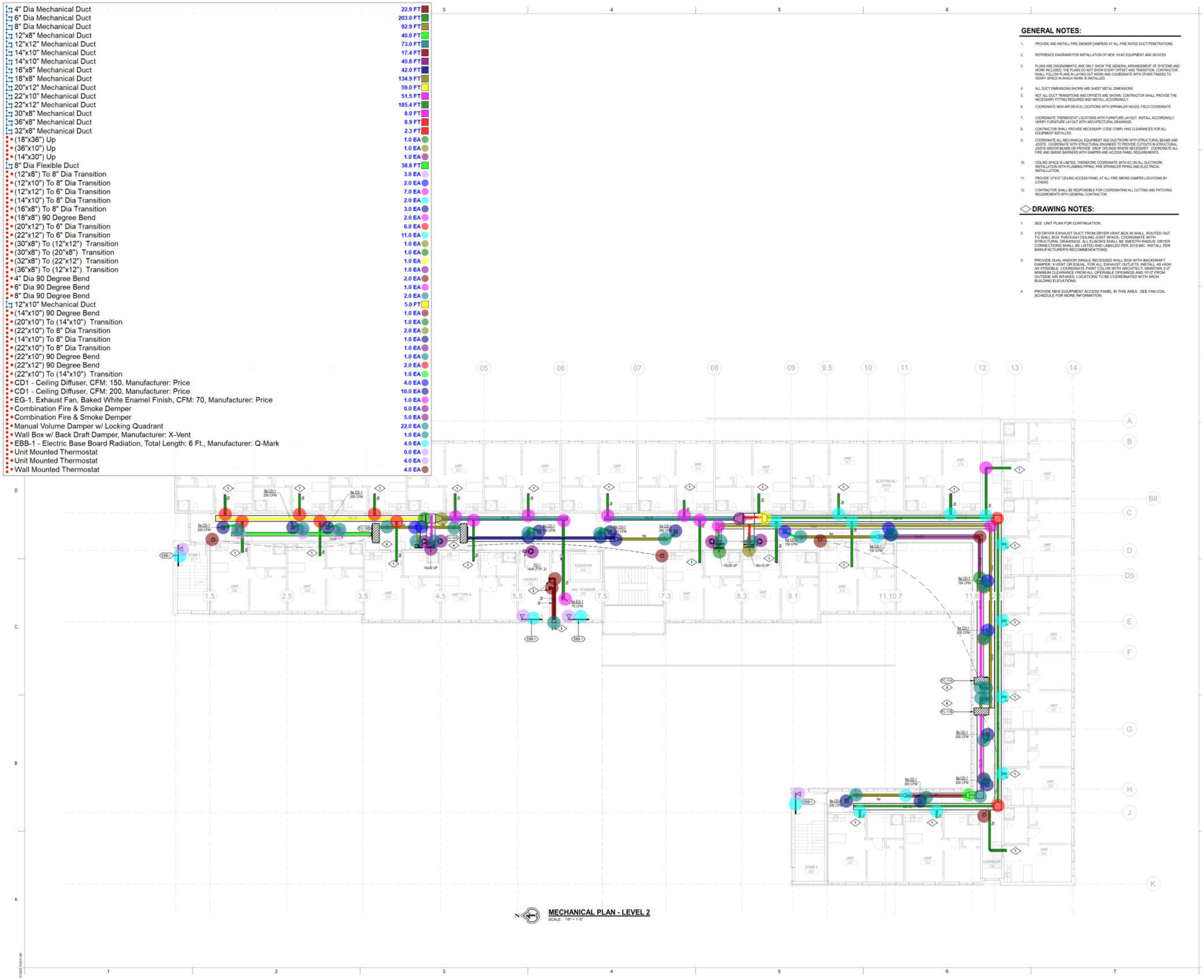
4" Dia Mechanical Duct	22.9 FT
6" Dia Mechanical Duct	203.0 FT
8" Dia Mechanical Duct	92.9 FT
12"x8" Mechanical Duct	40.0 FT
12"x12" Mechanical Duct	73.0 FT
14"x10" Mechanical Duct	17.4 FT
14"x10" Mechanical Duct	40.8 FT
16"x8" Mechanical Duct	42.0 FT
18"x8" Mechanical Duct	134.9 FT
20"x12" Mechanical Duct	59.0 FT
22"x10" Mechanical Duct	51.5 FT
22"x12" Mechanical Duct	185.4 FT
30"x8" Mechanical Duct	8.0 FT
36"x8" Mechanical Duct	8.9 FT
32"x8" Mechanical Duct	2.3 FT
• (18"x36") Up	1.0 EA
• (36"x10") Up	1.0 EA
• (14"x30") Up	1.0 EA
8" Dia Flexible Duct	38.8 FT
• (12"x8") To 8" Dia Transition	3.0 EA
• (12"x10") To 8" Dia Transition	2.0 EA
• (12"x12") To 6" Dia Transition	7.0 EA
• (14"x10") To 8" Dia Transition	2.0 EA
• (16"x8") To 8" Dia Transition	3.0 EA
• (18"x8") 90 Degree Bend	2.0 EA
• (20"x12") To 6" Dia Transition	6.0 EA
• (22"x12") To 6" Dia Transition	11.0 EA
• (30"x8") To (12"x12") Transition	1.0 EA
• (30"x8") To (20"x8") Transition	1.0 EA
• (32"x8") To (22"x12") Transition	1.0 EA
• (36"x8") To (12"x12") Transition	1.0 EA
• 4" Dia 90 Degree Bend	2.0 EA
• 6" Dia 90 Degree Bend	1.0 EA
• 8" Dia 90 Degree Bend	2.0 EA
12"x10" Mechanical Duct	5.0 FT
• (14"x10") 90 Degree Bend	1.0 EA
• (20"x10") To (14"x10") Transition	1.0 EA
• (22"x10") To 8" Dia Transition	2.0 EA
• (14"x10") To 8" Dia Transition	1.0 EA
• (22"x10") To 8" Dia Transition	1.0 EA
• (22"x10") 90 Degree Bend	1.0 EA
• (22"x12") 90 Degree Bend	2.0 EA
• (22"x10") To (14"x10") Transition	1.0 EA
• CD1 - Ceiling Diffuser, CFM: 150, Manufacturer: Price	4.0 EA
• CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	10.0 EA
• EG-1, Exhaust Fan, Baked White Enamel Finish, CFM: 70, Manufacturer: Price	1.0 EA
• Combination Fire & Smoke Demper	0.0 EA
• Combination Fire & Smoke Demper	5.0 EA
• Manual Volume Damper w/ Locking Quadrant	22.0 EA
• Wall Box w/ Back Draft Damper, Manufacturer: X-Vent	1.0 EA
• EBB-1 - Electric Base Board Radiation, Total Length: 6 Ft., Manufacturer: Q-Mark	4.0 EA
• Unit Mounted Thermostat	0.0 EA
• Unit Mounted Thermostat	4.0 EA
• Wall Mounted Thermostat	4.0 EA

GENERAL NOTES:

1. PROVIDE AND INSTALL FIRE SMOKER DAMPERS AT ALL FIRE RATED DUCT PENETRATIONS.
2. REFERENCE DIAGRAMS FOR INSTALLATION OF NEW HVAC EQUIPMENT AND DEVICES.
3. PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
4. ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS.
5. NOT ALL DUCT TRANSITIONS AND OFFSETS ARE SHOWN. CONTRACTOR SHALL PROVIDE THE NECESSARY FITTING REQUIRED AND INSTALL ACCORDINGLY.
6. COORDINATE NEW AIR DEVICE LOCATIONS WITH SPRINKLER HEADS. FIELD COORDINATE
7. COORDINATE THERMOSTAT LOCATIONS WITH FURNITURE LAYOUT. INSTALL ACCORDINGLY. VERIFY FURNITURE LAYOUT WITH ARCHITECTURAL DRAWINGS.
8. CONTRACTOR SHALL PROVIDE NECESSARY CODE COMPLYING CLEARANCES FOR ALL EQUIPMENT INSTALLED.
9. COORDINATE ALL MECHANICAL EQUIPMENT AND DUCTWORK WITH STRUCTURAL BEAMS AND JOISTS. COORDINATE WITH STRUCTURAL ENGINEER TO PROVIDE CUTOUTS IN STRUCTURAL JOISTS AND/OR BEAMS OR PROVIDE DROP CEILINGS WHERE NECESSARY. COORDINATE ALL FIRE AND SMOKE BARRIERS WITH DAMPER AND ACCESS PANEL REQUIREMENTS.
10. CEILING SPACE IS LIMITED. THEREFORE COORDINATE WITH GC ON ALL DUCTWORK INSTALLATION WITH PLUMBING PIPING, FIRE SPRINKLER PIPING AND ELECTRICAL INSTALLATION.
11. PROVIDE 12"X12" CEILING ACCESS PANEL AT ALL FIRE SMOKE DAMPER LOCATIONS BY OTHERS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDIANTING ALL CUTTING AND PATCHING REQUIREMENTS WITH GENERAL CONTRACTOR.

◇ DRAWING NOTES:

1. SEE UNIT PLAN FOR CONTINUATION.
2. 4"Ø DRYER EXHAUST DUCT FROM DRYER VENT BOX IN WALL, ROUTED OUT TO WALL BOX THROUGH CEILING JOIST SPACE. COORDINATE WITH STRUCTURAL DRAWINGS. ALL ELBOWS SHALL BE SMOOTH RADIUS. DRYER CONNECTIONS SHALL BE LISTED AND LABELED PER 2018 IMC. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE DUAL AND/OR SINGLE RECESSED WALL BOX WITH BACKDRAFT DAMPER, X-VENT OR EQUAL, FOR ALL EXHAUST OUTLETS. INSTALL AS HIGH AS POSSIBLE. COORDINATE PAINT COLOR WITH ARCHITECT. MAINTAIN 3'-0" MINIMUM CLEARANCE FROM ALL OPERABLE OPENINGS AND 10'-0" FROM OUTSIDE AIR INTAKES. LOCATIONS TO BE COORDINATED WITH ARCH BUILDING ELEVATIONS.
4. PROVIDE NEW EQUIPMENT ACCESS PANEL IN THIS AREA. SEE FAN COIL SCHEDULE FOR MORE INFORMATION.



MECHANICAL PLAN - LEVEL 2
SCALE: 1/8" = 1'-0"

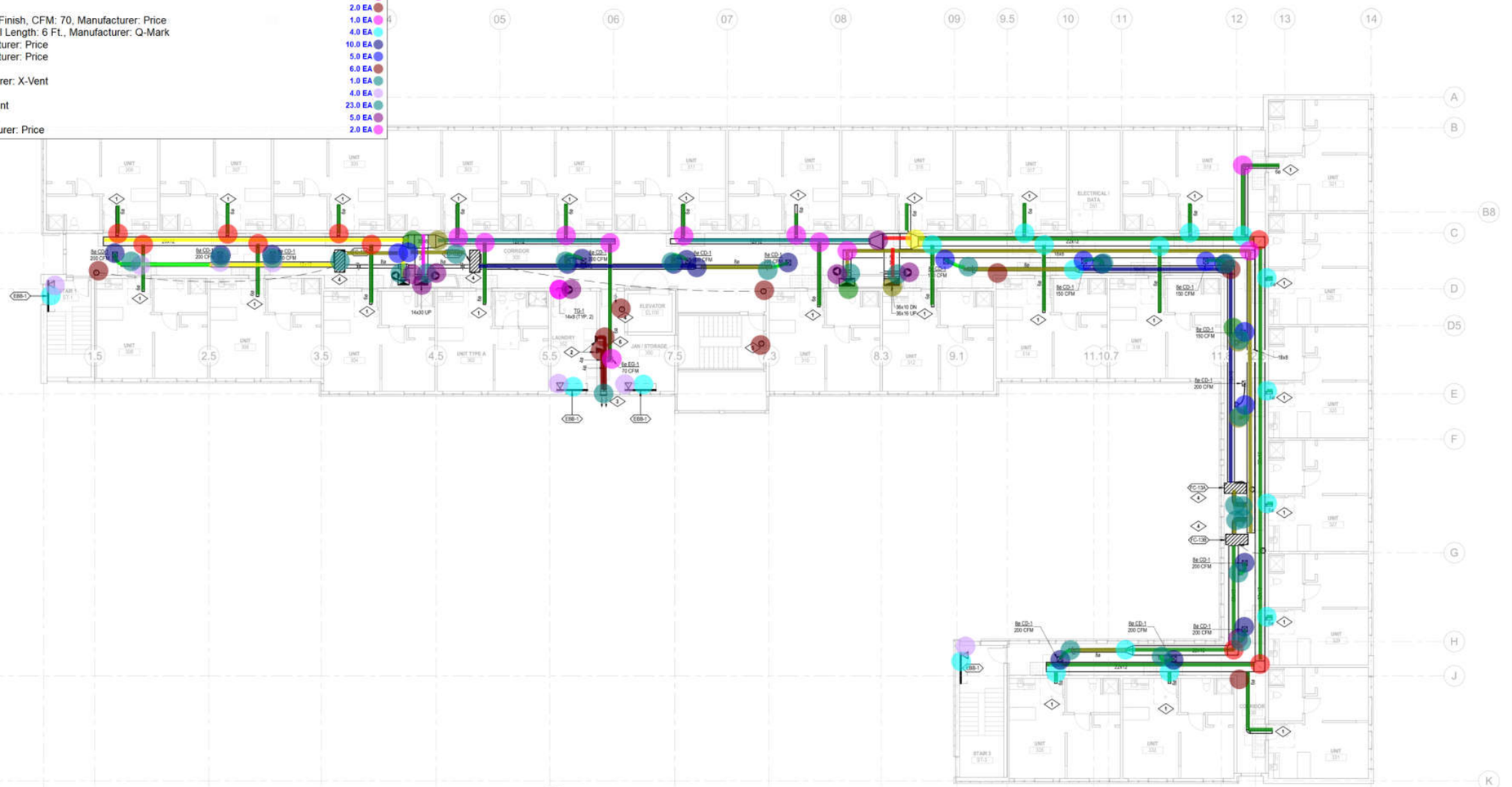
(36"x10") Up	1.0 EA
(18"x36") Up	1.0 EA
(14"x30") Up	1.0 EA
36"x8" Mechanical Duct	8.9 FT
32"x8" Mechanical Duct	2.3 FT
30"x8" Mechanical Duct	8.0 FT
22"x12" Mechanical Duct	226.5 FT
20"x12" Mechanical Duct	59.0 FT
18"x8" Mechanical Duct	137.5 FT
16"x8" Mechanical Duct	42.0 FT
16"x10" Mechanical Duct	70.6 FT
12"x12" Mechanical Duct	71.3 FT
12"x10" Mechanical Duct	29.1 FT
12"x8" Mechanical Duct	17.3 FT
8" Dia Mechanical Duct	86.0 FT
6" Dia Mechanical Duct	215.8 FT
4" Dia Mechanical Duct	19.7 FT
8" Dia Flexible Duct	40.9 FT
(36"x8") To (12"x12") Transition	1.0 EA
(32"x8") To (22"x12") Transition	1.0 EA
(30"x8") To (20"x8") Transition	1.0 EA
(30"x8") To (12"x12") Transition	1.0 EA
(20"x10") To (14"x10") Transition	1.0 EA
(22"x12") To 6" Dia Transition	12.0 EA
(22"x10") To 8" Dia Transition	2.0 EA
(22"x10") To 8" Dia Transition	1.0 EA
(16"x8") To 8" Dia Transition	3.0 EA
(14"x10") To 8" Dia Transition	2.0 EA
(20"x12") To 6" Dia Transition	6.0 EA
(14"x10") To 8" Dia Transition	2.0 EA
(12"x12") To 6" Dia Transition	7.0 EA
(12"x10") To 8" Dia Transition	2.0 EA
(12"x8") To 8" Dia Transition	3.0 EA
(16"x10") 90 Degree Bend	1.0 EA
(22"x12") 90 Degree Bend	3.0 EA
(18"x8") 90 Degree Bend	2.0 EA
8" Dia 90 Degree Bend	2.0 EA
6" Dia 90 Degree Bend	1.0 EA
4" Dia 90 Degree Bend	2.0 EA
EG-1 - Exhaust Fan, Baked White Enamel Finish, CFM: 70, Manufacturer: Price	1.0 EA
EBB1 - Electric Base Board Radiation, Total Length: 6 Ft., Manufacturer: Q-Mark	4.0 EA
CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	10.0 EA
CD1 - Ceiling Diffuser, CFM: 150, Manufacturer: Price	5.0 EA
Wall Mounted Thermostat	6.0 EA
Wall Box w/ Back Draft Damper, Manufacturer: X-Vent	1.0 EA
Unit Mounted Thermostat	4.0 EA
Manual Volume Damper w/ Locking Quadrant	23.0 EA
Combination Fire & Smoke Demper	5.0 EA
TG1 - (14X8) Steel Transfer Grill, Manufacturer: Price	2.0 EA

GENERAL NOTES:

1. PROVIDE AND INSTALL FIRE SMOKER DAMPERS AT ALL FIRE RATED DUCT PENETRATIONS.
2. REFERENCE DIAGRAMS FOR INSTALLATION OF NEW HVAC EQUIPMENT AND DEVICES.
3. PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
4. ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS.
5. NOT ALL DUCT TRANSITIONS AND OFFSETS ARE SHOWN. CONTRACTOR SHALL PROVIDE THE NECESSARY FITTING REQUIRED AND INSTALL ACCORDINGLY.
6. COORDINATE NEW AIR DEVICE LOCATIONS WITH SPRINKLER HEADS. FIELD COORDINATE
7. COORDINATE THERMOSTAT LOCATIONS WITH FURNITURE LAYOUT. INSTALL ACCORDINGLY. VERIFY FURNITURE LAYOUT WITH ARCHITECTURAL DRAWINGS.
8. CONTRACTOR SHALL PROVIDE NECESSARY CODE COMPLYING CLEARANCES FOR ALL EQUIPMENT INSTALLED.
9. COORDINATE ALL MECHANICAL EQUIPMENT AND DUCTWORK WITH STRUCTURAL BEAMS AND JOISTS. COORDINATE WITH STRUCTURAL ENGINEER TO PROVIDE CUTOUTS IN STRUCTURAL JOISTS AND/OR BEAMS OR PROVIDE DROP CEILINGS WHERE NECESSARY. COORDINATE ALL FIRE AND SMOKE BARRIERS WITH DAMPER AND ACCESS PANEL REQUIREMENTS.
10. CEILING SPACE IS LIMITED, THEREFORE COORDINATE WITH GC ON ALL DUCTWORK INSTALLATION WITH PLUMBING PIPING, FIRE SPRINKLER PIPING AND ELECTRICAL INSTALLATION.
11. PROVIDE 12"X12" CEILING ACCESS PANEL AT ALL FIRE SMOKE DAMPER LOCATIONS BY OTHERS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDIANTING ALL CUTTING AND PATCHING REQUIREMENTS WITH GENERAL CONTRACTOR.

◇ DRAWING NOTES:

1. SEE UNIT PLAN FOR CONTINUATION.
2. 4"Ø DRYER EXHAUST DUCT FROM DRYER VENT BOX IN WALL. ROUTED OUT TO WALL BOX THROUGH CEILING JOIST SPACE. COORDINATE WITH STRUCTURAL DRAWINGS. ALL ELBOWS SHALL BE SMOOTH RADIUS. DRYER CONNECTIONS SHALL BE LISTED AND LABELED PER 2018 IMC. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. PROVID DUAL AND/OR SINGLE RECESSED WALL BOX WITH BACKDRAFT DAMPER. X-VENT OR EQUAL, FOR ALL EXHAUST OUTLETS. INSTALL AS HIGH AS POSSIBLE. COORDINATE PAINT COLOR WITH ARCHITECT. MAINTAIN 3'-0" MINIMUM CLEARANCE FROM ALL OPERABLE OPENINGS AND 10'-0" FROM OUTSIDE AIR INTAKES. LOCATION TO BE COORDINATED WITH ARCH BUILDING ELEVATIONS.
4. PROVIDE NEW EQUIPMENT ACCESS PANEL IN THIS AREA. SEE FAN COIL SCHEDULE FOR MORE INFORMATION.
5. THERMOSTAT FOR EF-3. PROVIDE WITH LOCKING COVER.
6. COORDINATE EXHAUST DUCT TO NOT INTERFERE WITH ROOF HATCH ABOVE.



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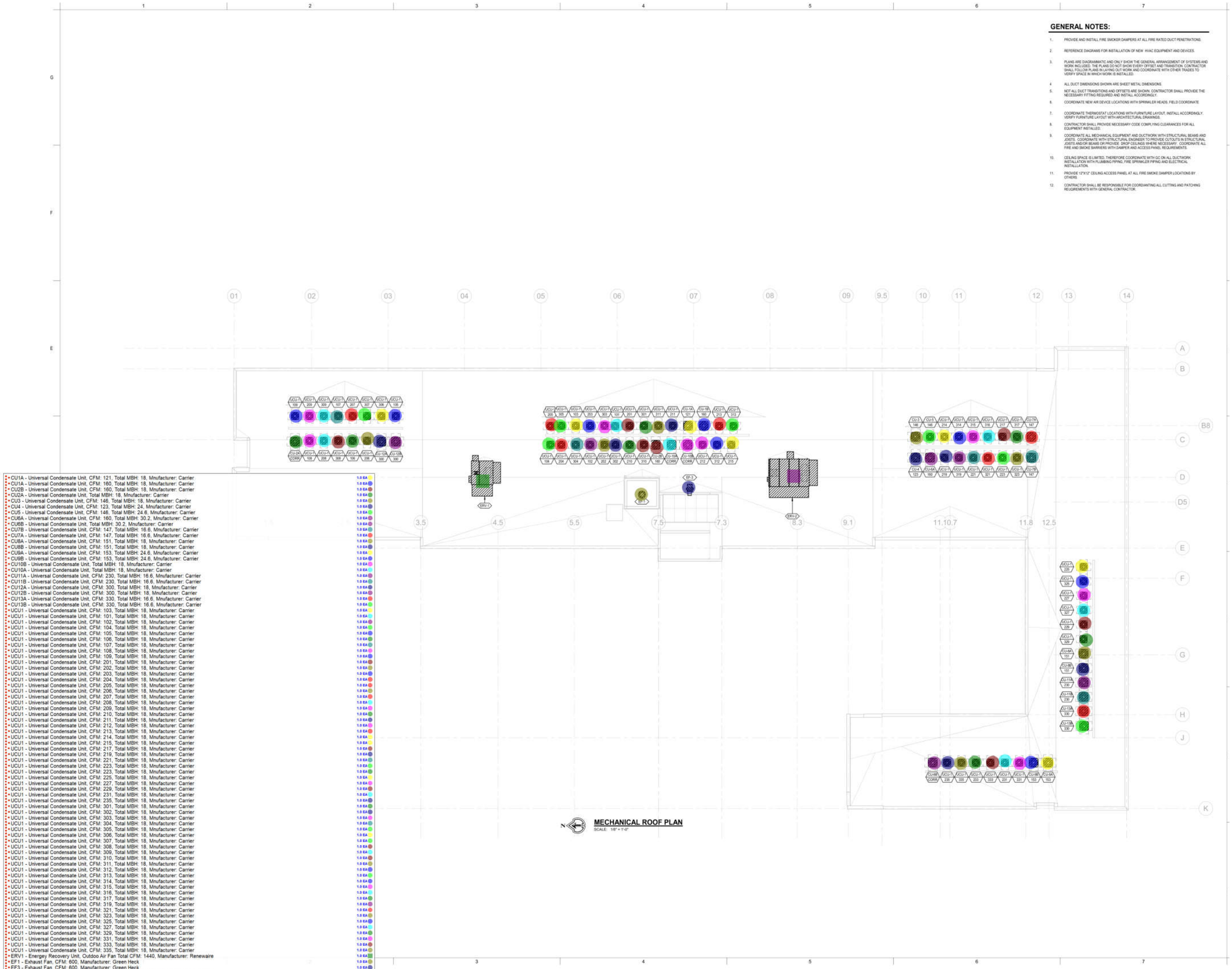
MECHANICAL PLAN - LEVEL 3

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. PROVIDE AND INSTALL FIRE SMOKER DAMPERS AT ALL FIRE RATED DUCT PENETRATIONS.
2. REFERENCE DIAGRAMS FOR INSTALLATION OF NEW HVAC EQUIPMENT AND DEVICES.
3. PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
4. ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS.
5. NOT ALL DUCT TRANSITIONS AND OFFSETS ARE SHOWN. CONTRACTOR SHALL PROVIDE THE NECESSARY FITTING REQUIRED AND INSTALL ACCORDINGLY.
6. COORDINATE NEW AIR DEVICE LOCATIONS WITH SPRINKLER HEADS. FIELD COORDINATE
7. COORDINATE THERMOSTAT LOCATIONS WITH FURNITURE LAYOUT. INSTALL ACCORDINGLY. VERIFY FURNITURE LAYOUT WITH ARCHITECTURAL DRAWINGS.
8. CONTRACTOR SHALL PROVIDE NECESSARY CODE COMPLYING CLEARANCES FOR ALL EQUIPMENT INSTALLED.
9. COORDINATE ALL MECHANICAL EQUIPMENT AND DUCTWORK WITH STRUCTURAL BEAMS AND JOISTS. COORDINATE WITH STRUCTURAL ENGINEER TO PROVIDE CUTOUTS IN STRUCTURAL JOISTS AND/OR BEAMS OR PROVIDE DROP CEILINGS WHERE NECESSARY. COORDINATE ALL FIRE AND SMOKE BARRIERS WITH DAMPER AND ACCESS PANEL REQUIREMENTS.
10. CEILING SPACE IS LIMITED. THEREFORE COORDINATE WITH GC ON ALL DUCTWORK INSTALLATION WITH PLUMBING PIPING, FIRE SPRINKLER PIPING AND ELECTRICAL INSTALLATION.
11. PROVIDE 12"X12" CEILING ACCESS PANEL AT ALL FIRE SMOKE DAMPER LOCATIONS BY OTHERS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDIANTING ALL CUTTING AND PATCHING REQUIREMENTS WITH GENERAL CONTRACTOR.

- CU1A - Universal Condensate Unit, CFM: 121, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU1A - Universal Condensate Unit, CFM: 160, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU2B - Universal Condensate Unit, CFM: 160, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU2A - Universal Condensate Unit, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU3 - Universal Condensate Unit, CFM: 146, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU4 - Universal Condensate Unit, CFM: 123, Total MBH: 24, Mnufacturer: Carrier — 1.0 6A
- CU5 - Universal Condensate Unit, CFM: 146, Total MBH: 24.6, Mnufacturer: Carrier — 1.0 6A
- CU6A - Universal Condensate Unit, CFM: 160, Total MBH: 30.2, Mnufacturer: Carrier — 1.0 6A
- CU6B - Universal Condensate Unit, Total MBH: 30.2, Mnufacturer: Carrier — 1.0 6A
- CU7B - Universal Condensate Unit, CFM: 147, Total MBH: 16.6, Mnufacturer: Carrier — 1.0 6A
- CU7A - Universal Condensate Unit, CFM: 147, Total MBH: 16.6, Mnufacturer: Carrier — 1.0 6A
- CU8A - Universal Condensate Unit, CFM: 151, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU8B - Universal Condensate Unit, CFM: 151, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU9A - Universal Condensate Unit, CFM: 153, Total MBH: 24.6, Mnufacturer: Carrier — 1.0 6A
- CU9B - Universal Condensate Unit, CFM: 153, Total MBH: 24.6, Mnufacturer: Carrier — 1.0 6A
- CU10B - Universal Condensate Unit, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU10A - Universal Condensate Unit, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU11A - Universal Condensate Unit, CFM: 230, Total MBH: 16.6, Mnufacturer: Carrier — 1.0 6A
- CU11B - Universal Condensate Unit, CFM: 230, Total MBH: 16.6, Mnufacturer: Carrier — 1.0 6A
- CU12A - Universal Condensate Unit, CFM: 300, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU12B - Universal Condensate Unit, CFM: 300, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- CU13A - Universal Condensate Unit, CFM: 330, Total MBH: 16.6, Mnufacturer: Carrier — 1.0 6A
- CU13B - Universal Condensate Unit, CFM: 330, Total MBH: 16.6, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 103, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 101, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 102, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 104, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 105, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 106, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 107, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 108, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 109, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 201, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 202, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 203, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 204, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 205, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 206, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 207, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 208, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 209, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 210, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 211, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 212, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 213, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 214, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 215, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 217, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 219, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 221, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 223, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 223, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 225, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 227, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 229, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 231, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 235, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 301, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 302, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 303, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 304, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 305, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 306, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 307, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 308, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 309, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 310, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 311, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 312, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 313, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 314, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 315, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 316, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 317, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 319, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 321, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 323, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 325, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 327, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 329, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 331, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 333, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- UCU1 - Universal Condensate Unit, CFM: 335, Total MBH: 18, Mnufacturer: Carrier — 1.0 6A
- ERV1 - Energey Recovery Unit, Outdoo Air Fan Total CFM: 1440, Manufacturer: Renewaire — 1.0 6A
- EF1 - Exhaust Fan, CFM: 600, Manufacturer: Green Heck — 1.0 6A
- EF3 - Exhaust Fan, CFM: 600, Manufacturer: Green Heck — 1.0 6A
- ERV2 - Energey Recovery Unit, Outdoo Air Fan Total CFM: 3780, Manufacturer: Renewaire — 1.0 6A



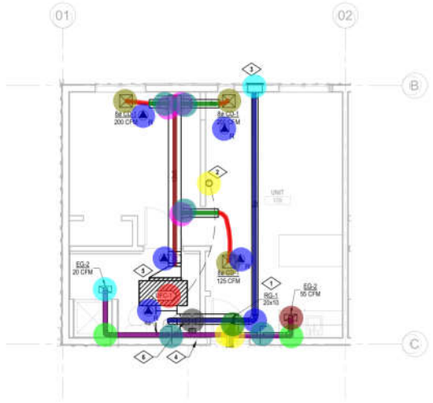
MECHANICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

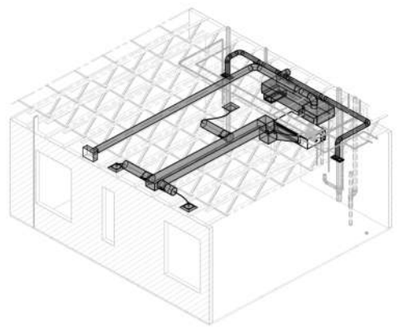
1. PROVIDE AND INSTALL FIRE SMOKER DAMPERS AT ALL FIRE RATED DUCT PENETRATIONS.
2. REFERENCE DIAGRAMS FOR INSTALLATION OF NEW HVAC EQUIPMENT AND DEVICES.
3. PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
4. ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS.
5. NOT ALL DUCT TRANSITIONS AND OFFSETS ARE SHOWN. CONTRACTOR SHALL PROVIDE THE NECESSARY FITTING REQUIRED AND INSTALL ACCORDINGLY.
6. COORDINATE NEW AIR DEVICE LOCATIONS WITH SPRINKLER HEADS. FIELD COORDINATE
7. COORDINATE THERMOSTAT LOCATIONS WITH FURNITURE LAYOUT. INSTALL ACCORDINGLY. VERIFY FURNITURE LAYOUT WITH ARCHITECTURAL DRAWINGS.
8. CONTRACTOR SHALL PROVIDE NECESSARY CODE COMPLYING CLEARANCES FOR ALL EQUIPMENT INSTALLED.
9. COORDINATE ALL MECHANICAL EQUIPMENT AND DUCTWORK WITH STRUCTURAL BEAMS AND JOISTS. COORDINATE WITH STRUCTURAL ENGINEER TO PROVIDE CUTOUTS IN STRUCTURAL JOISTS AND/OR BEAMS OR PROVIDE DROP CEILINGS WHERE NECESSARY. COORDINATE ALL FIRE AND SMOKE BARRIERS WITH DAMPER AND ACCESS PANEL REQUIREMENTS.
10. CEILING SPACE IS LIMITED. THEREFORE COORDINATE WITH GC ON ALL DUCTWORK INSTALLATION WITH PLUMBING PIPING, FIRE SPRINKLER PIPING AND ELECTRICAL INSTALLATION.
11. PROVIDE 12"X12" CEILING ACCESS PANEL AT ALL FIRE SMOKE DAMPER LOCATIONS BY OTHERS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CUTTING AND PATCHING REQUIREMENTS WITH GENERAL CONTRACTOR.

DRAWING NOTES:

1. COORDINATE RETURN GRILLE WITH ARCHITECT. ROUTE RETURN AIR DUCT BELOW RATED CEILING/FLOOR ASSEMBLY. COORDINATE WITH ELECTRICAL PANEL LOCATION. DUCTWORK SHALL NOT BE ABOVE ELECTRICAL PANEL.
2. 7-DAY PROGRAMMABLE THERMOSTAT TO BE MOUNTED AT 48" AFF.
3. PROVIDE RECESSED WALL BOX WITH BACKDRAFT DAMPER, X-VENT OR EQUAL, FOR OUTSIDE AIR INTAKE. INSTALL AS HIGH AS POSSIBLE. TO BE COORDINATED WITH ARCH BUILDING ELEVATIONS. COORDINATE PAINT COLOR WITH ARCHITECT.
4. PROVIDE 24V CLASS-1 MOTORIZED DAMPER AND INTERLOCK WITH FCU FAN OPERATION. DAMPER SHALL OPEN WHEN FCU IS ENABLED AND CLOSE WHEN FCU IS DISABLED.
5. PROVIDE NEW EQUIPMENT ACCESS PANEL IN THIS AREA. SEE FAN COIL SCHEDULE FOR MORE INFORMATION.
6. PROVIDE OUTSIDE AIR BALANCING DAMPER AND BALANCE TO OUTSIDE AIR CFM ON FAN COIL SCHEDULE. PROVIDE MOTORIZED DAMPER AND INTEGRATE WITH FAN COIL UNIT CONTROL SEQUENCE. ARCHITECT TO PROVIDE 12X12" ACCESS PANEL IN GRIDP CEILING AND RATED ACCESS PANEL IN RATED LID UNLESS DAMPERS ARE INSTALLED BELOW RATED LID.

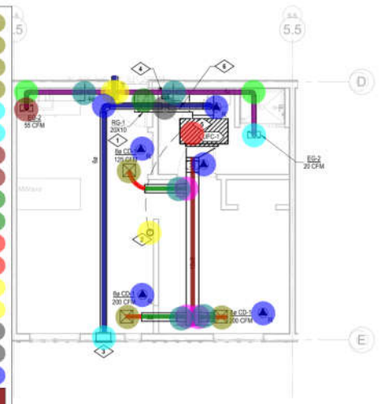


1 TYPICAL UNIT MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

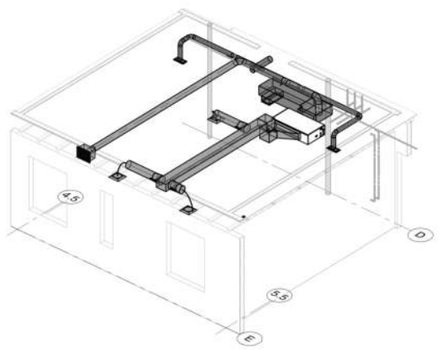


2 TYP. UNIT MECHANICAL ISOMETRIC
SCALE:

CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	1.0 EA
CD1 - Ceiling Diffuser, CFM: 125, Manufacturer: Price	1.0 EA
CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	2.0 EA
CD1 - Ceiling Diffuser, CFM: 200, Manufacturer: Price	2.0 EA
EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	1.0 EA
EG2 - Exhaust Grill, CFM: 20, Manufacturer: Price	1.0 EA
EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	1.0 EA
EG2 - Exhaust Grill, CFM: 55, Manufacturer: Price	1.0 EA
RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	1.0 EA
RG1 - (20"x10") Return Grill, CFM: -, Manufacturer: Price	1.0 EA
UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: Fir...	1.0 EA
UFC1 - Universal Fan Coil Unit, CFM: 528, MBH: 18.0, Manufacturer: Fir...	1.0 EA
7 Days Programble Thermostate	1.0 EA
7 Days Programble Thermostate	1.0 EA
Motorized Damper	1.0 EA
Motorized Damper	1.0 EA
Radiation Damper	5.0 EA
12x8 Mechanical Duct	13.5 FT
8" Dia Mehanical Duct	7.6 FT
Radiation Damper	5.0 EA
12x8 Mechanical Duct	13.3 FT
6" Dia Mehanical Duct	26.4 FT
8" Dia Flexible Duct	7.1 FT
8" Dia Mehanical Duct	8.1 FT
4" Dia Mehanical Duct	19.3 FT
6" Dia Mehanical Duct	28.3 FT
Manual Volume Damper W/ Locking Quadrant	5.0 EA
4" Dia 90 Degree Bend	2.0 EA
4" Dia To 6" Dia Transition	2.0 EA
6" Fia 90 Degree Bend	1.0 EA
(12x8) To 8" Dia Transition	3.0 EA
4" Dia Mehanical Duct	22.3 FT
Manual Volume Damper W/ Locking Quadrant	5.0 EA
8" Dia Flexible Duct	4.3 FT
4" Dia 90 Degree Bend	2.0 EA
4" Dia To 6" Dia Transition	2.0 EA
6" Fia 90 Degree Bend	1.0 EA
(12x8) To 8" Dia Transition	3.0 EA
Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	1.0 EA
Provide Recessed Wall Box w/ Back Draft Damper, X-Vent OR Equal	1.0 EA



4 UNIT TYPE A MECHANICAL PLAN
SCALE: 1/4" = 1'-0"



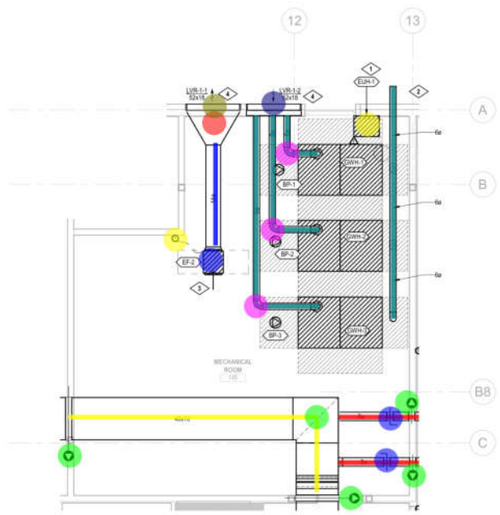
3 UNIT TYPE A MECHANICAL ISOMETRIC
SCALE:

GENERAL NOTES:

1. PROVIDE AND INSTALL FIRE SMOKER DAMPERS AT ALL FIRE RATED DUCT PENETRATIONS.
2. REFERENCE DIAGRAMS FOR INSTALLATION OF NEW HVAC EQUIPMENT AND DEVICES.
3. PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
4. ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS.
5. NOT ALL DUCT TRANSITIONS AND OFFSETS ARE SHOWN. CONTRACTOR SHALL PROVIDE THE NECESSARY FITTING REQUIRED AND INSTALL ACCORDINGLY.
6. COORDINATE NEW AIR DEVICE LOCATIONS WITH SPRINKLER HEADS. FIELD COORDINATE.
7. COORDINATE THERMOSTAT LOCATIONS WITH FURNITURE LAYOUT. INSTALL ACCORDINGLY. VERIFY FURNITURE LAYOUT WITH ARCHITECTURAL DRAWINGS.
8. CONTRACTOR SHALL PROVIDE NECESSARY CODE COMPLYING CLEARANCES FOR ALL EQUIPMENT INSTALLED.
9. COORDINATE ALL MECHANICAL EQUIPMENT AND DUCTWORK WITH STRUCTURAL BEAMS AND JOISTS. COORDINATE WITH STRUCTURAL ENGINEER TO PROVIDE CUTOUTS IN STRUCTURAL JOISTS AND/OR BEAMS OR PROVIDE DROP CEILINGS WHERE NECESSARY. COORDINATE ALL FIRE AND SMOKE BARRIERS WITH DAMPER AND ACCESS PANEL REQUIREMENTS.
10. CEILING SPACE IS LIMITED. THEREFORE COORDINATE WITH GC ON ALL DUCTWORK INSTALLATION WITH PLUMBING PIPING, FIRE SPRINKLER PIPING AND ELECTRICAL INSTALLATION.
11. PROVIDE 12"X12" CEILING ACCESS PANEL AT ALL FIRE SMOKE DAMPER LOCATIONS BY OTHERS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDIANTING ALL CUTTING AND PATCHING REQUIREMENTS WITH GENERAL CONTRACTOR.

DRAWING NOTES:

1. MOUNT UNIT HEATER AS HIGH AS POSSIBLE.
2. VENT FLUES PER MANUFACTURER'S INSTRUCTIONS. FLUES SHOWN IN STACKED CONFIGURATION AND SLOPED BACK AT 1/4" PER FOOT.
3. MOUNT EXHAUST FAN FROM CEILING. SUPPORT FROM STRUCTURE. SEE DIAGRAM. INTERLOCK WITH MOTORIZED DAMPER AND TERMINATEAT LOUVER AS SHOWN.
4. MOUNT LOUVER IN WALL AS HIGH AS POSSIBLE BELOW CEILING. COORDINATE EXACT LOCATION WITH ARCHITECT.



1 ENLARGED MECHANICAL ROOM PLAN
SCALE: 1/4" = 1'-0"

14" Dia Mechanical Duct	8.1 FT
40"x10" Mechanical Duct	25.5 FT
(40"x10") 90 Degree Bend	1.0 EA
(52"x18") To 14" Dia Transition	1.0 EA
EF2 - Exhaust Fan, CFM: 800, Manufacturer: Green Heck	1.0 EA
EUH1 - Electric Unit Heater, CFM: 350, Manufacturer: Berko	1.0 EA
LVR1-1 - (52"x18") Metal -Steel Louver, CFM: 800, Manufacturer: Boiler Room	1.0 EA
LVR1-2 - (52"x18") Metal -Steel Louver, CFM: 800, Manufacturer: Boiler Room	1.0 EA
6" Dia Mechanical Duct	56.6 FT
8" Dia Mechanical Duct	12.7 FT
Combination Fire & Smoke Demper	4.0 EA
Thermostate	1.0 EA
Manual Volume Damper W/ Locking Quadrant	2.0 EA
6" Dia 90 Degree Bend	3.0 EA