



Starr Design, PLLC  
1435 West Meredith St, Suite 240  
Charlotte, NC 28208  
V: 704 377 5200 F: 704 377 5201  
www.starrdesign.com

ROOM #	NAME	Az AREA (FT <sup>2</sup> )	TABLE 403.3 OCCUPANCY CATEGORY	TABLE 403.3 PEOPLE DA (CFM/PERSON)	TABLE 403.3 Ra AREA DA (CFM/FT <sup>2</sup> )	TABLE 403.3 OCCUPANT DENSITY (PERSONS/FT <sup>2</sup> )	Pz	Rp/Pz	Ra/Az	Vbz (CFM)	TABLE 403.3.1.2 Ez (CFM)	Vbz MAX SUPPLY (CFM)	Vbz MIN SUPPLY (CFM)	Zp	INTERPOLATED TABLE 403.3.2.3.2 Ev	
1	VESTIBULE	118	CORRIDORS	0.0	0.06	0	0	0	7	7	0.80	0	300	300	0.000	1.00
2	HOSTESS	180	CORRIDORS	0.0	0.06	0	5	0	11	11	0.80	14	200	200	0.066	1.00
3	BAR LOUNGE	671	DINING ROOMS	7.5	0.18	70	47	363	121	473	0.80	582	1845	1845	0.321	0.83
7	SECONDARY DINING	866	DINING ROOMS	7.5	0.18	70	88	319	174	684	0.80	856	2656	2656	0.322	0.83
		1,892					120	893	312	1175		1488	5600	5600	0.327	0.83

OUTDOOR AIR CALCULATIONS PER EQUATION 4-1:  
 SYMBOL VALUE DESCRIPTION  
 Ps = 120 SYSTEM POPULATION  
 SPz = 120 ZONE POPULATION  
 D = 1.00 OCCUPANT DIVERSITY  
 You = 1175 UNCORRECTED OUTDOOR AIR INTAKE  
 Zp (max) = 0.322 ZONE PRIMARY OUTDOOR AIR FRACTION (MAXIMUM)  
 Ev = 0.83 SYSTEM VENTILATION EFFICIENCY  
 SVbz = 6000 ZONE PRIMARY AIRFLOW  
 Vbz = 1,419 CODE REQUIRED OUTDOOR AIRFLOW RATE, CFM  
 Vbz = 1,420 DESIGN OUTDOOR AIRFLOW RATE, CFM

ROOM #	NAME	Az AREA (FT <sup>2</sup> )	TABLE 403.3 OCCUPANCY CATEGORY	TABLE 403.3 PEOPLE DA (CFM/PERSON)	TABLE 403.3 Ra AREA DA (CFM/FT <sup>2</sup> )	TABLE 403.3 OCCUPANT DENSITY (PERSONS/FT <sup>2</sup> )	Pz	Rp/Pz	Ra/Az	Vbz (CFM)	TABLE 403.3.1.2 Ez (CFM)	Vbz MAX SUPPLY (CFM)	Vbz MIN SUPPLY (CFM)	Zp	INTERPOLATED TABLE 403.3.2.3.2 Ev	
5	MAIN DINING ROOM	2,597	DINING ROOMS	7.5	0.18	70	142	1065	386	1430	0.80	1787	5680	5680	0.314	0.84
9	CORR.	83	STORAGE ROOMS	0.0	0.12	0	0	0	10	10	0.80	12	0	0	0.000	1.00
10	MENS RESTROOM	127	NO LISTING	0.0	0.00	0	0	0	0	0	0.80	0	100	100	0.000	1.00
11	WOMENS RESTROOM	127	NO LISTING	0.0	0.00	0	0	0	0	0	0.80	0	100	100	0.000	1.00
13	MECH. RM	90	STORAGE ROOMS	0.0	0.12	0	0	0	11	11	0.80	14	100	100	0.120	1.00
		2,854					142	1065	386	1431		1787	5680	5680	0.314	0.84

OUTDOOR AIR CALCULATIONS PER EQUATION 4-1:  
 SYMBOL VALUE DESCRIPTION  
 Ps = 142 SYSTEM POPULATION  
 SPz = 142 ZONE POPULATION  
 D = 1.00 OCCUPANT DIVERSITY  
 You = 1481 UNCORRECTED OUTDOOR AIR INTAKE  
 Zp (max) = 0.314 ZONE PRIMARY OUTDOOR AIR FRACTION (MAXIMUM)  
 Ev = 0.84 SYSTEM VENTILATION EFFICIENCY  
 SVbz = 6000 ZONE PRIMARY AIRFLOW  
 Vbz = 1,735 CODE REQUIRED OUTDOOR AIRFLOW RATE, CFM  
 Vbz = 1,735 DESIGN OUTDOOR AIRFLOW RATE, CFM

ROOM #	NAME	Az AREA (FT <sup>2</sup> )	TABLE 403.3 OCCUPANCY CATEGORY	TABLE 403.3 PEOPLE DA (CFM/PERSON)	TABLE 403.3 Ra AREA DA (CFM/FT <sup>2</sup> )	TABLE 403.3 OCCUPANT DENSITY (PERSONS/FT <sup>2</sup> )	Pz	Rp/Pz	Ra/Az	Vbz (CFM)	TABLE 403.3.1.2 Ez (CFM)	Vbz MAX SUPPLY (CFM)	Vbz MIN SUPPLY (CFM)	Zp	INTERPOLATED TABLE 403.3.2.3.2 Ev	
17	PREP	119	NO LISTING	0.0	0.00	0	4	0	0	0	0.80	0	305	305	0.000	1.00
12	OFFICE	50	OFFICE SPACES	0.0	0.06	5	1	5	3	8	0.80	19	100	100	0.150	1.00
16	COOK LINE	308	NO LISTING	0.00	0.00	0	6	0	0	0	0.80	0	1736	1736	0.000	1.00
8	EQIP	385	NO LISTING	0.00	0.00	0	0	0	0	0	0.80	0	1949	1949	0.000	1.00
21	SERVICE	187	CORRIDORS	0.0	0.06	0	0	0	12	12	0.80	15	400	400	0.037	1.00
15	DISH	238	NO LISTING	0.0	0.00	0	2	0	0	0	0.80	0	400	400	0.000	1.00
14	BEVERAGE	179	STORAGE ROOMS	0.0	0.12	0	1	0	15	15	0.80	18	400	400	0.048	1.00
6	RISER	123	NO LISTING	0.0	0.00	0	0	0	0	0	0.80	0	300	300	0.000	1.00
		1,229					14	5	29	34		43	5600	5600	0.100	1.00

OUTDOOR AIR CALCULATIONS PER EQUATION 4-1:  
 SYMBOL VALUE DESCRIPTION  
 Ps = 14 ZONE POPULATION  
 SPz = 14 ZONE POPULATION  
 D = 1.00 OCCUPANT DIVERSITY  
 You = 180 UNCORRECTED OUTDOOR AIR INTAKE  
 Zp (max) = 0.20 ZONE PRIMARY OUTDOOR AIR FRACTION (MAXIMUM)  
 Ev = 0.80 SYSTEM VENTILATION EFFICIENCY  
 SVbz = 6000 ZONE PRIMARY AIRFLOW  
 Vbz = CODE REQUIRED OUTDOOR AIRFLOW RATE, CFM  
 Vbz = DESIGN OUTDOOR AIRFLOW RATE, CFM

1 OUTDOOR AIR CALCULATIONS  
SCALE: NONE

Order Plans @

CONSTRUCTION DOCUMENTS  
05/10/18

No.	Description	Date



Date: 05/10/18  
CEN # PE000790

H.V.A.C.  
CALCULATIONS  
M2.02