



NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS & DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.

### Block 122 Units 43 to 48

		Block	122 Units 4	3 10 48						
SITE NAME: BARLASSINA	١					DATE: Aug-22	WINTE	R NATURAL AIR CHANGE RATE 0.319	HEAT LOSS ΔT °F. 72	CSA-F280-12
BUILDER: GREENPARK		TYPE	: WILLOW 2	GFA	: 1795	LO# 98654		R NATURAL AIR CHANGE RATE 0.085		SB-12 PACKAGE A1
ROOM USE	MBR	ENS	WIC	BED-2	BED-3	MEDIA	BATH			
EXP. WALL	12	8	0	10	16	0	0			
CLG. HT.	9	9	9	9	9	9	9			
FACTORS	9	9	,	3	9	9	9			
						_	_			
GRS.WALL AREA LOSS GAIN		72	0	90	144	0	0			
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN		LOSS GAIN				
NORTH 20.3 15.0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0			
EAST 20.3 40.5	0 0 0	0 0 0	0 0 0	23 466 933	24 487 973	0 0 0	0 0 0			
SOUTH 20.3 23.9	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0			
WEST 20.3 40.5	27 547 1095	16 324 649	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0			
SKYLT. 35.5 99.8	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0			
DOORS 19.1 2.4	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0			
NET EXPOSED WALL 4.3 0.5	81 344 44	56 238 30	0 0 0	67 285 36	120 510 65	0 0 0	0 0 0			
NET EXPOSED BSMT WALL ABOVE GR 3.4 0.4	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0			
EXPOSED CLG 1.2 0.5	228 279 120	104 127 55	48 59 25	180 220 95	170 208 90	318 389 168	72 88 38			
NO ATTIC EXPOSED CLG 2.6 1.1	0 0 0	0 0 0	0 0 0	12 31 14	0 0 0	0 0 0	0 0 0			
EXPOSED FLOOR 2.4 0.3	50 121 15	65 158 20	30 73 9	180 437 56	42 102 13	73 177 23	30 73 9			
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0			
SLAB ON GRADE HEAT LOSS	l ŏ	l o	0	0	0	ŏ	٥			
SUBTOTAL HT LOSS	1292	847	132	1440	1307	566	161			
SUB TOTAL HT GAIN	1292	754	35	1133		555	47			
LEVEL FACTOR / MULTIPLIER	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33			
AIR CHANGE HEAT LOSS					434					
	429	281	44	478		188	53			
AIR CHANGE HEAT GAIN	79	47	2	70	70	12	3			
DUCT LOSS	172	113	18	192	174	75	21			
DUCT GAIN	229	80	4	190	191	66	5			
HEAT GAIN PEOPLE 240	2 480	0 0	0 0	1 240	1 240	0 0	0 0			
HEAT GAIN APPLIANCES/LIGHTS	459	0	0	459	459	459	0			
TOTAL HT LOSS BTU/H	1893	1242	193	2110	1914	829	236			
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H	1893 3277			2110 2719			236 72			
TOTAL HT GAIN x 1.3 BTU/H			52		273	944	72	The state of the s		
TOTAL HT GAIN x 1.3 BTU/H			K/L/D		LAUN	944 PWD	FOY	MUD		BAS
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL			K/L/D 42		LAUN 0	944 PWD 11	72 FOY 26	17		93
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE  EXP. WALL  CLG. HT.			K/L/D		LAUN	944 PWD	FOY			
ROOM USE EXP. WALL CLG. HT. FACTORS			K/L/D 42 10		LAUN 0 9	PWD 11 10	FOY 26 10	17 10		93 9
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA			K/L/D 42 10 420		LAUN 0 9	PWD 11 10 110	FOY 26 10 260	17 10 170		93 9 558
ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING			52 K/L/D 42 10 420 LOSS GAIN		LAUN 0 9 0 LOSS GAI	944  PWD  11  10  110  LOSS GAIN	FOY 26 10 260 LOSS GAIN	17 10 170 LOSS GAIN		93 9 558 LOSS GAIN
ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH COM USE EXP. WALL CLG. HT. FACTORS GRAUNG NORTH 20.3 15.0			52  K/L/D  42  10  420  LOSS GAIN 0 0 0		273  LAUN 0 9 0 LOSS GAII 0 0 0	944 PWD 11 10 110 LOSS GAIN 0 0 0	FOY 26 10 260 LOSS GAIN 0 0 0	17 10 170 LOSS GAIN 0 0 0		93 9 558 LOSS GAIN 0 0 0
ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5			K/L/D 42 10 420 LOSS GAIN 0 0 0 0 0 0		273  LAUN 0 9  LOSS GAII 0 0 0 0 0 0	PWD 11 10 110 LOSS GAIN 0 0 0 0 0 0	FOY 26 10 260 LOSS GAIN 0 0 0 0 14 284 568	17 10 170 LOSS GAIN 0 0 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA GLAZING NORTH EAST 20.3 15.0 EAST SOUTH 20.3 23.9			52  K/L/D  42  10  420  LOSS GAIN 0 0 0 0 0 0 0 0 0		273  LAUN 0 9  LOSS GAII 0 0 0 0 0 0 0 0 0	PWD 11 10 110 LOSS GAIN 0 0 0 0 0 0 0 0 0	FOY 26 10 LOSS GAIN 0 0 0 0 14 284 568 0 0 0	17 10 170 LOSS GAIN 0 0 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0
ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 44 892 1784		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PWD 11 10 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	72  FOY 26 10  260 LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0	17 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST 20.3 40.5 SOUTH WEST 20.3 40.5 SKYLT. 35.5 99.8			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 44 892 1784 0 0 0 0		273  LAUN 0 9  LOSS GAI 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PWD 11 10 110 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	FOY 26 10 LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5 SKYLT. 35.5 99.8 DOORS 19.1 2.4			52  K/L/D 42 10  420  LOSS GAIN 0 0 0 0 0 0 0 44 892 1784 0 0 0 0 10 191 24		273  LAUN 0 9  LOSS GAII 0	PWD 11 10 110 110 1 LOSS GAIN 0	FOY 26 10 260 LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 11 210 27	17 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49		93 9 558 LOSS GAIN 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5 SKYLT. 35.5 99.8 DOORS 19.1 2.4 NET EXPOSED WALL 4.3 0.5			K/L/D 42 10 420 LOSS GAIN 0 0 0 0 0 0 0 0 0 44 892 1784 0 0 0 10 191 24 366 1556 198		273  LAUN 0 9  LOSS GAII 0	PWD 11 10 110 1 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 110 468 59	FOY 26 10 LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127	17 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA CJAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5 SKYLT. 35.5 99.8 DOORS NOTE EXPOSED WALL 4.3 0.5 NET EXPOSED BSMT WALL ABOVE GR 3.4 0.4			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		273  LAUN 0 9  LOSS GAII 0	PWD 11 10 110 1 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 110 468 59 0 0 0	72  FOY 26 10  260 LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0	17 10 17 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST 20.3 40.5 SKYLT. DOORS NYLT. DOORS NET EXPOSED BSMT WALL ABOVE GA EXPOSED CLG EXPOSED CLG 1.2 0.5			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		LAUN 0 9 0 LOSS GAII 0	PWD 111 10 110 110 100 110 100 100 100 100	FOY 26 10 LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 10 17 10 170 170 170 170 170 170 170		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS  GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5 SKYLT. 35.5 99.8 DOORS NET EXPOSED WALL 4.3 0.5 NET EXPOSED BMT WALL ABOVE GR 3.4 0.4 EXPOSED CLG 1.2 0.5 NO ATTIC EXPOSED CLG 2.6 1.1			52  K/L/D 42 10  420  LOSS GAIN 0 0 0 0 0 0 0 0 0 44 892 1784 0 0 0 0 10 191 24 366 1556 198 0 0 0 0 0 0 0 0 0		273  LAUN 0 9  0 LOSS GAII 0	PWD 11 10 110 110 10 110 10 110 10 110 10 1	FOY 26 10 LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 10 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 35.5 99.8 DOORS 10.5 NET EXPOSED WALL NET EXPOSED BSMT WALL ABOVE GR EXPOSED LG 1.2 0.5 NO ATTIC EXPOSED CLG 2.6 1.1 EXPOSED FLOOR 2.4 0.3			K/I/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 44   892   1784 0 0 0 0 10   191   24   366   1556   198 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 LAUN 0 9 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PWD 11 10 110 1 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 110 468 59 0	72  FOY 26 10  LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0	170 100 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5 SKYLT. 35.5 99.8 DOORS 19.1 2.4 NET EXPOSED WALL 4.3 0.5 NET EXPOSED WALL 4.3 0.5 NET EXPOSED LG 1.2 0.5 NO ATTIC EXPOSED CLG 1.2 0.5 NO ATTIC EXPOSED CLG 2.6 1.1 EXPOSED FLOOR 2.4 0.3 BASEMENT/CRAWL HEAT LOSS			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 LAUN 0 9 UCSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PWD 11 10 110 10 10 10 10 10 10 10 10 10 10	72  FOY 26 10  260  LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0	17 10 17 10 170 170 170 170 170 170 170		93 9 558 LOSS GAIN 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP, WALL CLG. HT. FACTORS  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST 20.3 40.5 SKYLT. JOORS NYLT. JOORS NET EXPOSED WALL NET EXPOSED BMIT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		LAUN 0 9 0 LOSS GAII 0	944  PWD 11 10  110  LOSS GAIN 0	FOY 26 10 LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 10 10 170 100 170 100 100 100 100 100		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 279 956 122 0 0 0 2815
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS  GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5 SKYLT. 35.5 99.8 DOORS 19.1 2.4 NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED CLG EXPOSED CLG EXPOSED FLOOR 2.4 0.3 BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS			52  K/L/D 42 10  420  LOSS GAIN 0 0 0 0 0 0 0 44 892 1784 0 0 0 0 10 191 24 366 1556 198 0 2639		273  LAUN 0 9  LOSS GAI 0 24 58 7 0 110	944  PWD 111 10  LOSS GAIN 0	FOY 26 10 260 LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 11 210 27	177 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0 0 0 0 1020		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA GLAZING NORTH 20.3 15.0 EAST SUTH 20.3 24.9 WEST SKYLT. SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED LCG EXPOSED CLG EXPOSED CLG 1.2 0.5 NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT GAIN			K/I/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 LAUN 0 9 0 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PWD 11 10 110 110 1 LOSS GAIN 0	72  FOY 26 10  LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 1493	177 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0 0 0 0 1020 130		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS  GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 40.5 SOUTH 20.3 40.5 SOUTH 20.3 40.5 SKYLT. 35.5 99.8 DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED LOOR EXPOSED LOOR EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 LAUN 0 9 0 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	944  PWD 11 10  LOSS GAIN 0	72  FOY 26 10  260  LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1493 721 0.30 0.52	177 10  170  LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1020 102		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP, WALL CLG. HT. FACTORS  GRS.WALL AREA LOSS GAIN GLAZING NORTH EAST 20.3 40.5 SOUTH WEST 20.3 40.5 SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		LAUN 0 9 0 LOSS GAII 0	PWD 11 10 110 110 1 LOSS GAIN 0	FOY 26 10 LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	177 10  170  LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1020 1020		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 23.9 WEST 20.3 40.5 SKYLT. DOORS 19.1 2.4 NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED WALL EXPOSED LG 1.2 0.5 NO ATTIC EXPOSED CLG 2.6 1.1 EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT GAIN			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 LAUN 0 9	PWD 11 10 110 110 1 LOSS GAIN 0	72  FOY 26 10  LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 1493 721 0.30 0.52 775 45	177 10 170 LOSS GAIN 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1020 130 0.30 0.52 529 8		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP, WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST 20.3 40.5 SOUTH 20.3 22.9 WEST 20.3 40.5 SKYLT. 35.5 99.8 DOORS 19.1 2.4 NET EXPOSED WALL 4.3 0.5 NET EXPOSED WALL 4.3 0.5 NO ATTIC EXPOSED CLG 1.2 0.5 NO ATTIC EXPOSED CLG 2.6 1.1 EXPOSED FLOOR 2.4 0.3 BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS			K/I/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 LAUN 0 9 0 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PWD 11 10 110 110 1 LOSS GAIN 0	72  FOY 26 10  LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 1493 721 0.30 0.52 775 0 0	177 10  170  LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1020 130 0.30 0.52 529 8 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS  GRS.WALL AREA OSS GAIN GLAZING NORTH EAST 20.3 40.5 SOUTH 20.3 40.5 SOUTH 20.3 40.5 SKYLT. 35.5 99.8 DOORS NET EXPOSED WALL NET EXPOSED WALL EXPOSED WALL NET EXPOSED BSMT WALL ABOVE GR 1.2 0.5 NO ATTIC EXPOSED CLG EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		273  LAUN 0 9  0 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	944  PWD 11 10  LOSS GAIN 0	72  FOY 26 10  260  LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 1493 721 0.30 0.52 775 45 0 0	177 10 170 LOSS GAIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 20 382 49 150 638 81 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1020 102		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15 4859 21 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP, WALL CLG. HT. FACTORS  GRS.WALL AREA GLAZING NORTH EAST 20.3 40.5 SOUTH WEST 20.3 40.5 SKYLT. JOOORS NET EXPOSED WALL NET EXPOSED WALL EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT GAIN DUCT GAIN HEAT GAIN PEOPLE 240			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		273  LAUN 0 9  0 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	944  PWD 11 10  110  LOSS GAIN 0	72  FOY 26 10  260  LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 1493 721 0.30 0.52 775 0 0 0 0 0 0	177 10 170 LOSS GAIN 0 20 382 49 150 638 81 0 1020 130 0.30 0.52 529 8 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15 4859 21 0 0 0 0
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. FACTORS GRS.WALL AREA LOSS GAIN GLAZING NORTH 20.3 15.0 EAST SUBTH 20.3 23.9 WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED UG EXPOSED CLG EXPOSED CLG 1.2 0.5 NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN HEAT GAIN PEOPLE HEAT GAIN APPLIANCES/LIGHTS			K/I/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 LAUN 0 9 0 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	944  PWD  11  10  LOSS GAIN  0	72  FOY 26 10  LOSS GAIN 0 0 0 0 14 284 568 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1493 721 0.30 0.52 775 45 0 0 0 0	177 10  170  LOSS GAIN 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15 4859 21 0 0 0 0 459
TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP, WALL CLG. HT. FACTORS  GRS.WALL AREA LOSS GAIN GLAZING NORTH EAST 20.3 40.5 SOUTH WEST 20.3 40.5 SKYLT. JOOORS NYLT. JOOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED BSMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED CLG NO ATTIC EXPOSED CLG SASS SUBTOTAL HT LOSS SUBTOTAL HT LOSS SUBTOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN HEAT GAIN PEOPLE 240			K/L/D   42   10   420   LOSS GAIN   0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		273  LAUN 0 9  0 LOSS GAII 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	944  PWD 11 10  110  LOSS GAIN 0	72  FOY 26 10  260  LOSS GAIN 0 0 0 14 284 568 0 0 0 0 0 0 0 0 0 0 0 0 11 210 27 235 999 127 0 0 0 0 0 0 0 0 0 0 0 0 0 1493 721 0.30 0.52 775 0 0 0 0 0 0	177 10 170 LOSS GAIN 0 20 382 49 150 638 81 0 1020 130 0.30 0.52 529 8 0 0 0 0		93 9 558 LOSS GAIN 0 0 0 0 0 0 0 0 0 4 81 162 0 0 0 20 382 49 0 0 0 279 956 122 0 0 0 0 0 0 2815 4235 332 0.50 1.15 4859 21 0 0 0 0

TOTAL HEAT GAIN BTU/H:

17474

TONS: 1.46

LOSS DUE TO VENTILATION LOAD BTU/H: 1243

STRUCTURAL HEAT LOSS: 26205

TOTAL COMBINED HEAT LOSS BTU/H: 27449

Mehad Oxombe.



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		BARLAS GREENI		OMES				TYPE:	WILLOW	12			DATE:	Aug-22			GFA:	1795	LO#	98654				
HEATING CFM TOTAL HEAT LOSS AIR FLOW RATE CFM	614 26,205 23.43	А	TOTAL F	LING CFM HEAT GAIN RATE CFM	17,316		а	furı a/c coil ıvailable	pressure nace filter pressure pressure s/a & r/a								GMEC960 FAN		GOODMA 30	AN		AFUE = (BTU/H) = (BTU/H) =	30,000	
RUN COUNT S/A	4th 0	3rd 0	2nd 11	1st 5	Bas 3		ple		ssure s/a			r/a	pressure	0.17				EDLOW MEDIUM	614		DESI	GN CFM = CFM @ .	<b>614</b> 6 " E.S.P.	-
R/A All S/A diffusers 4"x10" unle	0	0 d otherwi	4 se on lav	1	1		max	s/a dif p	ress. loss ssure s/a	0.01		grille pre	ss. Loss	0.02				M HIGH HIGH	895	т	EMDEDAT	URE RISE		°F
All S/A runs 5"Ø unless not		wise on la	ayout.								auj	usteu pre	SSUIC I/a											- '
RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT	1 MBR 0.95 22	2 ENS 1.24 29	3 WIC 0.19 5	4 BED-2 1.05 25	5 BED-3 0.96 22	6 MEDIA 0.83 19	7 BATH 0.24 6	8 BED-2 1.05 25	0.96 22	10 MBR 0.95 22				14 K/L/D 2.00 47	15 K/L/D 2.00 47		17 LAUN 0.16 4	18 PWD 0.71 17	19 FOY 2.27 53	20 MUD 1.55 36	21 BAS 3.03 71	22 BAS 3.03 71	23 BAS 3.03 71	
RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH.	1.64 58 0.17 42	1.14 41 0.17 35	0.05 2 0.17 23	1.36 48 0.17 59	1.37 48 0.17 51	0.94 33 0.17 29	0.07 3 0.17 20	1.36 48 0.17 55	1.37 48 0.17 56	1.64 58 0.17 40				1.68 60 0.17 26	1.68 60 0.17 28		0.70 25 0.17 18	0.08 3 0.17 29	1.00 35 0.17 41	0.18 6 0.17 23	0.35 12 0.17 28	0.35 12 0.17 14	0.35 12 0.17 27	
EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE	200 242 0.07 5	170 205 0.08 4	200 223 0.08 4	170 229 0.08 5	150 201 0.09 5	130 159 0.11 5	170 190 0.09 4	180 235 0.07 5	170 226 0.08 5	190 230 0.07 5				100 126 0.14 5	90 118 0.15 5		150 168 0.1 4	100 129 0.13 4	130 171 0.1 5	130 153 0.11 4	90 118 0.15 5	140 154 0.11 5	90 117 0.15 5	
HEATING VELOCITY (ft/min) COOLING VELOCITY (ft/min) OUTLET GRILL SIZE TRUNK	162 426 3X10 C	333 470 3X10 C	57 23 3X10 C	184 352 3X10 A	162 352 3X10 A	140 242 3X10 B	69 34 3X10 B	184 352 3X10 A	162 352 3X10 A	162 426 3X10 C				345 441 3X10 C	345 441 3X10 C		46 287 3X10 B	195 34 3X10 B	389 257 3X10 A	413 69 3X10 B	521 88 3X10 C	521 88 3X10 C	521 88 3X10 B	
RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ft/min) COOLING VELOCITY (ft/min) OUTLET GRILL SIZE TRUNK																								
SUPPLY AIR TRUNK SIZE																	RETURN A	NR TRUNK						
TRUNK A TRUNK B TRUNK C TRUNK D TRUNK E TRUNK F	TRUNK CFM 147 300 314 0 0	STATIC PRESS. 0.07 0.07 0.07 0.00 0.00 0.00	7.1 9.2 9.4 0 0	8 12 10 0 0	x x x x x	8 8 8 8	VELOCITY (ft/min) 331 450 565 0 0		TRUNK G TRUNK H TRUNK I TRUNK J TRUNK K TRUNK L	TRUNK	STATIC PRESS. 0.00 0.00 0.00 0.00 0.00 0.00 0.00	ROUND DUCT 0 0 0 0 0 0	DUCT 0 0 0 0 0 0 0	x x x x x	8 8 8 8	VELOCITY (ft/min) 0 0 0 0 0 0	TRUNK O TRUNK P TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V	TRUNK CFM 0 0 0 0 0 0 0 0 0	STATIC PRESS. 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0	ROUND DUCT 0 0 0 0 0 0 0 0 0 0	RECT DUCT 0 0 0 0 0 0 0	x x x x x x	8 8 8 8 8	VELOCITY (ft/min) 0 0 0 0 0 0 0 0 0
RETURN AIR #  AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LH ADJUSTED PRESSURE ROUND DUCT SIZE INLET GRILL SIZE INLET GRILL SIZE	1 0 75 0.15 44 215 259 0.06 5.7 8 X	2 0 65 0.15 63 230 293 0.05 5.7 8 X 14	3 0 65 0.15 62 225 287 0.05 5.7 8 X 14	4 0 75 0.15 62 185 247 0.06 5.7 8 X	5 0 250 0.15 11 175 186 0.08 8.3 8 X 24	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	0 0 0.15 1 0 1 14.80 0 0 X	84 0.15 14 220 234 0.06 6 8 X	TRUNK W TRUNK X TRUNK Y TRUNK Z DROP	0 614 205 0 614	0.05 0.05 0.05 0.05 0.05 0.05	0 13.1 8.7 0 13.1	0 20 10 0 24	x x x x	8 8 8 8 10	0 553 369 0 368



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TYPE: WILLOW 2 SITE NAME: BARLASSINA

98654 LO#

#### RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES	9.32.3.1(1)	SUPPLEMENTAL V	ENTILATION CAPACITY		9.32.3.5.
a)		Total Ventilation Ca	pacity	159	cfm
b) Positive venting induced draft (except fireplaces)		Less Principal Venti	I. Capacity	63.6	cfm
c) Natural draft, B-vent or induced draft gas fireplace		Required Suppleme	ntal Capacity	95.4	cfm
d) Solid Fuel (including fireplaces)		L			
e) No Combustion Appliances		PRINCIPAL EXHAU	IST FAN CAPACITY		
<del></del>		Model:	VANEE V150H	Location:	BSMT
HEATING SYSTEM		63.6	cfm		✓ HVI Approved
Forced Air Non Forced Air		PRINCIPAL EXHAU	IST HEAT LOSS CALCULATION		% LOSS
		63.6 CFM	Χ 72 F X	FACTOR 1.08	% LOSS X 0.25
Electric Space Heat		SUPPLEMENTAL F	ANS BY INST	TALLING CONT	TRACTOR
HOUSE TYPE	0.00.4(0)	Location	Model	cfm	HVI Sones
HOUSE TYPE	9.32.1(2)	ENS BATH	BY INSTALLING CONTRACTOR BY INSTALLING CONTRACTOR	50 50	✓ 3.5 ✓ 3.5
I Type a) or b) appliance only, no solid fuel		LAUN	BY INSTALLING CONTRACTOR	50	✓ 3.5
		PWD	BY INSTALLING CONTRACTOR	50	✓ 3.5
II Type I except with solid fuel (including fireplace	es)	HEAT RECOVERY	VENTIL ATOR		9.32.3.11.
III Any Type c) appliance		Model:	VANEE V150H		9.32.3.11.
		150	cfm high	35	cfm low
IV Type I, or II with electric space heat		75	% Sensible Efficiency		✓ HVI Approved
Other: Type I, II or IV no forced air			@ 32 deg F ( 0 deg C)		
		LOCATION OF INS	TALLATION		
SYSTEM DESIGN OPTIONS	O.N.H.W.P.		-		
1 Evhauet anlu/Earcad Air System		Lot:		Concession	
1 Exhaust only/Forced Air System		Township		Plan:	
2 HRV with Ducting/Forced Air System		Address			
HRV Simplified/connected to forced air system		Roll #		Building Perm	nit#
4 HRV with Ducting/non forced air system			ODEENIDADIK HOMEO	<u> </u>	
Part 6 Design		BUILDER:	GREENPARK HOMES		
		Name:			
TOTAL VENTILATION CAPACITY	9.32.3.3(1)	Address:			
Basement + Master Bedroom 2 @ 21.2 cfm 42.4	cfm	City:			
Other Bedrooms 2 @ 10.6 cfm 21.2	cfm	Telephone #:		Fax #:	
Kitchen & Bathrooms <u>4</u> @ 10.6 cfm <u>42.4</u>	cfm	INSTALLING CONT	RACTOR		
Other Rooms <u>5</u> @ 10.6 cfm <u>53.0</u>	cfm	Name:			
Table 9.32.3.A. TOTAL <u>159.0</u>	cfm	Address:			
		City:			
PRINCIPAL VENTILATION CAPACITY REQUIRED	9.32.3.4.(1)	Telephone #:		Fax#:	
1 Bedroom 31.8	cfm		COATION	ι αλ π.	
2 Bedroom 47.7	cfm		this ventilation system has been o	designed	
3 Bedroom 63.6	cfm	Name:	he Ontario Building Code. HVAC Designs Ltd.		
4 Bedroom 79.5	cfm	Signature:	Micha	I Ofounde	4.2
5 Bedroom 95.4	cfm	HRAI#		001820	
TOTAL 63.6 cfm I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUA	ALIELED IN THE AS	Date:	"OTHER DESIGNED" I NIDER DIVISION O	August-22	LDING CODE
INDIVIDUAL BCIN: 19669 MICHAEL O'R		TROPINALE DATEGURY AS AN	OTHER DESIGNER UNDER DIVISION C	, v.z.v of the BUI	LUING GODE.



			CSA F28	80-12 Residential Hea	t Loss and Heat Gain	Calculations						
			Form	ula Sheet (For Air Lea	kage / Ventiliation C	alculation)						
LO#: 98	8654	Model: WILLOW 2		•	r: GREENPARK HOMES	,			Date:	2022-08-30		
		Volume Calculation	n		Air Change & Delta T Data							
House Volume						WINTER NA	TURAL AIR CHANG	E RATE	0.319			
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)			SUMMER NA	TURAL AIR CHANG	GE RATE	0.085			
Bsmt	733	9	6597									
First	733	10	7330			-						
Second	1062	9	9558					mperature Diff				
Third	0	9	0				Tin °C	Tout °C	ΔT °C	ΔT °F		
Fourth	0	9	0			Winter DTDh	22	-18	40	72		
		Total:	23,485.0 ft <sup>3</sup>			Summer DTDc	24	29	5	9		
		Total:	665.0 m³									
	F 2 2	.1 Heat Loss due to Air	Lookaga			6366	Sensible Gain due	to Air Lookaga				
	3.2.3	.1 neat Loss due to All	Leakage		-	0.2.0	sensible dain due	to Air Leakage				
		$V_{h}$					$V_{b}$					
	$HL_{airb} =$	$LR_{airh} \times \frac{V_b}{3.6} \times D$	$TD_h \times 1.2$		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$							
0.319		0.0		= 2848 W	= 0.085		0.0		_ [	96 W		
0.319	X 104.75	x 40 °C	X	- 2040 VV	- 0.083	x <u>184.73</u>	_ ^ <u></u>	X	[	90 W		
				= 9717 Btu/h					= [	327 Btu/h		
				- 3717 Btu/II					- [	327 Blu/II		
	5.2.3.2 Hea	t Loss due to Mechan	ical Ventilation			6.2.7 Sei	nsible heat Gain d	ue to Ventilatio	on			
	$HL_{vairb} =$	$PVC \times DTD_h \times 1$	$.08 \times (1 - E)$		$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$							
	vanb	n			·	vati b	<i></i>					
64 CFM	x 72 °F	x 1.08	x 0.25	= 1243 Btu/h	64 CFM	y 9°F	x 1.08	x 0.25	= [	158 Btu/h		
04 61141	X 721	Α 1.00	X <u>0.23</u>	12-13 5 (4) 11	<u> </u>	_	x <u>1.00</u>	X	_	150 5 (4) 11		
			5.2.3.3 Calcula	tion of Air Change Heat I	oss for Each Room (Flor	or Multiplier Section)						
					(110	,						
		$HL_{ai}$	$_{rr} = Level\ Factor$	$or \times HL_{airbv} \times \{(Hairbv) \times \{(Hairbv)\}\}$	$(L_{agcr} + HL_{bgcr}) \div$	$(HL_{agclevel} + HL_{eq})$	$_{bgclevel})$ }					
				HLairve Air Leakage +	Lavel Canal H. H. H.		** III II II II					
ĺ		Level	Level Factor (LF)	Ventilation Heat Loss	Level Conductive Heat							
				(Btu/h)	Loss: (HL <sub>clevel</sub> )	HLairbv / H	HLlevel)					
		1	0.5	(Dtu/II)	4,235	1.14	7					
		2	0.3		5,619	0.51						
		3	0.2	9,717	5,854	0.33		•				
		4	0	-/	0	0.00			Michael O'Ro	ourke		
		5	0		0	0.00		•	BCIN# 19669			
					<u> </u>	0.00	-					
			J	ventilation heat loss	-0				Mucha	I Ofounde.		
		"For a balanc	tea or supply only ve	entilation system HLairve	= 0					~ 1		

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CODE AND ANY OTHER REFERENCED REQUIREMENTS eb: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

## **HEAT LOSS AND GAIN SUMMARY SHEET**

**BUILDER: GREENPARK HOMES** MODEL: WILLOW 2 SFQT: 1795 LO# 98654 SITE: BARLASSINA **DESIGN ASSUMPTIONS** °F °F **COOLING HEATING** OUTDOOR DESIGN TEMP. OUTDOOR DESIGN TEMP. 0 84 INDOOR DESIGN TEMP. (MAX 75°F) INDOOR DESIGN TEMP. 72 75 WINDOW SHGC 0.50 **BUILDING DATA** ATTACHMENT: **ATTACHED** # OF STORIES (+BASEMENT): 3 Υ FRONT FACES: **EAST** ASSUMED (Y/N): AIR CHANGES PER HOUR: 3.57 ASSUMED (Y/N): AIR TIGHTNESS CATEGORY: ASSUMED (Y/N): **AVERAGE** WIND EXPOSURE: **SHELTERED** ASSUMED (Y/N): HOUSE VOLUME (ft<sup>3</sup>): ASSUMED (Y/N): 23485.0 **BLINDS/CURTAINS** INTERNAL SHADING: **ASSUMED OCCUPANTS:** INTERIOR LIGHTING LOAD (Btu/h/ft2): 1.27 DC BRUSHLESS MOTOR (Y/N): FOUNDATION CONFIGURATION BCIN\_1 **DEPTH BELOW GRADE:** 6.0 ft 17.0 ft **EXPOSED PERIMETER:** 93.0 ft LENGTH: 55.0 ft WIDTH:

2012 OBC - COMPLIANCE PACKAGE			
	Compliance	Package	
Component	Δ	1	
	Nominal	Min. Eff.	
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22	
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65	
Exposed Floor Minimum RSI (R)-Value	31	29.80	
Walls Above Grade Minimum RSI (R)-Value	22	17.03	
Basement Walls Minimum RSI (R)-Value	20 ci	21.12	
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-	
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10	
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13	
Windows and Sliding Glass Doors Maximum U-Value	0.28	-	
Skylights Maximum U-Value	0.49	-	
Space Heating Equipment Minimum AFUE	96%	-	
HRV/ERV Minimum Efficiency	75%	-	
Domestic Hot Water Heater Minimum EF	0.8	-	

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE





HVAC Designs Ltd. 375 Finley Ave, Suite 202 Ajax ON, L1S 2E2 905-619-2300

# **Residential Foundation Thermal Load Calculator**

Supplemental tool for CAN/CSA-F280

We	eather Sta	tion Description								
Province:	Ontario	•								
Region:	Cambrid	ge								
	Site D	escription								
Soil Conductivity:	Normal o	conductivity: dry sand, loam, clay								
Water Table:	Normal (	7-10 m, 23-33 ft)								
Foundation Dimensions										
Floor Length (m):	16.8									
Floor Width (m):	5.2									
Exposed Perimeter (m):	28.3									
Wall Height (m):	2.7									
Depth Below Grade (m):	1.83	Insulation Configuration								
Window Area (m²):	0.4									
Door Area (m²):	1.9									
	Radi	ant Slab								
Heated Fraction of the Slab:	0									
Fluid Temperature (°C):	33									
	Desig	n Months								
Heating Month	1									
	Founda	tion Loads								
Heating Load (Watts):		825								

**TYPE:** WILLOW 2 **LO#** 98654





HVAC Designs Ltd. 375 Finley Ave, Suite 202 Ajax ON, L1S 2E2 905-619-2300

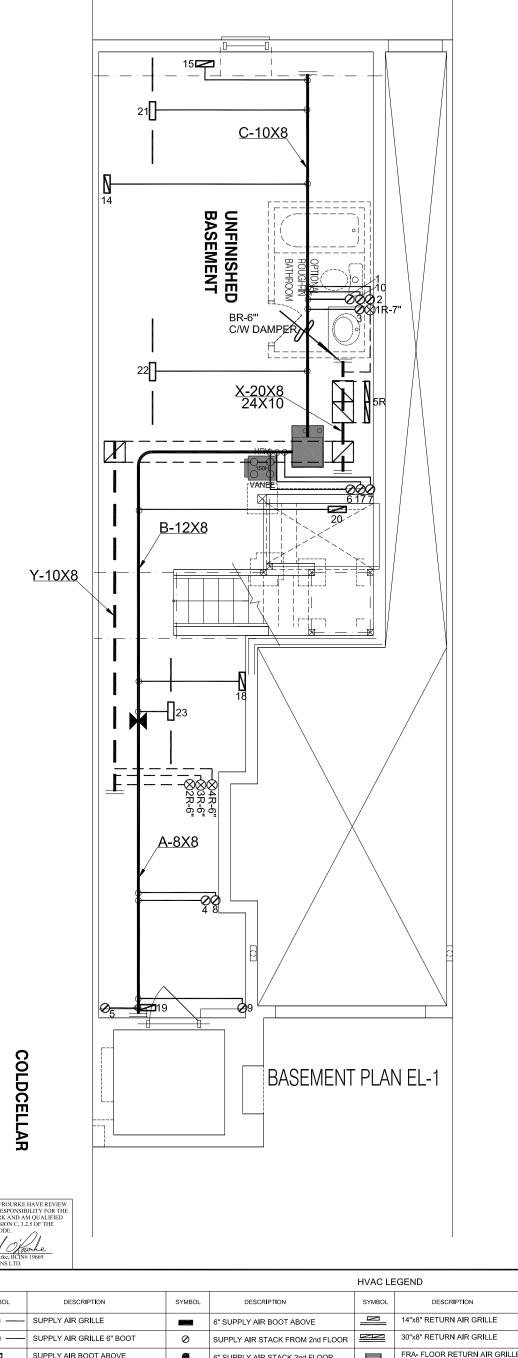
# **Air Infiltration Residential Load Calculator**

Supplemental tool for CAN/CSA-F280

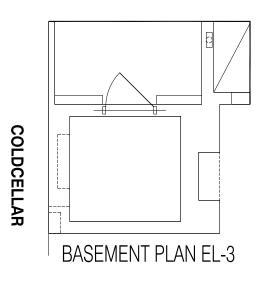
Weather Statio	n Des	cripti	ion		
Province:	Ontar	io			
Region:	Camb	ridge			
Weather Station Location:	Open	flat te	rrain, g	grass	
Anemometer height (m):	10				
Local Sh	ieldin	g			
Building Site:	Subur	ban, fo	orest		
Walls:	Heavy	/			
Flue:	Heavy	/			
Highest Ceiling Height (m):	6.71				
Building Cor	nfigura	ation			
Type:	Semi				
Number of Stories:	Two				
Foundation:	Full				
House Volume (m³):	665.0				
Air Leakage/	Ventil	atior	1		
Air Tightness Type:	Prese	nt (196	51-) (3.	57 ACH	1)
Custom BDT Data:	ELA @	10 Pa	ì.		886.5 cm <sup>2</sup>
	3.57				ACH @ 50 Pa
Mechanical Ventilation (L/s):	To	tal Sup	ply		Total Exhaust
		30.0			30.0
Flue	Size				
Flue #:	#1	#2	#3	#4	
Diameter (mm):	0	0	0	0	
Natural Infilt	ration	Rate	S		
Heating Air Leakage Rate (ACH/H):		C	.31		
Cooling Air Leakage Rate (ACH/H):		C	.08	5	

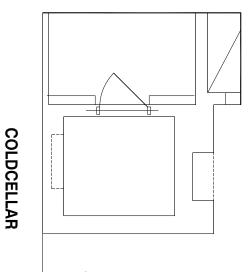
**TYPE:** WILLOW 2 **LO#** 98654





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BASEMENT PLAN EL-2

			3.							
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT	0	SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	$\bowtie$	RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE	Ø	6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	X	REDUCER		REVISIONS	

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GREENPARK HOMES

Project Name

**BARLASSINA** CAMBRIDGE, ON

Block 122 Units 43 to 48

WILLOW 2

1795 sqft

375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed. FAN SPEED

	HEAT		BTU/H	# OF RUNS	S/A	R/A	FANS	She
		UN <b>I</b> T DATA		3RD FLOOR				
	MAKE	GOODMAN		2ND FLOOR	11	4	3	
	MODEL GN	1EC960302BN	Α	1ST FLOOR	5	1	2	
	INPUT	30	MBTU/H	BASEMENT	3	1	0	Dat
_	OUTPUT	28.8	MBTU/H	ALL S/A DIFFU	SERS	4 "x10	)"	Sca
	COOLING		TONS	UNLESS NOTE ON LAYOUT. A				
е		1.5	10110	UNLESS NOTE	D OTH	IERW	ISE	

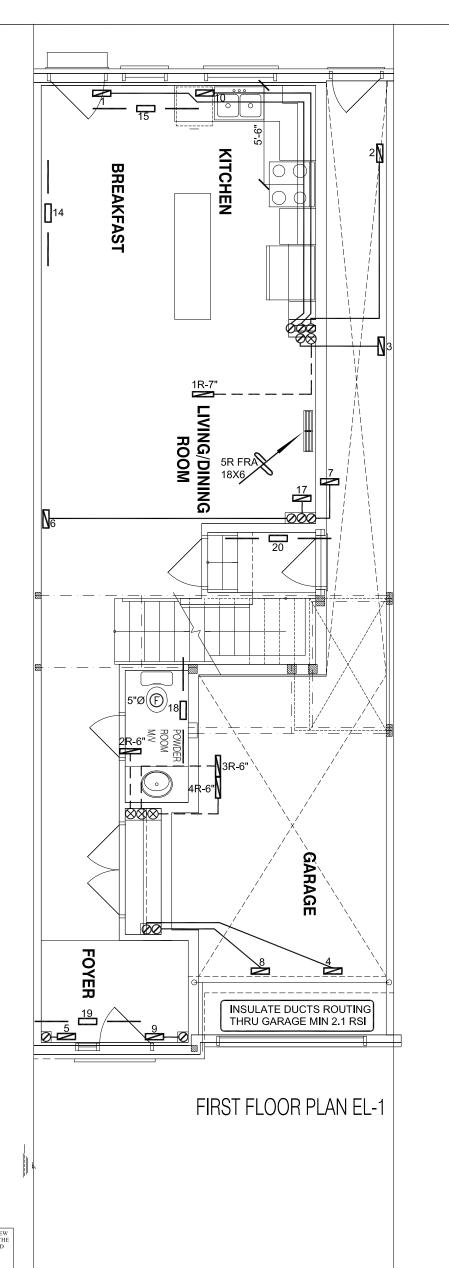
ON LAYOUT. UNDERCUT

DOORS 1" min. FOR R/A

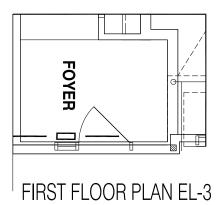
cfm @ 0.6" w.c.

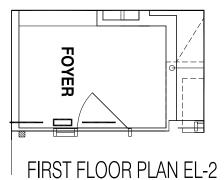
614

**BASEMENT HEATING LAYOUT** /2022 3/16" = 1'-0" BCIN# 19669 98654 LO#



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	HVAC LEGEND 3.									
		3.								
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
— — —	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	N	RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT	0	SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	×	RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE	Ø	6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	X	REDUCER		REVISIONS	

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GREENPARK HOMES

Project Name

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Block 122 Units 43 to 48

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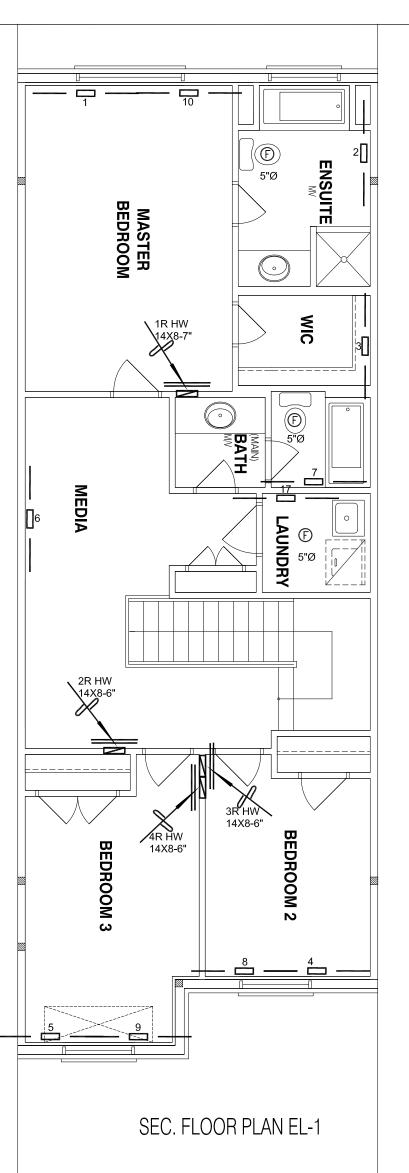
FIRST FLOOR **HEATING LAYOUT** 

Date /2022 3/16" = 1'-0"

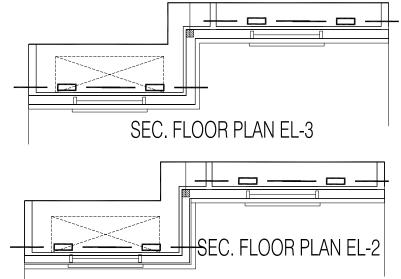
98654 LO#

BCIN# 19669

WILLOW 2



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		3.								
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	N	RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT	0	SUPPLY AIR STACK FROM 2nd FLOOR	<u> </u>	30"x8" RETURN AIR GRILLE	×	RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE	<b>Ø</b>	6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	X	REDUCER		REVISIONS	

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## GREENPARK HOMES

Project Name

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WILLOW 2

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**SECOND FLOOR HEATING LAYOUT** 

/2022 3/16" = 1'-0"

BCIN# 19669

98654 LO#