

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.

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Block 122 Units 43 to 48

	BARLASS																	\ug-22				WINTE	R NATURAL AIR	CHANG		319	 LUSS A	T°F. 7	12	,	CSA-F280
BUILDER:	GREENPA	RK HOM					TYPE:	WILLO	W 1				GFA:				LO# 9					SUMME	R NATURAL AIR	CHANG	SERATE 0.	085	GAIN Δ				ACKAGE
ROOM USE			MBR		l	ENS						BED-2			BED-3			FLEX			BATH									1	
EXP. WALL	l	- 1	20			0		l				10			16			0			0			- 1						l	
CLG. HT.	İ	- 1	9			9						9	- 1		9	- 1		9			9			- 1						ŀ	
	FACTORS	ı						l		1			- 1																	l	
GRS.WALL AREA	LOSS G	AIN	180		Ì	0				- 1		90			144	İ		0			0			1-4			- 1				
GLAZING			LOSS	GAIN		LOSS	GAIN			- 1	L	oss	GAIN	1	oss c	AIN	1.	oss	GAIN		LOSS	GAIN								l	
NORTH	20.3 1	5.0 0	0	0	0	0	0	]		- 1	0	0	0	0	0	0	0	0	0	0	0	0								l	
EAST	1	0.5 0	0	0	0	0	0	l		- 1	23	466	933	24		973	0	0	0	0	0			- 1						l	
SOUTH	1	3.9 0	0	0	0	0	0	1			0	0	0	0	0	0	0	0	0	0	0	0								l	
WEST	ľ	0.5 24		973	ů	0	0	1		- 1	0	0	0	0	0	0	-		-	-	-	0		- 1			- 1				
SKYLT.		9.8 0	0	0	١	0	0				0	0	-	-	•	- 1	0	0	0	0	0	0					- 1				
DOORS		.4 0	0	0	0	0	-	ĺ			-		0	0	0	0	0		0	0	0	0					i				
NET EXPOSED WALL				-		-	0				0	0	0	0	0	0	0	0	0	0	0	0								1	
1		.5 150		84	0	0	0	1			67	285	36	120	510	65	0	0	0	0	0	0		1							
NET EXPOSED BSMT WALL ABOVE GR		.4 0	0	0	0	0	0	1			0	0	0	0	0	0	0	0	0	0	0	0					- 1			l	
EXPOSED CLG		.5 280		148	110	134	58			- 1		208	90	120	147	63	260	318	137	84	103	44		I							
NO ATTIC EXPOSED CLG		.1 0	0	0	0	0	0				0	0	0	12	31	14	0	0	0	0	0	0					1				
EXPOSED FLOOR	2.4	.3 52	126	16	40	97	12				170	413	52	18	44	6	12	29	4	24	58	7									
BASEMENT/CRAWL HEAT LOSS		-	0			0						0			0			0			0										
SLAB ON GRADE HEAT LOSS			0			0						0			0			0			0										
SUBTOTAL HT LOSS			1618			232				İ		1372			1219			347			161										
SUB TOTAL HT GAIN		1		1221			70						1111			120			141			52								1	
LEVEL FACTOR / MULTIPLIER		0.2	0.37		0.20	0.37					0.20	0.37		0.20			0.20	0.37		0.20	0.37			-		-					
AIR CHANGE HEAT LOSS			604			86						512			455			130			60					- 1				1	
AIR CHANGE HEAT GAIN				84			5	İ					76			77			10			4		- 1							
DUCT LOSS		-	222			32		l				188			167			48			22			ı			- 1				
DUCT GAIN				249			8			- 1			213			214			85			6					- 1				
HEAT GAIN PEOPLE	240	2		480	0		0				1		240	1		240	0		0	0		ŏ		- 1			- 1				
HEAT GAIN APPLIANCES/LIGHTS				701			0				-		701	•		701	•		701	٠		0		1		- 1					
																														1	
			2445			350						2073				("		E24	۱۰۰۱		242	١		- 1		- 1				i	
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H			2445	3554		350	107					2073			1841			524			243										
TOTAL HT LOSS BTU/H			2445	3554		350	107						3043		1841	057			1217		243	79	······································								
TOTAL HT LOSS BTU/H			2445	3554		350	107		K/L/D						1841																
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H			2445	3554		350	107								1841		1	MUD			FOY									1	BAS
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE			2445	3554		350	107		44						1841		1	MUD 13		51-	FOY 29									1	86
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL	FACTORS		2445	3554		350	107								1841		1	MUD			FOY		Marine Processing States and Stat							1	
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL CLG. HT.		IN	2445	3554		350	107		44 10						1841		I	MUD 13 10			FOY 29 10										86 9
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL CLG. HT.	FACTORS LOSS GA	IN	2445	3554		350	107		44 10 440	SAIN					1841			MUD 13 10	1217		FOY 29 10 290	79									86 9 516
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING	LOSS GA		2445	3554		350	107		44 10 440 LOSS (	- 1					1841		L	MUD 13 10 130 .OSS	1217 GAIN		FOY 29 10 290 LOSS	79			·						86 9 516 .OSS GA
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH	LOSS GA 20.3 1	.0	2445	3554		350	107	0	44 10 440 LOSS 0	0					1841		L 0	MUD 13 10 130 .OSS	1217 GAIN 0	0	FOY 29 10 290 LOSS 0	79 GAIN 0			V 1000						86 9 516 .OSS GA
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST	20.3 1 20.3 4	.0	2445	3554		350	107	0	44 10 440 LOSS 0 0	0					1841		L 0 0	MUD 13 10 130 .OSS 0	1217 GAIN 0	0 14	FOY 29 10 290 LOSS 0 284	79 GAIN 0 568									86 9 516 .OSS GA
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH	20.3 1 20.3 4 20.3 2	.0 .5	2445	3554		350	107	0 0	44 10 440 LOSS 0 0 0	0 0				,	1841		L 0 0	MUD 13 10 130 .OSS 0 0	GAIN 0 0	0 14 0	FOY 29 10 290 LOSS 0 284 0	79 GAIN 0 568 0								L 0 0	86 9 516 .OSS GA 0 ( 0 (
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST	20.3 1 20.3 4 20.3 2 20.3 4	.0 .5 .9	2445	3554		350	107	0 0 0 42	44 10 440 LOSS 0 0 0 0	0 0 0 1703					1841	0057	L 0 0 0	MUD 13 10 130 .OSS 0 0	1217 GAIN 0 0	0 14 0	FOY 29 10 290 LOSS 0 284 0 0	79 GAIN 0 568 0 0								L 0 0	86 9 516 .OSS GA 0 (
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT.	20.3 1 20.3 4 20.3 2 20.3 4 35.5 9	.0 .5 .9 .5	2445	3554		350	107	0 0 0 42	44 10 440 LOSS 0 0 0 0 851	0 0 0 1703					1841	0057	L 0 0 0 0	MUD 13 10 130 .OSS 0 0 0	GAIN 0 0 0	0 14 0 0	FOY 29 10 290 LOSS 0 284 0 0 0	79 GAIN 0 568 0 0								L 0 0	86 9 516 .OSS GA 0 ( 0 (
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS	20.3 1. 20.3 4 20.3 2 20.3 4 35.5 9 19.1 2	i.0 i.5 i.9 i.5	2445	3554		350	107	0 0 0 42 0	440 LOSS 0 0 0 0 851 0	0 0 0 1703 0 24					1841	0057	L 0 0 0 0 0	MUD 13 10 130 .OSS 0 0 0 0 0	GAIN 0 0 0 0 0	0 14 0 0 0	FOY 29 10 290 LOSS 0 284 0 0	79 GAIN 0 568 0 0 27								L 0 0 0 4	86 9 516 .OSS GA 0 ( 0 ( 81 16
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL	20.3 1 20.3 4 20.3 2 20.3 4 35.5 9 19.1 2 4.3 0	i.0 i.5 i.9 i.5 i.8 4	2445	3554		350	107	0 0 0 42 0 10 388	440 LOSS 0 0 0 0 851 0 191	0 0 0 1703 0 24 210					1841	1	0 0 0 0 0 20	MUD 13 10 130 -OSS 0 0 0 0 0 382 468	1217 GAIN 0 0 0 0 0 49 59	0 14 0 0 0 11 265	FOY 29 10 290 LOSS 0 284 0 0 210 1127	79 GAIN 0 568 0 0 27 143								0 0 0 4 0 20	86 9 516 .OSS GA 0 ( 0 ( 81 16
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMIT WALL ABOVE GR	20.3 1. 20.3 4. 20.3 2. 20.3 4. 35.5 9. 19.1 2. 4.3 0. 3.4 0.	i.0 i.5 i.9 i.5 i.8 i.8 i.4	2445	3554		350	107	0 0 0 42 0 10 388 0	440 LOSS 0 0 0 0 851 0 191 1650	0 0 0 1703 0 24 210				· · · · · · · · · · · · · · · · · · ·	1841	1	0 0 0 0 0 0 20 1110	MUD 13 10 130 .OSS 0 0 0 0 382 468 0	1217 GAIN 0 0 0 0 0 49 59 0	0 14 0 0 0 11 265	FOY 29 10 290 LOSS 0 284 0 0 210 1127 0	79  GAIN 0 568 0 0 27 143 0			***************************************					L 0 0 0 4 0 20	86 9 516 .OSS GA 0 ( 0 ( 81 16 0 ( 382 4
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TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED UGL NO ATTIC EXPOSED CLG EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSI	20.3 1. 20.3 4 20.3 2 20.3 4 35.5 9 19.1 2 4.3 0 3.4 0 1.2 0 2.6 1	3.0 3.5 3.9 3.5 3.8 4 4 5 4 5	2445	3554		350	107	0 0 42 0 10 388 0 0	44 10 440 LOSS 0 0 0 0 851 0 191 1650 0 0 0 0 0 2692	0 0 0 1703 0 24 210 0 0					1841	1	L 0 0 0 0 0 0 2 2 0 1110 0 0 0	MUD 13 10	GAIN 0 0 0 0 49 59 0 0 0	0 14 0 0 0 11 265 0 0	FOY 29 10 10 290 LOSS 0 0 210 1127 0 0 0 1621 0.54	79  GAIN 0 5688 0 0 0 27 143 0 0 0 0 0								L 0 0 0 0 4 0 0 20 0 0 258 0 0 0 2 3 0 0 50 1	86 9 516 COSS GA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG, HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SUB TOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS	20.3 1. 20.3 4 20.3 2 20.3 4 35.5 9 19.1 2 4.3 0 3.4 0 1.2 0 2.6 1	3.0 3.5 3.9 3.5 3.8 4 4 5 4 5	2445	3554		350	107	0 0 42 0 10 388 0 0	44 10 440 LOSS 0 0 0 0 851 0 191 1650 0 0 0 0 0 2692	0 0 0 1703 0 24 210 0 0 0					1841	1	L 0 0 0 0 0 0 2 2 0 1110 0 0 0	MUD 13 10	GAIN 0 0 0 0 49 59 0 0 0 0 108	0 14 0 0 0 11 265 0 0	FOY 29 10 10 290 LOSS 0 0 210 1127 0 0 0 1621 0.54	79  GAIN 0 568 0 0 27 143 0 0 0 737								L 0 0 0 0 4 0 0 20 0 0 258 0 0 0 2 3 0 0 50 1	86 9 516 COSS GA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG, HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED GLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SUB TOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS OUCT GAIN	20.3 1. 20.3 4 20.3 2 20.3 4 35.5 9 19.1 2 4.3 0 3.4 0 1.2 0 2.6 1	3.0 3.5 3.9 3.5 3.8 4 4 5 4 5	2445	3554		350	107	0 0 0 42 0 10 388 0 0	440 LOSS 0 0 0 0 851 0 191 1650 0 0 0 0 0 2692	0 0 0 1703 0 24 210 0 0 0					1841	1	L 0 0 0 0 0 0 2 2 0 1110 0 0 0	MUD 13 10 130 OSS 0 0 0 0 0 0 0 0 0 850 0 0 0 0 468	GAIN 0 0 0 0 49 59 0 0 0 0 108	0 14 0 0 0 11 265 0 0	FOY 29 10 10 LOSS 0 284 0 0 0 1127 0 0 0 1621 0.54 870	79  GAIN 0 568 0 0 27 143 0 0 0 737								L 0 0 0 0 4 0 0 20 0 0 258 0 0 0 2 3 0 0 50 1	86 9 516 COSS GA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG SEXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN PEOPLE	20.3 1. 20.3 4 20.3 2 20.3 4 35.5 9 19.1 2 4.3 0 3.4 0 1.2 0 2.6 1	3.0 3.5 3.9 3.5 3.8 4 4 5 4 5	2445	3554		350	107	0 0 0 42 0 10 388 0 0	440 LOSS 0 0 0 0 851 0 191 1650 0 0 0 0 0 2692	0 0 0 1703 0 24 2210 0 0 0					1841	1	L 0 0 0 0 0 0 2 2 0 1110 0 0 0	MUD 13 10 130 OSS 0 0 0 0 0 0 0 0 0 850 0 0 0 0 468	1217 GAIN 0 0 0 0 49 59 0 0 0 108	0 14 0 0 0 11 265 0 0	FOY 29 10 10 LOSS 0 284 0 0 0 1127 0 0 0 1621 0.54 870	79  GAIN 0 5688 0 0 0 27 143 0 0 0 0 737 51								L 0 0 0 4 0 0 20 0 0 258 0 0 0 2 3 0.50 4 4	86 9 516 COSS GA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NO ATTIC EXPOSED CLG EXPOSED CLG EXPOSED CLG EXPOSED TLOOR 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 DUCT GAIN HEAT GAIN PEOPLE HEAT GAIN APPLIANCES/LIGHTS	20.3 1. 20.3 2. 20.3 4. 35.5 9 19.1 2. 4.3 3.4 0. 1.2 0. 2.6 1 2.4 0	3.0 3.5 3.9 3.5 3.8 4 4 5 4 5	2445	3554		350	107	0 0 0 42 0 10 388 0 0 0	440 LOSS 0 0 0 0 851 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1703 0 24 210 0 0 0 0					1841	1	L C O O O O O O O O O O O O O O O O O O	MUD 13 10 130 OSS 0 0 0 0 0 0 0 0 0 850 0 0 0 0 468	1217 GAIN 0 0 0 0 49 59 0 0 0 108	0 14 0 0 0 11 265 0 0 0	FOY 29 10 10 LOSS 0 284 0 0 0 1127 0 0 0 1621 0.54 870	79  GAIN 0 568 0 0 0 27 143 0 0 0 737 51 0								L 0 0 0 0 4 0 0 20 0 0 258 0 0 0 2 3 0 0 50 1	86 9 516 COSS GA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H  ROOM USE EXP. WALL CLG. HT.  GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG SXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN PEOPLE	20.3 1. 20.3 2. 20.3 4. 20.3 4. 35.5 9 19.1 2. 4.3 0. 3.4 0. 1.2 0. 2.6 1 2.4 0	3.0 3.5 3.9 3.5 3.8 4 4 5 4 5	2445	3554		350	107	0 0 0 42 0 10 388 0 0 0	440 LOSS 0 0 0 0 851 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1703 0 24 210 0 0 0 0					1841	1	L 0 0 0 0 0 0 20 1110 0 0 0	MUD 13 10 130 OSS 0 0 0 0 0 0 0 0 0 850 0 0 0 0 468	1217 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 14 0 0 0 11 265 0 0 0	FOY 29 10 10 LOSS 0 284 0 0 0 1127 0 0 0 1621 0.54 870	79  GAIN 0 568 0 0 0 737 51 0 0								0 0 0 4 0 220 0 258 0 0 258 0 0	86 9 516 COSS GA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

TOTAL HEAT GAIN BTU/H:

17351

TONS: 1.45

LOSS DUE TO VENTILATION LOAD BTU/H: 1243

STRUCTURAL HEAT LOSS: 23938

TOTAL COMBINED HEAT LOSS BTU/H: 25181

Mhehad Oknuhe.



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		BARLAS GREENI	SSINA PARK HO	MES				TYPE:	WILLOW	1			DATE:	Aug-22			GFA: 1	1696	LO#	98653				
HEATING CFM TOTAL HEAT LOSS AIR FLOW RATE CFM  RUN COUNT S/A R/A  All S/A diffusers 4"x10" unle	25.65 4th 0 0 ess noted	3rd 0 0 otherwis	TOTAL HAIR FLOW FOR STATE OF THE PROPERTY OF T	1st 4 1	17,193		ple max	furn a/c coil vailable p for enum pres s/a dif pr	pressure ace filter pressure oressure s/a & r/a ssure s/a ess. loss ssure s/a	0.6 0.05 0.2 0.35 0.18 0.01 0.17		grille pre	pressure ess. Loss ssure r/a	0.02		C	ME	SPEED LOW DLOW IEDIUM	614 895		OUTPUT	AFUE = (BTU/H) =	30,000 28,800 614	- _ °F
All S/A runs 5"Ø unless not RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (fl/min) COOLING VELOCITY (fl/min) OUTLET GRILL SIZE TRUNK	ed othen 1 MBR 1.22 31 1.78 63 0.17 41 210 251 0.07 5 228 463 3X10 A	wise on le 2 ENS 0.35 9 0.11 4 0.17 30 150 180 0.1 4 103 46 3X10 B	3 BED-2 1.04 27 1.52 54 160 214 0.08 5 198 396 3X10 C	4 BED-2 1.04 27 1.52 54 0.17 51 190 241 0.07 5 198 396 3X10 C	5 BED-3 0.92 24 1.53 55 0.17 46 150 196 0.09 5 176 404 3X10 C	6 FLEX 0.52 13 1.22 43 0.17 33 160 193 0.09 5 95 316 3X10 B	7 BATH 0.24 6 0.08 3 0.17 48 180 228 0.08 4 69 34 3X10 B	8 BED-3 0.92 24 1.53 55 0.17 51 190 241 0.07 5 176 404 3X10 C		10 MBR 1.22 31 1.78 63 0.17 36 180 216 0.08 5 228 463 3X10 A					15 K/L/D 2.07 53 1.80 64 0.17 30 110 140 0.12 5 389 470 3X10 A	16 K/L/D 2.07 53 1.80 64 0.17 24 110 134 0.13 5 389 470 3X10 A		18 MUD 1.31 33 0.15 5 0.17 15 170 185 0.09 4 379 57 3X10 C	19 FOY 2.49 64 1.02 37 0.17 34 110 144 0.12 5 470 272 3X10 C		21 BAS 2.84 73 0.45 16 0.17 31 110 141 0.12 5 536 117 3X10 A	22 BAS 2.84 73 0.45 16 90 106 0.16 5 536 117 3X10 B	23 BAS 2.84 73 0.45 16 0.17 30 140 170 0.1 5 536 117 3X10 C	
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 ((t/min) COOLING VELOCITY (t/min) OUTLET GRILL SIZE TRUNK																								
SUPPLY AIR TRUNK SIZE  TRUNK A TRUNK B TRUNK C TRUNK D TRUNK E TRUNK E	342 272 0 0	STATIC PRESS. 0.07 0.07 0.07 0.00 0.00 0.00	ROUND DUCT 8.5 9.7 8.9 0	RECT DUCT 10 14 10 0 0	x x x x x	8 8 8 8 8	VELOCITY (ft/min) 434 440 490 0 0		TRUNK G TRUNK H TRUNK I TRUNK J TRUNK K TRUNK L	TRUNK CFM 0 0 0 0 0	STATIC PRESS. 0.00 0.00 0.00 0.00 0.00 0.00	ROUND DUCT 0 0 0 0 0	RECT DUCT O O O O O	x x x x x	8 8 8 8 8	VELOCITY (ft/min) 0 0 0 0 0 0	TRUNK O TRUNK P TRUNK Q TRUNK R TRUNK S TRUNK S TRUNK T	TRUNK CFM 0 0 0 0 0 0 0 0	STATIC PRESS. 0.05 0.05 0.05 0.05 0.05 0.05 0.05	ROUND DUCT 0 0 0 0 0	RECT DUCT O O O O O	x x x x x x	8 8 8 8 8	VELOCITY (ft/min) 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	1 0 75 0.15 51 215 266 0.06 5.7 8 X	2 0 75 0.15 61 185 246 0.06 5.7 8 X	3 0 65 0.15 64 230 294 0.05 5.7 8 X	4 0 65 0.15 58 225 283 0.05 5.7 8 X	5 0 250 0.15 25 175 200 0.07 8.6 8 X 30	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 V TRUNK W TRUNK X TRUNK Y TRUNK Z DROP	0 0 614 205 0 614	0.05 0.05 0.05 0.05 0.05 0.05	0 0 13.1 8.7 0 13.1	0 0 20 10 0 24	x x x x x	8 8 8 8 10	0 0 553 369 0 368



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TYPE:

WILLOW 1

LO# 98653

SITE NAME: BARLASSINA <b>RESIDENTIAL ME</b>	ECHANICAL	VENTILATION DES	IGN SUMMARY			
COMBUSTION APPLIANCES	9.32.3.1(1)	SUPPLEMENTAL	VENTILATION CAPACI	ТҮ		9.32.3.5.
a)		Total Ventilation C	apacity	148.4		cfm
b) Positive venting induced draft (except fireplaces)		Less Principal Ver	til. Capacity	63.6		cfm
c) Natural draft, B-vent or induced draft gas fireplace		Required Supplem	ental Capacity	84.8		cfm
d) Solid Fuel (including fireplaces)						
e) No Combustion Appliances		PRINCIPAL EXH	UST FAN CAPACITY			
то соправления		Model:	VANEE V150H	Location	1:	BSMT
HEATING SYSTEM		63.6	cfm		1	HVI Approved
Forced Air Non Forced Air			NUST HEAT LOSS CALC	ULATION		
		63.6 CFM	ΔT °F X 72 F	FACTOR X 1.08	х	% LOSS 0.25
Electric Space Heat		SUPPLEMENTAL	FANS	BY INSTALLING CO	ONTRACT	FOR
HOUSE TYPE	9.32.1(2)	Location ENS	Model BY INSTALLING CONT	cfm TRACTOR 50	HVI	Sones 3.5
HOUSE TIPE	3.32.1(2)	BATH	BY INSTALLING CONT		1	3.5
I Type a) or b) appliance only, no solid fuel		LAUN	BY INSTALLING CONT		V	3.5
II Type I except with solid fuel (including fireplace	ie)	PWD	BY INSTALLING CONT	TRACTOR 50		3.5
	,	HEAT RECOVER		211		9,32,3,11.
III Any Type c) appliance		Model: 150	VANEE V150	35		cfm low
IV Type I, or II with electric space heat		75	% Sensible Effic	ciency	1	HVI Approved
Other: Type I, II or IV no forced air			@ 32 deg F ( 0 d	deg C)		
		LOCATION OF IN	STALLATION			· · · · · · · · · · · · · · · · · · ·
SYSTEM DESIGN OPTIONS	O.N.H.W.P.	Lot:		Concessio	n	
1 Exhaust only/Forced Air System				Plan:		
2 HRV with Ducting/Forced Air System		Township		riaii.		
✓ 3 HRV Simplified/connected to forced air system		Address				
4 HRV with Ducting/non forced air system		Roll#		Building Pe	ermit #	
Part 6 Design		BUILDER:	GREENPARK I	HOMES		Commercial Address of the Asia Commercial
		Name:				
TOTAL VENTILATION CAPACITY	9.32.3.3(1)	Address:				
Basement + Master Bedroom 2 @ 21.2 cfm 42.4	1 cfm	City:				
Other Bedrooms 2 @ 10.6 cfm	2 cfm	Telephone #:		Fax#:		
Kitchen & Bathrooms4 _ @ 10.6 cfm42.4	1 cfm	INSTALLING COI	NTRACTOR			
Other Rooms <u>4</u> @ 10.6 cfm <u>42.</u> 4	1 cfm	Name:				
Table 9.32.3.A. TOTAL <u>148.</u>	<u>4</u> cfm	Address:				
		City:				
PRINCIPAL VENTILATION CAPACITY REQUIRED	9.32.3.4.(1)	Telephone #:		Fax#:		
1 Bedroom 31.8	cfm	DESIGNER CERT	TEICATION			
2 Bedroom 47.7	cfm	I hereby certify that	at this ventilation system h			
3 Bedroom 63.6	cfm	in accordance with Name:	n the Ontario Building Coo HVAC Designs			
4 Bedroom 79.5	cfm	Signature:		Millehad Oxform	Le.	
5 Redroom 95.4	cfm	HRAI#		001820		

<u> </u>			CSA F2	30-12 Residential Hea	t Loss and Heat Gain	Calculations							
				ula Sheet (For Air Lea									
LO#:	98653	Model: WILLOW 1			r: GREENPARK HOMES	· · · · · · · · · · · · · · · · · · ·			Date:	2022-08-30			
		Volume Calculatio	n		T		Air Change & Delt	ta T Data					
		W-W-					<b>3</b>			***************************************			
House Volume							TURAL AIR CHANG		0.319				
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)			SUMMER NA	TURAL AIR CHAN	GE RATE	0.085				
Bsmt	706	9	6354										
First	706	10	7060										
Second Third	990	9	8910 0					emperature Diff		AT 05			
Fourth	0	9	0			Winter DTDh	Tin °C	Tout °C -18	ΔT °C	ΔT °F			
Fourti	U I	Total:	22,324.0 ft <sup>3</sup>			Summer DTDc	24	-18 29	40	72 9			
		Total:	632.1 m³			Summer DTDC		23		9			
		1	1 332.1111	J									
	5.2.3.	.1 Heat Loss due to Ai	r Leakage			6.2.6	Sensible Gain due	to Air Leakage					
		17					**						
	$HL_{airb} = 1$	$LR_{airh} \times \frac{V_b}{3.6} \times D$	$TD_b \times 1.2$		Н	$IG_{-n} = IR_{-n} \times$	$\frac{V_b}{V_b} \times DTD$	× 1 2					
		5.0			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$								
0.319	x <u>175.60</u>	x <u>40 °C</u>	. x <u>1.2</u>	= 2707 W	= 0.085	x <u>175.60</u>	x5°C	x1.2	_ =	91 W			
					, ]								
				= 9237 Btu/h					=	311 Btu/h			
	52224		*127										
	5.2.3.2 Hea	t Loss due to Mechan	ical ventilation	<u>-</u>		6.2.7 Ser	nsible heat Gain d	ue to Ventilatio	n				
	ш — 1	$PVC \times DTD_h \times 1$	00 v (1 = F)		ш	$_{vairb} = PVC \times DT$	rn v 1 00 v	(1 E)					
	IIL <sub>vairb</sub> — I	rvc x DIDh x 1	.00 × (1 – E)		1111	vairb - FVC × D	$D_h \wedge 1.00 \wedge$	(1-E)					
64.6514	70.05	4.00	0.05	1000 5: 10					ļ				
64 CFM	x <u>72 °F</u>	. x <u>1.08</u>	. x <u>0.25</u>	= 1243 Btu/h	64 CFM	_ x <u>9°F</u>	_ x <u>1.08</u>	x <u>0.25</u>	_ =	158 Btu/h			
					1				<del></del>				
			5.2.3.3 Calcula	tion of Air Change Heat I	oss for Each Room (Floo	or Multiplier Section)							
		иі .	- Lonel Fact	$or \times HL_{airbv} \times \{(H$	ı ⊥ <i>Η</i> Ι. ) <u>-</u> ι	(ні	)1						
		11 Lai	rr — Level Pull	n ^ IILairbv ^ {(II	<sup>L</sup> ager ⊤ 11 Lbger) →	("Lagclevel T ILb	gclevel ) }						
				HLairve Air Leakage +	Level Conductive Heat	Air Lookogo Host Las	o Multiplies /I F						
		Level	Level Factor (LF)	Ventilation Heat Loss	Loss: (HL <sub>clevel</sub> )								
				(Btu/h)	LUSS. (TL <sub>clevel</sub> )	HLairbv / F	illevelj						
		1	0.5		3,911	1.18	1						
		2	0.3		5,162	0.53	7						
		3	0.2	9,237	4,949	0.37	3	-					
		4	0		0	0.00	0		Michael O'Ro	ourke			
		5	0		0	0.00	0		BCIN# 19669				
1		*HLairbv = A	ir leakage heat loss -	ventilation heat loss					met 1	1 Ofombe.			
		*For a balanc	ced or supply only ve	entilation system HLairve	= 0				Maka	u Mounte.			



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

WILLOW 1 **BUILDER: GREENPARK HOMES** MODEL: SFQT: 1696 LO# 98653 SITE: BARLASSINA **DESIGN ASSUMPTIONS** °F °F **HEATING** COOLING OUTDOOR DESIGN TEMP. 0 OUTDOOR DESIGN TEMP. 84 75 INDOOR DESIGN TEMP. 72 INDOOR DESIGN TEMP. (MAX 75°F) WINDOW SHGC 0.50 **BUILDING DATA** ATTACHMENT: **ATTACHED** # OF STORIES (+BASEMENT): 3 **EAST** FRONT FACES: ASSUMED (Y/N): AIR CHANGES PER HOUR: 3.57 ASSUMED (Y/N): AIR TIGHTNESS CATEGORY: **AVERAGE** ASSUMED (Y/N): WIND EXPOSURE: **SHELTERED** ASSUMED (Y/N): HOUSE VOLUME (ft<sup>3</sup>): ASSUMED (Y/N): 22324.0 **INTERNAL SHADING: BLINDS/CURTAINS ASSUMED OCCUPANTS:** INTERIOR LIGHTING LOAD (Btu/h/ft²): DC BRUSHLESS MOTOR (Y/N): 1.75 **DEPTH BELOW GRADE:** 6.0 ft FOUNDATION CONFIGURATION BCIN\_1 LENGTH: 52.0 ft WIDTH: 16.0 ft **EXPOSED PERIMETER:** 86.0 ft

2012 OBC - COMPLIANCE PACKAGE		
	Complianc	e Package
Component		41
	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	conductivity: dry sand, loam, clay
Water Table:	Normal	(7-10 m, 23-33 ft)
	Foundatio	n Dimensions
Floor Length (m):	15.8	
Floor Width (m):	4.9	
Exposed Perimeter (m):	26.2	
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	ntion Loads
Heating Load (Watts):		751

**TYPE:** WILLOW 1 **LO#** 98653





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

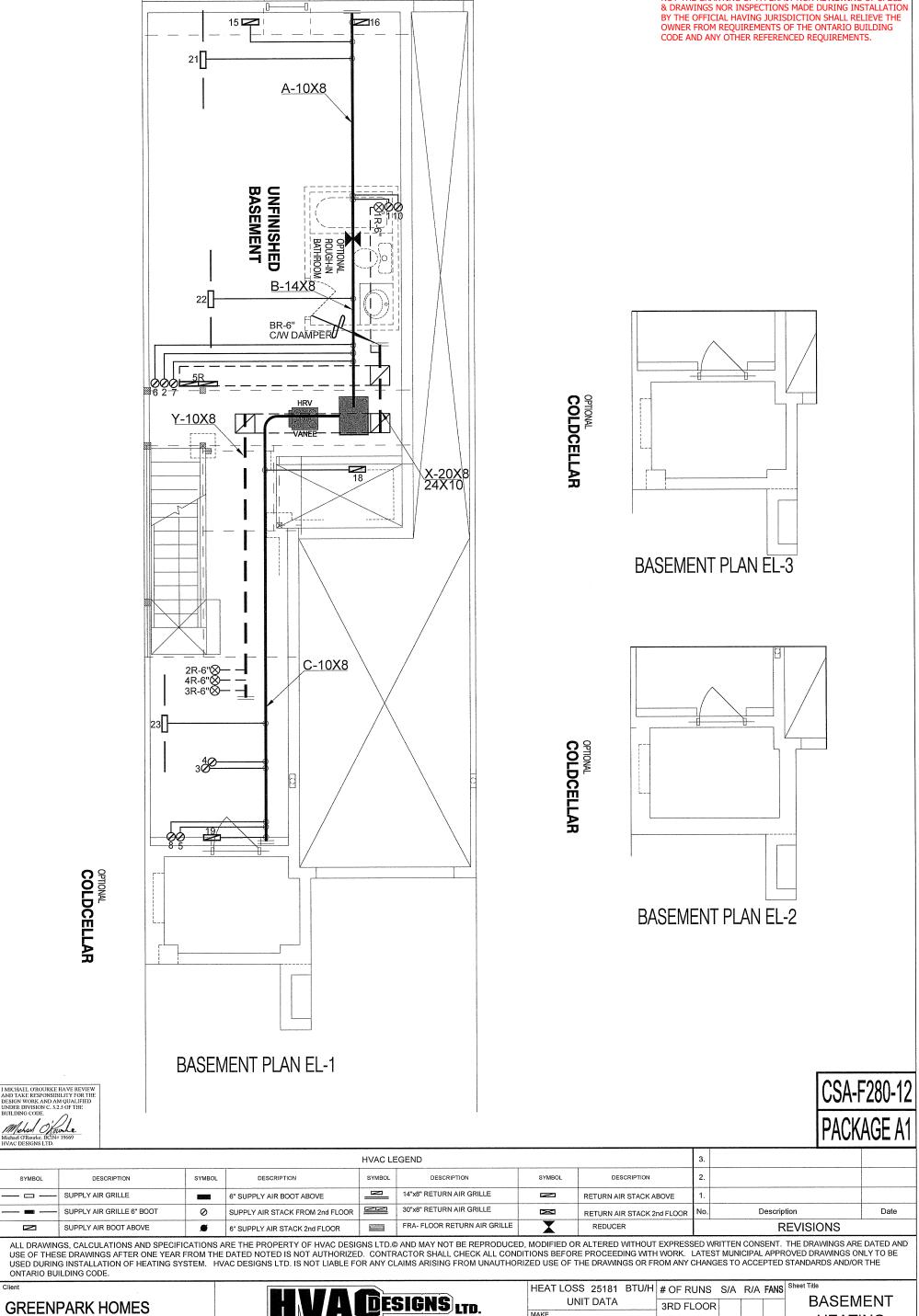
### **Air Infiltration Residential Load Calculator**

Supplemental tool for CAN/CSA-F280

Weather Stati	on Des	cript	ion		
Province:	Onta	rio			
Region:	Camb	ridge			
Weather Station Location:	Open	flat te	errain, g	grass	
Anemometer height (m):	10				
Local St	nieldin	g			
Building Site:	Subu	rban, f	orest		
Walls:	Heav	У			
Flue:	Heav	y			
Highest Ceiling Height (m):	6.71				
Building Co	nfigur	ation			
Type:	Semi				
Number of Stories:	Two				
Foundation:	Full				
House Volume (m³):	632.1				
Air Leakage,	'Venti	ation	1		
Air Tightness Type:	Prese	nt (19	61-) (3.	57 ACI	H)
Custom BDT Data:	ELA @	0 10 Pa	э.		842.7 cm²
	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	es.		
Heating Air Leakage Rate (ACH/H):		C	.31	9	
Cooling Air Leakage Rate (ACH/H):		C	.08	5	

**TYPE:** WILLOW 1 **LO#** 98653





Project Name

**BARLASSINA** CAMBRIDGE, ONTARIO

Block 122 Units 43 to 48

WILLOW 1

1696 sqft

## DESIGNS LTD.

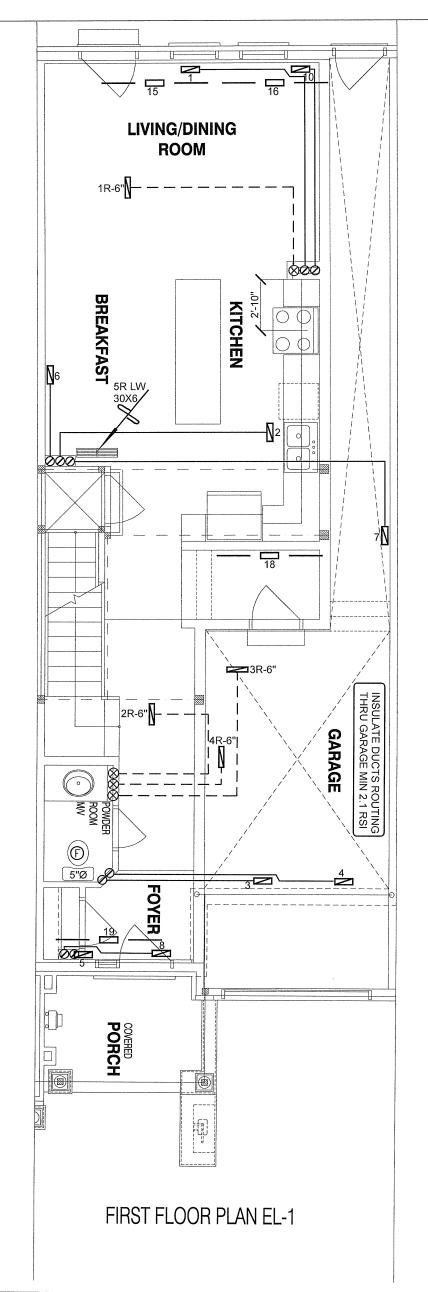
375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services

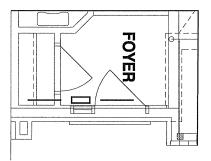
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

HEAT L	OSS 25181	BTU/H	# OF RUNS	S/A	R/A	FANS		
	UNIT DATA		3RD FLOOR				BA	SEMENT
MAKE	GOODMAN		2ND FLOOR	9	4	3	Н	EATING
MODEL	EC960302BN	Δ	1ST FLOOR	4	1	2	L	.AYOUT
L	LC90030ZDIV	^	10112001	-	' '			
INPUT	30	MBTU/H	BASEMENT	3	1	0	Date	4UG/2022
OUTPUT		MBTU/H	ALL S/A DIFFU	SERS	4 "x10	)"	Scale :	3/16" = 1'-0"
	28.8		UNLESS NOTE				_	
COOLING		TONS	ON LAYOUT. A	LL S/A	RUN	S 5''Ø	В	CIN# 19669
	1.5		UNLESS NOTE	D OTI	HERW	ISE		00050
FAN SPEE	_	cfm@	ON LAYOUT. U	NDEF	CUT		I 0#	98653
	614	0.6" w.c.	DOORS 1" min.	FOR	R/A			3333

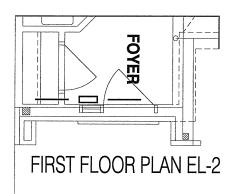
NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS



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.



FIRST FLOOR PLAN EL-3



CSA-F280-12 PACKAGE A1

			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	×	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**

I MICHAEL OTOURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE.

Project Name **BARLASSINA** CAMBRIDGE, ONTARIO

WILLOW 1

Block 122 Units 43 to 48

DESIGNS LTD.

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

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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 1696 sqft adequately insulated and be gas-proofed.

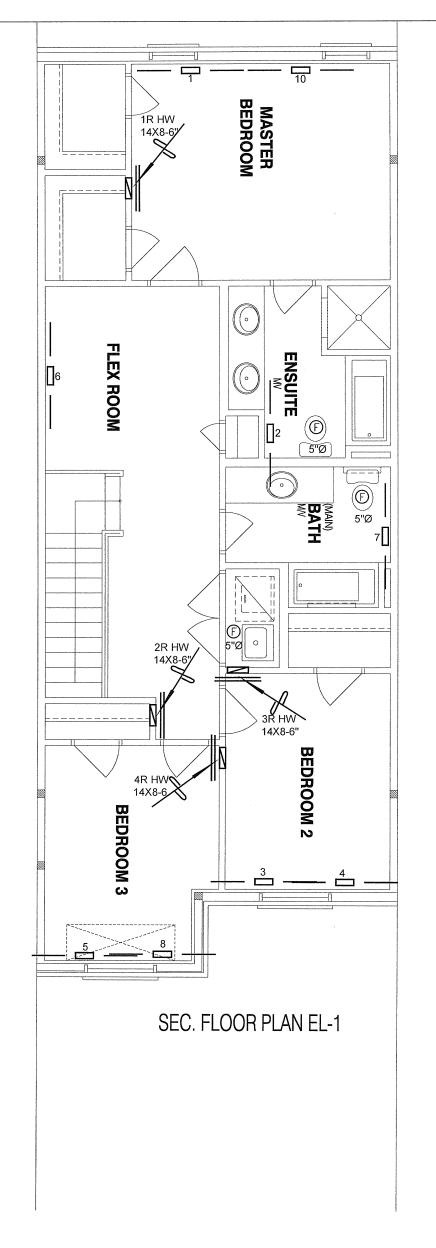
FIRST FLOOR

**HEATING** LAYOUT

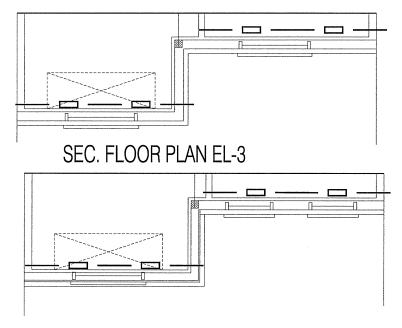
AUG/2022 3/16" = 1'-0"

BCIN# 19669

98653 LO#



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SEC. FLOOR PLAN EL-2

CSA-F280-12

HVAC LEGEND 3. SYMBOL DESCRIPTION DESCRIPTION DESCRIPTION SYMBOL 2. SUPPLY AIR GRILLE 14"x8" RETURN AIR GRILLE 100 6" SUPPLY AIR BOOT ABOVE RETURN AIR STACK ABOVE 30"x8" RETURN AIR GRILLE SUPPLY AIR GRILLE 6" BOOT SUPPLY AIR STACK FROM 2nd FLOOR (0.00) 0  $\times$ RETURN AIR STACK 2nd FLOOR No Description SUPPLY AIR BOOT ABOVE FRA- FLOOR RETURN AIR GRILLE ø 6" SUPPLY AIR STACK 2nd FLOOR REDUCER **REVISIONS** 

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Client

### **GREENPARK HOMES**

Project Name

BARLASSINA CAMBRIDGE, ONTARIO

Block 122 Units 43 to 48

WILLOW 1

1696 sqft

# HVA DESIGNS LTD.

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

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heet Title

SECOND FLOOR HEATING LAYOUT

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

BCIN# 19669

LO# 98653