19-447191 000 00RR

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number: LIANA 3-23, EL-2

A. Project Information

Building number, street name		Unit number	Lot/Con
			23
Municipality	**Postal code**	**Reg. Plan number / other description**	
City of Brampton		43M-2057	

B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package: A1 Table: _____

C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source		
☐ Zone 1 (< 5000 degree days)	☐ ≥ 92% AFUE	☐ Gas	☐ Propane	☐ Solid Fuel
☐ Zone 2 (≥ 5000 degree days)	☐ ≥ 84% < 92% AFUE	☐ Oil	☐ Electric	☐ Earth Energy

Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = 299.38 m^2 or _____ ft^2	W, S & G % = 8.76%	☐ Log/Post&Beam ☐ ICF Above Grade ☐ ICF Basement ☐ Slab-on-ground ☐ Walkout Basement ☐ Air Conditioning ☐ Combo Unit
Area of W, S & G = 26.23 m^2 or _____ ft^2	Utilize window averaging: ☐Yes ☐No	☐ Air Sourced Heat Pump (ASHP) ☐ Ground Sourced Heat Pump (GSHP)

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BUILDING DIVISION
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APR 12 2019
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D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions

☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))

☐ Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))

☐ Airtightness substitution(s)

Airtightness test required (Refer to Design Guide Attached)

☐ Table 3.1.1.4.B Required: _____ Permitted Substitution: _____

☐ Table 3.1.1.4.C Required: _____ Permitted Substitution: _____

Required: _____ Permitted Substitution: _____

Building Component	Minimum RSI / R values or Maximum U-Value[1]		Building Component	Efficiency Ratings	
Thermal Insulation	Nominal	Effective	**Windows & Doors** Provide U-Value[1] or ER rating		
Ceiling with Attic Space	10.57	10.43	Windows/Sliding Glass Doors	1.6	
Ceiling without Attic Space	5.46	4.87	Skylights/Glazed Roofs	2.8	
Exposed Floor	5.46	5.25	**Mechanicals**		
Walls Above Grade	4.22	3.00	Heating Equip.(AFUE)	96%	
Basement Walls	3.52	3.72	HRV Efficiency (SRE% at 0° C)	75%	
Slab (all >600mm below grade)	-	-	DHW Heater (EF)	0.83	
Slab (edge only ≤600mm below grade)	1.76	1.76	DWHR (CSA B55.1 (min. 42% efficiency))	42	# Showers 2
Slab (all ≤600mm below grade, or heated)	1.76	1.96	Combined Heating System	N/A	

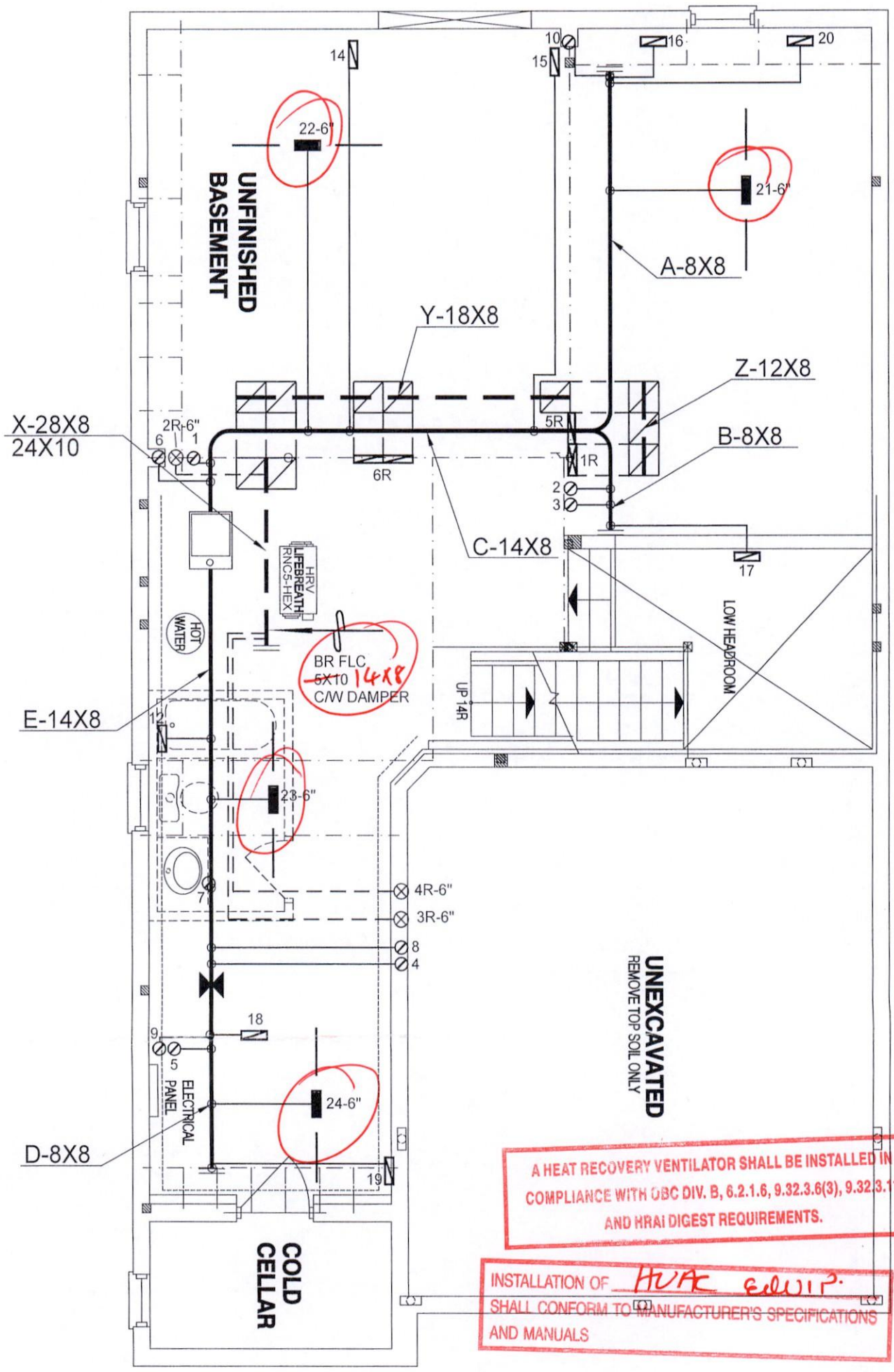
(1) U value to be provided in either W/(m²•K) or Btu/(h•ft²•F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.		
Name: Walter Botter Jardin Design Group Inc.	BCIN: 21031 27763	Signature: WBe

Form authorized by OHBA, OBOA, LMCBO. Revised December 1, 2016.

19-447191 000 00 RR



A HEAT RECOVERY VENTILATOR SHALL BE INSTALLED IN COMPLIANCE WITH OBC DIV. B, 6.2.1.6, 9.32.3.6(3), 9.32.3.11 AND HRAI DIGEST REQUIREMENTS.

INSTALLATION OF HVAC EQUIP. SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS AND MANUALS

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 1 2 2019
ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S) SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

MECHANICAL VENTILATION SHALL BE PROVIDED IN CONFORMANCE WITH OBC DIV. B, 9.32.3 REQUIREMENTS.

LOT 23
CSA-F280-12
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— ▭ —	SUPPLY AIR GRILLE	▬	6" SUPPLY AIR BOOT ABOVE	▭	14"x8" RETURN AIR GRILLE	▭	RETURN AIR STACK ABOVE
— ▬ —	SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▭▭	30"x8" RETURN AIR GRILLE	⊠	RETURN AIR STACK 2nd FLOOR
▭	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▭	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO
M-2057

LIANA 3 - LOT 23 2292 sqft

HVAC 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.

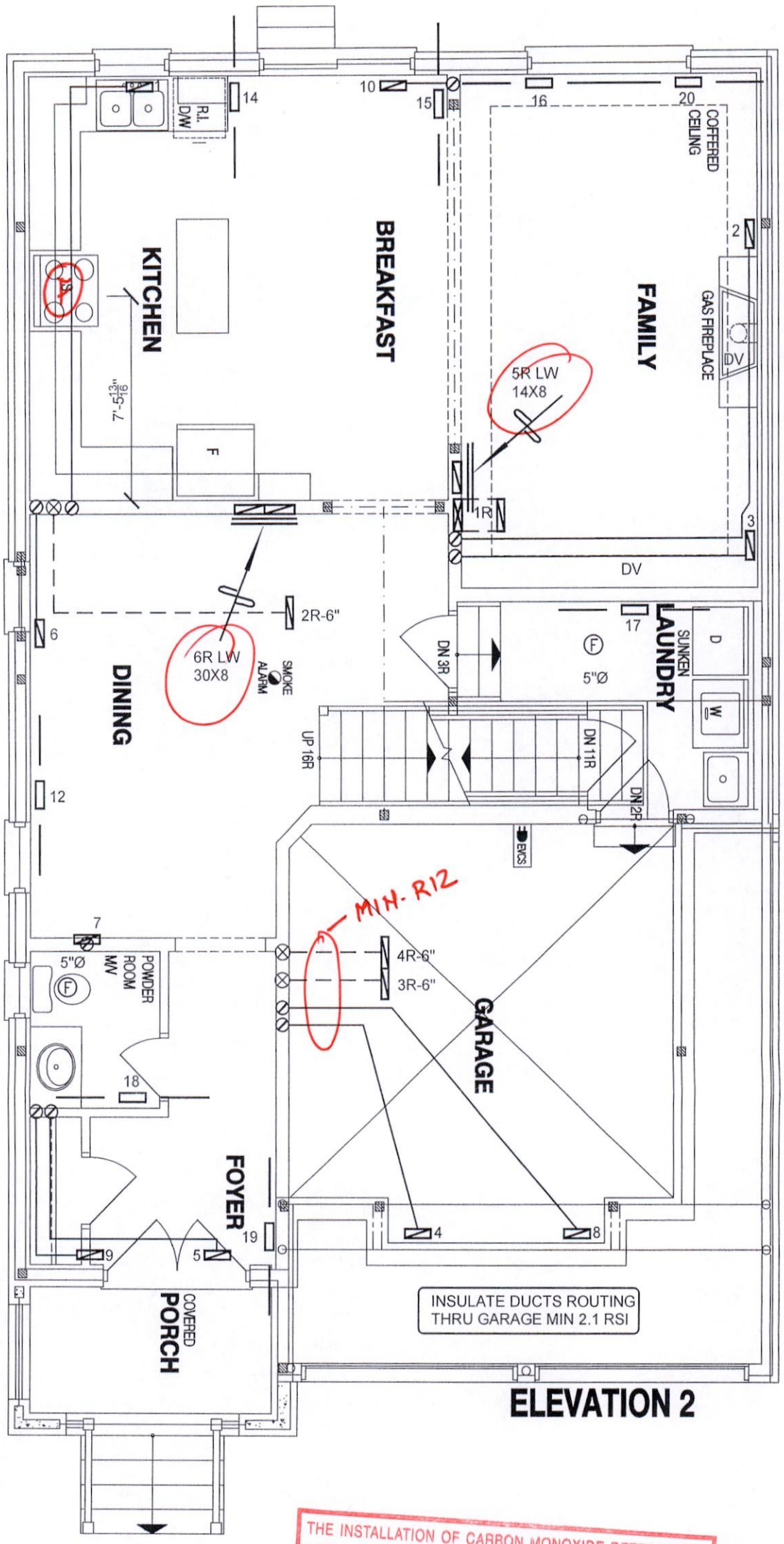
HEAT LOSS 44586 BTU/H		
UNIT DATA		
MAKE	CARRIER	
MODEL	59SP5A-60-12	
INPUT	60	MBTU/H
OUTPUT	58	MBTU/H
COOLING	2.5	TONS
FAN SPEED	970	cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	4	2
1ST FLOOR	8	2	3
BASEMENT	4	1	0

ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title
BASEMENT HEATING LAYOUT

Date JAN/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81143



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THIS INSTALLATION OF A GAS FIREPLACE IS REGULATED UNDER THE T.S.S.A. BY C.S.A. B149.1 NATURAL GAS AND PROPANE INSTALLATION CODE CALL ENBRIDGE FOR INSPECTION AT 1-800-785-1314

THE INSTALLATION OF CARBON MONOXIDE DETECTOR(S) SHALL COMPLY WITH OBC DIV. B, 9.33.4 REQUIREMENTS.

MECHANICAL VENTILATION SHALL BE PROVIDED IN CONFORMANCE WITH OBC DIV. B, 9.32.3 REQUIREMENTS.

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOT 23
CSA-F280-12
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— ▭ —	SUPPLY AIR GRILLE	▬	6" SUPPLY AIR BOOT ABOVE	▱	14"x8" RETURN AIR GRILLE	▱	RETURN AIR STACK ABOVE
— ▬ —	SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▱▱	30"x8" RETURN AIR GRILLE	⊠	RETURN AIR STACK 2nd FLOOR
▱	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▤	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO

M-2057

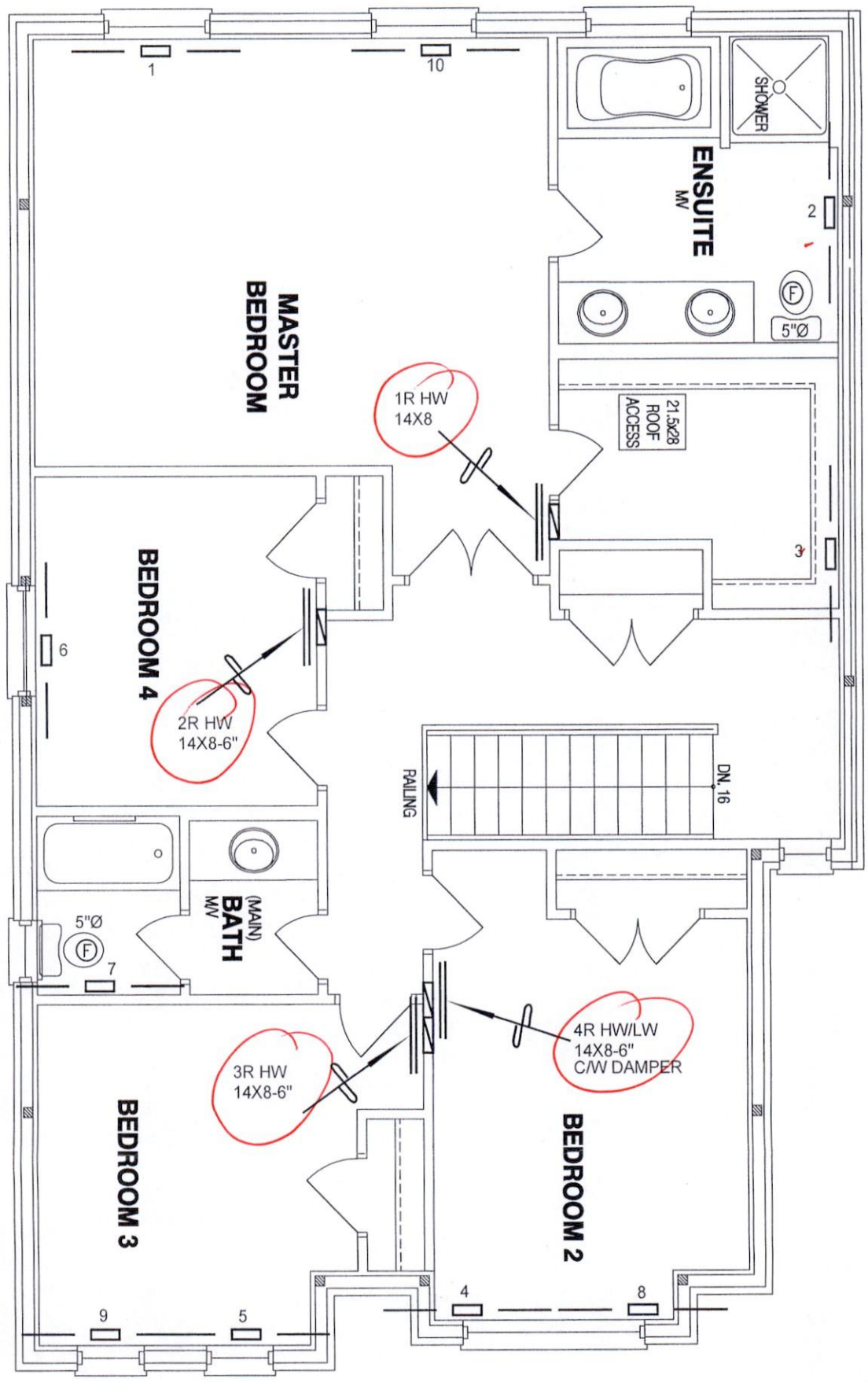
LIANA 3 - LOT 23 2292 sqft

HVAC 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.

Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JAN/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81143



ENSURE THAT MIN THERMAL PERFORMANCE OF BLDG ENVELOPE AND EQUIPMENT SHALL CONFORM TO OBC SB-12, 3.1.1.2 TABLES REQUIREMENTS.
FURNACE SHALL BE EQUIPPED WITH BRUSHLESS DIRECT CURRENT MOTOR OBC DIV B 12.3.1.5.
SEAL ALL DUCTWORK WITHIN UNCONDITIONED SPACE or OUTDOORS PER OBC DIV B6.2.4.3(11) REQUIREMENTS. SEAL ALL SUPPLY DUCTS LOCATED IN CONDITIONED SPACE IN COMPLIANCE WITH OBC DIV B6.2.4.3(12) REQUIREMENTS.
SEPARATE ANY INTAKES FROM BUILDING ENVELOPE PENETRATIONS THAT ARE POTENTIAL SOURCES OF CONTAMINANTS (GAS VENTS, OIL FILL PIPES, etc. BY MIN 900mm (2FT 11IN) – OBC Div B 9.32.3.12.
INSTALLATION OF KITCHEN EXHAUST DUCT LARGER THAN 6"dia SHALL BE PRECEDED BY APPLICATION FOR REVISION OF DESIGN PER OBC PART 6 REQUIREMENTS.
EXHAUST FAN SHALL DISCHARGE DIRECTLY TO OUTSIDE. CLOTHES DRYER EXHAUST SYSTEM SHALL COMPLY WITH OBC DIV B 9.32.1.2, 9.32.1.3 & 9.32.3 REQ'S. BALANCE THE RETURN AIRFLOW ON THE UPPER FLOOR TO MATCH THE SUPPLY.
WHEN HRV IS USED AS PRINCIPAL EXHAUST FAN, THE CONTROLLER SHALL BE WIRED TO THE HRV UNIT AND INTERCONNECTED TO THE FURNACE FAN. THE FURNACE BLOWER MUST BE IN OPERATION WHEN THE HRV IS IN OPERATION.
INSTALL ADDITIONAL S/A REGISTER AS REQUIRED IN ORDER TO ENSURE MIN 72degF – OBC DIV B 9.33.3.1(1).
UNDERCUT BY MIN 1" THE DOOR TO ANY ROOM WITHOUT RETURN AIR GRILLE. ENSURE RETURN AIR INTAKE SHALL BE CONNECTED TO THE MAIN R/A DUCT AT A HORIZONTAL DISTANCE OF MIN 6FT FROM THE CASING OF THE UNIT (HRAI DIGEST).

INSTALLATION OF HVAC EQUIP.
SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS AND MANUALS

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 1 2 2019
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOT 23
CSA-F280-12
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
3.		
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REVISIONS

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO

M-2057

LIANA 3 - LOT 23 2292 sqft

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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 adequately insulated and be gas-proofed.

Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JAN/2019
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 81143

HVA DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: GRANELLI HOME CORP | LOT 23 | DATE: Jan-19 | WINTER NATURAL AIR CHANGE RATE 0.335 | HEAT LOSS ΔT °F. 74 | CSA-F280-12
BUILDER: GREENYORK HOMES | TYPE: LIANA 3 | GFA: 2292 | LO# 81143 | SUMMER NATURAL AIR CHANGE RATE 0.119 | HEAT GAIN ΔT °F. 14 | SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH		
EXP. WALL			36			21			15			33			28			12			7		
CLG. HT.			9			9			9			9			9			9			9		
	FACTORS																						
GRS.WALL AREA	LOSS	GAIN	324			189			135			297			252			108			63		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	20.8	16.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	20.8	41.9	0	0	0	0	0	0	0	0	0	39	810	1634	22	457	922	0	0	0	0	0	0
SOUTH	20.8	25.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	332	404	8	166	202
WEST	20.8	41.9	28	582	1173	12	249	503	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	36.4	102.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	296	1290	243	177	771	146	135	588	111	268	1124	212	230	1002	189	92	401	76	55	240	45
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	320	401	195	110	138	67	150	188	91	228	286	139	150	188	91	240	301	146	105	132	64
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	20	54	26	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	228	568	107	40	100	19	0	0	0	28	70	13
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				2272			1158			776			2788			1800			1034			607	
SUB TOTAL HT GAIN					1611			715			202			2091			1247			625			324
LEVEL FACTOR / MULTIPLIER			0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27	
AIR CHANGE HEAT LOSS				617			314			211			757			489			281			165	
AIR CHANGE HEAT GAIN					145			64			18			188			112			56			29
DUCT LOSS				0			0			0			354			229			0			77	
DUCT GAIN					0			0			0			316			224			0			35
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0
HEAT GAIN APPLIANCES/LIGHTS					644			0			0			644			644			644			0
TOTAL HT LOSS BTU/H				2889			1473			987			3899			2518			1315			849	
TOTAL HT GAIN x 1.3 BTU/H					3744			1013			286			4524			3208			2036			505

ROOM USE			DIN				KIT			FAM			LAUN			W/R			FOY			BAS		
EXP. WALL			16				33			32			27			10			31			148		
CLG. HT.			11				11			11			12			11			11			9		
	FACTORS																							
GRS.WALL AREA	LOSS	GAIN	176				363			352			324			110			341			888		
GLAZING				LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	20.8	16.3	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	20.8	41.9	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	3	62	126	0	0	0
SOUTH	20.8	25.2	28	582	707		0	0	0	0	0	0	0	0	0	0	0	9	187	227	0	0	0	0
WEST	20.8	41.9	0	0	0		51	1060	2136	33	686	1382	0	0	0	0	0	0	0	0	0	10	208	252
SKYLT.	36.4	102.1	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	104	209
DOORS	24.7	4.7	0	0	0		0	0	0	0	0	0	20	493	93	0	0	0	40	986	186	0	0	0
NET EXPOSED WALL	4.4	0.8	148	645	122		312	1359	256	319	1390	262	304	1325	250	101	440	83	298	1298	245	20	493	93
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	444	1560	294
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0				0			0			0			0			0			4922	
SLAB ON GRADE HEAT LOSS				0				0			0			0			0			0				
SUBTOTAL HT LOSS				1227				2419			2075			1818			627			2347			7286	
SUB TOTAL HT GAIN					828				2393			1645			343			310			557			849
LEVEL FACTOR / MULTIPLIER			0.30	0.40			0.30	0.40		0.30	0.40		0.30	0.40		0.30	0.40		0.30	0.40		0.60	0.97	
AIR CHANGE HEAT LOSS				496				978			839			735			253			948			7081	
AIR CHANGE HEAT GAIN					74				215			148			31			28			50			76
DUCT LOSS				0				0			0			0			0			0			0	
DUCT GAIN					0				0			0			0			0			0			0
HEAT GAIN PEOPLE	240		0		0		0		0	0		0	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					644				644			644			644			0			0			644
TOTAL HT LOSS BTU/H				1722				3397			2914			2552			880			3295			14367	
TOTAL HT GAIN x 1.3 BTU/H					2011				4228			3168			1324			439			789			2041

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 12 2019
ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

M-205+ LOT 23

TOTAL HEAT GAIN BTU/H: 29605 | TONS: 2.47 | LOSS DUE TO VENTILATION LOAD BTU/H: 1529 | STRUCTURAL HEAT LOSS: 43057 | TOTAL COMBINED HEAT LOSS BTU/H: 44586

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: GRANELLI HOME CORP — LOT 23
BUILDER: GREENYORK HOMES — TYPE: LIANA 3 — DATE: Jan-19 — GFA: 2292 — LO# 81143

HEATING CFM	970	COOLING CFM	970
TOTAL HEAT LOSS	43,057	TOTAL HEAT GAIN	29,316
AIR FLOW RATE CFM	22.53	AIR FLOW RATE CFM	33.09

furnace pressure	0.6
furnace filter	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35
plenum pressure s/a	0.18
max s/a dif press. loss	0.02
min adjusted pressure s/a	0.16
r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

#CARRIER
59SP5A-60-12 60
FAN SPEED
LOW 0
MEDLOW 785
MEDIUM 845
MEDIUM HIGH 970
HIGH 1030

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000
DESIGN CFM = 970 CFM @ 6 " E.S.P.
TEMPERATURE RISE 55 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	8	4
R/A	0	0	4	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	12	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	DIN	KIT	KIT	FAM	LAUN	W/R	FOY	FAM	BAS	BAS	BAS	BAS
RM LOSS MBH	1.44	1.47	0.99	1.95	1.26	1.31	0.85	1.95	1.26	1.44	1.72	1.70	1.70	1.46	2.55	0.88	3.30	1.46	3.59	3.59	3.59	3.59
CFM PER RUN HEAT	33	33	22	44	28	30	19	44	28	33	39	38	38	33	57	20	74	33	81	81	81	81
RM GAIN MBH	1.87	1.01	0.29	2.26	1.60	2.04	0.51	2.26	1.60	1.87	2.01	2.11	2.11	1.58	1.32	0.44	0.79	1.58	0.51	0.51	0.51	0.51
CFM PER RUN COOLING	62	34	9	75	53	67	17	75	53	62	67	70	70	52	44	15	26	52	17	17	17	17
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	34	60	36	47	45	22	24	51	44	49	12	26	37	35	32	21	32	40	31	21	14	27
EQUIVALENT LENGTH	150	160	160	140	170	150	140	140	150	150	170	140	140	140	130	150	150	160	180	160	170	150
TOTAL EFFECTIVE LENGTH	184	220	196	187	215	172	164	191	194	199	182	166	177	175	162	171	182	200	211	181	184	177
ADJUSTED PRESSURE	0.09	0.08	0.09	0.09	0.08	0.1	0.1	0.09	0.09	0.09	0.09	0.1	0.1	0.1	0.11	0.1	0.09	0.09	0.08	0.09	0.09	0.09
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	5	5	5	4	5	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	242	379	252	323	206	220	218	323	206	242	286	279	279	379	419	229	543	379	413	413	413	413
COOLING VELOCITY (ft/min)	455	390	103	551	389	492	195	551	389	455	492	514	514	597	323	172	191	597	87	87	87	87
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	B	B	E	D	C	E	E	D	A	E	C	C	A	B	D	D	A	A	C	E	D

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	

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 1 2 2019
ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	180	0.08	7.4	8	x	8	405	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	112	0.08	6.2	8	x	8	252	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	512	0.08	10.9	14	x	8	658	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	231	0.08	8.1	8	x	8	520	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	458	0.08	10.5	14	x	8	589	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	970	0.05	15.6	28	x	8	624
TRUNK Y	530	0.05	12.4	18	x	8	530
TRUNK Z	270	0.05	9.7	12	x	8	405
DROP	970	0.05	15.6	24	x	10	582

RETURN AIR #	1	2	3	4	5	6											BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	135	95	95	95	135	260	0	0	0	0	0	0	0	0	0	0	155
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	54	48	46	44	23	34	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	240	135	175	180	185	235	0	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	294	183	221	224	208	269	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.05	0.08	0.07	0.07	0.07	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7.5	5.8	6	6	6.8	9.1	0	0	0	0	0	0	0	0	0	0	6.6
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	14

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke — INDIVIDUAL BCIN: 19669 — MICHAEL O'ROURKE

HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

TYPE: LIANA 3 LO # 81143
SITE NAME: GRANELLI HOME CORP LOT 23

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES 9.32.3.1(1)

- a) [✓] Direct vent (sealed combustion) only
- b) [ ] Positive venting induced draft (except fireplaces)
- c) [ ] Natural draft, B-vent or induced draft gas fireplace
- d) [ ] Solid Fuel (including fireplaces)
- e) [ ] No Combustion Appliances

HEATING SYSTEM

[✓] Forced Air [ ] Non Forced Air

[ ] Electric Space Heat

HOUSE TYPE 9.32.1(2)

- [✓] I Type a) or b) appliance only, no solid fuel
- [ ] II Type I except with solid fuel (including fireplaces)
- [ ] III Any Type c) appliance
- [ ] IV Type I, or II with electric space heat
- [ ] Other: Type I, II or IV no forced air

SYSTEM DESIGN OPTIONS O.N.H.W.P.

- [ ] 1 Exhaust only/Forced Air System
- [ ] 2 HRV with Ducting/Forced Air System
- [✓] 3 HRV Simplified/connected to forced air system
- [ ] 4 HRV with Ducting/non forced air system
- [ ] Part 6 Design

TOTAL VENTILATION CAPACITY 9.32.3.3(1)

Basement + Master Bedroom	2	@ 21.2 cfm	42.4	cfm
Other Bedrooms	3	@ 10.6 cfm	31.8	cfm
Kitchen & Bathrooms	4	@ 10.6 cfm	42.4	cfm
Other Rooms	4	@ 10.6 cfm	42.4	cfm
Table 9.32.3.A.		TOTAL	159.0	cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED 9.32.3.4.(1)

1	Bedroom	31.8	cfm
2	Bedroom	47.7	cfm
3	Bedroom	63.6	cfm
4	Bedroom	79.5	cfm
5	Bedroom	95.4	cfm
	TOTAL	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	159	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	79.5	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: LIFEBREATH RNC5-HEX Location: BSMT

79.5 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
79.5 CFM	X	74 F	X	1.08	X	0.24

SUPPLEMENTAL FANS NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
W/R	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: LIFEBREATH RNC5-HEX

108 cfm high 59 cfm low

76 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

LOCATION OF INSTALLATION

Lot: Concession

Township Plan:

Address

Roll # Building Permit #

BUILDER: GREENYORK HOMES

Name:

Address:

City:

Telephone #: Fax #:

INSTALLING CONTRACTOR

Name:

Address:

City:

Telephone #: Fax #:

DESIGNER CERTIFICATION

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name: HVAC Designs Ltd.

Signature: Michael O'Rourke.

HRAI # 001820

Date: January-19

CITY OF BRAMPTON BUILDING DIVISION REVIEWED BY: S. DESAI APR 1 2 2019

ATTACHED NOTES ARE PART OF REVIEWED DRAWINGS ALL WORK MUST COMPLY WITH OBC

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C 3.2.5 OF THE BUILDING CODE

INDIVIDUAL BCIN: 19669 Michael O'Rourke. MICHAEL O'ROURKE

HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: LIANA 3 LOT 23 **BUILDER:** GREENYORK HOMES
SFQT: 2292 **LO#** 81143 **SITE:** GRANELLI HOME CORP

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	31870.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 29.0 ft	WIDTH: 45.0 ft	EXPOSED PERIMETER:	148.0 ft

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. DESAI
APR 12 2019
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2012 OBC - COMPLIANCE PACKAGE Component	Compliance Package A1	
	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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke.

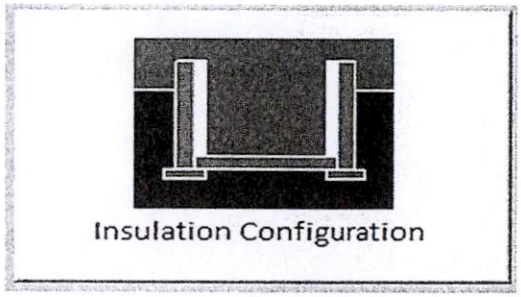
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Brampton
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	8.8	
Floor Width (m):	13.7	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m^2):	1.4	
Door Area (m^2):	1.9	



Insulation Configuration

Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	**1442**	

TYPE: LIANA 3
LO# 81143

LOT 23

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 Station Description		
Province:	Ontario	
Region:	Brampton	
Weather Station Location:	Open flat terrain, grass	
Anemometer height (m):	10	
Local Shielding		
Building Site:	Suburban, forest	
Walls:	Heavy	
Flue:	Heavy	
Highest Ceiling Height (m):	7.01	
Building Configuration		
Type:	Detached	
Number of Stories:	Two	
Foundation:	Full	
House Volume (m^3):	902.5	
Air Leakage/Ventilation		
Air Tightness Type:	Present (1961-) (3.57 ACH)	
Custom BDT Data:	ELA @ 10 Pa.	1203.0 cm^2
	3.57	ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust
	37.5	37.5

Flue Size					
Flue #:	#1	#2	#3	#4	
Diameter (mm):	0	0	0	0	

Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.335**
Cooling Air Leakage Rate (ACH/H):	**0.119**

TYPE: LIANA 3 LOT 23
LO# 81143

M-2057 LOT 23

BRAMPTON Flower City
brampton.ca

Planning and Development Services
Building Division
8850 McLaughlin Road, Unit 1
Brampton, ON L6Y 5T1

PLEASE SE
NOTES AS
OF THE REV

PROFESSIONAL ENGINEER
2018/07/16
SANDY WHITE
PROVINCE OF ONTARIO
Swhite

WATER PIPE SIZING AND PLUMBING DATA SHEET

CERTIFIED MODEL WITH ONE DWELLING UNIT

THIS TABLE IS APPLICABLE FOR A HOUSE AFTER DECEMBER 31, 2017

Builder Name: Greenyork Homes
Certified Model Name: LIANA 3 (LO#79001-P)
Optional Floor Layout:
Application No.:

The Ontario Building Code Div. B, 7.6.3 regulates size and capacity of pipes for a new house. Please enter the number of individual fixtures as listed and bathroom groups[6] or powder room groups[7] per floor. The fixture units and required minimum size of water service will automatically be calculated.

Description	Basement Floor	First Floor	Second Floor	Third Floor
	Qty.	Qty.	Qty.	Qty.
Bathroom group [6]	1	~~2~~	2	
Bidet				
Extra Shower			1	
Lav			1	
Bar Sink				
Powder room [7]		1		
Kitchen Sink		1		
Dishwasher		1		
Laundry Tub		1		
Washing Machine		1		
Hose Bib		2		

Total Fixture Units ~~33.6~~ 26.4 FU.
Minimum Diametre of Water Service Pipe Required from the Property Line to the House (Inch) ~~1 1/4~~ 1"Ø

Notes:

(1) A potable water system shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances, such as that described in the ASHRAE Handbooks and ASPE Data Books.
(2) No water system between the point of connection with the water service pipe or the water meter and the first branch that supplies a water heater that serves more than one fixture shall be less than ¾ in. in size.
(3) The minimum water pressure at the entry to the building is 200 kPa, and the total maximum length of the water system is 90 m.
(4) In a hot water distribution system of a developed length of more than 30 m from the HWT to the farthest fixture or supplying more than 4 storeys, the water temperature shall be maintained by, (a) recirculation, or (b) a self-regulating heat tracing system.
(5) Where piping may be exposed to freezing conditions, it shall be protected from the effects of freezing.
(6) A bathroom group consists of 1 water closet, 1 lavatory, and 1 bathtub (with or without showerhead)
(7) A powder room group consists of 1 water closet and 1 lavatory.

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
APR 0 3 2019
PLUMBING BY
KOFI MORIEL

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name		Unit no.	Lot/con.
110 THORNDALE ROAD			23
Municipality	**ostal code**	**lan number/ other description**	
BRAMPTON		43M-2057	

B. Individual who reviews and takes responsibility for design activities

Name	Firm		
SANDY WHITE, P.Eng.	ANDA ENGINEERING LTD.		
Street address		**Unit no.**	**Lot/con.**
5125 ARDOCH ROAD			
Municipality	**ostal code**	**Province**	**E-mail**
ARDOCH	K0H-1C0	ONTARIO	design@andaengineering.com
Telephone number	**Fax number**		**Cell number**
(613) 479-0161	( ) N/A		(416) 476-1105

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☑ lumbing – House
☐ Large Buildings	☐ Detection, Lighting and ower	☐ lumbing – ll Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work

LIANA 3 EL. 2

GRANELLI HOMES CORP.

D. Declaration of Designer

I SANDY WHITE, declare that (choose one as appropriate):

(print name)

☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____

Firm BCIN: _____

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☑ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: P.Eng. exempt, note 2

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

2019/24/01 — Date

SANDY WHITE — Signature of Designer

NOTE:

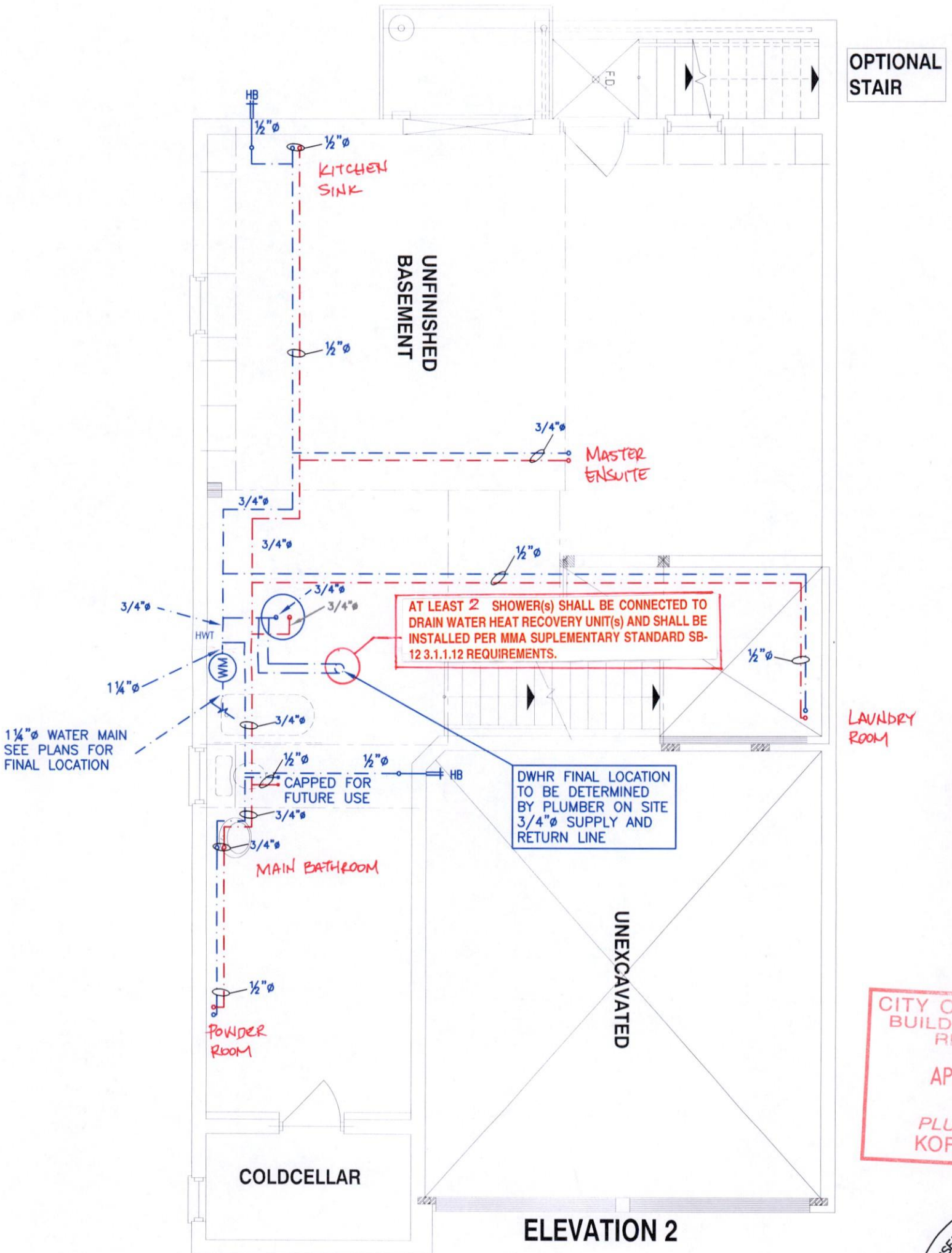
1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association o Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

NOTES

1. DRAWINGS ARE TO BE PRINTED IN COLOUR
2. WHERE A 3/4"ø TUB SPOUT/ SPIGOT CONNECTION IS USED ON THE BATHTUB FAUCET THE WATER SUPPLY PIPE SHALL BE 3/4"ø TO THE BRANCH FOR THE BATHTUB
3. BASEMENT BATHROOM ROUGH-IN SHALL BE USED IN SIZING OF WATER PIPE
4. EXACT LOCATION OF ALL PLUMBING PIPING TO BE DETERMINED ON SITE

LEGEND

SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
WM	WATER METER, PROVIDE SUPPLY PIPE SIZE/ ø
HB	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
FD	FLOOR DRAIN



RE THE ATTACHED
TH RY REFORM PART
'E BD DRAWINGS

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
APR 03 2019
PLUMBING BY
KOFI MORIEL

ALL PLUMBING SHALL CONFORM TO THE ONTARIO BUILDING CODE, O.REG. 332/12, AS AMENDED, DIVISION B, PART 7.

LICENSED PROFESSIONAL ENGINEER
2018/07/06
SANDY WHITE
PROVINCE OF ONTARIO

Lot 23

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO

LIANA 3 2292 sqft

HVAC 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

Sheet Title
BASEMENT PLUMBING LAYOUT

Date JULY 2018
Scale 3/16" = 1'-0"

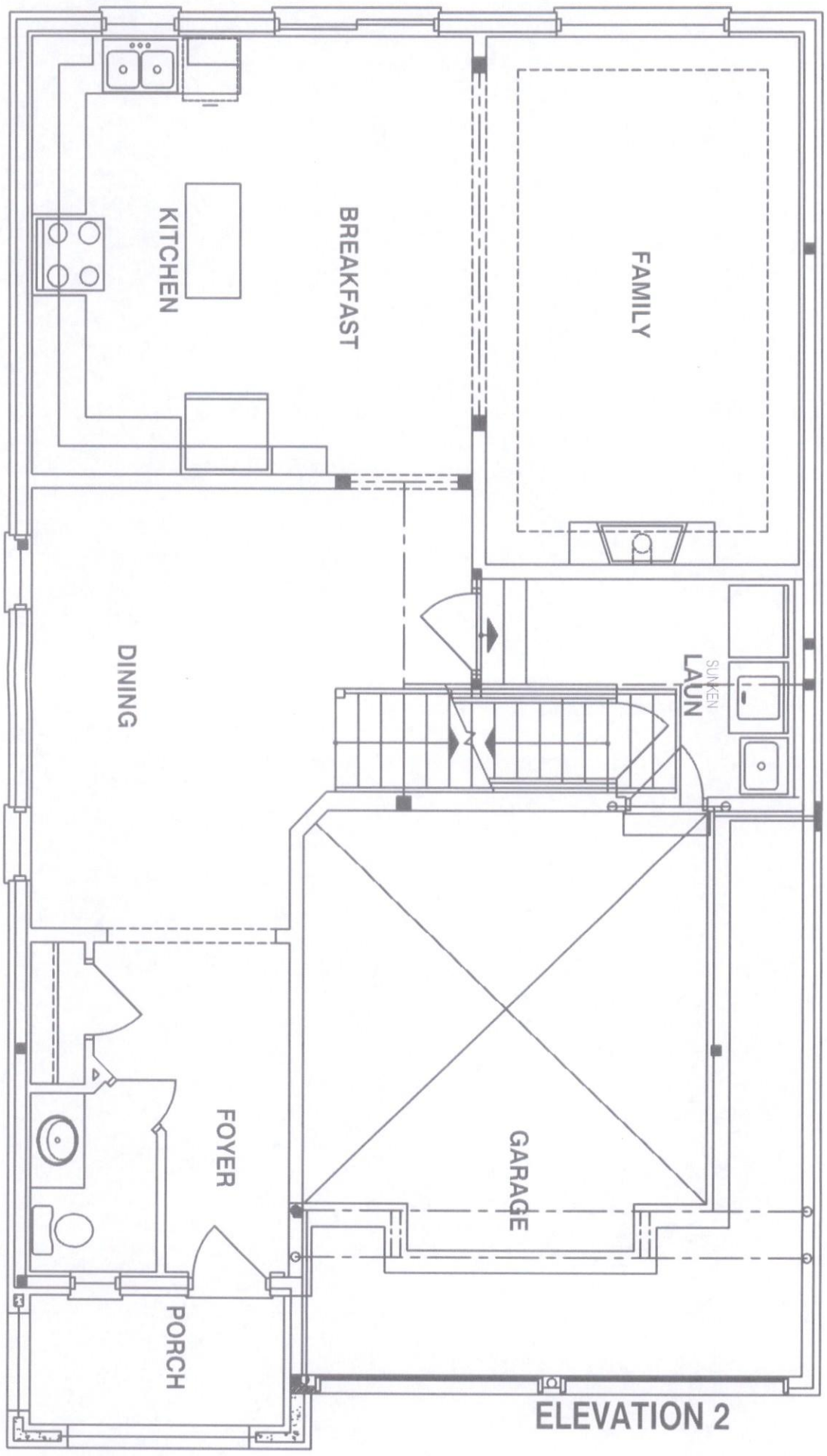
LO# 79001-P

NOTES

1. DRAWINGS ARE TO BE PRINTED IN COLOUR
2. WHERE A 3/4"ø TUB SPOUT/ SPIGOT CONNECTION IS USED ON THE BATHTUB FAUCET THE WATER SUPPLY PIPE SHALL BE 3/4"ø TO THE BRANCH FOR THE BATHTUB
3. BASEMENT BATHROOM ROUGH-IN SHALL BE USED IN SIZING OF WATER PIPE
4. EXACT LOCATION OF ALL PLUMBING PIPING TO BE DETERMINED ON SITE

LEGEND

SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
WM	WATER METER, PROVIDE SUPPLY PIPE SIZE/ ø
HB	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
FD	FLOOR DRAIN



ELEVATION 2

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED
APR 03 2019
PLUMBING BY
KOFI MORIEL

LICENSED PROFESSIONAL ENGINEER
2018/07/06
SANDY WHITE
PROVINCE OF ONTARIO

Client
GREENYORK HOMES

Project Name
GRANELLI HOMES CORP
BRAMPTON, ONTARIO
M-2057 LOT 23
LIANA 3 2292 sqft

HVAC 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

Sheet Title
FIRST FLOOR PLUMBING LAYOUT

Date JULY 2018
Scale 3/16" = 1'-0"

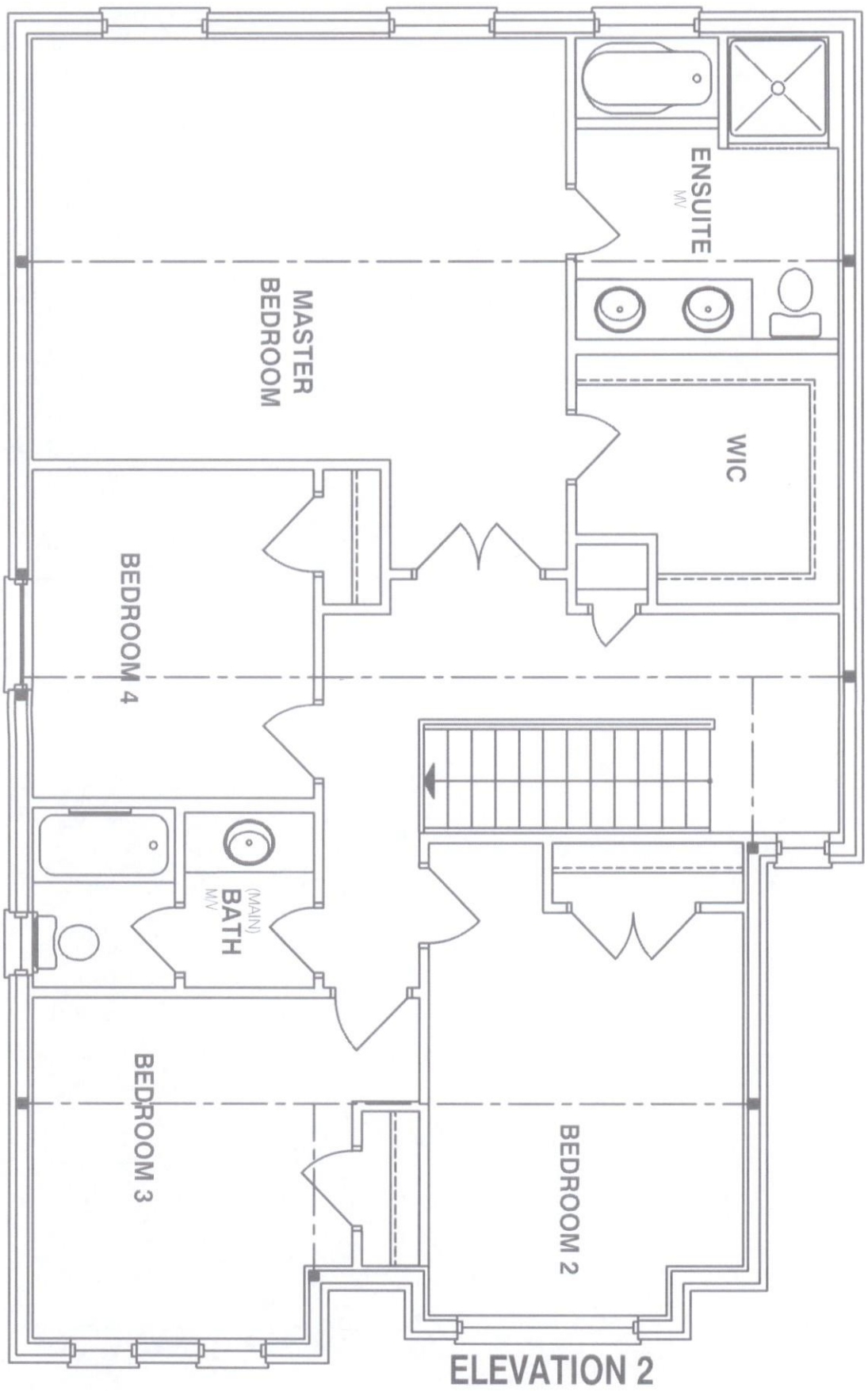
LO# 79001-P

NOTES

1. DRAWINGS ARE TO BE PRINTED IN COLOUR
2. WHERE A 3/4"ø TUB SPOUT/ SPIGOT CONNECTION IS USED ON THE BATHTUB FAUCET THE WATER SUPPLY PIPE SHALL BE 3/4"ø TO THE BRANCH FOR THE BATHTUB
3. BASEMENT BATHROOM ROUGH-IN SHALL BE USED IN SIZING OF WATER PIPE
4. EXACT LOCATION OF ALL PLUMBING PIPING TO BE DETERMINED ON SITE

LEGEND

SYMBOL	DESCRIPTION (SEE PLAN FOR PIPE SIZING)
WM	WATER METER, PROVIDE SUPPLY PIPE SIZE/ ø
HB	HOSE BIB
	PROPOSED COLD WATER LINE & RISER
	PROPOSED HOT WATER LINE & RISER
FD	FLOOR DRAIN



ELEVATION 2

Client
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Sheet Title
SECOND FLOOR PLUMBING LAYOUT

Date JULY 2018
Scale 3/16" = 1'-0"

LO# 79001-P