


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. |
| Municipality INNISFIL | Postal code | Plan number/ other description | | |
| B. Individual who reviews and takes responsibility for design activities | | | | |
| Name MICHAEL O'ROURKE | | Firm HVAC DESIGNS LTD. | | |
| Street address 375 FINLEY AVE | | Unit no. 202 | Lot/con. N/A | |
| Municipality AJAX | Postal code L1S 2E2 | Province ONTARIO | E-mail info@hvacdesigns.ca | |
| Telephone number (905) 619-2300 | Fax number (905) 619-2375 | Cell number () | | |
| C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C] | | | | |
| <input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems | | | | |
| Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12 | | Model: TH-4 Project: ALCONA | | |
| D. Declaration of Designer | | | | |
| I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name) | | | | |
| <input type="checkbox"/> 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: _____ | | | | |
| <input checked="" type="checkbox"/> 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: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u> | | | | |
| <input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____ | | | | |
| 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. | | | | |
| June 14, 2018 | |  | | |
| Date | | Signature of Designer | | |

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) 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.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of 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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

| SITE NAME: ALCONA | | BUILDER: BAYVIEW WELLINGTON | | TYPE: TH-4 | | DATE: Jun-18 | | WINTER NATURAL AIR CHANGE RATE | | SUMMER NATURAL AIR CHANGE RATE | | HEAT LOSS AT °F. | | HEAT GAIN AT °F. | | CSA-F280-12 | |
|--------------------------------|------------|-----------------------------|------|------------|------|--------------|------|--------------------------------|------|--------------------------------|------|------------------|------|------------------|------|------------------|------|
| ROOM USE | | MBR | | ENS | | WIC | | BED-2 | | BED-3 | | BATH | | BATH | | SB-12 PACKAGE A1 | |
| EXP. WALL CLG. HT. | FACTORS | 14 | 9 | 7 | 9 | 0 | 9 | 11 | 9 | 18 | 9 | 0 | 9 | 0 | 9 | 0 | 9 |
| GRS.WALL AREA | LOSS GAIN | 126 | | 63 | | 0 | | 99 | | 162 | | 0 | | 0 | | 0 | |
| GLAZING | | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN |
| NORTH | 23.3 15.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EAST | 23.3 41.4 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 513 | 910 | 33 | 769 | 1386 | 0 | 0 | 0 | 0 |
| SOUTH | 23.3 24.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WEST | 23.3 41.4 | 28 | 652 | 1159 | 13 | 303 | 538 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SKYL.T. | 40.8 101.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DOORS | 27.6 4.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NET EXPOSED WALL | 4.9 0.7 | 98 | 479 | 70 | 50 | 244 | 36 | 0 | 77 | 376 | 55 | 129 | 630 | 92 | 0 | 0 | 0 |
| NET EXPOSED BSMT WALL ABOVE GR | 3.9 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EXPOSED CLG | 1.4 0.6 | 224 | 315 | 129 | 105 | 148 | 61 | 50 | 70 | 29 | 150 | 211 | 87 | 216 | 303 | 125 | 35 |
| NO A TTIC EXPOSED CLG | 3.0 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EXPOSED FLOOR | 2.8 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 419 | 61 | 0 | 0 | 0 | 20 | 56 | 8 | 8 |
| BASEMENT/CRAWL HEAT LOSS | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SLAB ON GRADE HEAT LOSS | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL HT LOSS | | 1446 | | 695 | | 70 | | 1518 | | 1702 | | 140 | | 140 | | 43 | |
| SUB TOTAL HT GAIN | | 1358 | | 634 | | 29 | | 1114 | | 1583 | | 0.20 | 0.41 | 0.20 | 0.41 | 58 | |
| LEVEL FACTOR / MUL TIPLIER | | 0.20 | 0.41 | 0.20 | 0.41 | 0.20 | 0.41 | 0.20 | 0.41 | 0.20 | 0.41 | 0.20 | 0.41 | 0.20 | 0.41 | 0.20 | 0.41 |
| AIR CHANGE HEAT LOSS | | 598 | | 287 | | 29 | | 628 | | 704 | | 96 | | 96 | | 3 | |
| AIR CHANGE HEAT GAIN | | 82 | | 38 | | 2 | | 68 | | 96 | | 3 | | 3 | | 3 | |
| DUCT LOSS | | 0 | | 0 | | 0 | | 215 | | 0 | | 20 | | 20 | | 5 | |
| DUCT GAIN | | 0 | | 0 | | 0 | | 204 | | 0 | | 0 | | 0 | | 5 | |
| HEAT GAIN PEOPLE | 240 | 2 | | 0 | | 0 | | 1 | | 1 | | 240 | | 240 | | 240 | |
| HEAT GAIN APPLIANCES/LIGHTS | | 623 | | 0 | | 0 | | 623 | | 623 | | 0 | | 0 | | 0 | |
| TOTAL HT LOSS BTU/H | | 2043 | | 982 | | 99 | | 2360 | | 2406 | | 218 | | 218 | | 55 | |
| TOTAL HT GAIN x 1.3 BTU/H | | 3306 | | 875 | | 40 | | 2522 | | 3304 | | 55 | | 55 | | 55 | |

| ROOM USE | FACTORS | KT/FM | LAUN | FOY | MUD | LOD | BAS |
|-------------------------------|------------|--------------|------------|-------------|--------------|------------|-----------|
| EXP. WALL | CLG. HT. | 21 | 0 | 22 | 25 | 21 | 66 |
| | | 10 | 9 | 10 | 10 | 9 | 9 |
| GRS.WALL AREA | LOSS GAIN | 210 | 0 | 220 | 250 | 189 | 522 |
| GLAZING | | LOSS GAIN | LOSS GAIN | LOSS GAIN | LOSS GAIN | LOSS GAIN | LOSS GAIN |
| NORTH | 23.3 15.8 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 |
| EAST | 23.3 41.4 | 0 0 0 | 0 0 0 | 12 280 497 | 0 0 0 | 0 0 0 | 0 0 0 |
| SOUTH | 23.3 24.7 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 |
| WEST | 23.3 41.4 | 94 2190 3890 | 0 0 0 | 0 0 0 | 0 0 0 | 23 536 952 | 0 0 0 |
| SKYL.T. | 40.8 101.3 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 |
| DOORS | 27.6 4.1 | 0 0 0 | 0 0 0 | 20 553 81 | 20 553 81 | 0 0 0 | 20 553 81 |
| NET EXPOSED WALL | 4.9 0.7 | 116 567 83 | 0 0 0 | 188 918 135 | 230 1124 165 | 0 0 0 | 0 0 0 |
| NET EXPOSED SMT WALL ABOVE GR | 3.9 0.6 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 |
| EXPOSED CLG | 1.4 0.6 | 0 0 0 | 168 236 97 | 0 0 0 | 0 0 0 | 103 406 59 | 72 284 42 |
| NO A TTIC EXPOSED CLG | 3.0 1.2 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 |
| EXPOSED FLOOR | 2.8 0.4 | 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 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 |
| SLAB ON GRADE HEAT LOSS | | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 2207 |
| SUBTOTAL HT LOSS | | 2757 | 236 | 1751 | 1676 | 0 | 3043 |
| SUB TOTAL HT GAIN | | 3973 | 97 | 712 | 246 | 942 | 123 |
| LEVEL FACTOR / MUL TIPLIER | | 0.30 0.58 | 0.20 0.41 | 0.30 0.58 | 0.30 0.58 | 1011 | 0.50 1.51 |
| AIR CHANGE HEAT T LOSS | | 1605 | 98 | 1020 | 976 | | 6002 |
| AIR CHANGE HEAT GAIN | | 241 | 6 | 43 | 15 | | 69 |
| DUCT LOSS | | 0 | 0 | 0 | 0 | | 0 |
| DUCT GAIN | | 0 | 0 | 0 | 0 | | 0 |
| HEAT GAIN PEOPLE | 240 | 0 | 0 | 0 | 0 | | 0 |
| HEAT GAIN APPLIANCES/LIGHTS | | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL HT LOSS BTU/H | | 4382 | 334 | 2770 | 2653 | 942 | 623 |
| TOTAL HT GAIN x 1.3 BTU/H | | 5288 | 943 | 982 | 1148 | 1315 | 9045 |

TOTAL HEAT GAIN BTU/H:

TONS: 1.87

LOSS DUE TO VENTILATION LOAD BTU/H: 1429

STRUCTURAL HEAT LOSS: 28215

TOTAL COMBINED HEAT LOSS BTU/H: 29643

SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON

TYPE: TH-4 DATE: Jun-18 LO# 78872

HEATING CFM 800 COOLING CFM 800
TOTAL HEAT LOSS 28,215 TOTAL HEAT GAIN 22,246
AIR FLOW RATE CFM 28,35 AIR FLOW RATE CFM 35,96

LENNOX
EL196UH045XE24B 45
FAN SPEED LOW 0
MEDIUM 685
HIGH 890
AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 42,000
DESIGN CFM = 800
CFM @ 6" E.S.P. =

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

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

TEMPERATURE RISE 49 °F

| RUN # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---------------------------|------|------|------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| ROOM NAME | MBR | ENS | WIC | BED-2 | BED-3 | BATH | BED-2 | BED-3 | MBR | KT/FM | KT/FM | KT/FM | KT/FM | KT/FM | KT/FM | KT/FM | LAUN | FOY | MUD | BAS | BAS | BAS | BAS | BAS |
| RM LOSS MBH | 1.02 | 0.98 | 0.10 | 1.18 | 1.20 | 0.22 | 1.18 | 1.20 | 1.02 | 2.18 | 2.18 | 2.18 | 2.18 | 2.18 | 2.18 | 2.18 | 0.33 | 2.77 | 2.65 | 3.33 | 3.33 | 3.33 | 3.33 | 3.33 |
| CFM PER RUN HEAT | 29 | 28 | 3 | 33 | 34 | 6 | 33 | 34 | 29 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 9 | 79 | 75 | 94 | 94 | 94 | 94 | 94 |
| RM GAIN MBH | 1.65 | 0.87 | 0.04 | 1.46 | 1.65 | 0.06 | 1.46 | 1.65 | 1.65 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 0.94 | 0.98 | 1.15 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| CFM PER RUN COOLING | 59 | 31 | 1 | 53 | 59 | 2 | 53 | 59 | 59 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 34 | 35 | 41 | 28 | 28 | 28 | 28 | 28 |
| ADJUSTED PRESSURE | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.17 | 0.17 | 0.17 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| EQUIVALENT LENGTH | 53 | 59 | 35 | 45 | 54 | 33 | 49 | 63 | 46 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 50 | 38 | 18 | 13 | 27 | 31 | 31 | 31 |
| EQUIVALENT LENGTH | 185 | 170 | 220 | 140 | 165 | 145 | 160 | 190 | 165 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 215 | 130 | 170 | 140 | 150 | 150 | 140 | 140 |
| TOTAL EFFECTIVE LENGTH | 238 | 229 | 255 | 185 | 219 | 178 | 209 | 253 | 211 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 265 | 168 | 188 | 153 | 177 | 177 | 171 | 171 |
| ADJUSTED PRESSURE | 0.07 | 0.08 | 0.07 | 0.09 | 0.08 | 0.1 | 0.08 | 0.07 | 0.08 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.06 | 0.1 | 0.09 | 0.11 | 0.09 | 0.09 | 0.09 | 0.09 |
| ROUND DUCT SIZE | 5 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 6 | 5 | 6 | 6 | 6 | 6 | 6 |
| HEATING VELOCITY (ft/min) | 213 | 321 | 34 | 242 | 250 | 69 | 242 | 250 | 213 | 316 | 316 | 316 | 316 | 316 | 316 | 316 | 103 | 403 | 551 | 479 | 479 | 479 | 479 | 479 |
| COOLING VELOCITY (ft/min) | 433 | 356 | 11 | 389 | 433 | 23 | 389 | 433 | 433 | 576 | 576 | 576 | 576 | 576 | 576 | 576 | 390 | 178 | 301 | 143 | 143 | 143 | 143 | 143 |
| OUTLET GRILL SIZE | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 | 3X10 | 4X10 | 3X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 |
| TRUNK | A | A | C | C | B | C | C | C | A | A | A | A | A | A | A | A | C | B | C | A | A | A | A | B |

| RUN # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---------------------------|------|------|------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| ROOM NAME | MBR | ENS | WIC | BED-2 | BED-3 | BATH | BED-2 | BED-3 | MBR | KT/FM | KT/FM | KT/FM | KT/FM | KT/FM | KT/FM | KT/FM | LAUN | FOY | MUD | BAS | BAS | BAS | BAS | BAS |
| RM LOSS MBH | 1.02 | 0.98 | 0.10 | 1.18 | 1.20 | 0.22 | 1.18 | 1.20 | 1.02 | 2.18 | 2.18 | 2.18 | 2.18 | 2.18 | 2.18 | 2.18 | 0.33 | 2.77 | 2.65 | 3.33 | 3.33 | 3.33 | 3.33 | 3.33 |
| CFM PER RUN HEAT | 29 | 28 | 3 | 33 | 34 | 6 | 33 | 34 | 29 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 9 | 79 | 75 | 94 | 94 | 94 | 94 | 94 |
| RM GAIN MBH | 1.65 | 0.87 | 0.04 | 1.46 | 1.65 | 0.06 | 1.46 | 1.65 | 1.65 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 0.94 | 0.98 | 1.15 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| CFM PER RUN COOLING | 59 | 31 | 1 | 53 | 59 | 2 | 53 | 59 | 59 | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 34 | 35 | 41 | 28 | 28 | 28 | 28 | 28 |
| ADJUSTED PRESSURE | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.17 | 0.17 | 0.17 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| EQUIVALENT LENGTH | 53 | 59 | 35 | 45 | 54 | 33 | 49 | 63 | 46 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 50 | 38 | 18 | 13 | 27 | 31 | 31 | 31 |
| EQUIVALENT LENGTH | 185 | 170 | 220 | 140 | 165 | 145 | 160 | 190 | 165 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 215 | 130 | 170 | 140 | 150 | 150 | 140 | 140 |
| TOTAL EFFECTIVE LENGTH | 238 | 229 | 255 | 185 | 219 | 178 | 209 | 253 | 211 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 265 | 168 | 188 | 153 | 177 | 177 | 171 | 171 |
| ADJUSTED PRESSURE | 0.07 | 0.08 | 0.07 | 0.09 | 0.08 | 0.1 | 0.08 | 0.07 | 0.08 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.06 | 0.1 | 0.09 | 0.11 | 0.09 | 0.09 | 0.09 | 0.09 |
| ROUND DUCT SIZE | 5 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 6 | 5 | 6 | 6 | 6 | 6 | 6 |
| HEATING VELOCITY (ft/min) | 213 | 321 | 34 | 242 | 250 | 69 | 242 | 250 | 213 | 316 | 316 | 316 | 316 | 316 | 316 | 316 | 103 | 403 | 551 | 479 | 479 | 479 | 479 | 479 |
| COOLING VELOCITY (ft/min) | 433 | 356 | 11 | 389 | 433 | 23 | 389 | 433 | 433 | 576 | 576 | 576 | 576 | 576 | 576 | 576 | 390 | 178 | 301 | 143 | 143 | 143 | 143 | 143 |
| OUTLET GRILL SIZE | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 | 3X10 | 4X10 | 3X10 | 4X10 | 4X10 | 4X10 | 4X10 | 4X10 |
| TRUNK | A | A | C | C | B | C | C | C | A | A | A | A | A | A | A | A | C | B | C | A | A | A | A | B |

| SUPPLY AIR TRUNK SIZE | TRUNK | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) | TRUNK CFM | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) | TRUNK CFM | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) |
|-----------------------|-------|---------------|------------|-----------|-------------------|-----------|---------------|------------|-----------|-------------------|-----------|---------------|------------|-----------|-------------------|
| TRUNK A | 398 | 0.07 | 10.3 | 12 | 8 | 597 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 |
| TRUNK B | 241 | 0.07 | 8.5 | 8 | 8 | 542 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 |
| TRUNK C | 400 | 0.06 | 10.7 | 14 | 8 | 514 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 |
| TRUNK D | 0 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 |
| TRUNK E | 0 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 |
| TRUNK F | 0 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 | 0 | 0.00 | 0 | 0 | 8 |
| RETURN AIR TRUNK SIZE | TRUNK | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) | TRUNK CFM | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) | TRUNK CFM | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) |
| TRUNK O | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK P | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK Q | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK R | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK S | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK T | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK U | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK V | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK W | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK X | 800 | 0.05 | 14.5 | 24 | 8 | 800 | 0.05 | 14.5 | 24 | 8 | 800 | 0.05 | 14.5 | 24 | 8 |
| TRUNK Y | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| TRUNK Z | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 |
| DROP | 800 | 0.05 | 14.5 | 24 | 10 | 800 | 0.05 | 14.5 | 24 | 10 | 800 | 0.05 | 14.5 | 24 | 10 |

TYPE: TH-4
SITE NAME: ALCONA

LO # 78872

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 | 2 | @ 10.6 cfm | 21.2 | 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 | | 148.4 | 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 | | 63.6 | cfm |

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

| | | |
|---------------------------------|-------|-----|
| Total Ventilation Capacity | 148.4 | cfm |
| Less Principal Ventil. Capacity | 63.6 | cfm |
| Required Supplemental Capacity | 84.8 | cfm |

PRINCIPAL EXHAUST FAN CAPACITY
Model: VANE 65H Location: BSMT
63.6 cfm 3.0 sones ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

| CFM | ΔT °F | FACTOR | % LOSS |
|----------|--------|--------|--------|
| 63.6 CFM | X 83 F | X 1.08 | X 0.25 |

SUPPLEMENTAL FANS NUTONE

| Location | Model | cfm | HVI | Sones |
|----------|-----------|-----|-------------------------------------|-------|
| ENS | QTXEN050C | 50 | <input checked="" type="checkbox"/> | 0.3 |
| BATH | QTXEN050C | 50 | <input checked="" type="checkbox"/> | 0.3 |
| PWD | QTXEN050C | 50 | <input checked="" type="checkbox"/> | 0.3 |

HEAT RECOVERY VENTILATOR 9.32.3.11.
Model: VANE 65H
155 cfm high 64 cfm low
75 % Sensible Efficiency ☒ HVI Approved
@ 32 deg F (0 deg C)

LOCATION OF INSTALLATION
Lot: Concession
Township: Plan:
Address:
Roll # Building Permit #

BUILDER: BAYVIEW WELLINGTON
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: June-18

HEAT LOSS AND GAIN SUMMARY SHEET

| | |
|--------------------|------------------------------------|
| MODEL: TH-4 | BUILDER: BAYVIEW WELLINGTON |
| SFQT: 1698 | SITE: ALCONA |
| LO# 78872 | |

DESIGN ASSUMPTIONS

| | | | |
|----------------------|-----|--------------------------------|----|
| HEATING | °F | COOLING | °F |
| OUTDOOR DESIGN TEMP. | -11 | OUTDOOR DESIGN TEMP. | 84 |
| INDOOR DESIGN TEMP. | 72 | INDOOR DESIGN TEMP. (MAX 75°F) | 72 |

BUILDING DATA

| | | | |
|--|-----------------|---------------------------|---------|
| ATTACHMENT: | ATTACHED | # 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): | 23180.0 | ASSUMED (Y/N): | Y |
| INTERNAL SHADING: | BLINDS/CURTAINS | ASSUMED OCCUPANTS: | 4 |
| 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: 48.0 ft | WIDTH: 21.0 ft | EXPOSED PERIMETER: | 66.0 ft |

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 | - |

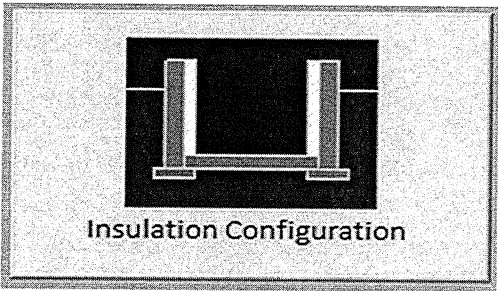
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

| Weather Station Description | | |
|--------------------------------|---|---|
| Province: | Ontario | |
| Region: | Barrie | |
| Site Description | | |
| Soil Conductivity: | Normal conductivity: dry sand, loam, clay | |
| Water Table: | Normal (7-10 m, 23-33 ft) | |
| Foundation Dimensions | | |
| Floor Length (m): | 14.6 |  <p>Insulation Configuration</p> |
| Floor Width (m): | 6.4 | |
| Exposed Perimeter (m): | 20.1 | |
| Wall Height (m): | 2.7 | |
| Depth Below Grade (m): | 1.83 | |
| Window Area (m ²): | 2.1 | |
| Door Area (m ²): | 1.9 | |
| Radiant Slab | | |
| Heated Fraction of the Slab: | 0 | |
| Fluid Temperature (°C): | 33 | |
| Design Months | | |
| Heating Month | 1 | |
| Foundation Loads | | |
| Heating Load (Watts): | | 647 |

TYPE: TH-4
LO# 78872

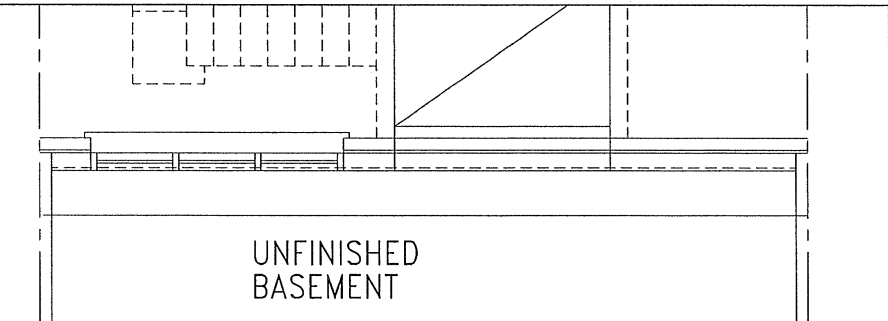
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

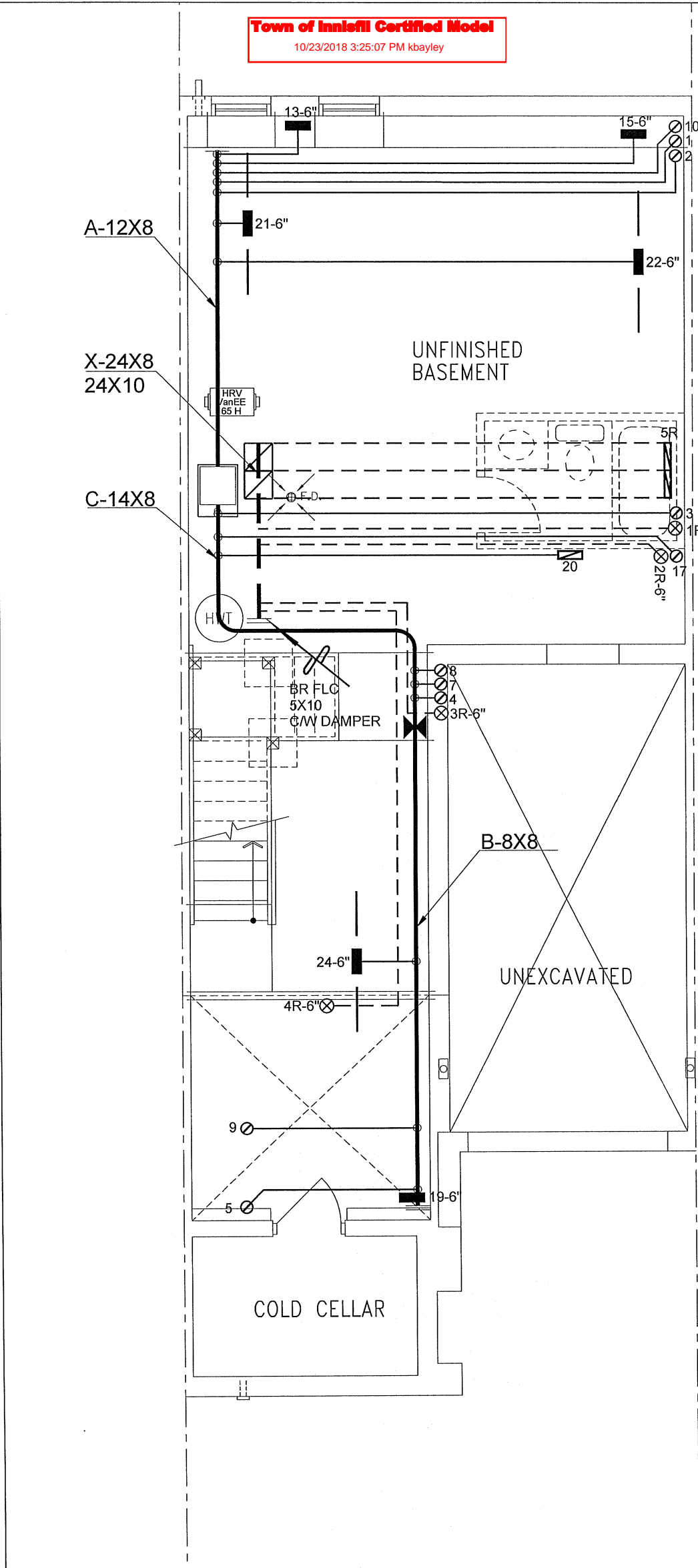
| Weather Station Description | | | | |
|-----------------------------------|----------------------------|-----------------------|----|----|
| Province: | Ontario | | | |
| Region: | Barrie | | | |
| Weather Station Location: | Open flat terrain, grass | | | |
| Anemometer height (m): | 10 | | | |
| Local Shielding | | | | |
| Building Site: | Suburban, forest | | | |
| Walls: | Heavy | | | |
| Flue: | Heavy | | | |
| Highest Ceiling Height (m): | 6.71 | | | |
| Building Configuration | | | | |
| Type: | Semi | | | |
| Number of Stories: | Two | | | |
| Foundation: | Full | | | |
| House Volume (m ³): | 656.4 | | | |
| Air Leakage/Ventilation | | | | |
| Air Tightness Type: | Present (1961-) (3.57 ACH) | | | |
| Custom BDT Data: | ELA @ 10 Pa. | 875.0 cm ² | | |
| | 3.57 | ACH @ 50 Pa | | |
| Mechanical Ventilation (L/s): | Total Supply | Total Exhaust | | |
| | 30.0 | 30.0 | | |
| Flue Size | | | | |
| Flue #: | #1 | #2 | #3 | #4 |
| Diameter (mm): | 0 | 0 | 0 | 0 |
| Natural Infiltration Rates | | | | |
| Heating Air Leakage Rate (ACH/H): | 0.348 | | | |
| Cooling Air Leakage Rate (ACH/H): | 0.090 | | | |

TYPE: TH-4

LO# 78872



PARTIAL BASEMENT FLOOR
PLAN WOD 9R COND.




BASEMENT PLAN 'B'

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.

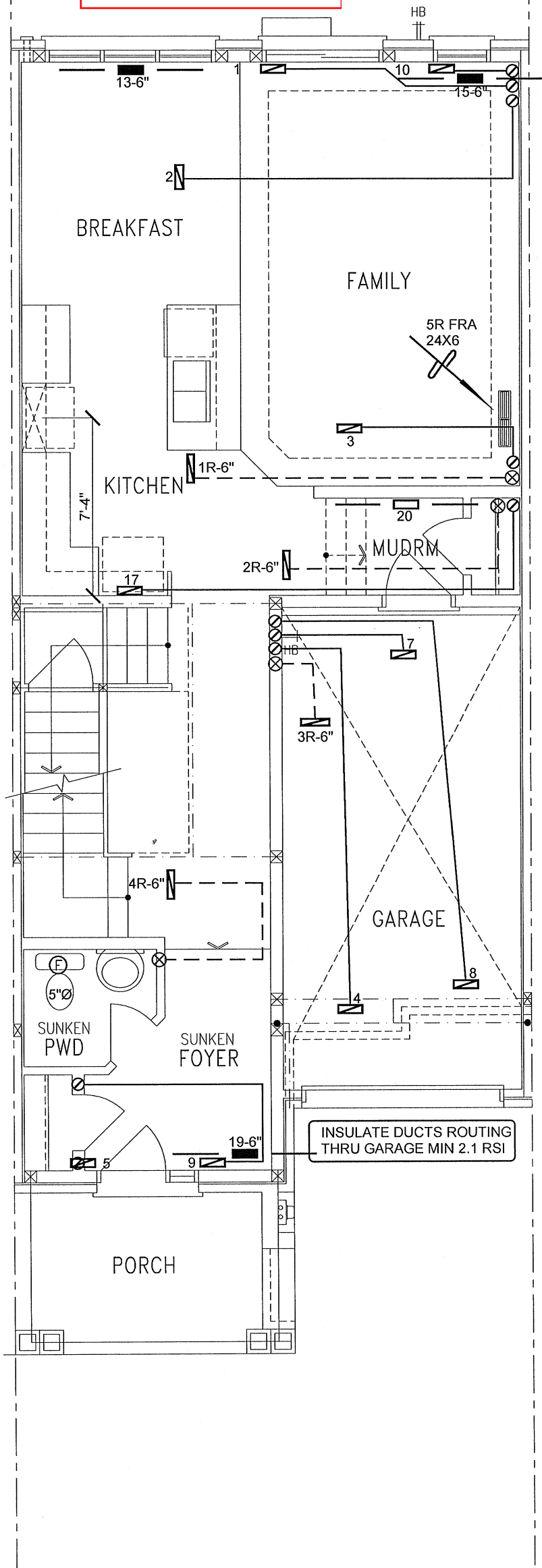
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

| HVAC LEGEND | | | | | | | | 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 | | SUPPLY AIR STACK FROM 2nd FLOOR | | 30"x8" RETURN AIR GRILLE | | RETURN AIR STACK 2nd FLOOR | No. | Description | Date | | | | | |
| | SUPPLY AIR BOOT ABOVE | | 6" SUPPLY AIR STACK 2nd FLOOR | | FRA- FLOOR RETURN AIR GRILLE | | REDUCER | REVISIONS | | | | | | | |
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| Client BAYVIEW WELLINGTON | | <div><p>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</p><p>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.</p></div> | | | | HEAT LOSS 29643 BTU/H UNIT DATA | | # OF RUNS S/A R/A FANS | | | Sheet Title BASEMENT HEATING LAYOUT | | | | |
| Project Name ALCONA INNISFIL, ONTARIO | | | | | | MAKE LENNOX | | 3RD FLOOR | | | | | | | |
| | | | | | | MODEL EL196UH045XE24B | | 2ND FLOOR | | | | | 10 | 4 | 3 |
| | | | | | | INPUT 44 MBTU/H | | 1ST FLOOR | | | 4 | 1 | 2 | | |
| TH-4 | | 1698 sqft | | OUTPUT 42 MBTU/H | | BASEMENT | | | 3 | 1 | 0 | Date JUNE/2018 | | | |
| | | | | COOLING 2.0 TONS | | 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 | | | Scale 3/16" = 1'-0" | | | | | | |
| | | | | FAN SPEED 800 cfm @ 0.6" w.c. | | | | | BCIN# 19669 | | | | | | |
| | | | | | | | | | LO# | | 78872 | | | | |

Town of Innisfil Certified Model

10/23/2018 3:25:07 PM kbayley



GROUND FLOOR PLAN 'B'

CSA-F280-12

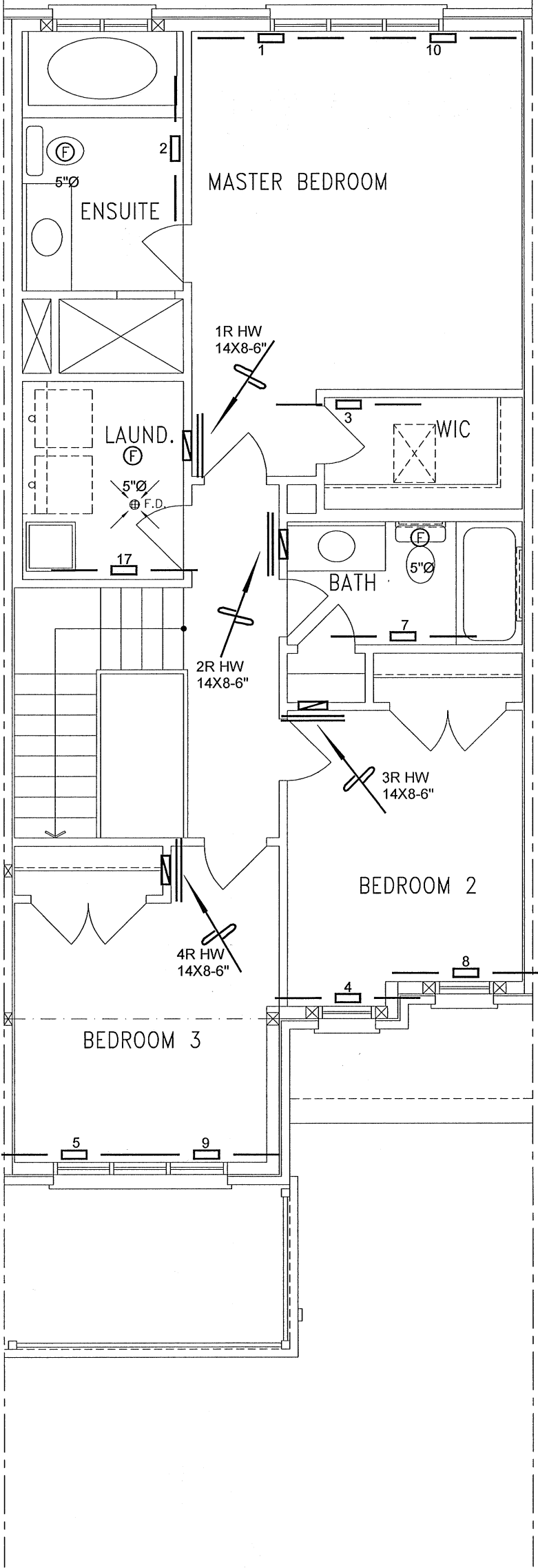
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEWED 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 | | | | | | | | 3. | | |
|-------------|---------------------------|--------|---------------------------------|--------|------------------------------|--------|----------------------------|-----------|-------------|------|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | 2. | | |
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| | | | | |
|-----------------------------|-----------|--|----------------------------------|---------------|
| Client | | <div><div>HVACDESIGNS LTD.</div><div>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</div><div>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.</div></div> | Sheet Title | |
| BAYVIEW WELLINGTON | | | FIRST FLOOR HEATING LAYOUT | |
| Project Name | | | Date | JUNE/2018 |
| ALCONA INNISFIL, ONTARIO | | | Scale | 3/16" = 1'-0" |
| | | BCIN# 19669 | | |
| TH-4 | 1698 sqft | LO# 78872 | | |



SECOND FLOOR PLAN 'B'

CSA-F280-12
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEWED 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 | | | | | | | | 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 | | SUPPLY AIR STACK FROM 2nd FLOOR | | 30"x8" RETURN AIR GRILLE | | RETURN AIR STACK 2nd FLOOR | No. | Description | Date |
| | SUPPLY AIR BOOT ABOVE | | 6" SUPPLY AIR STACK 2nd FLOOR | | FRA- FLOOR RETURN AIR GRILLE | | REDUCER | REVISIONS | | |

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| | | | | |
|---|--|--|-----------------------------------|---------------|
| Client | | <div></div> <div>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</div> | Sheet Title | |
| BAYVIEW WELLINGTON | | | SECOND FLOOR HEATING LAYOUT | |
| Project Name ALCONA INNISFIL, ONTARIO | | | Date | JUNE/2018 |
| TH-41698 sqft | | | Scale | 3/16" = 1'-0" |
| | | BCIN# 19669 | | |
| | | LO# | 78872 | |