


## 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<br>VAUGHAN (WOODBIDGE)  | Postal code                         | Plan number/ other description  |                                      |          |
| B. Individual who reviews and takes responsibility for design activities   |                                     |   |                                      |          |
| Name<br><b>MICHAEL O'ROURKE</b>  |                                     | Firm<br><b>HVAC DESIGNS LTD.</b>  |                                      |          |
| Street address<br><b>375 FINLEY AVE</b>  |                                     | Unit no.<br><b>202</b>  | Lot/con.<br><b>N/A</b>               |          |
| Municipality<br><b>AJAX</b>  | Postal code<br><b>L1S 2E2</b>       | Province<br><b>ONTARIO</b>  | E-mail<br><b>info@hvacdesigns.ca</b> |          |
| Telephone number<br><b>(905) 619-2300</b>  | Fax number<br><b>(905) 619-2375</b> | Cell number<br>(     )  |                                      |          |
| C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]   |                                     |   |                                      |          |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> House<br/> <input type="checkbox"/> Small Buildings<br/> <input type="checkbox"/> Large Buildings<br/> <input type="checkbox"/> Complex Buildings </div> <div style="width: 30%;"> <input checked="" type="checkbox"/> HVAC – House<br/> <input type="checkbox"/> Building Services<br/> <input type="checkbox"/> Detection, Lighting and Power<br/> <input type="checkbox"/> Fire Protection </div> <div style="width: 30%;"> <input type="checkbox"/> Building Structural<br/> <input type="checkbox"/> Plumbing – House<br/> <input type="checkbox"/> Plumbing – All Buildings<br/> <input type="checkbox"/> On-site Sewage Systems </div> </div> |                                     |   |                                      |          |
| Description of designer's work<br><b>HEAT LOSS / GAIN CALCULATIONS<br/>DUCT SIZING<br/>RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY<br/>RESIDENTIAL SYSTEM DESIGN per CSA-F280-12</b>   |                                     | <b>Model:</b> 4004 THE DALERIDGE<br><br>WOB<br><br><b>Project:</b> PINE VALLEY & TESTON                       |                                      |          |
| D. Declaration of Designer   |                                     |   |                                      |          |
| I, <u><b>MICHAEL O'ROURKE</b></u> declare that (choose one as appropriate):<br><div style="text-align: center;">(print name)</div>   |                                     |   |                                      |          |
| <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.<br><br>Individual BCIN: _____<br>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.<br><br>Individual BCIN: <u>19669</u><br>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.<br>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.<br>2. I have submitted this application with the knowledge and consent of the firm.   |                                     |   |                                      |          |
| September 11, 2018   |                                     | <br>Signature of Designer |                                      |          |
| Date   |                                     |   |                                      |          |

**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: PINE VALLEY & TESTON |          |           |      | WOB                      |      |           |      | DATE: Sep-18 |      |           |      | WINTER NATURAL AIR CHANGE RATE 0.407 |      |           |      | HEAT LOSS AT °F. 76                  |      |           |      | CSA-F280-12      |      |           |      |
|---------------------------------|----------|-----------|------|--------------------------|------|-----------|------|--------------|------|-----------|------|--------------------------------------|------|-----------|------|--------------------------------------|------|-----------|------|------------------|------|-----------|------|
| BUILDER: GOLD PARK HOMES        |          |           |      | TYPE: 4004 THE DALERIDGE |      |           |      | GFA: 3341    |      |           |      | LO# 78989                            |      |           |      | SUMMER NATURAL AIR CHANGE RATE 0.137 |      |           |      | SB-12 PACKAGE A1 |      |           |      |
| ROOM USE                        |          | MBR       |      | ENS                      |      | WIC       |      | BED-2        |      | BED-3     |      | BED-4                                |      | ENS-2     |      | LOFT                                 |      | ENS-3     |      |                  |      |           |      |
| EXP. WALL                       | CLG. HT. | 33        | 10   | 29                       | 9    | 10        | 9    | 12           | 9    | 38        | 9    | 13                                   | 9    | 6         | 8    | 40                                   | 9    | 6         | 8    | 8                | 9    |           |      |
| FACTORS                         |          | 330       |      | 281                      |      | 90        |      | 108          |      | 342       |      | 117                                  |      | 64        |      | 360                                  |      | 64        |      |                  |      |           |      |
| GRS.WALL AREA                   | GLAZING  | LOSS GAIN |      | LOSS GAIN                |      | LOSS GAIN |      | LOSS GAIN    |      | LOSS GAIN |      | LOSS GAIN                            |      | LOSS GAIN |      | LOSS GAIN                            |      | LOSS GAIN |      | LOSS GAIN        |      | LOSS GAIN |      |
| NORTH                           | 21.3     | 15.6      | 0    | 0                        | 0    | 0         | 0    | 18           | 383  | 281       | 0    | 0                                    | 0    | 0         | 8    | 170                                  | 125  | 0         | 0    | 0                | 0    | 0         | 0    |
| EAST                            | 21.3     | 40.5      | 0    | 0                        | 0    | 0         | 0    | 0            | 0    | 60        | 1277 | 2428                                 | 0    | 0         | 0    | 0                                    | 0    | 55        | 1170 | 228              | 16   | 340       | 647  |
| SOUTH                           | 21.3     | 24.3      | 0    | 0                        | 0    | 0         | 0    | 0            | 0    | 0         | 0    | 18                                   | 383  | 437       | 0    | 0                                    | 0    | 30        | 638  | 729              | 0    | 0         | 0    |
| WEST                            | 21.3     | 40.5      | 40   | 851                      | 1619 | 25        | 532  | 1012         | 0    | 0         | 0    | 0                                    | 0    | 0         | 0    | 0                                    | 0    | 0         | 0    | 0                | 0    | 0         | 0    |
| SKYL.T.                         | 37.2     | 101.5     | 0    | 0                        | 0    | 0         | 0    | 0            | 0    | 0         | 0    | 0                                    | 0    | 0         | 0    | 0                                    | 0    | 0         | 0    | 0                | 0    | 0         | 0    |
| DOORS                           | 25.2     | 4.3       | 0    | 0                        | 0    | 0         | 0    | 0            | 0    | 0         | 0    | 0                                    | 0    | 0         | 0    | 0                                    | 0    | 0         | 0    | 0                | 0    | 0         | 0    |
| NET EXPOSED WALL                | 4.5      | 0.8       | 290  | 1294                     | 218  | 236       | 1053 | 177          | 90   | 402       | 68   | 282                                  | 1268 | 212       | 99   | 442                                  | 74   | 275       | 1227 | 207              | 38   | 170       | 29   |
| NET EXPOSED BSMT WALL ABOVE GR  | 3.6      | 0.6       | 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       | 270  | 347                      | 168  | 210       | 270  | 123          | 160  | 206       | 94   | 182                                  | 246  | 113       | 202  | 269                                  | 119  | 236       | 303  | 139              | 108  | 139       | 63   |
| NO ATTIC EXPOSED CLG            | 2.7      | 1.3       | 0    | 0                        | 0    | 0         | 0    | 0            | 0    | 0         | 0    | 0                                    | 50   | 137       | 63   | 0                                    | 0    | 50        | 137  | 63               | 0    | 0         | 0    |
| EXPOSED FLOOR                   | 2.8      | 0.4       | 0    | 0                        | 0    | 0         | 0    | 0            | 0    | 0         | 0    | 252                                  | 843  | 108       | 0    | 0                                    | 30   | 77        | 13   | 84               | 214  | 38        |      |
| BASEMENT/CRAWL HEAT LOSS        |          |           | 0    | 0                        | 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    | 0         | 0    | 0                | 0    | 0         |      |
| SUBTOTAL HT LOSS                |          |           | 2492 |                          | 1855 |           | 607  |              | 1031 |           | 3575 |                                      | 1092 |           | 560  |                                      | 3476 |           | 863  |                  | 3363 |           | 776  |
| SUB TOTAL HT GAIN               |          |           | 1986 |                          | 1312 |           | 162  |              | 462  |           | 2930 |                                      | 634  |           | 222  |                                      | 0.20 | 0.33      | 0.20 | 0.33             | 0.20 | 0.33      | 0.20 |
| LEVEL FACTOR / MULTIPLIER       |          |           | 0.20 | 0.33                     | 0.20 | 0.33      | 0.20 | 0.33         | 0.20 | 0.33      | 0.20 | 0.33                                 | 0.20 | 0.33      | 0.20 | 0.33                                 | 0.20 | 0.33      | 0.20 | 0.33             | 0.20 | 0.33      | 0.20 |
| AIR CHANGE HEAT LOSS            |          |           | 819  |                          | 609  |           | 199  |              | 339  |           | 1174 |                                      | 359  |           | 184  |                                      | 1142 |           | 263  |                  | 263  |           | 59   |
| AIR CHANGE HEAT GAIN            |          |           | 160  |                          | 99   |           | 12   |              | 35   |           | 220  |                                      | 48   |           | 17   |                                      | 0    |           | 0    |                  | 0    |           | 0    |
| DUCT LOSS                       |          |           | 0    |                          | 0    |           | 0    |              | 0    |           | 475  |                                      | 0    |           | 74   |                                      | 0    |           | 0    |                  | 0    |           | 0    |
| DUCT GAIN                       |          |           | 0    |                          | 0    |           | 0    |              | 0    |           | 401  |                                      | 0    |           | 24   |                                      | 0    |           | 0    |                  | 0    |           | 0    |
| HEAT GAIN PEOPLE                | 240      |           | 2    |                          | 0    |           | 0    |              | 1    |           | 240  |                                      | 1    |           | 0    |                                      | 0    |           | 0    |                  | 0    |           | 0    |
| HEAT GAIN APPLANCES/LIGHTS      |          |           | 621  |                          | 0    |           | 0    |              | 621  |           | 621  |                                      | 621  |           | 621  |                                      | 621  |           | 621  |                  | 621  |           | 0    |
| TOTAL HT LOSS BTU/H             |          |           | 3310 |                          | 2464 |           | 806  |              | 1370 |           | 5224 |                                      | 1450 |           | 818  |                                      | 4618 |           | 5607 |                  | 1281 |           | 1193 |
| TOTAL HT GAIN x 1.3 BTU/H       |          |           | 4220 |                          | 1835 |           | 226  |              | 1764 |           | 6736 |                                      | 2005 |           | 341  |                                      |      |           |      |                  |      |           |      |

| ROOM USE                       | DIN  | KT/GT | LN/MD | ENS-4 | FOY  | STUDY | WOB  | BAS   |
|--------------------------------|------|-------|-------|-------|------|-------|------|-------|
| EXP. WALL                      | 24   | 76    |       | 11    | 60   |       | 42   | 138   |
| CLG. HT.                       | 11   | 11    | 13    | 9     | 11   | 11    | 10   | 10    |
| FACTORS                        |      |       |       |       |      |       |      |       |
| GRS.WALL AREA                  | 284  | 836   | 273   | 99    | 550  | 110   | 420  | 966   |
| GLAZING                        | LOSS | LOSS  | LOSS  | LOSS  | LOSS | LOSS  | LOSS | LOSS  |
| NORTH                          | 21.3 | 16.6  | 8     | 0     | 0    | 0     | 0    | 6     |
| EAST                           | 21.3 | 40.5  | 170   | 0     | 0    | 23    | 0    | 128   |
| SOUTH                          | 21.3 | 24.3  | 0     | 0     | 45   | 489   | 0    | 94    |
| WEST                           | 21.3 | 632   | 0     | 0     | 958  | 0     | 0    | 0     |
| SKYL.T.                        | 0    | 0     | 0     | 170   | 0    | 0     | 0    | 0     |
| DOORS                          | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| NET EXPOSED WALL               | 0    | 0     | 20    | 0     | 0    | 0     | 0    | 0     |
| NET EXPOSED BSMT WALL ABOVE GR | 4.5  | 0.8   | 605   | 0     | 20   | 0     | 252  | 86    |
| EXPOSED CLG                    | 3.8  | 0.6   | 1033  | 406   | 485  | 388   | 43   | 20    |
| NO ATTIC EXPOSED CLG           | 1.3  | 0     | 91    | 88    | 2154 | 65    | 1401 | 314   |
| EXPOSED FLOOR                  | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| BASEMENT/CRAWL HEAT LOSS       | 0    | 0     | 176   | 103   | 0    | 0     | 0    | 414   |
| SLAB ON GRADE HEAT LOSS        | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 1490  |
| SUBTOTAL HT LOSS               | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| SUB TOTAL HT GAIN              | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| LEVEL FACTOR / MULTIPLIER      | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| AIR CHANGE HEAT LOSS           | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| AIR CHANGE HEAT GAIN           | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| DUCT LOSS                      | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| DUCT GAIN                      | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| HEAT GAIN PEOPLE               | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| HEAT GAIN APPLIANCES/LIGHTS    | 0    | 0     | 0     | 0     | 0    | 0     | 0    | 0     |
| TOTAL HT LOSS BTU/H            | 2536 | 9816  | 2778  | 1066  | 5694 | 1378  | 4782 | 17974 |
| TOTAL HT GAIN x 1.3 BTU/H      | 1940 | 10012 | 1358  | 512   | 3174 | 1401  | 5412 | 1815  |

TOTAL HEAT GAIN BTU/H: 4895 TONS: 4.08 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 67324 TOTAL COMBINED HEAT LOSS BTU/H: 70605

*Michael O'Rourke*

**SITE NAME: PINE VALLEY & TESTON  
BUILDER: GOLD PARK HOMES**

WOB  
TYPE: 4004 THE DALERIDGE

DATE: Sep-18

GFA: 3341

79969

|                   |        |                   |        |
|-------------------|--------|-------------------|--------|
| HEATING CFM       | 1525   | COOLING CFM       | 1525   |
| TOTAL HEAT LOSS   | 67,324 | TOTAL HEAT GAIN   | 48,450 |
| AIR FLOW RATE CFM | 22.65  | AIR FLOW RATE CFM | 31.48  |

**LENNOX**

AFUE = 96 %  
INPUT (BTU/H) = 88,000  
OUTPUT (BTU/H) = 85,000

| RUN COUNT | 4th | 3rd | 2nd | 1st | Bas |
|-----------|-----|-----|-----|-----|-----|
| S/A       | 0   | 0   | 14  | 9   | 6   |
| R/A       | 0   | 0   | 5   | 3   | 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   | 11    | 12   | 13    | 14    | 15    | 16    | 17    | 18   | 19   | 20    | 21   | 22   | 23   | 24   |
|---------------------------|------|------|------|-------|-------|-------|-------|-------|------|------|-------|------|-------|-------|-------|-------|-------|------|------|-------|------|------|------|------|
|                           |      |      |      |       |       |       |       |       |      |      |       |      |       |       |       |       |       |      |      |       |      |      |      |      |
| ROOM NAME                 | MBR  | ENS  | WIC  | BED-2 | BED-3 | BED-4 | ENS-2 | ENS-4 | LOFT | MBR  | ENS-1 | DIN  | KT/GT | KT/GT | KT/GT | KT/GT | LN/MD | ENS  | FOY  | STUDY | BAS  | BAS  | BAS  | BAS  |
| RM LOSS MBH               | 1.66 | 1.23 | 0.81 | 1.37  | 2.61  | 1.45  | 0.82  | 1.07  | 2.31 | 1.66 | 1.26  | 2.54 | 2.45  | 2.45  | 2.45  | 2.45  | 2.78  | 1.23 | 2.85 | 1.38  | 3.79 | 3.79 | 3.79 | 3.79 |
| CFM PER RM HEAT           | 37   | 28   | 18   | 31    | 59    | 33    | 19    | 24    | 52   | 37   | 29    | 57   | 56    | 56    | 56    | 56    | 63    | 28   | 64   | 31    | 86   | 86   | 86   | 86   |
| RM GAIN MBH               | 2.11 | 0.92 | 0.23 | 1.76  | 2.87  | 2.01  | 0.34  | 0.51  | 2.75 | 2.11 | 1.19  | 1.94 | 2.50  | 2.50  | 2.50  | 2.50  | 1.36  | 0.92 | 1.59 | 1.40  | 1.20 | 1.20 | 1.20 | 1.20 |
| CFM PER RM COOLING        | 66   | 29   | 7    | 56    | 90    | 63    | 11    | 16    | 87   | 66   | 38    | 61   | 79    | 79    | 79    | 79    | 43    | 29   | 50   | 44    | 38   | 38   | 38   | 38   |
| ADJUSTED PRESSURE         | 0.17 | 0.17 | 0.17 | 0.17  | 0.16  | 0.17  | 0.17  | 0.17  | 0.16 | 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           | 71   | 58   | 51   | 49    | 42    | 40    | 37    | 33    | 44   | 63   | 35    | 18   | 45    | 37    | 39    | 46    | 11    | 55   | 16   | 27    | 56   | 57   | 28   | 21   |
| EQUIVALENT LENGTH         | 200  | 150  | 150  | 180   | 190   | 150   | 220   | 200   | 140  | 210  | 180   | 130  | 140   | 150   | 180   | 150   | 160   | 140  | 140  | 80    | 140  | 130  | 110  | 110  |
| TOTAL EFFECTIVE LENGTH    | 271  | 208  | 201  | 228   | 232   | 190   | 257   | 233   | 184  | 273  | 215   | 148  | 185   | 187   | 199   | 196   | 171   | 185  | 156  | 107   | 196  | 187  | 138  | 131  |
| ADJUSTED PRESSURE         | 0.06 | 0.08 | 0.09 | 0.08  | 0.07  | 0.09  | 0.07  | 0.07  | 0.09 | 0.06 | 0.08  | 0.12 | 0.09  | 0.09  | 0.09  | 0.09  | 0.1   | 0.09 | 0.1  | 0.16  | 0.08 | 0.09 | 0.12 | 0.12 |
| ROUND DUCT SIZE           | 5    | 4    | 4    | 5     | 6     | 5     | 4     | 5     | 5    | 5    | 4     | 5    | 5     | 5     | 5     | 5     | 4     | 5    | 4    | 4     | 6    | 6    | 5    | 5    |
| HEATING VELOCITY (ft/min) | 272  | 321  | 207  | 228   | 301   | 242   | 218   | 275   | 382  | 272  | 333   | 654  | 411   | 411   | 411   | 411   | 463   | 321  | 470  | 356   | 438  | 438  | 631  | 631  |
| COOLING VELOCITY (ft/min) | 485  | 333  | 80   | 411   | 459   | 463   | 126   | 184   | 639  | 485  | 436   | 700  | 580   | 580   | 580   | 580   | 316   | 333  | 367  | 505   | 194  | 184  | 279  | 279  |
| OUTLET GRILL SIZE         | 3X10 | 3X10 | 3X10 | 3X10  | 4X10  | 3X10  | 3X10  | 3X10  | 3X10 | 3X10 | 3X10  | 3X10 | 3X10  | 3X10  | 3X10  | 3X10  | 3X10  | 3X10 | 3X10 | 3X10  | 4X10 | 4X10 | 3X10 | 3X10 |
| TRUNK                     | A    | A    | B    | B     | D     | C     | D     | C     | D    | A    | D     | C    | A     | A     | A     | A     | C     | C    | D    | C     | B    | B    | B    | 3X10 |

|                          | 25   | 26   | 27    | 28   | 28   |
|--------------------------|------|------|-------|------|------|
| RUN #                    |      |      |       |      |      |
| ROOM NAME                | BAS  | BAS  | BED-3 | LOFT | FOY  |
| RM LOSS MBH              | 3.79 | 3.79 | 2.61  | 2.31 | 2.85 |
| CFM PER RUN HEAT         | 86   | 86   | 59    | 52   | 64   |
| RM GAIN MBH              | 1.20 | 1.20 | 2.87  | 2.75 | 1.59 |
| CFM PER RUN COOLING      | 38   | 38   | 90    | 87   | 50   |
| ADJUSTED PRESSURE        | 0.16 | 0.16 | 0.16  | 0.16 | 0.17 |
| ACTUAL DUCT LGH          | 19   | 32   | 48    | 57   | 25   |
| EQUIVALENT LENGTH        | 120  | 120  | 200   | 200  | 120  |
| TOTAL EFFECTIVE LENGTH   | 139  | 152  | 248   | 257  | 145  |
| ADJUSTED PRESSURE        | 0.12 | 0.11 | 0.07  | 0.06 | 0.12 |
| ROUND DUCT SIZE          | 5    | 5    | 6     | 6    | 5    |
| HEATING VELOCITY (#/min) | 631  | 631  | 301   | 265  | 470  |
| COOLING VELOCITY (#/min) | 279  | 279  | 459   | 444  | 367  |
| OUTLET GRILL SIZE        | 3X10 | 3X10 | 4X10  | 4X10 | 3X10 |
| TRUNK                    | C    | D    | D     | D    | D    |

| SUPPLY AIR TRUNK SIZE |               |            |           |                   | RETURN AIR TRUNK SIZE |               |            |           |                   | 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 326           | 0.06          | 9.9        | 12        | 8                 | TRUNK O               | 0             | 0          | 0         | 8                 |                   |
| TRUNK B 633           | 0.06          | 12.7       | 18        | 8                 | TRUNK P               | 0             | 0          | 0         | 8                 |                   |
| TRUNK C 1041          | 0.06          | 15.3       | 28        | 8                 | TRUNK Q               | 0             | 0          | 0         | 8                 |                   |
| TRUNK D 484           | 0.06          | 11.5       | 16        | 8                 | TRUNK R               | 0             | 0          | 0         | 8                 |                   |
| TRUNK E 0             | 0.00          | 0          | 0         | 8                 | TRUNK S               | 0             | 0          | 0         | 8                 |                   |
| TRUNK F 0             | 0.00          | 0          | 0         | 8                 | TRUNK T               | 0             | 0          | 0         | 8                 |                   |

[illegible]

TYPE: 4004 THE DALERIDGE  
SITE NAME: PINE VALLEY & TESTON

LO # 79969  
WOB

**RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY**

| COMBUSTION APPLIANCES |   | 9.32.3.1(1) |
|-----------------------|---|-------------|
| a)                    | <input checked="" type="checkbox"/> Direct vent (sealed combustion) only      |             |
| b)                    | <input type="checkbox"/> Positive venting induced draft (except fireplaces)   |             |
| c)                    | <input type="checkbox"/> Natural draft, B-vent or induced draft gas fireplace |             |
| d)                    | <input type="checkbox"/> Solid Fuel (including fireplaces)                    |             |
| e)                    | <input type="checkbox"/> No Combustion Appliances                             |             |

| HEATING SYSTEM                                 |   |
|--|---|
| <input checked="" type="checkbox"/> Forced Air | <input type="checkbox"/> Non Forced Air |
| <input type="checkbox"/> Electric Space Heat   |   |

| HOUSE TYPE                            |  | 9.32.1(2) |
|---------------------------------------|--|-----------|
| <input checked="" type="checkbox"/> I | Type a) or b) appliance only, no solid fuel          |           |
| <input type="checkbox"/> II           | Type I except with solid fuel (including fireplaces) |           |
| <input type="checkbox"/> III          | Any Type c) appliance                                |           |
| <input type="checkbox"/> IV           | Type I, or II with electric space heat               |           |
| <input type="checkbox"/>              | Other: Type I, II or IV no forced air                |           |

| SYSTEM DESIGN OPTIONS                 |   | O.N.H.W.P. |
|---------------------------------------|---|------------|
| <input type="checkbox"/> 1            | Exhaust only/Forced Air System                |            |
| <input type="checkbox"/> 2            | HRV with Ducting/Forced Air System            |            |
| <input checked="" type="checkbox"/> 3 | HRV Simplified/connected to forced air system |            |
| <input type="checkbox"/> 4            | HRV with Ducting/non forced air system        |            |
| <input type="checkbox"/>              | 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        | 6 @ 10.6 cfm | 63.6 cfm    |
| Other Rooms                | 6 @ 10.6 cfm | 63.6 cfm    |
| Table 9.32.3.A. TOTAL      |              | 201.4 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                                   |      | 79.5 cfm     |

| SUPPLEMENTAL VENTILATION CAPACITY |       | 9.32.3.5. |
|-----------------------------------|-------|-----------|
| Total Ventilation Capacity        | 201.4 | cfm       |
| Less Principal Ventil. Capacity   | 155   | cfm       |
| Required Supplemental Capacity    | 46.4  | cfm       |

| PRINCIPAL EXHAUST FAN CAPACITY |  |
|--------------------------------|--|
| Model: VANEE 65H               | Location: BSMT   |
| 155.0 cfm                      | 3.0 sones <input checked="" type="checkbox"/> HVI Approved |

| PRINCIPAL EXHAUST HEAT LOSS CALCULATION |        |        |        |      |
|---|--------|--------|--------|------|
| CFM                                     | ΔT °F  | FACTOR | % LOSS |      |
| 155.0 CFM                               | X 76 F | X 1.08 | X      | 0.25 |

| SUPPLEMENTAL FANS |           | NUTONE |                                     |       |
|-------------------|-----------|--------|-------------------------------------|-------|
| Location          | Model     | cfm    | HVI                                 | Sones |
| ENS               | QTXEN050C | 50     | <input checked="" type="checkbox"/> | 0.3   |
| ENS-2             | QTXEN050C | 50     | <input checked="" type="checkbox"/> | 0.3   |
| ENS-3             | QTXEN050C | 50     | <input checked="" type="checkbox"/> | 0.3   |
| ENS-4             | QTXEN050C | 50     | <input checked="" type="checkbox"/> | 0.3   |

| HEAT RECOVERY VENTILATOR |  | 9.32.3.11. |
|--------------------------|--|------------|
| Model: VANEE 65H         |  |            |
| 155 cfm high             | 64 cfm low                                       |            |
| 75 % Sensible Efficiency | <input checked="" type="checkbox"/> HVI Approved |            |
| @ 32 deg F ( 0 deg C)    |  |            |

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

| BUILDER: GOLD PARK 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:  | <i>Michael O'Rourke</i> |
| HRAI #  | 001820                  |
| Date:   | September-18            |

| CSA F280-12 Residential Heat Loss and Heat Gain Calculations   |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
|--|--------|---------------------------|-------------------|---|--|---|--|---|-------------------|--------------|--------|---------|-------|----|-------|-----------|------|-------------|-------|--------|------|---|-------|-------|---|---|---|--------|---|---|---|--------|--|--------------|--|--------|--|-----------|--|--|--|--|--|--------------------------------|--|-------|--------------------------------|--|-------|
| Formula Sheet (For Air Leakage / Ventilation Calculation)  |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| LO#: 79969   |        | Model: 4004 THE DALERIDGE |                   | Builder: GOLD PARK HOMES                            |  | Date: 9/11/2018                                     |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Volume Calculation   |        |                           |                   |   |  | Air Change & Delta T Data                           |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">House Volume</th> <th style="text-align: center;">Floor Area (ft²)</th> <th style="text-align: center;">Floor Height (ft)</th> <th style="text-align: center;">Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Level</td> <td style="text-align: center;">Bsmt</td> <td style="text-align: center;">1518</td> <td style="text-align: center;">10</td> <td style="text-align: center;">15180</td> </tr> <tr> <td style="text-align: center;">First</td> <td style="text-align: center;">1518</td> <td style="text-align: center;">11</td> <td style="text-align: center;">16698</td> </tr> <tr> <td style="text-align: center;">Second</td> <td style="text-align: center;">1852</td> <td style="text-align: center;">9</td> <td style="text-align: center;">16668</td> </tr> <tr> <td style="text-align: center;">Third</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">Fourth</td> <td style="text-align: center;">0</td> <td style="text-align: center;">9</td> <td style="text-align: center;">0</td> </tr> <tr> <td colspan="2" style="text-align: center;">Total:</td> <td colspan="2" style="text-align: center;">48,546.0 ft³</td> </tr> <tr> <td colspan="2" style="text-align: center;">Total:</td> <td colspan="2" style="text-align: center;">1374.7 m³</td> </tr> </tbody> </table> |        |                           |                   |   |  | House Volume  |  | Floor Area (ft²)  | Floor Height (ft) | Volume (ft³) | Level  | Bsmt    | 1518  | 10 | 15180 | First     | 1518 | 11          | 16698 | Second | 1852 | 9 | 16668 | Third | 0 | 0 | 0 | Fourth | 0 | 9 | 0 | Total: |  | 48,546.0 ft³ |  | Total: |  | 1374.7 m³ |  | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">WINTER NATURAL AIR CHANGE RATE</th> <th style="text-align: center;">0.407</th> </tr> <tr> <th colspan="2" style="text-align: center;">SUMMER NATURAL AIR CHANGE RATE</th> <th style="text-align: center;">0.137</th> </tr> </thead> </table> |  |  |  | WINTER NATURAL AIR CHANGE RATE |  | 0.407 | SUMMER NATURAL AIR CHANGE RATE |  | 0.137 |
| House Volume   |        | Floor Area (ft²)          | Floor Height (ft) | Volume (ft³)  |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Level  | Bsmt   | 1518                      | 10                | 15180   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| First  | 1518   | 11                        | 16698             |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Second   | 1852   | 9                         | 16668             |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Third  | 0      | 0                         | 0                 |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Fourth   | 0      | 9                         | 0                 |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Total:   |        | 48,546.0 ft³              |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Total:   |        | 1374.7 m³                 |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| WINTER NATURAL AIR CHANGE RATE   |        | 0.407                     |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| SUMMER NATURAL AIR CHANGE RATE   |        | 0.137                     |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th style="text-align: center;">Winter DTDh</th> <th style="text-align: center;">Tin °C</th> <th style="text-align: center;">Tout °C</th> <th style="text-align: center;">ΔT °C</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">22</td> <td style="text-align: center;">-20</td> <td style="text-align: center;">42</td> <td style="text-align: center;">76</td> </tr> <tr> <td style="text-align: center;">Summer DTDc</td> <td style="text-align: center;">24</td> <td style="text-align: center;">31</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">13</td> <td></td> <td></td> </tr> </tbody> </table>   |        |                           |                   |   |  | Design Temperature Difference                       |  |   |                   | Winter DTDh  | Tin °C | Tout °C | ΔT °C | 22 | -20   | 42        | 76   | Summer DTDc | 24    | 31     | 7    | 7 | 13    |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Design Temperature Difference  |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Winter DTDh  | Tin °C | Tout °C                   | ΔT °C             |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 22   | -20    | 42                        | 76                |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Summer DTDc  | 24     | 31                        | 7                 |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 7  | 13     |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 6.2.6 Sensible Gain due to Air Leakage   |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| $HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$   |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 0.407  |        | x                         |                   | 381.85  |  | x   |  | 7 °C  |                   | x            |        | 1.2     |       | =  |       | 445 W     |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
|  |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       | =         |      | 1518 Btu/h  |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 6.2.7 Sensible heat Gain due to Ventilation  |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$   |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 155 CFM  |        | x                         |                   | 76 °F   |  | x   |  | 1.08  |                   | x            |        | 0.25    |       | =  |       | 536 Btu/h |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)   |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| $HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$   |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| Level  |        | Level Factor (LF)         |                   | HLairbv Air Leakage + Ventilation Heat Loss (Btu/h) |  | Level Conductive Heat Loss: (HL <sub>clevel</sub> ) |  | Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel) |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 1  |        | 0.5                       |                   | 26,859  |  | 8,774   |  | 1.531   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 2  |        | 0.3                       |                   |   |  | 14,142  |  | 0.570   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 3  |        | 0.2                       |                   |   |  | 16,352  |  | 0.329   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 4  |        | 0                         |                   |   |  | 0   |  | 0.000   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| 5  |        | 0                         |                   |   |  | 0   |  | 0.000   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| *HLairbv = Air leakage heat loss + ventilation heat loss   |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |
| *For a balanced or supply only ventilation system HLairve = 0  |        |                           |                   |   |  |   |  |   |                   |              |        |         |       |    |       |           |      |             |       |        |      |   |       |       |   |   |   |        |   |   |   |        |  |              |  |        |  |           |  |  |  |  |  |                                |  |       |                                |  |       |

**HEAT LOSS AND GAIN SUMMARY SHEET**

|                                  |                  |                                   |
|----------------------------------|------------------|-----------------------------------|
| <b>MODEL:</b> 4004 THE DALERIDGE | <b>WOB</b>       | <b>BUILDER:</b> GOLD PARK HOMES   |
| <b>SFQT:</b> 3341                | <b>LO#</b> 79969 | <b>SITE:</b> PINE VALLEY & TESTON |

**DESIGN ASSUMPTIONS**

|                      |           |                                |           |
|----------------------|-----------|--------------------------------|-----------|
| <b>HEATING</b>       | <b>°F</b> | <b>COOLING</b>                 | <b>°F</b> |
| OUTDOOR DESIGN TEMP. | -4        | OUTDOOR DESIGN TEMP.           | 88        |
| INDOOR DESIGN TEMP.  | 72        | INDOOR DESIGN TEMP. (MAX 75°F) | 75        |

**BUILDING DATA**

|  |                 |                                  |          |
|--|-----------------|----------------------------------|----------|
| <b>ATTACHMENT:</b>                           | DETACHED        | <b># OF STORIES (+BASEMENT):</b> | 3        |
| <b>FRONT FACES:</b>                          | EAST            | <b>ASSUMED (Y/N):</b>            | Y        |
| <b>AIR CHANGES PER HOUR:</b>                 | 3.57            | <b>ASSUMED (Y/N):</b>            | Y        |
| <b>AIR TIGHTNESS CATEGORY:</b>               | AVERAGE         | <b>ASSUMED (Y/N):</b>            | Y        |
| <b>WIND EXPOSURE:</b>                        | SHELTERED       | <b>ASSUMED (Y/N):</b>            | Y        |
| <b>HOUSE VOLUME (ft³):</b>                   | 48546.0         | <b>ASSUMED (Y/N):</b>            | Y        |
| <b>INTERNAL SHADING:</b>                     | BLINDS/CURTAINS | <b>ASSUMED OCCUPANTS:</b>        | 5        |
| <b>INTERIOR LIGHTING LOAD (Btu/h/ft²):</b>   | 1.27            | <b>DC BRUSHLESS MOTOR (Y/N):</b> | Y        |
| <b>FOUNDATION CONFIGURATION</b>              | BCIN_1          | <b>DEPTH BELOW GRADE:</b>        | 7.0 ft   |
| <b>LENGTH:</b> 58.0 ft <b>WIDTH:</b> 32.0 ft |                 | <b>EXPOSED PERIMETER:</b>        | 138.0 ft |
| <b>WOB INSULATION CONFIGURATION</b>          | SCB_9           | <b>WOB EXPOSED PERIMETER</b>     | 42.0 ft  |

**2012 OBC - COMPLIANCE PACKAGE**

| Component  | Compliance Package<br>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                      | -         |

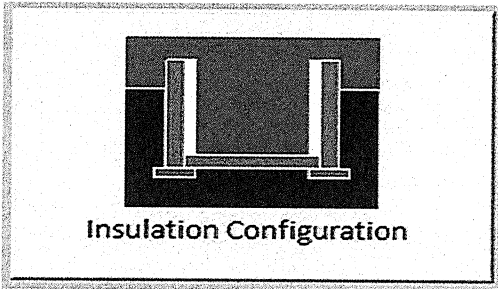
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

*Michael O'Rourke*

## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

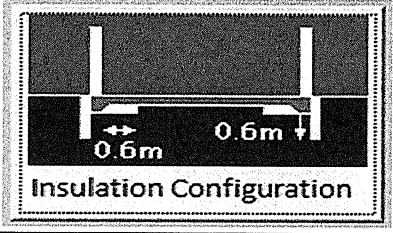
| Weather Station Description    |   |   |
|--------------------------------|---|---|
| Province:                      | Ontario                                   |   |
| Region:                        | Vaughan (Woodbridge)                      |   |
| Site Description               |   |   |
| Soil Conductivity:             | Normal conductivity: dry sand, loam, clay |   |
| Water Table:                   | Normal (7-10 m, 23-33 ft)                 |   |
| Foundation Dimensions          |   |   |
| Floor Length (m):              | 4.6                                       | <br>Insulation Configuration |
| Floor Width (m):               | 9.8                                       |   |
| Exposed Perimeter (m):         | 42.1                                      |   |
| Wall Height (m):               | 3.0                                       |   |
| Depth Below Grade (m):         | 1.79                                      |   |
| Window Area (m <sup>2</sup> ): | 0.6                                       |   |
| Door Area (m <sup>2</sup> ):   | 1.9                                       |   |
| Radiant Slab                   |   |   |
| Heated Fraction of the Slab:   | 0   |   |
| Fluid Temperature (°C):        | 33  |   |
| Design Months                  |   |   |
| Heating Month                  | 1   |   |
| Foundation Loads               |   |   |
| Heating Load (Watts):          |   | 710   |

TYPE: 4004 THE DALERIDGE  
LO# 79969

WOB

## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

| Weather Station Description  |   |   |
|------------------------------|---|---|
| Province:                    | Ontario                                   |   |
| Region:                      | Vaughan (Woodbridge)                      |   |
| Site Description             |   |   |
| Soil Conductivity:           | Normal conductivity: dry sand, loam, clay |   |
| Water Table:                 | Normal (7-10 m, 23-33 ft)                 |   |
| Foundation Dimensions        |   |   |
| Length (m):                  | 1.5                                       | <br>Insulation Configuration |
| Width (m):                   | 9.8                                       |   |
| Exposed Perimeter (m):       | 12.8                                      |   |
| Radiant Slab                 |   |   |
| Heated Fraction of the Slab: | 0   |   |
| Fluid Temperature (°C):      | 33  |   |
| Design Months                |   |   |
| Heating Month                | 1   |   |
| Results                      |   |   |
| Heating Load (Watts):        |   | 156   |

TYPE: 4004 THE DALERIDGE  
LO# 79969

WOB



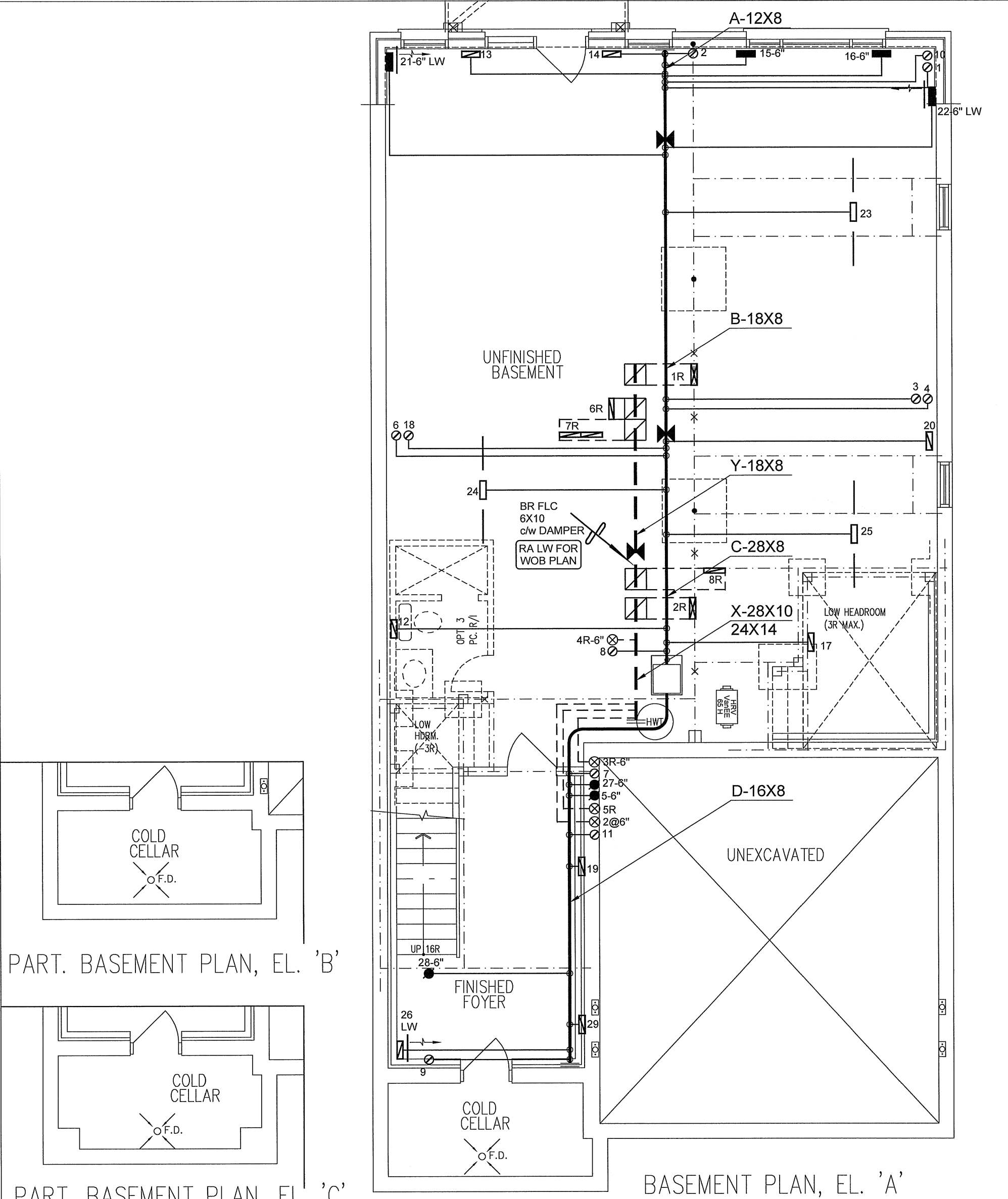
# Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

| Weather Station Description       |                            |                        |    |    |
|-----------------------------------|----------------------------|------------------------|----|----|
| Province:                         | Ontario                    |                        |    |    |
| Region:                           | Vaughan (Woodbridge)       |                        |    |    |
| 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):       | 9.14                       |                        |    |    |
| Building Configuration            |                            |                        |    |    |
| Type:                             | Detached                   |                        |    |    |
| Number of Stories:                | Two                        |                        |    |    |
| Foundation:                       | Full                       |                        |    |    |
| House Volume (m <sup>3</sup> ):   | 1374.7                     |                        |    |    |
| Air Leakage/Ventilation           |                            |                        |    |    |
| Air Tightness Type:               | Present (1961-) (3.57 ACH) |                        |    |    |
| Custom BDT Data:                  | ELA @ 10 Pa.               | 1832.5 cm <sup>2</sup> |    |    |
|                                   | 3.57                       | ACH @ 50 Pa            |    |    |
| Mechanical Ventilation (L/s):     | Total Supply               | Total Exhaust          |    |    |
|                                   | 73.2                       | 73.2                   |    |    |
| Flue Size                         |                            |                        |    |    |
| Flue #:                           | #1                         | #2                     | #3 | #4 |
| Diameter (mm):                    | 0                          | 0                      | 0  | 0  |
| Natural Infiltration Rates        |                            |                        |    |    |
| Heating Air Leakage Rate (ACH/H): | 0.407                      |                        |    |    |
| Cooling Air Leakage Rate (ACH/H): | 0.137                      |                        |    |    |

TYPE: 4004 THE DALERIDGE  
LO# 79969

WOB



PART. BASEMENT PLAN, EL. 'B'

PART. BASEMENT PLAN, EL. 'C'

BASEMENT PLAN, EL. 'A'

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.

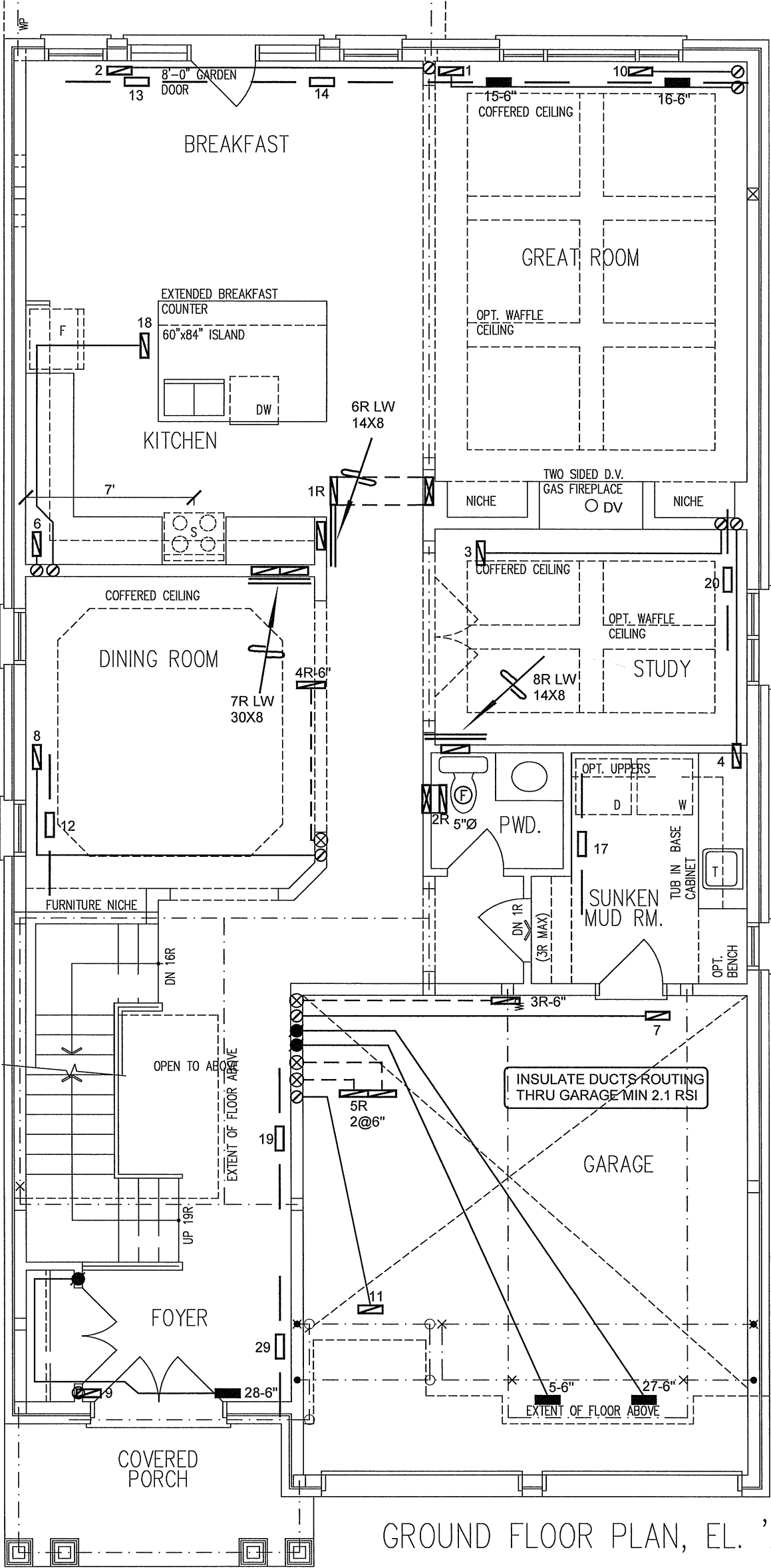
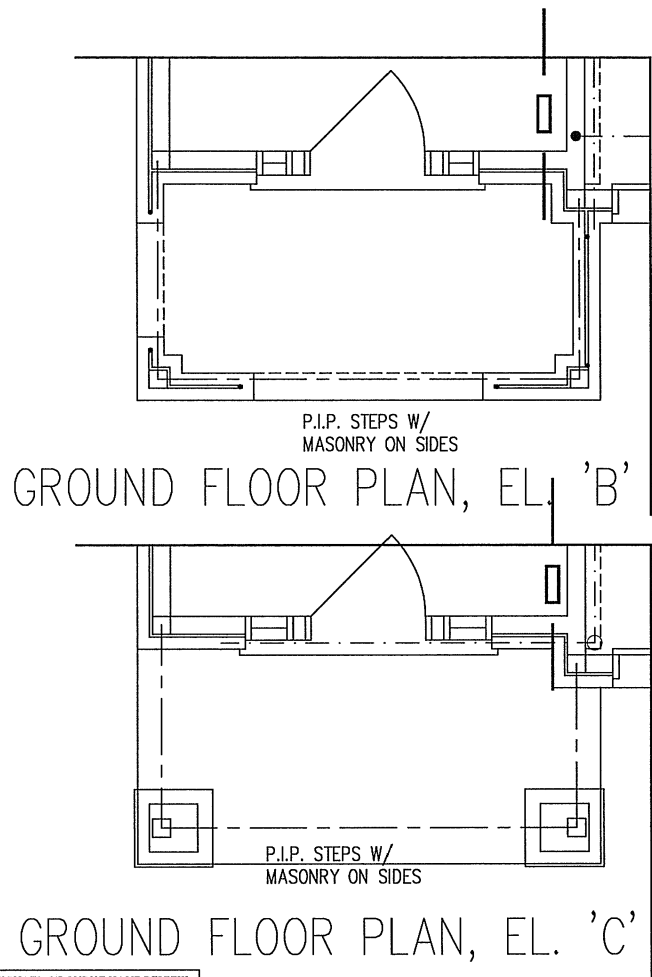
CSA-F280-12

WOB 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   |  | <div></div> <div>375 Finley Ave. Suite 202 - Ajax, Ontario<br/>L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375<br/>Email: info@hvacdesigns.ca<br/>Web: www.hvacdesigns.ca<br/>Specializing in Residential Mechanical Design Services</div> | HEAT LOSS 70505 BTU/H<br>UNIT DATA |  | # OF RUNS S/A R/A FANS |  |               | Sheet Title                   |  |
| GOLD PARK HOMES  |  |  | MAKE<br>LENNOX                     |  | 3RD FLOOR              |  |               | BASEMENT<br>HEATING<br>LAYOUT |  |
| Project Name<br>PINE VALLEY & TESTON<br>VAUGHAN, ONTARIO |  |  | MODEL<br>EL296UH090XE48C           |  | 2ND FLOOR              |  |               | Date                          |  |
|  |  |  | INPUT<br>88 MBTU/H                 |  | 1ST FLOOR              |  |               | SEPT/2018                     |  |
|  |  |  | OUTPUT<br>85 MBTU/H                |  | BASEMENT               |  |               | Scale                         |  |
| THE DALERIDGE<br>4004 - WOB 3341 sqft                    |  | COOLING<br>4.0 TONS  |                                    | ALL S/A DIFFUSERS 4 "x10"<br>UNLESS NOTED OTHERWISE<br>ON LAYOUT. ALL S/A RUNS 5"Ø<br>UNLESS NOTED OTHERWISE<br>ON LAYOUT. UNDERCUT<br>DOORS 1" min. FOR R/A |                        |  | 3/16" = 1'-0" |                               |  |
|  |  | FAN SPEED<br>1525 cfm @ 0.6" w.c.  |                                    |  |                        |  | BCIN# 19669   |                               |  |
|  |  |  |                                    |  |                        |  | LO# 79969     |                               |  |



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

CSA-F280-12

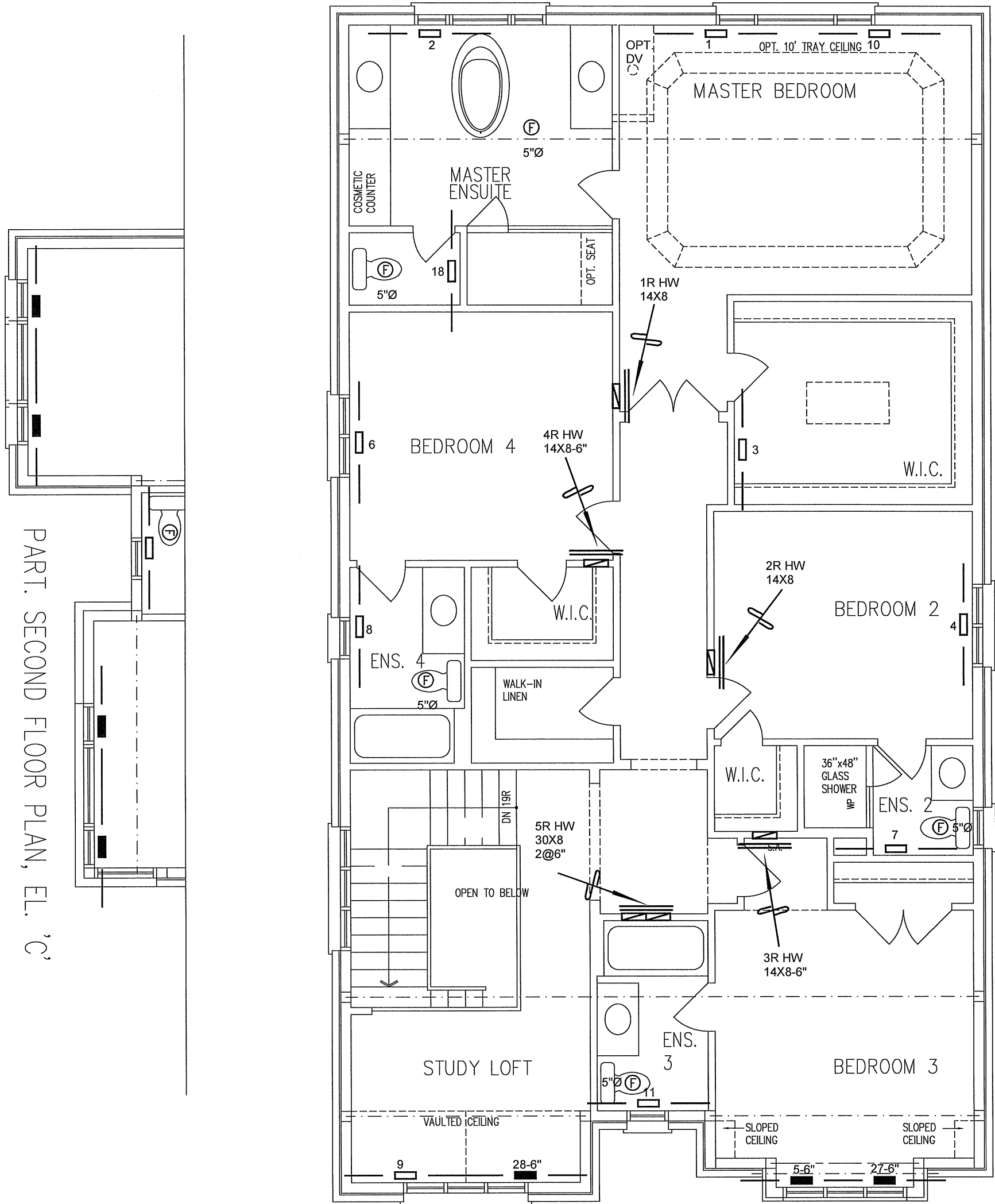
WOB

PACKAGE A1

| HVAC LEGEND |                           |        |                                 |        |                              |        | 3.                         |           |             |
|-------------|---------------------------|--------|---------------------------------|--------|------------------------------|--------|----------------------------|-----------|-------------|
| SYMBOL      | DESCRIPTION               | SYMBOL | DESCRIPTION                     | SYMBOL | DESCRIPTION                  | SYMBOL | DESCRIPTION                | 2.        |             |
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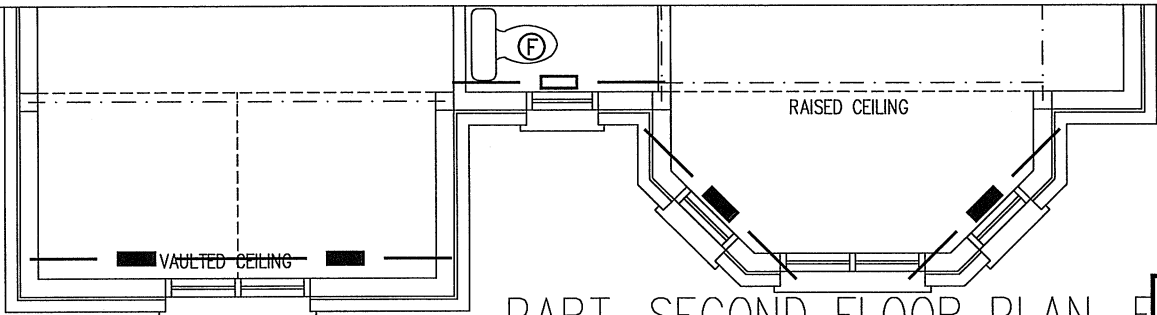
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|                                       |           |   |                            |               |
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| GOLD PARK HOMES                       |           |   | FIRST FLOOR HEATING LAYOUT |               |
| Project Name                          |           |   | Date                       | SEPT/2018     |
| PINE VALLEY & TESTON VAUGHAN, ONTARIO |           |   | Scale                      | 3/16" = 1'-0" |
| THE DALERIDGE                         |           |   | BCIN# 19669                |               |
| 4004 - WOB                            | 3341 sqft |   | LO#                        | 79969         |



PART. SECOND FLOOR PLAN, EL. 'C'

SECOND FLOOR PLAN, EL. 'A'



PART. SECOND FLOOR PLAN, EL. 'B'

1 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  
WOB PACKAGE A1

| HVAC LEGEND |                           |        |                                 |        |                              |        |                            | 3.        |             |      |
|-------------|---------------------------|--------|---------------------------------|--------|------------------------------|--------|----------------------------|-----------|-------------|------|
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|             | SUPPLY AIR GRILLE 6" BOOT |        | SUPPLY AIR STACK FROM 2nd FLOOR |        | 30"x8" RETURN AIR GRILLE     |        | RETURN AIR STACK 2nd FLOOR | No.       | Description | Date |
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| GOLD PARK HOMES                       |           |   | SECOND FLOOR HEATING LAYOUT |               |
| Project Name                          |           |   | Date                        | SEPT/2018     |
| PINE VALLEY & TESTON VAUGHAN, ONTARIO |           |   | Scale                       | 3/16" = 1'-0" |
| THE DALERIDGE                         |           |   | BCIN# 19669                 |               |
| 4004 - WOB                            | 3341 sqft | LO#   | 79969                       |               |