# ND WX DIAGNOSTIC FIELD FORM

NORTH DAKOTA DEPARTMENT OF COMMERCE DIVISION OF COMMUNITY SERVICES SFN 59251 (11-2023)

| Name  |               |    |                      |     |                   | J   | Job#                                    |                                |                  |     |                 | D               | Date            |              |                |        |            |
|---|---------------|----|----------------------|-----|-------------------|---|---|--------------------------------|------------------|-----|-----------------|-----------------|-----------------|--------------|----------------|--------|------------|
|   |               | В  | LOWER DO             | OR  | TEST DAT          | A & E   | 3LO\                                    | WER D                          | 00               | R G | UIDED A         | IR              | SEAL            | ING          |                |        |            |
| Test Conditions:  |               |    |                      |     | Baseline Pressure |   |   |                                | Pa Infrared Sca  |     |                 |                 | ans Complete?   |              |                |        |            |
| Test  |               |    | CFM <sub>50</sub>    |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| Initial Test  |               |    |                      |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| Test 1  |               |    |                      |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| Test 2  |               |    |                      |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| Test 3  |               |    |                      |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| Tes   | st 4          |    |                      |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| Test 5  |               |    |                      |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| Fin   | al Test       |    |                      |     |                   |   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
|   |               |    |                      |     | Z                 | DNAL  | . PRE                                   | SSUR                           | ΕT               | ES  | TING            |                 |                 |              |                |        |            |
| Ηοι   | use at -50 pa |    |                      |     | Test 1            | Tes   | st 2                                    | Zone                           |                  |     |                 |                 | Test 1          |              |                | Test 2 |            |
| Zor   | ne            |    |                      |     |                   |   |   | Before Hole                    |                  |     |                 |                 |                 |              |                |        |            |
| Zor   | ne            |    |                      |     |                   |   |   | CFM50                          |                  |     |                 |                 |                 |              |                |        |            |
| Zor   | ne            |    |                      |     |                   |   |   | House to Zone Pressure         |                  |     |                 | H/Z or Z/O      |                 | H            | I/Z or Z/O     |        |            |
| Zone  |               |    |                      |     |                   |   | After Hole                              |                                |                  |     |                 |                 |                 |              |                |        |            |
| Zone  |               |    |                      |     |                   |   | CFM50                                   |                                |                  |     |                 |                 |                 |              |                |        |            |
| REFRIGERATOR  |               |    |                      |     |                   |   | House                                   | House to Zone Pressure         |                  |     |                 |                 |                 |              |                |        |            |
| Brand   |               |    |                      |     |                   |   |   | CFM5                           | CFM50 Difference |     |                 |                 |                 |              |                |        |            |
| Model #   |               |    |                      |     |                   |   | Maximum Reduction                       |                                |                  |     |                 |                 |                 |              |                |        |            |
| KWH   |               |    |                      |     |                   |   | Square Inches                           |                                |                  |     |                 |                 |                 |              |                |        |            |
|   |               |    |                      | DUC | TWORK L           | EAK   | AGE                                     | AIR HA                         | NE               | LE  | R ASSES         | SSN             | IENT            | I            |                |        |            |
| Room-to-Room Pressure Testing                                       |               |    |                      |     |                   |   | Duct Leakage to Outdo                   |                                |                  |     | loors           | (Test at 25 Pas |                 |              | cals Positive) |        |            |
| #   | Room          |    | Test                 | #   | Room              | Τe  | est                                     |                                |                  |     | Te              | Test 1          |                 | Test 2       |                |        |            |
| 1   |               |    |                      | 5   |                   |   |   | Test Pressure                  |                  |     | Pa              |                 | Pa              |              |                |        |            |
| 2   |               |    |                      | 6   |                   |   |   | Flow Ring Used (circle one)    |                  |     | Open, 1, 2, 3   |                 | Op              | pen, 1, 2, 3 |                |        |            |
| 3   |               |    |                      | 7   |                   |   |   | Fan Pressure                   |                  |     |                 | Pa              |                 | Pa           |                |        |            |
| 4   |               |    |                      | 8   |                   |   |   | Fan Flow (leakage to outdoors) |                  |     |                 | CFM             |                 | CFM          |                |        |            |
| House to Outside Pressure:  |               |    |                      |     |                   |   | Inches <sup>2</sup> Leakage to Outdoors |                                |                  |     | in <sup>2</sup> |                 | in <sup>2</sup> |              |                |        |            |
| If a room is more than 3 Pascals different house, relieve pressure. |               |    | nt from main body of |     |                   | CFM Leakage as Percentage of Conditioned Floor Area |   |                                |                  | %   |                 |                 | %               |              |                |        |            |
|   |               | PI | RESSURE P            | PAN | TESTING A         | AND I   | LEA                                     | KAGE A                         | SS               | ES  | SMENT           |                 |                 | •            | Press          | ure l  | Pan Totals |
| #   | Room          |    | Test 1               |     | Test 2            | #   | R                                       | oom                            |                  |     | Test 1          |                 | Τe              | est 2        | Pre            | Pre    |            |
| 1   |               |    |                      |     |                   | 8   |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| 2   |               |    |                      |     |                   | 9   |   |                                |                  |     |                 |                 |                 |              | Comm           | ents   |            |
| 3   |               |    |                      |     |                   | 10  |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| 4   |               |    |                      |     |                   | 11  |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| 5   |               |    |                      |     |                   | 12  |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| 6   |               |    |                      |     |                   | 13  |   |                                |                  |     |                 |                 |                 |              |                |        |            |
| 7   |               |    |                      |     |                   | 14  |   |                                |                  |     |                 | L               |                 |              |                |        |            |
| _   |               |    |                      | _   | _                 | _   |   | _                              | _                |     | _               | _               | _               |              | _              | _      |            |

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| _Fage 2                                     |  |  |                       |     |    |  |  |  |  |
|---|--|--|-----------------------|-----|----|--|--|--|--|
| ASHRAE DOCUMENTATION                        |  |  |                       |     |    |  |  |  |  |
| Exhaust Fan                                 |  | FM Window Instructed Client on Ventilati |                       | Yes | No |  |  |  |  |
| Kitchen                                     |  |  | Ventilation Added     | Yes | No |  |  |  |  |
| Bath 1                                      |  |  | Fan Run Time Min/Hour |     |    |  |  |  |  |
| Bath 2                                      |  |  | Switch Labeled        | Yes | No |  |  |  |  |
| Bath 3                                      |  |  | CO Alarms Installed   | Yes | No |  |  |  |  |
| Bath 4                                      |  |  | Dryer Vented Out      | Yes | No |  |  |  |  |
| Other                                       |  |  | Comments:             |     |    |  |  |  |  |
| Required Mechanical Ventilation Rate(RMVR)  |  |  |                       |     |    |  |  |  |  |
| Measured CFM of Whole House Ventilation Fan |  |  |                       |     |    |  |  |  |  |

#### Mobile Homes

- 1. If belly return, convert it to a living space return system.
- 2. Inspect the duct work visually and then seal all penetrations in the duct trunk line, boots, the ends of the duct runs and furnace plenum if accessible from the interior.
- 3. When the above duct sealing work is completed conduct a pressure pan test on all duct registers.
- 4. If the sum of the pressure pan readings is an average of 1 or less and all penetrations in the duct trunk line (boots, end of trunk line, visible penetrations) are sealed, the task may be considered acceptable. If pressure pan readings of 1 pa on average is unachievable, there must be good documentation on why duct work is left as is.
- 5. The duct blaster may also be used to test the duct work. If this procedure is used, the task may be considered complete if the cfm leakage to the outside (measured at 25 pa) is less than 10% of the total floor space. (Example: if a mobile home is 14X66, the area is 924 sq. ft. The duct blaster reading must be less than 10% of the floor area of 924, or 92.4 cfm). If the duct blaster reading is above 10%, good documentation must be provided as to why duct work was left as is.
- 6. The ideal leakage is 0 pa and 0 cfm leakage to the outside. The above is only the acceptable limits. We should strive to reduce all leakage as much as possible.

#### Site-Built Homes, Including Manufactured Housing

1. For ducts located in unconditioned spaces:

Try to convert or alter space so that it is conditioned. If it cannot be converted, repair, seal, and insulate ducts to at least R-8. (where accessible).

- 2. For ducts located in conditioned spaces:
  - a. Always repair disconnected ducts.
  - b. Preferred to seal and insulate space envelope rather than ducts.

## Blower Door and Infrared Scan

Blower door testing along with infrared scan must be done on every home.

### **ASHRAE**

- 1. If RMVR is less than or equal to 15 cfm, additional ventilation is not required.
- 2. Window must be operable for ASHRAE credit.

(Refer to ND Standard Work Specifications and Field Guide for additional details)

| Signed | Date |
|--------|------|
|        |      |