



# Manual S Compliance Report Entire House Comfort Temp Company

31  
Job:  
Date: Feb 07, 2020  
By:

4301 NW 6th ST, Gainesville, FL 32609 Phone: 352 275 4022 Fax: 352 376 0523 Email: jay@comfortemp.com Web: www.comfortemp.com

## Project Information

For: Devon Johnson  
Parcel # 11-6S-16-03815-165, Fort White, FL

## Cooling Equipment

### Design Conditions

|                    |        |                    |       |      |
|--------------------|--------|--------------------|-------|------|
| Outdoor design DB: | 92.0°F | Sensible gain:     | 32925 | Btuh |
| Outdoor design WB: | 76.3°F | Latent gain:       | 5217  | Btuh |
| Indoor design DB:  | 75.0°F | Total gain:        | 38142 | Btuh |
| Indoor RH:         | 50%    | Estimated airflow: | 1550  | cfm  |

Entering coil DB: 77.4°F  
Entering coil WB: 63.7°F



### Manufacturer's Performance Data at Actual Design Conditions

|                    |            |              |                              |
|--------------------|------------|--------------|------------------------------|
| Equipment type:    | Split ASHP | Model:       | 4TWR4048G1+TEM4A0C48S41++TDR |
| Manufacturer:      | Trane      |              |                              |
| Actual airflow:    | 1550 cfm   |              |                              |
| Sensible capacity: | 37492 Btuh | 114% of load |                              |
| Latent capacity:   | 6957 Btuh  | 133% of load |                              |
| Total capacity:    | 44448 Btuh | 117% of load | SHR: 84%                     |

## Heating Equipment

### Design Conditions

|                    |        |            |       |      |
|--------------------|--------|------------|-------|------|
| Outdoor design DB: | 33.4°F | Heat loss: | 31095 | Btuh |
| Indoor design DB:  | 68.0°F |            |       |      |

Entering coil DB: 66.9°F

### Manufacturer's Performance Data at Actual Design Conditions

|                             |            |              |                              |
|-----------------------------|------------|--------------|------------------------------|
| Equipment type:             | Split ASHP | Model:       | 4TWR4048G1+TEM4A0C48S41++TDR |
| Manufacturer:               | Trane      |              |                              |
| Actual airflow:             | 1550 cfm   |              |                              |
| Output capacity:            | 36011 Btuh | 116% of load |                              |
| Supplemental heat required: | 0 Btuh     |              |                              |

Capacity balance: 23 °F  
Economic balance: -99 °F

|                        |            |             |                   |
|------------------------|------------|-------------|-------------------|
| Backup equipment type: | Elec strip | Model:      |                   |
| Manufacturer:          |            |             |                   |
| Actual airflow:        | 1550 cfm   |             |                   |
| Output capacity:       | 6.0 kW     | 65% of load | Temp. rise: 50 °F |

Meets all requirements of ACCA Manual S.



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Page 1

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**Project Summary**  
**Entire House**  
**Comfort Temp Company**

Job:  
Date: Feb 07, 2020  
By:

4301 NW 6th ST, Gainesville, FL 32609 Phone: 352 275 4022 Fax: 352 376 0523 Email: jay@comforttemp.com Web: www.comforttemp.com

## Project Information

For: Devon Johnson  
Parcel # 11-6S-16-03815-165, Fort White, FL

Notes:

## Design Information

Weather: Gainesville Regional AP, FL, US

### Winter Design Conditions

|            |       |
|------------|-------|
| Outside db | 33 °F |
| Inside db  | 68 °F |
| Design TD  | 35 °F |

### Summer Design Conditions

|                     |          |
|---------------------|----------|
| Outside db          | 92 °F    |
| Inside db           | 75 °F    |
| Design TD           | 17 °F    |
| Daily range         | M        |
| Relative humidity   | 50 %     |
| Moisture difference | 47 gr/lb |

### Heating Summary

|                                |            |
|--------------------------------|------------|
| Structure                      | 21131 Btuh |
| Ducts                          | 9964 Btuh  |
| Central vent (0 cfm)<br>(none) | 0 Btuh     |
| Humidification                 | 0 Btuh     |
| Piping                         | 0 Btuh     |
| Equipment load                 | 31095 Btuh |

### Infiltration

|                      |            |
|----------------------|------------|
| Method               | Simplified |
| Construction quality | Average    |
| Fireplaces           | 0          |

|                           | Heating | Cooling |
|---------------------------|---------|---------|
| Area (ft <sup>2</sup> )   | 2282    | 2282    |
| Volume (ft <sup>3</sup> ) | 20067   | 20067   |
| Air changes/hour          | 0.32    | 0.16    |
| Equiv. AVF (cfm)          | 107     | 54      |

### Heating Equipment Summary

Make Trane  
Trade TRANE  
Model 4TWR4048G1  
AHRI ref 8908430

|                                |                          |
|--------------------------------|--------------------------|
| Efficiency                     | 8.5 HSPF                 |
| Heating input                  |                          |
| Heating output                 | 46500 Btuh @ 47°F        |
| Temperature rise               | 27 °F                    |
| Actual air flow                | 1550 cfm                 |
| Air flow factor                | 0.050 cfm/Btuh           |
| Static pressure                | 0.50 in H <sub>2</sub> O |
| Space thermostat               |                          |
| Capacity balance point = 23 °F |                          |

Backup:  
Input = 6 kW, Output = 20320 Btuh, 100 AFUE

### Sensible Cooling Equipment Load Sizing

|                                |            |
|--------------------------------|------------|
| Structure                      | 20559 Btuh |
| Ducts                          | 12366 Btuh |
| Central vent (0 cfm)<br>(none) | 0 Btuh     |
| Blower                         | 0 Btuh     |
| Use manufacturer's data        | n          |
| Rate/swing multiplier          | 0.97       |
| Equipment sensible load        | 31937 Btuh |

### Latent Cooling Equipment Load Sizing

|                                |           |
|--------------------------------|-----------|
| Structure                      | 2515 Btuh |
| Ducts                          | 2702 Btuh |
| Central vent (0 cfm)<br>(none) | 0 Btuh    |
| Equipment latent load          | 5217 Btuh |

|                                       |            |
|---------------------------------------|------------|
| <b>Equipment Total Load (Sen+Lat)</b> | 37154 Btuh |
| Req. total capacity at 0.75 SHR       | 3.5 ton    |

### Cooling Equipment Summary

Make Trane  
Trade TRANE  
Cond 4TWR4048G1  
Coil TEM4A0C48S41++TDR  
AHRI ref 8908430

|                          |                          |
|--------------------------|--------------------------|
| Efficiency               | 11.5 EER, 14 SEER        |
| Sensible cooling         | 34875 Btuh               |
| Latent cooling           | 11625 Btuh               |
| Total cooling            | 46500 Btuh               |
| Actual air flow          | 1550 cfm                 |
| Air flow factor          | 0.047 cfm/Btuh           |
| Static pressure          | 0.50 in H <sub>2</sub> O |
| Load sensible heat ratio | 0.86                     |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



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Page 1

## Project Information

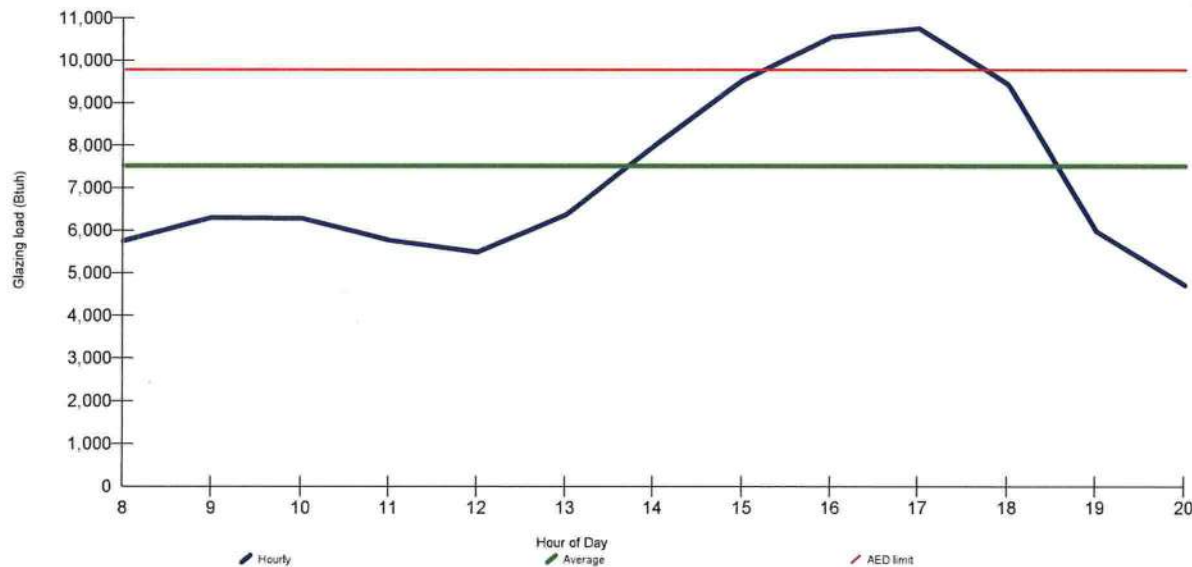
For: Devon Johnson  
 Parcel # 11-6S-16-03815-165, Fort White, FL

## Design Conditions

| Location:                       |  | Indoor:                     |          | Heating       | Cooling |
|---------------------------------|--|-----------------------------|----------|---------------|---------|
| Gainesville Regional AP, FL, US |  | Indoor temperature (°F)     |          | 68            | 75      |
| Elevation: 164 ft               |  | Design TD (°F)              |          | 35            | 17      |
| Latitude: 30°N                  |  | Relative humidity (%)       |          | 50            | 50      |
|                                 |  | Moisture difference (gr/lb) |          | 28.7          | 47.4    |
| Outdoor:                        |  | Heating                     | Cooling  | Infiltration: |         |
| Dry bulb (°F)                   |  | 33                          | 92       |               |         |
| Daily range (°F)                |  | -                           | 18 ( M ) |               |         |
| Wet bulb (°F)                   |  | -                           | 76       |               |         |
| Wind speed (mph)                |  | 15.0                        | 7.5      |               |         |

## Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 43.1%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 985 Btuh (PFG - 1.3\*AFG)

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|    |                 |                     |                       |       |                 |              |                              |       |              |      |                              |       |              |      |  |
|----|-----------------|---------------------|-----------------------|-------|-----------------|--------------|------------------------------|-------|--------------|------|------------------------------|-------|--------------|------|--|
| 1  | Room name       |                     |                       |       |                 | Entire House |                              |       |              |      | Bedroom #2                   |       |              |      |  |
| 2  | Exposed wall    |                     |                       |       |                 | 180.0 ft     |                              |       |              |      | 31.0 ft                      |       |              |      |  |
| 3  | Room height     |                     |                       |       |                 | 8.8 ft       |                              |       |              |      | 9.0 ft                       |       |              |      |  |
| 4  | Room dimensions |                     |                       |       |                 | d            |                              |       |              |      | 1.0 x 195.0 ft               |       |              |      |  |
| 5  | Room area       |                     |                       |       |                 | 2282.0 ft²   |                              |       |              |      | 195.0 ft²                    |       |              |      |  |
|    | Ty              | Construction number | U-value (Btu/h/ft²-F) | Or    | HTM (Btu/h/ft²) |              | Area (ft²) or perimeter (ft) |       | Load (Btu/h) |      | Area (ft²) or perimeter (ft) |       | Load (Btu/h) |      |  |
|    |                 |                     |                       |       | Heat            | Cool         | Gross                        | N/P/S | Heat         | Cool | Gross                        | N/P/S | Heat         | Cool |  |
| 6  | W               | 12C-0sw             | 0.091                 | n     | 3.15            | 2.22         | 284                          | 284   | 894          | 629  | 0                            | 0     | 0            | 0    |  |
| 11 | W               | 12B-0sw             | 0.097                 | e     | 3.36            | 2.61         | 63                           | 48    | 161          | 125  | 0                            | 0     | 0            | 0    |  |
|    | G               | 4A5-2ob             | 0.560                 | e     | 19.38           | 38.55        | 15                           | 0     | 291          | 578  | 0                            | 0     | 0            | 0    |  |
|    | W               | 12C-0sw             | 0.091                 | e     | 3.15            | 2.22         | 301                          | 241   | 759          | 534  | 0                            | 0     | 0            | 0    |  |
|    | G               | 4A5-2ob             | 0.560                 | e     | 19.38           | 38.55        | 60                           | 0     | 1163         | 2313 | 0                            | 0     | 0            | 0    |  |
|    | W               | 12B-0sw             | 0.097                 | s     | 3.36            | 2.61         | 315                          | 315   | 1057         | 823  | 144                          | 144   | 483          | 376  |  |
|    | W               | 12C-0sw             | 0.091                 | s     | 3.15            | 2.22         | 96                           | 96    | 302          | 213  | 0                            | 0     | 0            | 0    |  |
|    | W               | 12B-0sw             | 0.097                 | w     | 3.36            | 2.61         | 135                          | 105   | 352          | 274  | 135                          | 105   | 352          | 274  |  |
|    | G               | 4A5-2ob             | 0.560                 | w     | 19.38           | 38.55        | 30                           | 0     | 581          | 1157 | 30                           | 0     | 581          | 1157 |  |
|    | W               | 12C-0sw             | 0.091                 | w     | 3.15            | 2.22         | 384                          | 284   | 894          | 629  | 0                            | 0     | 0            | 0    |  |
|    | G               | 4A5-2ob             | 0.560                 | w     | 19.38           | 38.55        | 60                           | 0     | 1163         | 2313 | 0                            | 0     | 0            | 0    |  |
|    | G               | 4A5-2obd            | 0.560                 | w     | 19.38           | 45.03        | 40                           | 0     | 779          | 1810 | 0                            | 0     | 0            | 0    |  |
| C  | 16B-30ad        | 0.032               | -                     | 1.11  | 1.69            | 2282         | 2282                         | 2527  | 3859         | 195  | 195                          | 216   | 330          |      |  |
| F  | 22A-tpi         | 0.989               | -                     | 34.22 | 0.00            | 2282         | 180                          | 6159  | 0            | 195  | 31                           | 1061  | 0            |      |  |
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Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

# Right-J® Worksheet

## Entire House

### Comfort Temp Company

Job:  
Date: Feb 07, 2020  
By:

4301 NW 6th ST, Gainesville, FL 32609 Phone: 352 275 4022 Fax: 352 376 0523 Email: jay@comforttemp.com Web: www.comforttemp.com

|                        |                                 |                     |                      |    |                |       |                              |       |             |      |                              |       |             |      |   |
|------------------------|---------------------------------|---------------------|----------------------|----|----------------|-------|------------------------------|-------|-------------|------|------------------------------|-------|-------------|------|---|
| 1                      | Room name                       |                     |                      |    |                |       | Hall Bath                    |       |             |      | Bedroom3                     |       |             |      |   |
| 2                      | Exposed wall                    |                     |                      |    |                |       | 0 ft                         |       |             |      | 26.0 ft                      |       |             |      |   |
| 3                      | Room height                     |                     |                      |    |                |       | 9.0 ft                       |       |             |      | 9.0 ft                       |       |             |      |   |
| 4                      | Room dimensions                 |                     |                      |    |                |       | 6.0 x 11.0 ft                |       |             |      | 1.0 x 192.0 ft               |       |             |      |   |
| 5                      | Room area                       |                     |                      |    |                |       | 66.0 ft²                     |       |             |      | 192.0 ft²                    |       |             |      |   |
|                        | Ty                              | Construction number | U-value (Btuh/ft²·F) | Or | HTM (Btuh/ft²) |       | Area (ft²) or perimeter (ft) |       | Load (Btuh) |      | Area (ft²) or perimeter (ft) |       | Load (Btuh) |      |   |
|                        |                                 |                     |                      |    | Heat           | Cool  | Gross                        | N/P/S | Heat        | Cool | Gross                        | N/P/S | Heat        | Cool |   |
| 6<br>.<br>.<br>.<br>11 | W                               | 12C-0sw             | 0.091                | n  | 3.15           | 2.22  | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | W                               | 12B-0sw             | 0.097                | e  | 3.36           | 2.61  | 0                            | 0     | 0           | 0    | 63                           | 48    | 161         | 125  |   |
|                        | G                               | 4A5-2ob             | 0.560                | e  | 19.38          | 38.55 | 0                            | 0     | 0           | 0    | 15                           | 0     | 291         | 578  |   |
|                        | W                               | 12C-0sw             | 0.091                | e  | 3.15           | 2.22  | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | G                               | 4A5-2ob             | 0.560                | e  | 19.38          | 38.55 | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | W                               | 12B-0sw             | 0.097                | s  | 3.36           | 2.61  | 0                            | 0     | 0           | 0    | 171                          | 171   | 574         | 447  |   |
|                        | W                               | 12C-0sw             | 0.091                | s  | 3.15           | 2.22  | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | W                               | 12B-0sw             | 0.097                | w  | 3.36           | 2.61  | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | G                               | 4A5-2ob             | 0.560                | w  | 19.38          | 38.55 | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | W                               | 12C-0sw             | 0.091                | w  | 3.15           | 2.22  | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | G                               | 4A5-2ob             | 0.560                | w  | 19.38          | 38.55 | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | G                               | 4A5-2obd            | 0.560                | w  | 19.38          | 45.03 | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |   |
|                        | C                               | 16B-30ad            | 0.032                | -  | 1.11           | 1.69  | 66                           | 66    | 73          | 112  | 192                          | 192   | 213         | 325  |   |
|                        | F                               | 22A-tpl             | 0.989                | -  | 34.22          | 0.00  | 66                           | 0     | 0           | 0    | 192                          | 26    | 890         | 0    |   |
|                        | 6                               | c) AED excursion    |                      |    |                |       |                              |       |             |      | -13                          |       |             | -23  |   |
|                        | Envelope loss/gain              |                     |                      |    |                |       |                              |       | 73          | 99   |                              |       | 2128        | 1452 |   |
| 12                     | a) Infiltration                 |                     |                      |    |                |       |                              |       | 0           | 0    |                              |       | 600         | 148  |   |
|                        | b) Room ventilation             |                     |                      |    |                |       |                              |       | 0           | 0    |                              |       | 0           | 0    |   |
| 13                     | Internal gains: Occupants @ 230 |                     |                      |    |                |       | 0                            |       |             | 0    | 0                            |       |             | 0    | 0 |
|                        | Appliances/other                |                     |                      |    |                |       |                              |       |             | 0    |                              |       |             | 0    | 0 |
|                        | Subtotal (lines 6 to 13)        |                     |                      |    |                |       |                              |       | 73          | 99   |                              |       | 2728        | 1600 |   |
|                        | Less external load              |                     |                      |    |                |       |                              |       | 0           | 0    |                              |       | 0           | 0    |   |
|                        | Less transfer                   |                     |                      |    |                |       |                              |       | 0           | 0    |                              |       | 0           | 0    |   |
|                        | Redistribution                  |                     |                      |    |                |       |                              |       | 0           | 0    |                              |       | 0           | 0    |   |
| 14                     | Subtotal                        |                     |                      |    |                |       |                              |       | 73          | 99   |                              |       | 2728        | 1600 |   |
| 15                     | Duct loads                      |                     |                      |    |                |       | 47%                          | 60%   | 34          | 59   | 47%                          | 60%   | 1287        | 962  |   |
|                        | Total room load                 |                     |                      |    |                |       |                              |       | 108         | 158  |                              |       | 4015        | 2562 |   |
|                        | Air required (cfm)              |                     |                      |    |                |       |                              |       | 5           | 7    |                              |       | 200         | 121  |   |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

4301 NW 6th ST, Gainesville, FL 32609 Phone: 352 275 4022 Fax: 352 376 0523 Email: jay@comforttemp.com Web: www.comforttemp.com

|    |                 |                     |                        |       |                 |                       |                              |       |              |      |                              |       |              |      |  |
|----|-----------------|---------------------|------------------------|-------|-----------------|-----------------------|------------------------------|-------|--------------|------|------------------------------|-------|--------------|------|--|
| 1  | Room name       |                     |                        |       |                 | Bedroom 4             |                              |       |              |      | WIC 4                        |       |              |      |  |
| 2  | Exposed wall    |                     |                        |       |                 | 30.0 ft               |                              |       |              |      | 0 ft                         |       |              |      |  |
| 3  | Room height     |                     |                        |       |                 | 8.0 ft 14.0 x 12.0 ft |                              |       |              |      | 8.0 ft 7.0 x 6.0 ft          |       |              |      |  |
| 4  | Room dimensions |                     |                        |       |                 | 168.0 ft²             |                              |       |              |      | 42.0 ft²                     |       |              |      |  |
| 5  | Room area       |                     |                        |       |                 |                       |                              |       |              |      |                              |       |              |      |  |
|    | Ty              | Construction number | U-value (Btu/h/ft²·°F) | Or    | HTM (Btu/h/ft²) |                       | Area (ft²) or perimeter (ft) |       | Load (Btu/h) |      | Area (ft²) or perimeter (ft) |       | Load (Btu/h) |      |  |
|    |                 |                     |                        |       | Heat            | Cool                  | Gross                        | N/P/S | Heat         | Cool | Gross                        | N/P/S | Heat         | Cool |  |
| 6  | W               | 12C-0sw             | 0.091                  | n     | 3.15            | 2.22                  | 32                           | 32    | 101          | 71   | 0                            | 0     | 0            | 0    |  |
| 11 | W               | 12B-0sw             | 0.097                  | e     | 3.36            | 2.61                  | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
|    | W               | 4A5-2ob             | 0.560                  | e     | 19.38           | 38.55                 | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
|    | W               | 12C-0sw             | 0.091                  | e     | 3.15            | 2.22                  | 112                          | 82    | 258          | 182  | 0                            | 0     | 0            | 0    |  |
|    | W               | 4A5-2ob             | 0.560                  | e     | 19.38           | 38.55                 | 30                           | 0     | 581          | 1157 | 0                            | 0     | 0            | 0    |  |
|    | W               | 12B-0sw             | 0.097                  | s     | 3.36            | 2.61                  | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
|    | W               | 12C-0sw             | 0.091                  | s     | 3.15            | 2.22                  | 96                           | 96    | 302          | 213  | 0                            | 0     | 0            | 0    |  |
|    | W               | 12B-0sw             | 0.097                  | w     | 3.36            | 2.61                  | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
|    | W               | 4A5-2ob             | 0.560                  | w     | 19.38           | 38.55                 | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
|    | W               | 12C-0sw             | 0.091                  | w     | 3.15            | 2.22                  | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
|    | W               | 4A5-2ob             | 0.560                  | w     | 19.38           | 38.55                 | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
|    | W               | 4A5-2obd            | 0.560                  | w     | 19.38           | 45.03                 | 0                            | 0     | 0            | 0    | 0                            | 0     | 0            | 0    |  |
| C  | 16B-30ad        | 0.032               | -                      | 1.11  | 1.69            | 168                   | 168                          | 186   | 284          | 42   | 42                           | 47    | 71           |      |  |
| F  | 22A-tpl         | 0.989               | -                      | 34.22 | 0.00            | 168                   | 30                           | 1027  | 0            | 42   | 0                            | 0     | 0            |      |  |
|    |                 |                     |                        |       |                 |                       |                              |       |              |      |                              |       |              |      |  |
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Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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|    |                                 |                     |                      |       |                |                        |                              |       |             |                      |                              |       |             |      |
|----|---------------------------------|---------------------|----------------------|-------|----------------|------------------------|------------------------------|-------|-------------|----------------------|------------------------------|-------|-------------|------|
| 1  | Room name                       |                     |                      |       |                | Family Room<br>24.0 ft |                              |       |             | Breakfast<br>12.0 ft |                              |       |             |      |
| 2  | Exposed wall                    |                     |                      |       |                | 9.0 ft                 |                              |       |             | 8.0 ft               |                              |       |             |      |
| 3  | Room height                     |                     |                      |       |                | 1.0 x 627.0 ft         |                              |       |             | 12.0 x 13.0 ft       |                              |       |             |      |
| 4  | Room dimensions                 |                     |                      |       |                | 627.0 ft²              |                              |       |             | 156.0 ft²            |                              |       |             |      |
| 5  | Room area                       |                     |                      |       |                |                        |                              |       |             |                      |                              |       |             |      |
|    | Ty                              | Construction number | U-value (Btuh/ft²-F) | Or    | HTM (Btuh/ft²) |                        | Area (ft²) or perimeter (ft) |       | Load (Btuh) |                      | Area (ft²) or perimeter (ft) |       | Load (Btuh) |      |
|    |                                 |                     |                      |       | Heat           | Cool                   | Gross                        | N/P/S | Heat        | Cool                 | Gross                        | N/P/S | Heat        | Cool |
| 6  | W                               | 12C-0sw             | 0.091                | n     | 3.15           | 2.22                   | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
| 11 | W                               | 12B-0sw             | 0.097                | e     | 3.36           | 2.61                   | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
|    | W                               | 4A5-2ob             | 0.560                | e     | 19.38          | 38.55                  | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
|    | W                               | 12C-0sw             | 0.091                | e     | 3.15           | 2.22                   | 81                           | 81    | 255         | 179                  | 0                            | 0     | 0           | 0    |
|    | W                               | 4A5-2ob             | 0.560                | e     | 19.38          | 38.55                  | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
|    | W                               | 12B-0sw             | 0.097                | s     | 3.36           | 2.61                   | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
|    | W                               | 12C-0sw             | 0.091                | s     | 3.15           | 2.22                   | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
|    | W                               | 12B-0sw             | 0.097                | w     | 3.36           | 2.61                   | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
|    | W                               | 4A5-2ob             | 0.560                | w     | 19.38          | 38.55                  | 0                            | 0     | 0           | 0                    | 0                            | 0     | 0           | 0    |
|    | W                               | 12C-0sw             | 0.091                | w     | 3.15           | 2.22                   | 135                          | 95    | 298         | 210                  | 96                           | 66    | 208         | 146  |
|    | W                               | 4A5-2ob             | 0.560                | w     | 19.38          | 38.55                  | 0                            | 0     | 0           | 0                    | 30                           | 0     | 581         | 1157 |
|    | W                               | 4A5-2obd            | 0.560                | w     | 19.38          | 45.03                  | 40                           | 0     | 779         | 1810                 | 0                            | 0     | 0           | 0    |
| C  | 16B-30ad                        | 0.032               | -                    | 1.11  | 1.69           | 627                    | 627                          | 694   | 1060        | 156                  | 156                          | 173   | 264         |      |
| F  | 22A-tpl                         | 0.989               | -                    | 34.22 | 0.00           | 627                    | 24                           | 821   | 0           | 156                  | 12                           | 411   | 0           |      |
| 6  | c) AED excursion                |                     |                      |       |                |                        |                              |       | 185         |                      |                              |       | 376         |      |
|    | Envelope loss/gain              |                     |                      |       |                |                        |                              | 2848  | 3445        |                      |                              | 1372  | 1943        |      |
| 12 | a) Infiltration                 |                     |                      |       |                |                        |                              | 554   | 136         |                      |                              | 246   | 61          |      |
|    | b) Room ventilation             |                     |                      |       |                |                        |                              | 0     | 0           |                      |                              | 0     | 0           |      |
| 13 | Internal gains: Occupants @ 230 |                     |                      |       |                |                        | 2                            |       |             | 460                  | 0                            |       |             | 0    |
|    | Appliances/other                |                     |                      |       |                |                        |                              |       |             | 900                  |                              |       |             | 0    |
|    | Subtotal (lines 6 to 13)        |                     |                      |       |                |                        |                              |       | 3402        | 4941                 |                              |       | 1619        | 2003 |
| 14 | Less external load              |                     |                      |       |                |                        |                              |       | 0           | 0                    |                              |       | 0           | 0    |
|    | Less transfer                   |                     |                      |       |                |                        |                              |       | 0           | 0                    |                              |       | 0           | 0    |
|    | Redistribution                  |                     |                      |       |                |                        |                              |       | 0           | 0                    |                              |       | 0           | 0    |
|    | Subtotal                        |                     |                      |       |                |                        |                              |       | 3402        | 4941                 |                              |       | 1619        | 2003 |
| 15 | Duct loads                      |                     |                      |       |                |                        | 47%                          | 60%   | 1604        | 2972                 | 47%                          | 60%   | 763         | 1205 |
|    | Total room load                 |                     |                      |       |                |                        |                              |       | 5006        | 7913                 |                              |       | 2382        | 3208 |
|    | Air required (cfm)              |                     |                      |       |                |                        |                              |       | 250         | 373                  |                              |       | 119         | 151  |

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|    |                          |                     |                      |       |                |                |                              |       |             |      |                              |       |             |      |  |
|----|--------------------------|---------------------|----------------------|-------|----------------|----------------|------------------------------|-------|-------------|------|------------------------------|-------|-------------|------|--|
| 1  | Room name                |                     |                      |       |                | Kitch          |                              |       |             |      | Dining                       |       |             |      |  |
| 2  | Exposed wall             |                     |                      |       |                | 0 ft           |                              |       |             |      | 12.0 ft                      |       |             |      |  |
| 3  | Room height              |                     |                      |       |                | 9.0 ft         |                              |       |             |      | 9.0 ft                       |       |             |      |  |
| 4  | Room dimensions          |                     |                      |       |                | 12.0 x 16.0 ft |                              |       |             |      | 12.0 x 14.0 ft               |       |             |      |  |
| 5  | Room area                |                     |                      |       |                | 192.0 ft²      |                              |       |             |      | 168.0 ft²                    |       |             |      |  |
|    | Ty                       | Construction number | U-value (Btuh/ft²-F) | Or    | HTM (Btuh/ft²) |                | Area (ft²) or perimeter (ft) |       | Load (Btuh) |      | Area (ft²) or perimeter (ft) |       | Load (Btuh) |      |  |
|    |                          |                     |                      |       | Heat           | Cool           | Gross                        | N/P/S | Heat        | Cool | Gross                        | N/P/S | Heat        | Cool |  |
| 6  | W                        | 12C-0sw             | 0.091                | n     | 3.15           | 2.22           | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
| 11 | W                        | 12B-0sw             | 0.097                | e     | 3.36           | 2.61           | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | G                        | 4A5-2ob             | 0.560                | e     | 19.38          | 38.55          | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | W                        | 12C-0sw             | 0.091                | e     | 3.15           | 2.22           | 0                            | 0     | 0           | 0    | 108                          | 78    | 246         | 173  |  |
|    | G                        | 4A5-2ob             | 0.560                | e     | 19.38          | 38.55          | 0                            | 0     | 0           | 0    | 30                           | 0     | 581         | 1157 |  |
|    | W                        | 12B-0sw             | 0.097                | s     | 3.36           | 2.61           | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | W                        | 12C-0sw             | 0.091                | s     | 3.15           | 2.22           | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | W                        | 12B-0sw             | 0.097                | w     | 3.36           | 2.61           | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | G                        | 4A5-2ob             | 0.560                | w     | 19.38          | 38.55          | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | W                        | 12C-0sw             | 0.091                | w     | 3.15           | 2.22           | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | G                        | 4A5-2ob             | 0.560                | w     | 19.38          | 38.55          | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|    | G                        | 4A5-2obd            | 0.560                | w     | 19.38          | 45.03          | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
| C  | 16B-30ad                 | 0.032               | -                    | 1.11  | 1.69           | 192            | 192                          | 213   | 325         | 168  | 168                          | 186   | 284         |      |  |
| F  | 22A-tpi                  | 0.989               | -                    | 34.22 | 0.00           | 192            | 0                            | 0     | 0           | 168  | 12                           | 411   | 0           |      |  |
| 6  | c) AED excursion         |                     |                      |       |                |                |                              |       |             | -153 |                              |       |             | 134  |  |
|    | Envelope loss/gain       |                     |                      |       |                |                |                              |       | 213         | 171  |                              |       | 1424        | 1748 |  |
| 12 | a) Infiltration          |                     |                      |       |                |                |                              |       | 0           | 0    |                              |       | 277         | 68   |  |
|    | b) Room ventilation      |                     |                      |       |                |                |                              |       | 0           | 0    |                              |       | 0           | 0    |  |
| 13 | Internal gains:          |                     | Occupants @          | 230   |                | 0              |                              |       | 0           | 0    | 0                            |       |             | 0    |  |
|    |                          |                     | Appliances/other     |       |                |                |                              |       | 1000        |      |                              |       |             | 0    |  |
|    | Subtotal (lines 6 to 13) |                     |                      |       |                |                |                              |       | 213         | 1171 |                              |       | 1701        | 1816 |  |
| 14 | Less external load       |                     |                      |       |                |                |                              |       | 0           | 0    |                              |       | 0           | 0    |  |
|    | Less transfer            |                     |                      |       |                |                |                              |       | 0           | 0    |                              |       | 0           | 0    |  |
|    | Redistribution           |                     |                      |       |                |                |                              |       | 0           | 0    |                              |       | 0           | 0    |  |
|    | Subtotal                 |                     |                      |       |                |                |                              |       | 213         | 1171 |                              |       | 1701        | 1816 |  |
| 15 | Duct loads               |                     |                      |       |                | 47%            | 60%                          |       | 100         | 705  | 47%                          | 60%   | 802         | 1092 |  |
|    | Total room load          |                     |                      |       |                |                |                              |       | 313         | 1876 |                              |       | 2503        | 2908 |  |
|    | Air required (cfm)       |                     |                      |       |                |                |                              |       | 16          | 88   |                              |       | 125         | 137  |  |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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| 1       | Room name                                        |                     |                      |    |                | Master<br>30.0 ft |                              |       |             |      | Mstr Bath<br>15.0 ft         |       |             |      |  |
|---------|--------------------------------------------------|---------------------|----------------------|----|----------------|-------------------|------------------------------|-------|-------------|------|------------------------------|-------|-------------|------|--|
| 2       | Exposed wall                                     |                     |                      |    |                | 9.0 ft            |                              |       |             |      | 9.0 ft                       |       |             |      |  |
| 3       | Room height                                      |                     |                      |    |                | 17.0 x 13.0 ft    |                              |       |             |      | 10.0 x 15.0 ft               |       |             |      |  |
| 4       | Room dimensions                                  |                     |                      |    |                | 221.0 ft²         |                              |       |             |      | 150.0 ft²                    |       |             |      |  |
| 5       | Room area                                        |                     |                      |    |                |                   |                              |       |             |      |                              |       |             |      |  |
|         | Ty                                               | Construction number | U-value (Btuh/ft²-F) | Or | HTM (Btuh/ft²) |                   | Area (ft²) or perimeter (ft) |       | Load (Btuh) |      | Area (ft²) or perimeter (ft) |       | Load (Btuh) |      |  |
|         |                                                  |                     |                      |    | Heat           | Cool              | Gross                        | N/P/S | Heat        | Cool | Gross                        | N/P/S | Heat        | Cool |  |
| 6<br>11 | W                                                | 12C-0sw             | 0.091                | n  | 3.15           | 2.22              | 117                          | 117   | 368         | 259  | 135                          | 135   | 425         | 299  |  |
|         | W                                                | 12B-0sw             | 0.097                | e  | 3.36           | 2.61              | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 4A5-2ob             | 0.560                | e  | 19.38          | 38.55             | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 12C-0sw             | 0.091                | e  | 3.15           | 2.22              | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 4A5-2ob             | 0.560                | e  | 19.38          | 38.55             | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 12B-0sw             | 0.097                | s  | 3.36           | 2.61              | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 12C-0sw             | 0.091                | s  | 3.15           | 2.22              | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 12B-0sw             | 0.097                | w  | 3.36           | 2.61              | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 4A5-2ob             | 0.560                | w  | 19.38          | 38.55             | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 12C-0sw             | 0.091                | w  | 3.15           | 2.22              | 153                          | 123   | 387         | 273  | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 4A5-2ob             | 0.560                | w  | 19.38          | 38.55             | 30                           | 0     | 581         | 1157 | 0                            | 0     | 0           | 0    |  |
|         | W                                                | 4A5-2obd            | 0.560                | w  | 19.38          | 45.03             | 0                            | 0     | 0           | 0    | 0                            | 0     | 0           | 0    |  |
|         | C                                                | 16B-30ad            | 0.032                | -  | 1.11           | 1.69              | 221                          | 221   | 245         | 374  | 150                          | 150   | 166         | 254  |  |
|         | F                                                | 22A-4pl             | 0.989                | -  | 34.22          | 0.00              | 221                          | 30    | 1027        | 0    | 150                          | 15    | 513         | 0    |  |
|         | 6                                                | c) AED excursion    |                      |    |                |                   |                              |       |             | 224  |                              |       |             | -74  |  |
|         | Envelope loss/gain                               |                     |                      |    |                |                   |                              | 2608  | 2286        |      |                              | 1104  | 479         |      |  |
| 12      | a) Infiltration                                  |                     |                      |    |                |                   |                              | 693   | 170         |      |                              | 346   | 85          |      |  |
|         | b) Room ventilation                              |                     |                      |    |                |                   |                              | 0     | 0           |      |                              | 0     | 0           |      |  |
| 13      | Internal gains: Occupants @ 230 Appliances/other |                     |                      |    |                | 2                 |                              |       | 460         | 0    |                              |       | 0           | 0    |  |
|         | Subtotal (lines 6 to 13)                         |                     |                      |    |                |                   |                              | 3301  | 3166        |      |                              | 1451  | 564         |      |  |
| 14      | Less external load                               |                     |                      |    |                |                   |                              | 0     | 0           |      |                              | 0     | 0           |      |  |
|         | Less transfer                                    |                     |                      |    |                |                   |                              | 0     | 0           |      |                              | 0     | 0           |      |  |
|         | Redistribution                                   |                     |                      |    |                |                   |                              | 0     | 0           |      |                              | 0     | 0           |      |  |
|         | Subtotal                                         |                     |                      |    |                |                   |                              | 3301  | 3166        |      |                              | 1451  | 564         |      |  |
| 15      | Duct loads                                       |                     |                      |    |                | 47%               | 60%                          | 1557  | 1904        | 47%  | 60%                          | 684   | 339         |      |  |
|         | Total room load                                  |                     |                      |    |                |                   |                              | 4858  | 5071        |      |                              | 2135  | 903         |      |  |
|         | Air required (cfm)                               |                     |                      |    |                |                   |                              | 242   | 239         |      |                              | 106   | 43          |      |  |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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Level 2

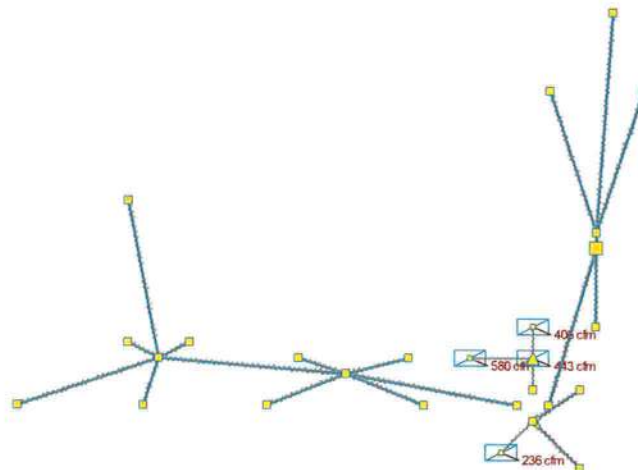
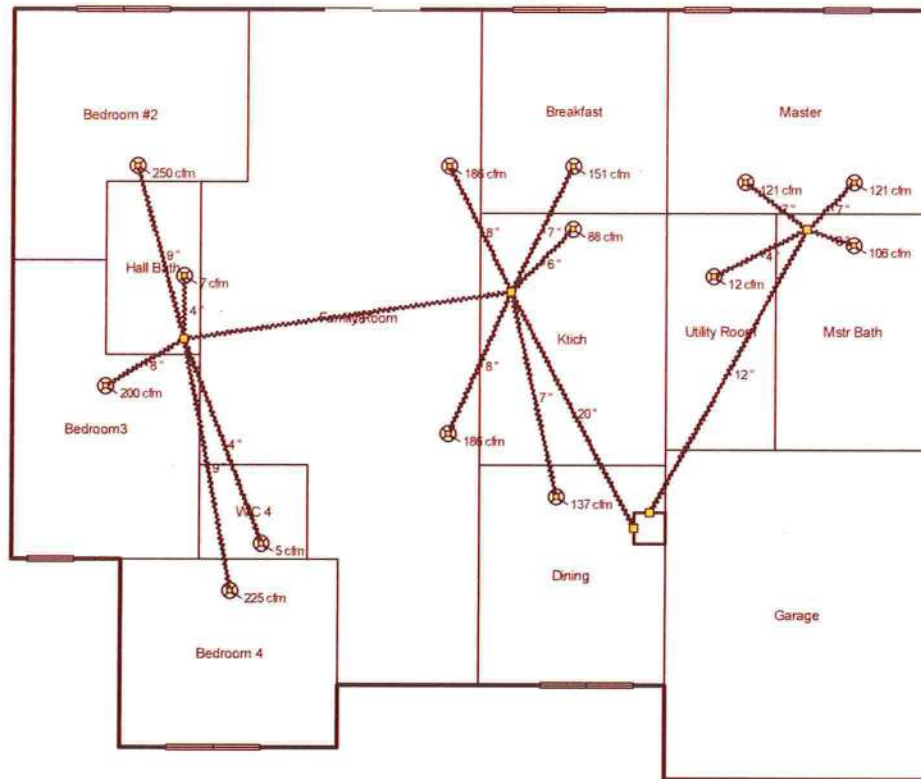
**Job #:**  
**Performed for:**  
Devon Johnson  
Parcel # 11-6S-16-03815-165  
Fort White, FL

**Comfort Temp Company**  
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Level 1



**Job #:**  
**Performed for:**  
Devon Johnson  
Parcel # 11-6S-16-03815-165  
Fort White, FL

**Comfort Temp Company**  
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# Duct System Summary

## Entire House

Comfort Temp Company

Job:  
Date: Feb 07, 2020  
By:

4301 NW 6th ST, Gainesville, FL 32609 Phone: 352 275 4022 Fax: 352 376 0523 Email: jay@comfortemp.com Web: www.comfortemp.com

### Project Information

For: Devon Johnson  
Parcel # 11-6S-16-03815-165, Fort White, FL

|                                    | Heating                           | Cooling                           |
|------------------------------------|-----------------------------------|-----------------------------------|
| External static pressure           | 0.50 in H <sub>2</sub> O          | 0.50 in H <sub>2</sub> O          |
| Pressure losses                    | 0 in H <sub>2</sub> O             | 0 in H <sub>2</sub> O             |
| Available static pressure          | 0.50 in H <sub>2</sub> O          | 0.50 in H <sub>2</sub> O          |
| Supply / return available pressure | 0.250 / 0.250 in H <sub>2</sub> O | 0.250 / 0.250 in H <sub>2</sub> O |
| Lowest friction rate               | 0.304 in/100ft                    | 0.304 in/100ft                    |
| Actual air flow                    | 1550 cfm                          | 1550 cfm                          |
| Total effective length (TEL)       | 164 ft                            |                                   |

### Supply Branch Detail Table

| Name          | Design (Btuh) | Htg (cfm) | Clg (cfm) | Design FR | Diam (in) | H x W (in) | Duct Matl | Actual Ln (ft) | Ftg.Eqv Ln (ft) | Trunk |
|---------------|---------------|-----------|-----------|-----------|-----------|------------|-----------|----------------|-----------------|-------|
| Bedroom #2    | h 5017        | 250       | 213       | 0.313     | 9.0       | 0x0        | VIFx      | 49.6           | 110.0           | st3   |
| Bedroom 4     | h 4519        | 225       | 162       | 0.304     | 9.0       | 0x0        | VIFx      | 54.5           | 110.0           | st3   |
| Bedroom3-A    | h 4015        | 200       | 121       | 0.325     | 8.0       | 0x0        | VIFx      | 44.0           | 110.0           | st3   |
| Breakfast     | c 3208        | 119       | 151       | 0.431     | 7.0       | 0x0        | VIFx      | 25.9           | 90.0            | st2   |
| Dining        | c 2908        | 125       | 137       | 0.415     | 7.0       | 0x0        | VIFx      | 30.3           | 90.0            | st2   |
| Family Room   | c 3956        | 125       | 186       | 0.431     | 8.0       | 0x0        | VIFx      | 25.9           | 90.0            | st2   |
| Family Room-A | c 3956        | 125       | 186       | 0.428     | 8.0       | 0x0        | VIFx      | 26.8           | 90.0            | st2   |
| Hall Bath     | c 158         | 5         | 7         | 0.328     | 4.0       | 0x0        | VIFx      | 42.2           | 110.0           | st3   |
| Kitch         | c 1876        | 16        | 88        | 0.444     | 6.0       | 0x0        | VIFx      | 22.7           | 90.0            | st2   |
| Master        | h 2429        | 121       | 119       | 0.433     | 7.0       | 0x0        | VIFx      | 25.6           | 90.0            | st1   |
| Master-A      | h 2429        | 121       | 119       | 0.435     | 7.0       | 0x0        | VIFx      | 24.8           | 90.0            | st1   |
| Mstr Bath     | h 2135        | 106       | 43        | 0.440     | 6.0       | 0x0        | VIFx      | 23.8           | 90.0            | st1   |
| Utility Room  | c 251         | 9         | 12        | 0.426     | 4.0       | 0x0        | VIFx      | 27.3           | 90.0            | st1   |
| WIC 4         | c 101         | 3         | 5         | 0.308     | 4.0       | 0x0        | VIFx      | 52.1           | 110.0           | st3   |

### Supply Trunk Detail Table

| Name | Trunk Type | Htg (cfm) | Clg (cfm) | Design FR | Veloc (fpm) | Diam (in) | H x W (in) | Duct Material | Trunk |
|------|------------|-----------|-----------|-----------|-------------|-----------|------------|---------------|-------|
| st3  | Peak AVF   | 684       | 508       | 0.304     | 490         | 16.0      | 0 x 0      | VinIFlx       | st2   |
| st2  | Peak AVF   | 1193      | 1257      | 0.304     | 576         | 20.0      | 0 x 0      | VinIFlx       |       |
| st1  | Peak AVF   | 357       | 293       | 0.426     | 455         | 12.0      | 0 x 0      | VinIFlx       |       |

## Return Branch Detail Table

| Name | Grille<br>Size (in) | Htg<br>(cfm) | Clg<br>(cfm) | TEL<br>(ft) | Design<br>FR | Veloc<br>(fpm) | Diam<br>(in) | H x W<br>(in) | Stud/Joist<br>Opening (in) | Duct<br>Matl | Trunk |
|------|---------------------|--------------|--------------|-------------|--------------|----------------|--------------|---------------|----------------------------|--------------|-------|
| rb16 | 0x 0                | 236          | 174          | 0           | 0            | 0              | 0            | 0x 0          |                            | VIFx         |       |
| rb11 | 0x 0                | 371          | 443          | 0           | 0            | 0              | 0            | 0x 0          |                            | VIFx         |       |
| rb13 | 0x 0                | 363          | 406          | 0           | 0            | 0              | 0            | 0x 0          |                            | VIFx         |       |
| rb15 | 0x 0                | 580          | 528          | 0           | 0            | 0              | 0            | 0x 0          |                            | VIFx         |       |