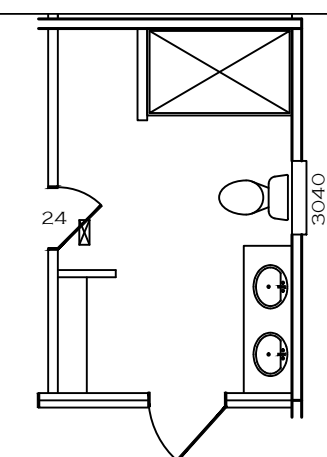
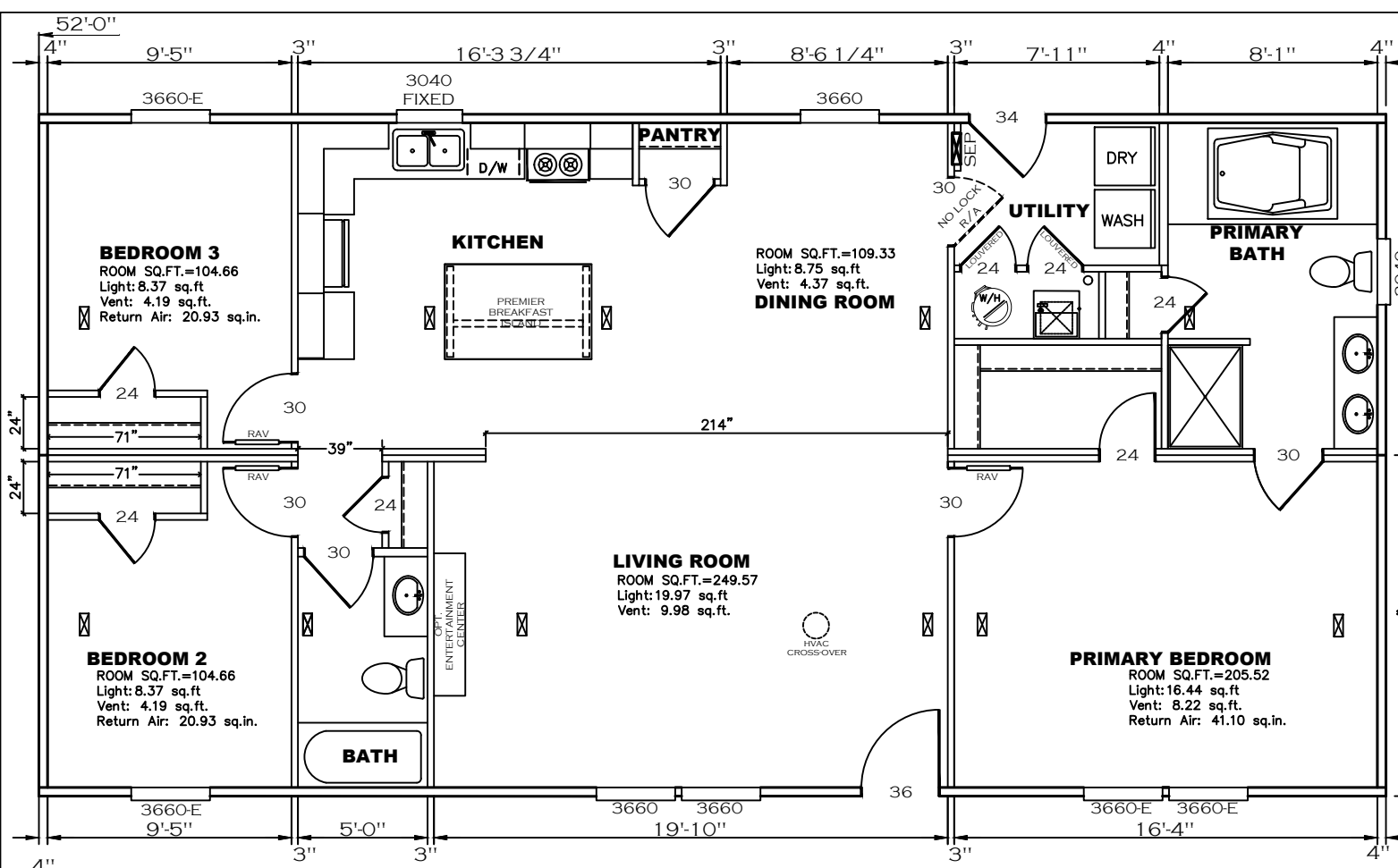
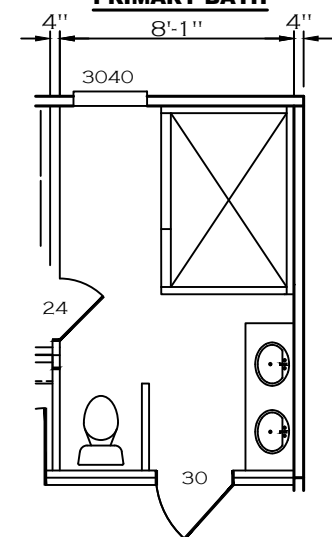
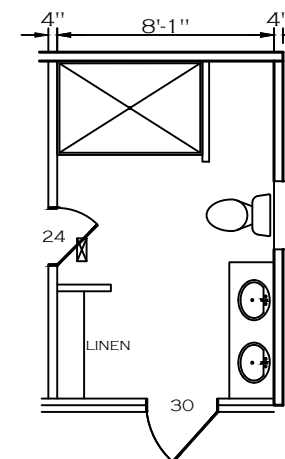




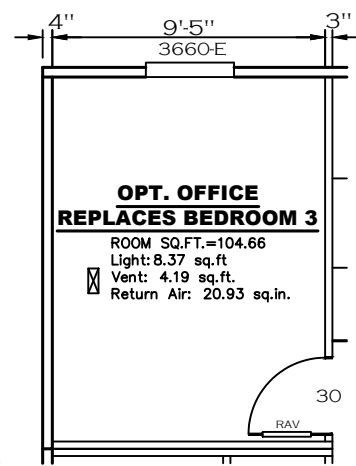
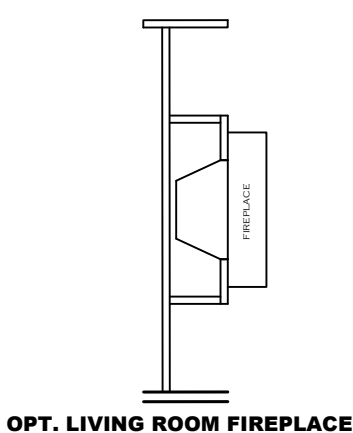
**OPT. 60" SHOWER
PRIMARY BATH**



**PRIMARY BATH 72" SHOWER
OPTION**



**PRIMARY BATH 65"
SHOWER OPTION**



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SHEET:

FP

FLOOR PLAN

Clayton

Clayton - 934
1420 Mountain Rd, Andersonville, TN 37705
PH: 865.494.7800 FAX: 865.494.0243

HILBORN, WERNER, CARTER,
AND ASSOCIATES, INC.
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL. 33756

DRAWING #: 34M401

MODEL #: MTN28523A

DATE: 4/2/2026 SCALE: N.T.S.

MODEL: MOUNTAINEER 52 (28'X52')

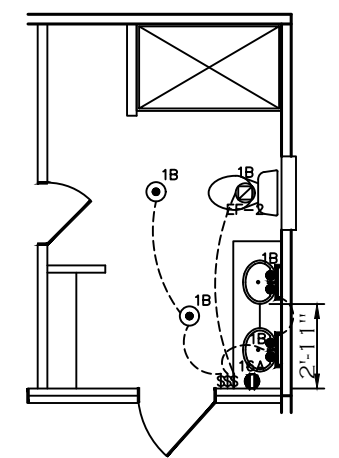
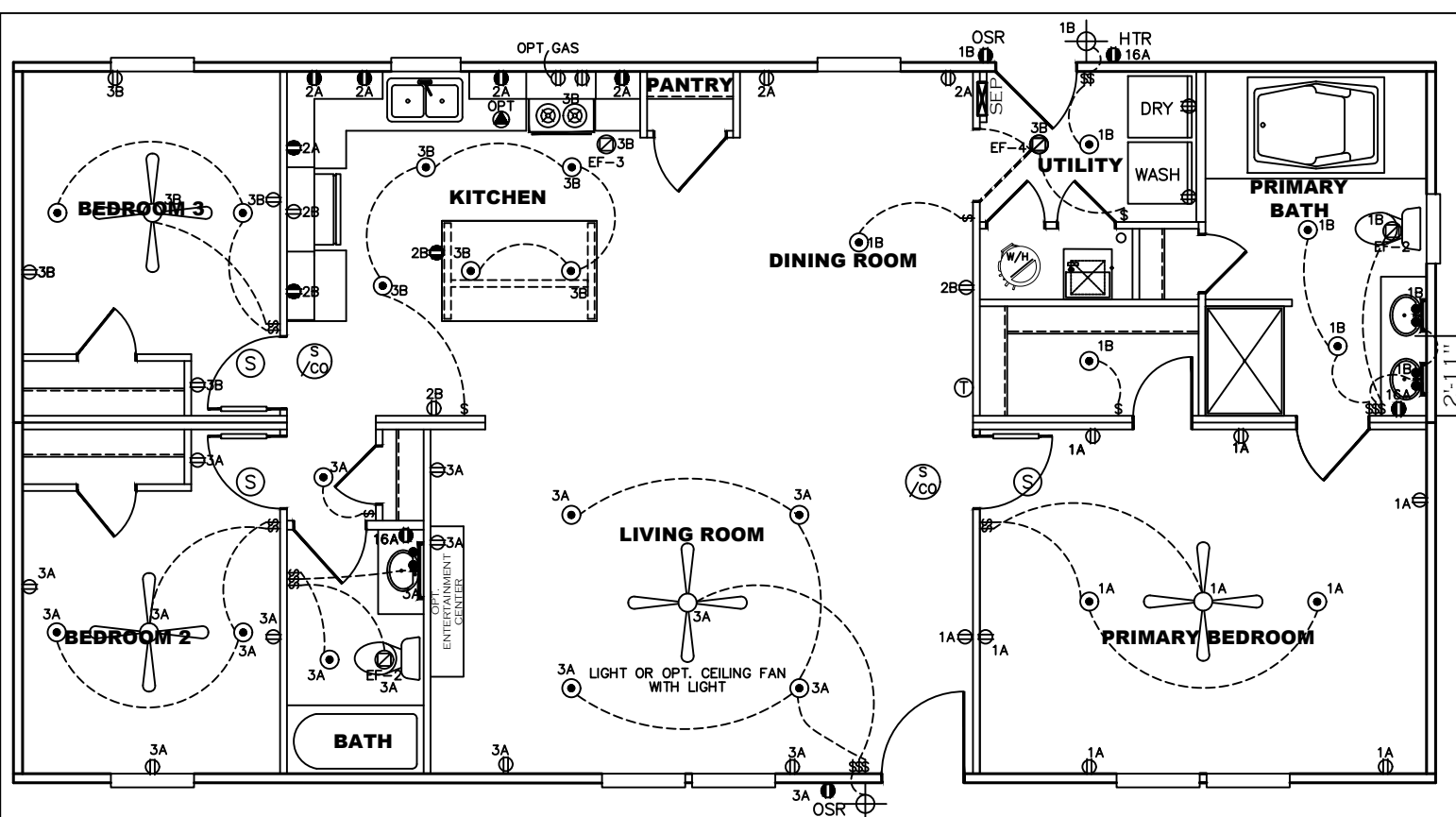
SERIES: MOUNTAINEER

PRODUCT DESIGNER: BRIAN K. RIFFEY

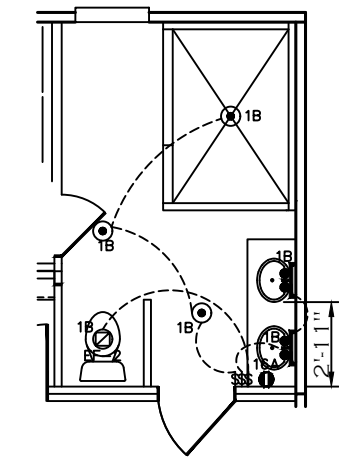
STD PLAN "CONDITIONED": 1,369 FT²

REV. BY:

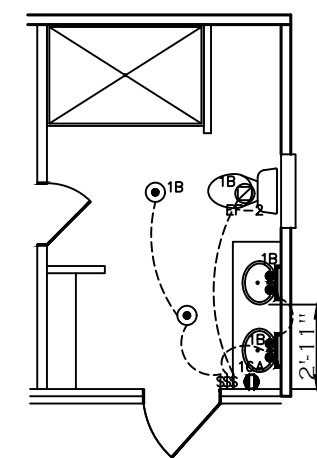
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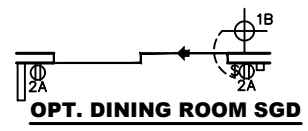
**OPT. 60" SHOWER
PRIMARY BATH**



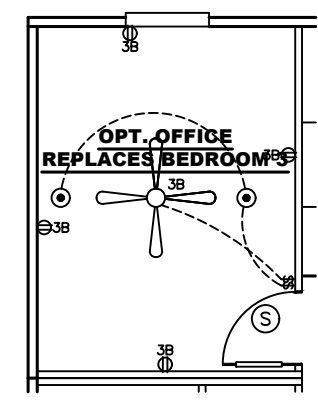
**PRIMARY BATH 72" SHOWER
OPTION**



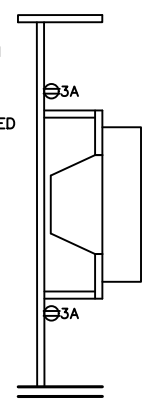
**PRIMARY BATH 65" SHOWER
SHOWER OPTION**



OPT. DINING ROOM SGD



**OPT. OFFICE
REPLACES BEDROOM 3**



OPT. LIVING ROOM FIREPLACE

- NOTES:
- 1) ALL CIRCUITS SHOWN ARE FOR REFERENCE AND MAY BE CHANGED BASED ON OPTIONAL COMPONENTS INSTALLED IN THE HOME.
 - 2) REFER TO EL SECTION OF THE DAPIA FOR SYMBOL CHART.
 - 3) INDICATES EITHER LIGHT OR RECEPTACLE MUST CONNECT TO SWITCH.
 - 4) EF-1= 50 CFM EXHAUST FAN REQUIRED FOR THERMAL ZONE III THERMAL ZONES I & II MAY USE FAN OR WINDOW W/1.5 SQ. FT. OPENABLE GLASS.
 - 5) EF-2= 50 CFM EXHAUST FAN REQUIRED THERMAL ZONE I, II, AND III.
 - 6) EF-3= 100 CFM RANGE EXHAUST FAN, SWITCH AT HOOD.
 - 7) EF-4= WHOLE HOUSE VENTILATION PER REQUIREMENTS IN S-HV-10 & 10A OR M-HV-11 & 11A OF DAPIA.
 - 8) REFER TO EL SECTION OF THE DAPIA OR THE MFG. INSTALLATION INSTRUCTIONS FOR PROPER WIRE SIZE AND BREAKER SIZE FOR SPECIFIC APPLIANCE AND MODEL BEING INSTALLED.
 - 9) ALL SMOKE ALARMS TO BE LOCATED ON THE CEILING.
 - 10) DIMENSIONS SHOWN ON PRINT ARE APPROXIMATE AND TO BE USED ONLY AS A GUIDELINE.
 - 11) LOUVERED DOORS SERVE AS RETURN AIR VENT.

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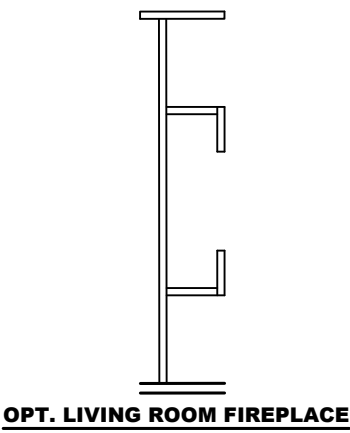
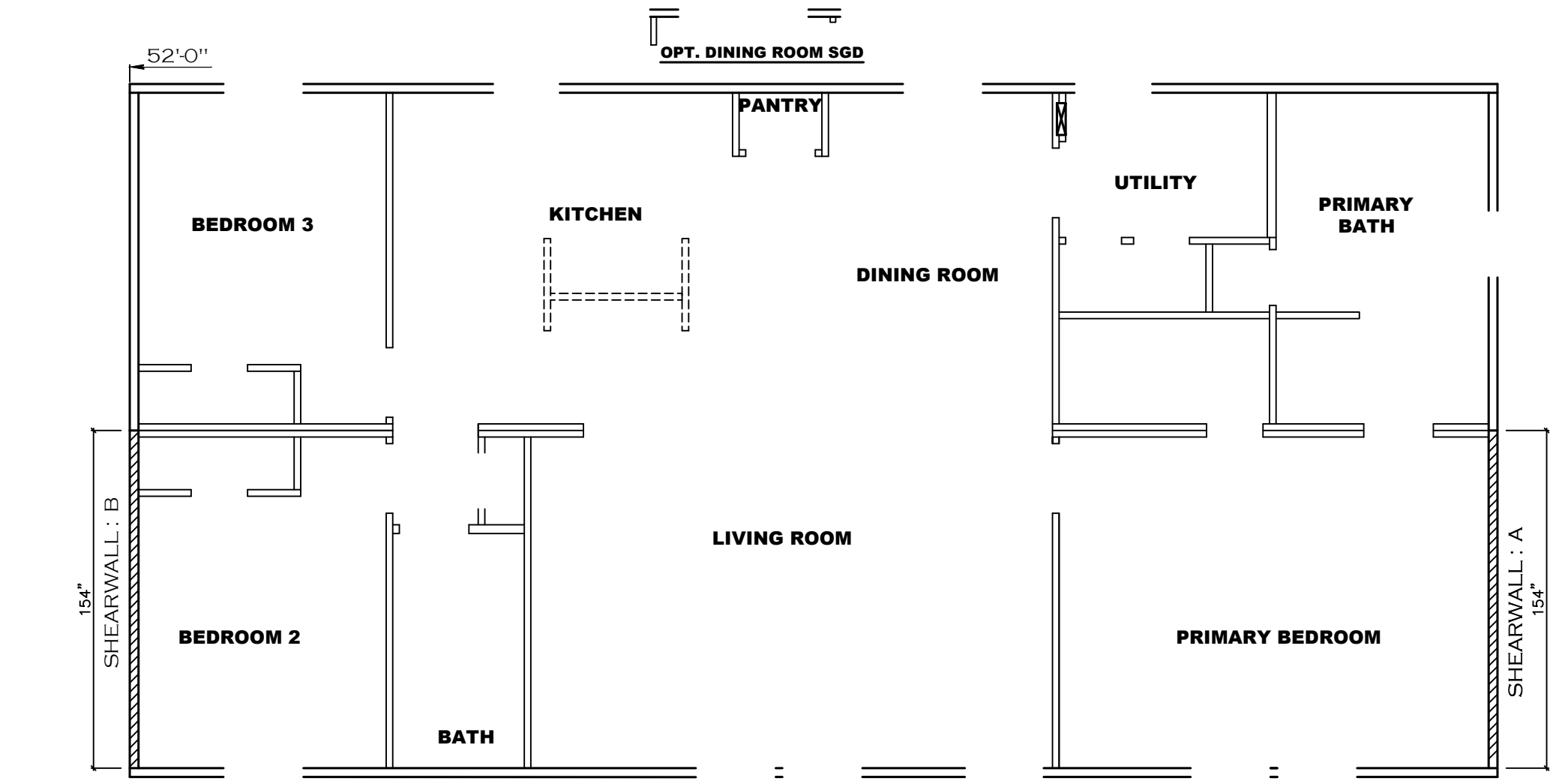
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CIRCUIT	CIRCUIT #	WIRE	BREAKER	CIRCUIT	CIRCUIT #	WIRE	BREAKER	CIRCUIT	CIRCUIT #	WIRE	BREAKER
LIGHT/RECEP	1A,1B,3A,3B	14-2	15-SP	WATER HEATER	4A,6B	SEE NOTE #8		BATHROOM	16A	12-2	20-SP
KITCHEN/DINING	2A,2B	12-2	20-SP	RANGE	5B,7A	SEE NOTE #8		OPT G/DISP	9B	SEE NOTE #8	
WASHER	15B	12-2	20-SP	FURNACE	6A,8A,B,10A,B	SEE NOTE #8		OPT SPA/	11A,B	SEE NOTE #8	
DRYER	5A,7B	SEE NOTE #8		OPT D/WASH	9A	SEE NOTE #8		WP/JAC		SEE NOTE #8	
				SMOKE ALARM	4B	SEE NOTE #8		FREEZER	N/A	SEE NOTE #8	



OPT. LIVING ROOM FIREPLACE

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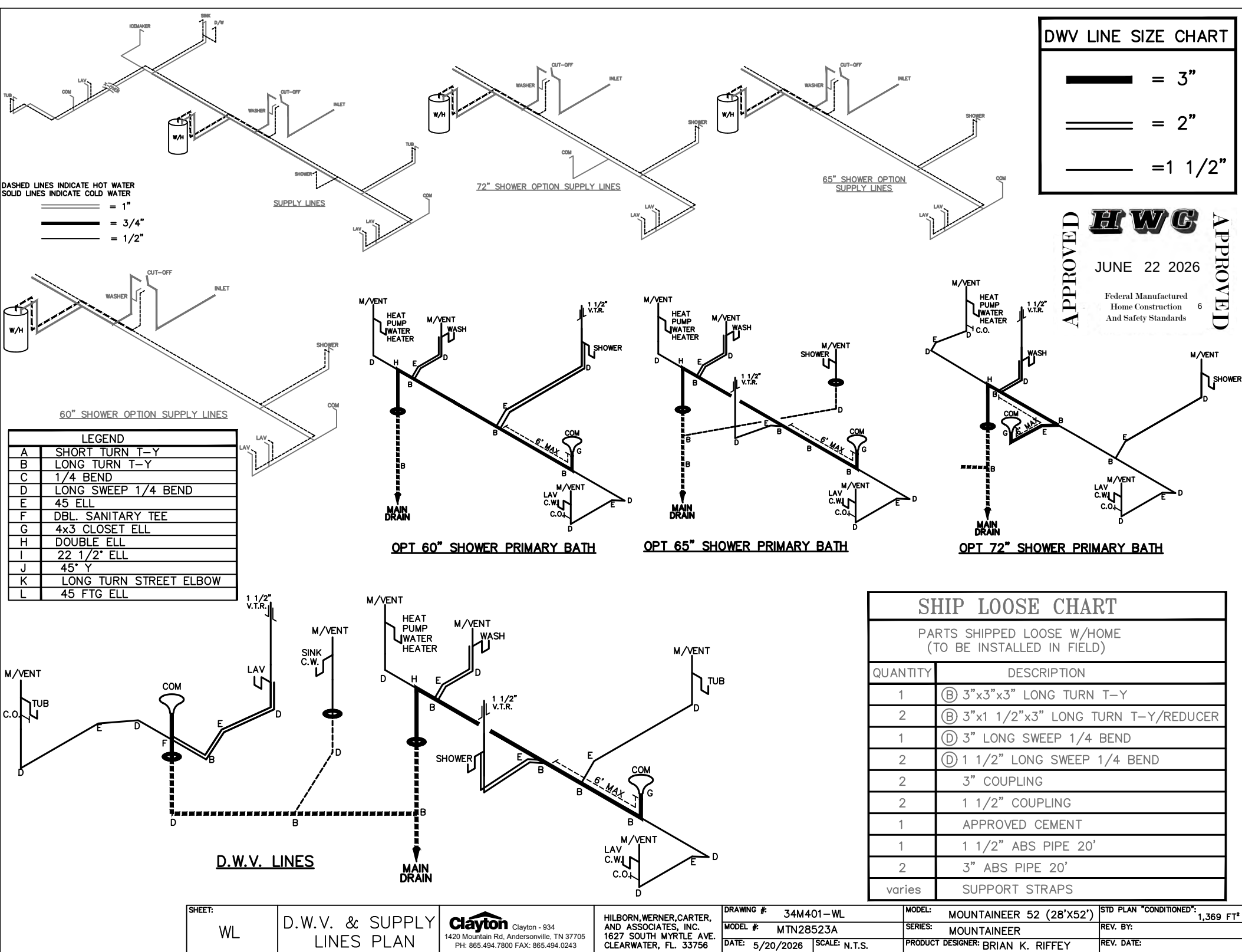
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Model # 34M401		Minimum Joist Spacing 16"	
Box Width =	156"	Double wide	No Offset Box
Box Length =	48 ft.	99.5" 12" MIN IBEAM	No Ceresatory
No Skylights			No Ongrans Dornier
No Porches			No Sunkun Floor
Joist Size =	#2 sp 2x6	Lags 9Mx3"	No Parapet Roof

Version R14.01							
Wind Zone 1 Standard Roof		7/16" Rated Sheathing and Ceiling Board with 15 ga staple @ 6/12 (286,315) Chords: 2x4 SPF #3 Top Plate & 2x4 Rail. Each spliced w/ 12" glue block.					96 inch sidewall
Diaphragm Construction		Block Dist. 2x6'					
Shearwall	Dist / Hitch	Length	PLF	# of Joists	Lags	Notes	
A	0"	116"	162	2	2/1		
B	52"	116"	162	2	2/1		
Wind Zone 2 Standard Roof		7/16" Rated Sheathing and Ceiling Board with 15 ga staple @ 6/12 (286,315) Chords: 2x4 SPF #3 Top Plate & 2x4 Rail. Each spliced w/ 12" glue block.					96 inch sidewall
Diaphragm Construction		Block Dist. 2x6'					
Shearwall	Dist / Hitch	Length	PLF	# of Joists	Lags	Notes	
A	0"	Full	350	2	3/3		
B	52"	Full	350	2	3/3		

SHEET: SW		SHEARWALL PLAN		 Clayton - 934 1420 Mountain Rd, Andersonville, TN 37705 PH: 865.494.7800 FAX: 865.494.0243		HILBORN, WERNER, CARTER, AND ASSOCIATES, INC. 1627 SOUTH MYRTLE AVE. CLEARWATER, FL. 33756		DRAWING #: 34M401		MODEL: MOUNTAINEER 52 (28'X52')		STD PLAN *CONDITIONED*: 1,369 FT²	
								MODEL #: MTN28523A		SERIES: MOUNTAINEER		REV. BY:	
								DATE: 4/2/2026		SCALE: N.T.S.		PRODUCT DESIGNER: BRIAN K. RIFFEY	
												REV. DATE:	



DWV LINE SIZE CHART	
	= 3"
	= 2"
	= 1 1/2"

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LEGEND		APPLIANCE BTU's RATINGS MAX. INPUT	
SYM	FITTINGS		
A	TEE	FURNACE	77,000 BTU'S
B	90 ELL	W/H	36,000 BTU'S
X	VALVE	RANGE	55,500 BTU'S
C	CAP	DRYER	22,000 BTU'S

MDL=25'

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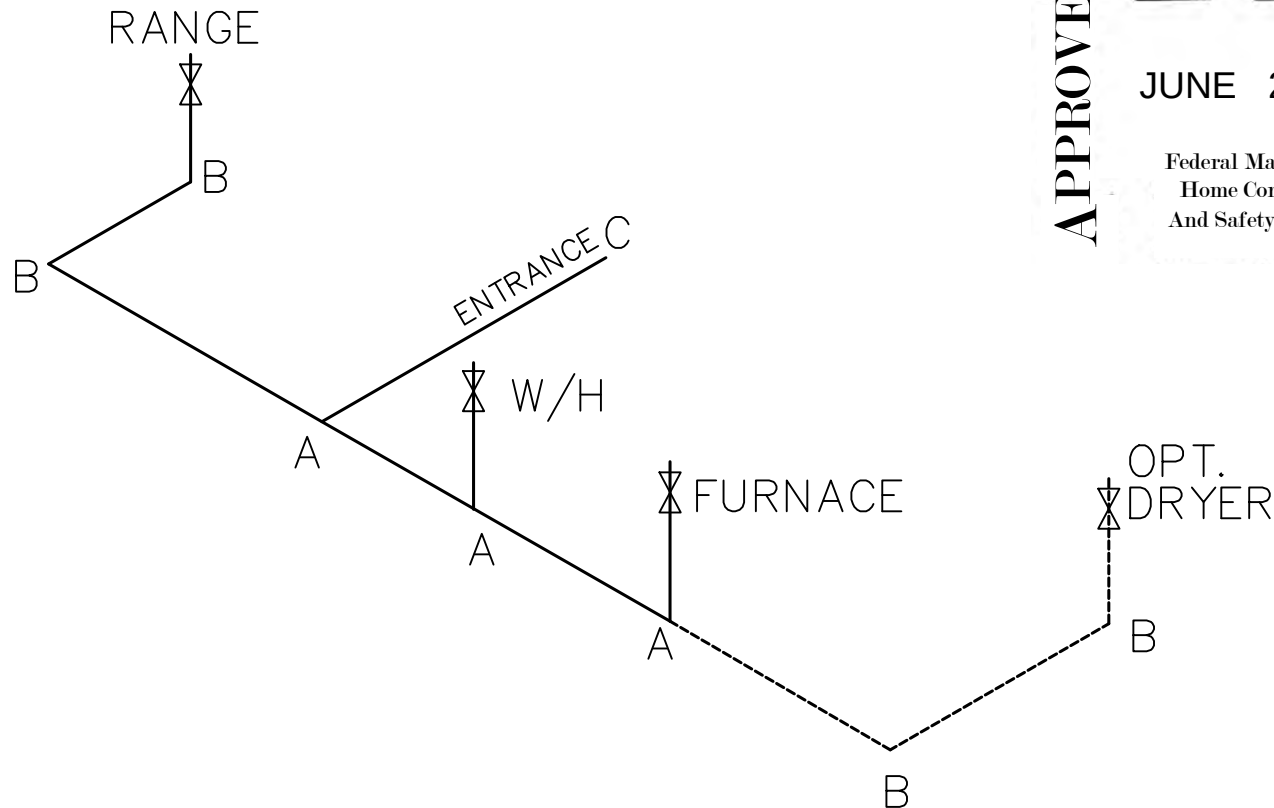
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- NOTES:
 1) PIPING IS 3/4" (UNLESS NOTED OTHERWISE)
 2) DIMENSIONS AND PIPE LENGTH MAY VARY
 3) MDL = MAX. DETERMINED LENGTH OF PIPE
 4) FITTINGS MAY BE ADDED OR SUBTRACTED TO TRAVERSE VARIATIONS IN AXLE QUANTITY, PLACEMENT, AND FRAME TYPE
 5) INLET LOCATION MAY VARY TO STAY WITH IN MAX. DETERMINED LENGTH

GAS LINE SIZE CHART	
	= 1"
	= 3/4"

SHEET:	GL	GAS LINE PLAN	Clayton - 934 1420 Mountain Rd, Andersonville, TN 37705 PH: 865.494.7800 FAX: 865.494.0243	HILBORN, WERNER, CARTER, AND ASSOCIATES, INC. 1627 SOUTH MYRTLE AVE. CLEARWATER, FL. 33756	DRAWING #: 34M401-GL MODEL #: MTN28523A DATE: 5/20/2026	MODEL: MOUNTAINEER 52 (28'X52') SERIES: MOUNTAINEER PRODUCT DESIGNER: BRIAN K. RIFFEY	STD. PLAN "CONDITIONED": 1,369 FT² REV. BY: REV. DATE:
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CLAYTON HOME BUILDING GROUP

Model Number	MTN28523A	Drawing Number	34M401-HEATLOSS-TZ1	Version 29
Serial Number	X	Model Name	MOUNTAINEER	

BOX SIZE: 26.33 ft. x 52 ft.

AVG. SIDEWALL HEIGHT = 8 FEET

PERCENTAGE OF CEILING THAT IS VAULTED = 0%

12 INCH DIAMETER XOVER DUCT AREA = 78.5 SQ.FT. MAX. WITH R-8 INSULATION

IN-FLOOR DUCT SYSTEM

	UNHEATED FLOOR	WALL	FLAT ROOF
INSULATION VALUES	R-22 FW	R-13	R-38
DAPIA PAGE	THP-161	THP-502	THP-1255
U VALUE (BTUH/SQ.FT.-F)	0.0445	0.0817	0.0297

THIS INSULATION COMBINATION COMPLIES WITH
ZONE 1 PRESCRIPTIVE ZERH REQUIREMENTS

Overhead Duct	
Diameter	Length
4	0
5	0
6	0
7	0
8	0
9	0
10	0
12	0
14	0
Exterior Supply	Length
14	0
16	0
Exterior Return	Length
14	0
16	0

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Window Glass Area:

Doors:

	Area	U Value	UA
Front	21.63	0.300	6.49
Rear	19.37	0.300	5.81
Other Door	40.00	0.300	12.00
Other Door	0.00	0.330	0.00
OSB	0.00	0.000	0.00
Skylights	0.00	0.330	0.00
Standard	110.00	0.300	33.00
Option	0.00	0.300	0.00
Floor	1369.33	0.045	60.94
Wall	1062.33	0.082	86.79
Ceiling	1369.33	0.0297	40.67
Ext. Duct	78.50	0.242	18.98
Ext. Duct	78.50	0.223	17.48
Ext. Duct	78.50	0.206	16.14
Supply	0.00	0.000	0.00
Supply	0.00	0.000	0.00
Supply	0.00	0.00	0.00

Energy Star v3 & ZERH Max Glass (sq ft)	
Th. Zone 1	211.0
Th. Zone 2	87.3
Th. Zone 3	0.0

Thermal Zone	Outdoor Design Temp (F)	UA	Uo	ZERH / EStar 3.0 Compliant	Heatloss BTUH/F
1	11	264.68	0.065	OK	374.30
2	0	263.18	0.065	NG	372.80
3	-14	261.83	0.064	NG	371.50

Design Temperatures		
Furnace Heating Temp (F)	Economy Outdoor Temp (F)	
-21	6	10kW
-39	-7	12kW
-67	-26	15kW
-37	-5	40k Gas
-90	-42	60k Gas
-144	-80	80k Gas

Thermal Zone	U-Value	Thermal Zone	U-Value	Thermal Zone	U-Value
Energy Star Version 2					
1-EHP-S	0.080	2-EHP-S	0.080	3-EHP-S	0.079
1-GAS-S	0.080	2-GAS-S	0.080	3-GAS-S	0.071
1-ENV-S	0.076	2-ENV-S	0.067	3-ENV-S	0.059
1-EHP-M	0.074	2-EHP-M	0.074	3-EHP-M	0.074
1-GAS-M	0.074	2-GAS-M	0.074	3-GAS-M	0.065
1-ENV-M	0.071	2-ENV-M	0.064	3-ENV-M	0.056

Energy Star Version 3 & ZERH					
1 Single	0.076	2 Single	0.065	3 Single	0.057
1 Double	0.070	2 Double	0.063	3 Double	0.054



Building Analysis

Entire House

CMH-Manufacturing Appalachia

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Job: 34M401-FDJ-TZ1
Date: June 19, 2026
By: Brian Riffey



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Project Information

For: 34M401-FDJ-TZ1

JUNE 22 2026

Federal Manufactured
Home Construction 6
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Design Conditions

Location:

GA 36
Elevation: 1010 ft
Latitude: 34°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

26
-
-
15.0

Cooling

94
16 (M)
74
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
44
50
39.9

Cooling

75
19
50
31.4

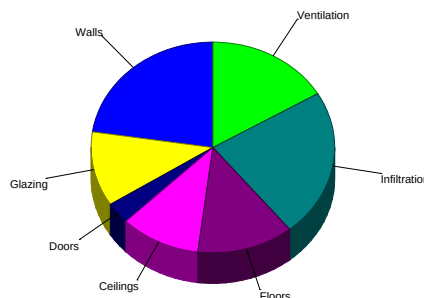
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

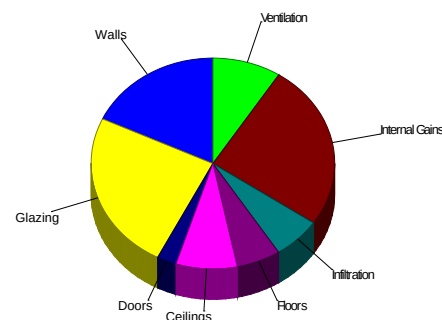
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.6	3813	22.6
Glazing	13.1	1929	11.4
Doors	13.1	549	3.3
Ceilings	1.3	1802	10.7
Floors	1.6	2163	12.8
Infiltration	3.0	3823	22.7
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		2774	16.5
Adjustments		0	0
Total		16854	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.2	2357	18.0
Glazing	21.7	3197	24.5
Doors	8.1	340	2.6
Ceilings	0.8	1059	8.1
Floors	0.6	766	5.9
Infiltration	0.7	838	6.4
Ducts		0	0
Ventilation		1190	9.1
Internal gains		3320	25.4
Blower		0	0
Adjustments		0	0
Total		13067	100.0



Latent Cooling Load = 2907 Btuh

Overall U-value = 0.059 Btuh/ft²-°F, Window / Floor Area = 10.7 %

Data entries checked.



Right-Suite® Universal 2025 25.0.05 RSU55710

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Component Constructions
Entire House
CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ1
Date: June 19, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ1

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Design Conditions

Location:

GA 36
Elevation: 1010 ft
Latitude: 34°N

Outdoor:

	Heating	Cooling
Dry bulb (°F)	26	94
Daily range (°F)	-	16 (M)
Wet bulb (°F)	-	74
Wind speed (mph)	15.0	7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
44
50
39.9

Cooling

75
19
50
31.4

Infiltration:

	Simplified
Method	Average
Construction quality	0
Fireplaces	

Construction descriptions

Walls

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² ·°F	Insul R ft ² ·°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
CMH - DW - R-13 Wall - THP-502 DOE: Double Wide - R-13 Applegate	n	212	0.082	13.0	3.58	758	2.21	468
Insulation THP-504 2x4 Wall DOE	e	331	0.082	13.0	3.58	1183	2.21	731
	s	204	0.082	13.0	3.58	728	2.21	450
	w	320	0.082	13.0	3.58	1144	2.21	707
	all	1067	0.082	13.0	3.58	3813	2.21	2357

Partitions

(none)

Windows

Clayton - Therompane Low-E DOE: Clayton - Therompane Low-E DOE;	e	8	0.300	0	13.1	108	22.3	184
50% blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht	e	15	0.300	0	13.1	196	22.3	335
	e	41	0.300	0	13.1	536	22.3	914
	s	8	0.300	0	13.1	108	10.7	88
	w	75	0.300	0	13.1	981	22.3	1674
	all	147	0.300	0	13.1	1929	21.7	3195

Doors

CMH - Standard Door DOE: CMH - Standard Door -Solid no strom DOE	e	21	0.300	0	13.1	275	8.08	170
	w	21	0.300	0	13.1	275	8.08	170
	all	42	0.300	0	13.1	549	8.08	340

Ceilings

CMH - DW - 158 box R-38 - THP771 - DOE: DW - 158 box R-38		1378	0.030	38.0	1.31	1802	0.77	1059
Applegate Insulation THP771 - Flat Ceiling 24oc								

Floors

CMH-DW-R-27 - THP-392: Double Wide - R-22 OR R-33 BIB Roll Knuaf		1378	0.036	27.0	1.57	2163	0.56	766
Insulation THP-392								

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Project Summary

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ1
Date: June 19, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ1

Notes: Duct Capacity 26000 BTUH



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Design Information

Weather: GA 36

Winter Design Conditions

Outside db 26 °F
Inside db 70 °F
Design TD 44 °F

Ventilation Method MJ8

Heating Summary

Structure 14079 Btuh
Ducts 0 Btuh
Central vent (60 cfm) 2774 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 16854 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	1378	1378
Volume (ft ³)	11024	11024
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	83	42

Heating Equipment Summary

Make Smart Comfort
Trade 15 SEER2 R SERIES R410A HP
Model R4H5S24*K*AAA*
AHRI ref 0

Efficiency 7.5 HSPF2
Heating input
Heating output 22800 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 780 cfm
Air flow factor 0.055 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat
Capacity balance point = 21 °F

Backup: Smart Comfort
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 94 °F
Inside db 75 °F
Design TD 19 °F
Daily range M
Relative humidity 50 %
Moisture difference 31 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 11877 Btuh
Ducts 0 Btuh
Central vent (60 cfm) 1190 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.99
Equipment sensible load 12897 Btuh

Latent Cooling Equipment Load Sizing

Structure 1671 Btuh
Ducts 0 Btuh
Central vent (60 cfm) 1236 Btuh
Outside air
Equipment latent load 2907 Btuh

Equipment Total Load (Sen+Lat) 15804 Btuh
Req. total capacity at 0.70 SHR 1.5 ton

Cooling Equipment Summary

Make Smart Comfort
Trade 15 SEER2 R SERIES R410A HP
Cond R4H5S24*K*AAA*
Coil FEVA0024***+NAVA43601CK
AHRI ref 0

Efficiency 12.0 EER2, 15.2 SEER2
Sensible cooling 16380 Btuh
Latent cooling 7020 Btuh
Total cooling 23400 Btuh
Actual air flow 780 cfm
Air flow factor 0.066 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.82

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



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Page 1



Duct System Summary

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ1
Date: June 19, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ1

JUNE 22 2026

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	Heating	Cooling
External static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Supply / return available pressure	0.150 / 0.150 in H ₂ O	0.150 / 0.150 in H ₂ O
Lowest friction rate	0.194 in/100ft	0.194 in/100ft
Actual air flow	780 cfm	780 cfm
Total effective length (TEL)	154 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
BATH	h 505	28	13	0.206	5.0	0x0	VIFx	35.4	110.0	st5
BEDROOM 2	h 1775	98	84	0.194	6.0	0x0	VIFx	44.4	110.0	st5
BEDROOM 3	h 1735	96	79	0.417	5.0	0x0	VIFx	37.0	35.0	st3
KITCHEN/DINING	c 1652	84	108	0.750	5.0	0x0	VIFx	5.0	35.0	st3
KITCHEN/DINING-A	c 1652	84	108	0.522	5.0	0x0	VIFx	22.5	35.0	st3
LIVING ROOM	c 1254	64	82	0.229	6.0	0x0	VIFx	20.9	110.0	st4
LIVING ROOM-A	c 1254	64	82	0.214	6.0	0x0	VIFx	30.4	110.0	st5
PRIMARY BATH	h 1813	100	61	0.789	5.0	0x0	VIFx	3.0	35.0	st1
PRIMARY BEDROOM	c 1227	80	81	0.226	6.0	0x0	VIFx	22.9	110.0	st4
PRIMARY BEDROOM-A	c 1227	80	81	0.205	6.0	0x0	VIFx	36.4	110.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	100	61	0.789	207	4.5	5 x 14	ShtMetl	st2 st2
st4	Peak AVF	224	244	0.205	501	4.5	5 x 14	ShtMetl	
st5	Peak AVF	191	180	0.194	392	4.5	5 x 14	ShtMetl	
st3	Peak AVF	265	296	0.417	609	4.5	5 x 14	ShtMetl	
st2	Peak AVF	414	423	0.194	870	4.5	5 x 14	VinIFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	780	780	0	0	0	0	0x 0		VIFx	





Manual S Compliance Report

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ1
Date: June 19, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ1

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Home Construction 6
And Safety Standards

Cooling Equipment

Design Conditions

Outdoor design DB:	93.7°F	Sensible gain:	13067	Btuh	Entering coil DB:	76.5°F
Outdoor design WB:	73.8°F	Latent gain:	2907	Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	15974	Btuh		
Indoor RH:	50%	Estimated airflow:	780	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Smart Comfort	Model:	R4H5S24*K*AAA*+FEVA0024**+NAVA43601CK	
Actual airflow:	780	cfm		
Sensible capacity:	16380	Btuh	125% of load	
Latent capacity:	7020	Btuh	241% of load	
Total capacity:	23400	Btuh	146% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	26.4°F	Heat loss:	16854	Btuh	Entering coil DB:	66.6°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Smart Comfort	Model:	R4H5S24*K*AAA*+FEVA0024**+NAVA43601CK	
Actual airflow:	780	cfm		
Output capacity:	22800	Btuh	135% of load	Capacity balance: 21 °F
Supplemental heat required:	0	Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip			
Manufacturer:	Smart Comfort	Model:		
Actual airflow:	780	cfm		
Output capacity:	10.0	kW	202% of load	Temp. rise: 41 °F

Meets all requirements of ACCA Manual S.



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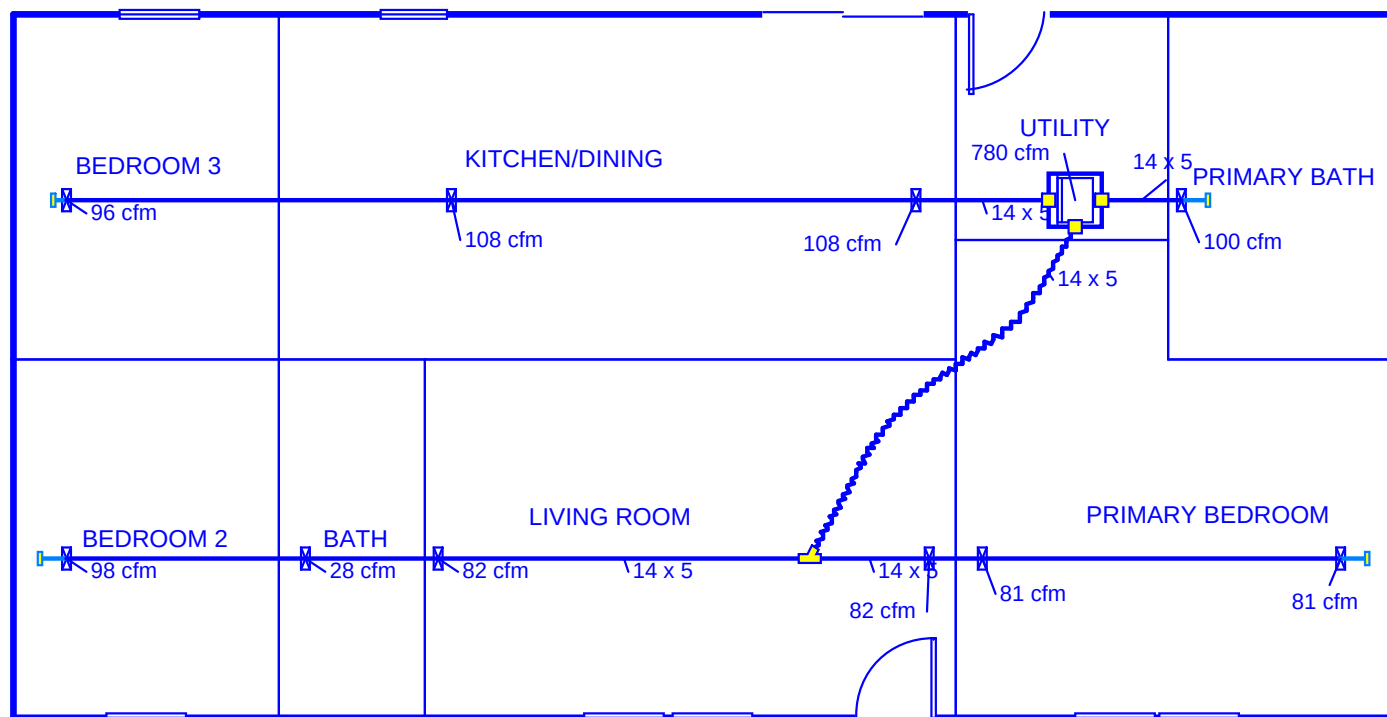
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And Safety Standards

6

Level 1



Job #: 34M401-FDJ-TZ1
Performed by Brian Riffey for:
34M401-FDJ-TZ1

CMH-Manufacturing Appalachia

1420 Mountain Road
Andersonville, TN 37705
Phone: 865-494-7800 Ext 257 Fax: 865-494-0243
www.claytonhomes.com

Scale: 1 : 87

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Home Construction
And Safety Standards 6

Model:

34M401

Serial Number:

TZ1

Cooling Equipment Summary

Duct Capacity: 26,000 btuh

Economy Outdoor Temp (°F) = -21 = (70 - Furnace Output / Estimated Heatloss)
(Outdoor Certification Temp.)

Furnace Heating Temp (°F) = 6 = If $0.3 * \text{Design TD} > 20$ then
(Operating Econ. Cert. Temp.) $0.3 * (70 - \text{Cert. Temp.}) + \text{Cert. Temp}$
else Cert. Temp. + 20

Air Ducts in Floor: 103 sq ft

Air Ducts Outside of Home: 78.5 sq ft

v-2.0

CLAYTON HOME BUILDING GROUP

Model Number	MTN28523A	Drawing Number	34M401-HEATLOSS-TZ2	Version 29
Serial Number	X	Model Name	MOUNTAINEER	

BOX SIZE: 26.33 ft. x 52 ft.

AVG. SIDEWALL HEIGHT = 8 FEET

PERCENTAGE OF CEILING THAT IS VAULTED = 0%

12 INCH DIAMETER XOVER DUCT AREA = 78.5 SQ.FT. MAX. WITH R-8 INSULATION

IN-FLOOR DUCT SYSTEM

	UNHEATED FLOOR	WALL	FLAT ROOF
INSULATION VALUES	R-33 FW	R-13	R-38
DAPIA PAGE	THP-221	THP-502	THP-1255
U VALUE (BTUH/SQ.FT.-F)	0.0320	0.0817	0.0297

--

Overhead Duct	
Diameter	Length
4	0
5	0
6	0
7	0
8	0
9	0
10	0
12	0
14	0
Exterior Supply	Length
14	0
16	0
Exterior Return	Length
14	0
16	0

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Window Glass Area:

Doors:

	Area	U Value	UA
Front	21.63	0.300	6.49
Rear	19.37	0.300	5.81
Other Door	40.00	0.300	12.00
Other Door	0.00	0.330	0.00
OSB	0.00	0.000	0.00
Skylights	0.00	0.330	0.00
Standard	110.00	0.300	33.00
Option	0.00	0.300	0.00
Net:			
Floor	1369.33	0.032	43.82
Wall	1062.33	0.082	86.79
Ceiling	1369.33	0.0297	40.67
Th. Zone 1: Ext. Duct	78.50	0.242	18.98
Th. Zone 2: Ext. Duct	78.50	0.223	17.48
Th. Zone 3: Ext. Duct	78.50	0.206	16.14
Overhead TZ 1: Supply	0.00	0.000	0.00
Overhead TZ 2: Supply	0.00	0.000	0.00
Overhead TZ 3: Supply	0.00	0.00	0.00

Energy Star v3 & ZERH Max Glass (sq ft)	
Th. Zone 1	289.4
Th. Zone 2	165.8
Th. Zone 3	0.0

Thermal Zone	Outdoor Design Temp (F)	UA	Uo	ZERH / EStar 3.0 Compliant	Heatloss BTUH/F
1	11	247.56	0.061	OK	357.20
2	0	246.06	0.060	OK	355.70
3	-14	244.72	0.060	NG	354.40

Design Temperatures	
Furnace Heating Temp (F)	Economy Outdoor Temp (F)
-26	3
-45	-10
-73	-30
-42	-8
-98	-48
-154	-87

10kW
12kW
15kW
40k Gas
60k Gas
80k Gas

Thermal Zone	U-Value	Thermal Zone	U-Value	Thermal Zone	U-Value
Energy Star Version 2					
1-EHP-S	0.080	2-EHP-S	0.080	3-EHP-S	0.079
1-GAS-S	0.080	2-GAS-S	0.080	3-GAS-S	0.071
1-ENV-S	0.076	2-ENV-S	0.067	3-ENV-S	0.059
1-EHP-M	0.074	2-EHP-M	0.074	3-EHP-M	0.074
1-GAS-M	0.074	2-GAS-M	0.074	3-GAS-M	0.065
1-ENV-M	0.071	2-ENV-M	0.064	3-ENV-M	0.056

Energy Star Version 3 & ZERH					
1 Single	0.076	2 Single	0.065	3 Single	0.057
1 Double	0.070	2 Double	0.063	3 Double	0.054



Building Analysis

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ2
Date: June 11, 2026
By: Brian Riffey



1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ2

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Design Conditions

Location:

TN 25
Elevation: 962 ft
Latitude: 36°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

21
-
-
15.0

Cooling

90
18 (M)
73
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
49
50
43.6

Cooling

75
15
50
33.6

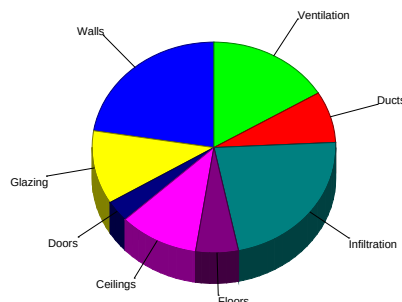
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

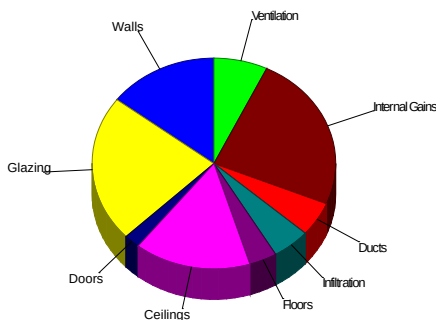
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.0	4288	22.5
Glazing	14.7	2157	11.3
Doors	14.7	617	3.2
Ceilings	1.5	2026	10.6
Floors	0.8	1080	5.7
Infiltration	3.4	4304	22.5
Ducts		1505	7.9
Piping		0	0
Humidification		0	0
Ventilation		3123	16.4
Adjustments		0	0
Total		19100	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.9	2017	14.7
Glazing	21.1	3103	22.5
Doors	6.9	290	2.1
Ceilings	1.5	2131	15.5
Floors	0.4	509	3.7
Infiltration	0.6	691	5.0
Ducts		725	5.3
Ventilation		982	7.1
Internal gains		3320	24.1
Blower		0	0
Adjustments		0	0
Total		13769	100.0



Latent Cooling Load = 3244 Btuh

Overall U-value = 0.057 Btuh/ft²-°F, Window / Floor Area = 10.6 %

Data entries checked.



Component Constructions
Entire House
CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ2
Date: June 11, 2026
By: Brian Riffey



1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ2

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Design Conditions

Location:

TN 25
Elevation: 962 ft
Latitude: 36°N

Outdoor:

	Heating	Cooling
Dry bulb (°F)	21	90
Daily range (°F)	-	18 (M)
Wet bulb (°F)	-	73
Wind speed (mph)	15.0	7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
49
50
43.6

Cooling

75
15
50
33.6

Infiltration:

Method	Simplified
Construction quality	Average
Fireplaces	0

Construction descriptions

Walls

Construction descriptions	Or	Area ft ²	U-value Btuh/ft ² ·°F	Insul R ft ² ·°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
CMH - DW - R-13 Wall - THP-502 DOE: Double Wide - R-13 Applegate	n	212	0.082	13.0	4.02	852	1.89	401
Insulation THP-504 2x4 Wall DOE	e	332	0.082	13.0	4.02	1332	1.89	627
	s	204	0.082	13.0	4.02	819	1.89	385
	w	320	0.082	13.0	4.02	1286	1.89	605
	all	1067	0.082	13.0	4.02	4288	1.89	2017

Partitions

(none)

Windows

Clayton - Therompane Low-E DOE: Clayton - Therompane Low-E DOE;	e	8	0.300	0	14.7	110	21.3	160
50% blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht	e	15	0.300	0	14.7	221	21.3	320
	e	41	0.300	0	14.7	602	21.3	875
	s	8	0.300	0	14.7	121	10.3	85
	w	75	0.300	0	14.7	1102	21.3	1601
	all	147	0.300	0	14.7	2157	20.7	3041

Doors

CMH - Standard Door DOE: CMH - Standard Door -Solid no strom DOE	e	21	0.300	0	14.7	309	6.91	145
	w	21	0.300	0	14.7	309	6.91	145
	all	42	0.300	0	14.7	617	6.91	290

Ceilings

CMH - DW - 158 box R-38 - THP1255: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		1378	0.030	38.0	1.47	2026	1.55	2131
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Floors

CHM - DW - R-33 FW THP-221: Flr floor, frm flr, 6" thkns, vinyl flr fnsh, r-30 ext ins, amb ovr		1378	0.032	33.0	0.78	1080	0.37	509
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Project Summary

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ2
Date: June 11, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ2

Notes: Duct Capacity 26000 BTUH

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Design Information

Weather: TN 25

Winter Design Conditions

Outside db 21 °F
Inside db 70 °F
Design TD 49 °F

Ventilation Method MJ8

Heating Summary

Structure 14472 Btuh
Ducts (R-8.0) 1505 Btuh
Central vent (60 cfm) 3123 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 19100 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	1378	1378
Volume (ft ³)	11024	11024
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	83	42

Heating Equipment Summary

Make Smart Comfort
Trade PERFORMANCE 16 SEER2 HP
Model N5H5S24*K*AAA*
AHRI ref 217051505

Efficiency 7.5 HSPF2
Heating input
Heating output 22800 Btuh @ 47°F
Temperature rise 29 °F
Actual air flow 753 cfm
Air flow factor 0.047 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat
Capacity balance point = 20 °F
Backup: Smart Comfort
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 90 °F
Inside db 75 °F
Design TD 15 °F
Daily range M
Relative humidity 50 %
Moisture difference 34 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 12062 Btuh
Ducts (R-8.0) 725 Btuh
Central vent (60 cfm) 982 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.95
Equipment sensible load 13136 Btuh

Latent Cooling Equipment Load Sizing

Structure 1733 Btuh
Ducts 186 Btuh
Central vent (60 cfm) 1325 Btuh
Outside air
Equipment latent load 3244 Btuh

Equipment Total Load (Sen+Lat) 16380 Btuh
Req. total capacity at 0.70 SHR 1.6 ton

Cooling Equipment Summary

Make Smart Comfort
Trade PERFORMANCE 16 SEER2 HP
Cond N5H5S24*K*AAA*
Coil FEVA0024***+NAVA53601CK
AHRI ref 217051505

Efficiency 12.0 EER2, 15.5 SEER2
Sensible cooling 15820 Btuh
Latent cooling 6780 Btuh
Total cooling 22600 Btuh
Actual air flow 753 cfm
Air flow factor 0.059 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.81

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



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Duct System Summary

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ2
Date: June 11, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ2

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	Heating	Cooling
External static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Supply / return available pressure	0.150 / 0.150 in H ₂ O	0.150 / 0.150 in H ₂ O
Lowest friction rate	0.194 in/100ft	0.194 in/100ft
Actual air flow	753 cfm	753 cfm
Total effective length (TEL)	154 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
BATH	h 546	26	14	0.206	5.0	0x0	VIFx	35.4	110.0	st5
BEDROOM 2	h 2058	97	80	0.194	6.0	0x0	VIFx	44.4	110.0	st5
BEDROOM 3	h 2013	95	75	0.417	5.0	0x0	VIFx	37.0	35.0	st3
KITCHEN/DINING	c 1786	80	105	0.750	5.0	0x0	VIFx	5.0	35.0	st3
KITCHEN/DINING-A	c 1786	80	105	0.522	5.0	0x0	VIFx	22.5	35.0	st3
LIVING ROOM	c 1364	61	80	0.229	6.0	0x0	VIFx	20.9	110.0	st4
LIVING ROOM-A	c 1364	61	80	0.214	6.0	0x0	VIFx	30.4	110.0	st5
PRIMARY BATH	h 2106	99	58	0.789	5.0	0x0	VIFx	3.0	35.0	st1
PRIMARY BEDROOM	c 1323	77	78	0.226	5.0	0x0	VIFx	22.9	110.0	st4
PRIMARY BEDROOM-A	c 1323	77	78	0.205	6.0	0x0	VIFx	36.4	110.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	99	58	0.789	204	4.5	5 x 14	ShtMetl	st2 st2
st4	Peak AVF	215	236	0.205	486	4.5	5 x 14	ShtMetl	
st5	Peak AVF	184	174	0.194	378	4.5	5 x 14	ShtMetl	
st3	Peak AVF	255	285	0.417	587	4.5	5 x 14	ShtMetl	
st2	Peak AVF	399	410	0.194	984	4.5	5 x 12	VinIFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	753	753	0	0	0	0	0x 0		VIFx	





Manual S Compliance Report

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ2
Date: June 11, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ2

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Home Construction 6
And Safety Standards

Cooling Equipment

Design Conditions

Outdoor design DB:	90.4°F	Sensible gain:	13769	Btuh	Entering coil DB:	76.3°F
Outdoor design WB:	73.3°F	Latent gain:	3244	Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	17013	Btuh		
Indoor RH:	50%	Estimated airflow:	753	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Smart Comfort	Model:	N5H5S24*K*AAA*+FEVA0024**++NAVA53601CK	
Actual airflow:	753	cfm		
Sensible capacity:	18447	Btuh	134% of load	
Latent capacity:	3746	Btuh	115% of load	
Total capacity:	22193	Btuh	130% of load	SHR: 83%

Heating Equipment

Design Conditions

Outdoor design DB:	21.0°F	Heat loss:	19100	Btuh	Entering coil DB:	66.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Smart Comfort	Model:	N5H5S24*K*AAA*+FEVA0024**++NAVA53601CK	
Actual airflow:	753	cfm		
Output capacity:	16659	Btuh	87% of load	Capacity balance: 20 °F
Supplemental heat required:	2441	Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip			
Manufacturer:	Smart Comfort	Model:		
Actual airflow:	753	cfm		
Output capacity:	10.0	kW	179% of load	Temp. rise: 41 °F

Meets all requirements of ACCA Manual S.



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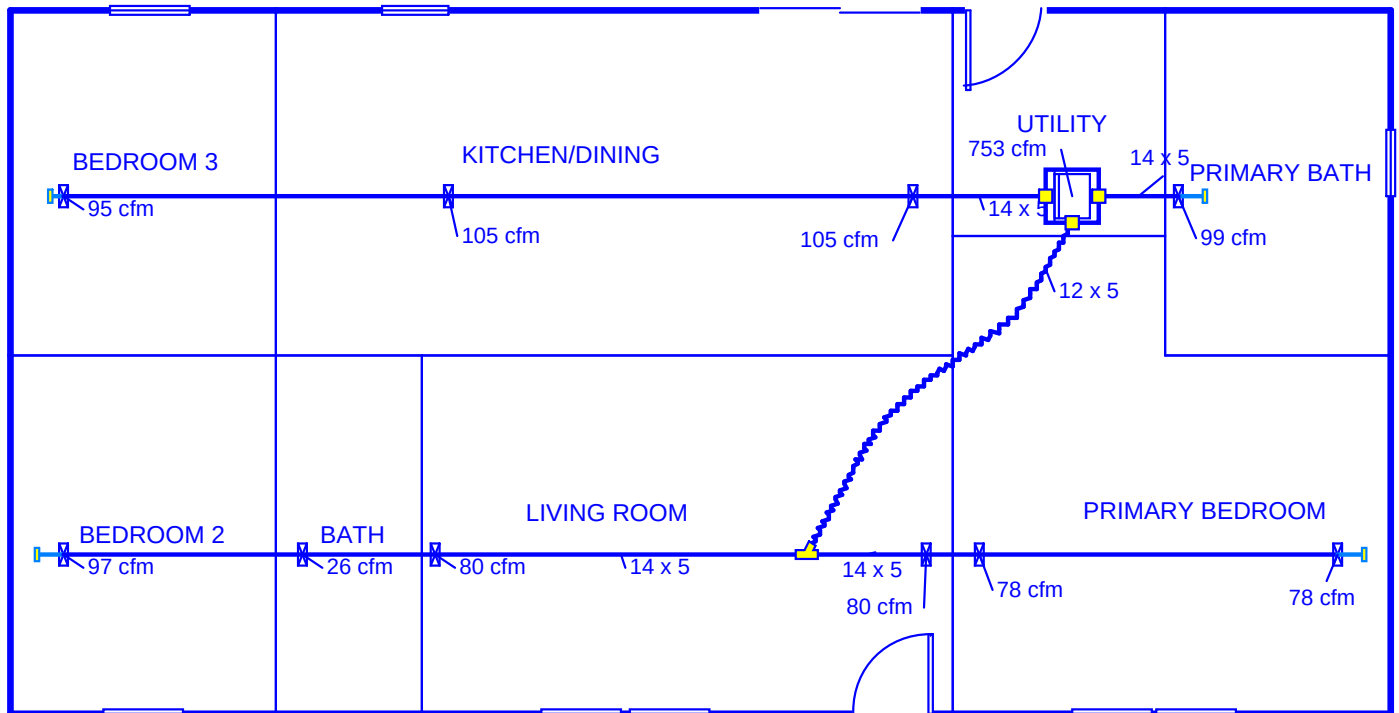
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Level 1



Job #: 34M401-FDJ-TZ2
Performed by Brian Riffey for:
34M401-FDJ-TZ2

CMH-Manufacturing Appalachia

1420 Mountain Road
Andersonville, TN 37705
Phone: 865-494-7800 Ext 257 Fax: 865-494-0243
www.claytonhomes.com

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Model:

34M401

Serial Number:

TZ2

Cooling Equipment Summary

Duct Capacity: 26,000 btuh

Economy Outdoor Temp (°F) = -26 = (70 - Furnace Output / Estimated Heatloss)
(Outdoor Certification Temp.)

Furnace Heating Temp (°F) = 3 = If $0.3 * \text{Design TD} > 20$ then
(Operating Econ. Cert. Temp.) $0.3 * (70 - \text{Cert. Temp.}) + \text{Cert. Temp.}$
else Cert. Temp. + 20

Air Ducts in Floor: 103 sq ft

Air Ducts Outside of Home: 78.5 sq ft

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CLAYTON HOME BUILDING GROUP

Model Number	MTN28523A	Drawing Number	34M401-HEATLOSS-TZ3	Version 29
Serial Number	X	Model Name	MOUNTAINEER	

BOX SIZE: 26.33 ft. x 52 ft.

AVG. SIDEWALL HEIGHT = 8 FEET

PERCENTAGE OF CEILING THAT IS VAULTED = 0%

12 INCH DIAMETER XOVER DUCT AREA = 78.5 SQ.FT. MAX. WITH R-8 INSULATION

IN-FLOOR DUCT SYSTEM

	UNHEATED FLOOR	WALL	FLAT ROOF
INSULATION VALUES	R-33 FW	R-21	R-38
DAPIA PAGE	THP-221	THP-510	THP-1255
U VALUE (BTUH/SQ.FT.-F)	0.0320	0.0546	0.0297

THIS INSULATION COMBINATION COMPLIES WITH
ZONE 3 PRESCRIPTIVE ZERH REQUIREMENTS

Overhead Duct	
Diameter	Length
4	0
5	0
6	0
7	0
8	0
9	0
10	0
12	0
14	0
Exterior Supply	Length
14	0
16	0
Exterior Return	Length
14	0
16	0

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Window Glass Area:

Doors:

	Area	U Value	UA
Front	21.63	0.300	6.49
Rear	19.37	0.300	5.81
Other Door	40.00	0.300	12.00
Other Door	0.00	0.330	0.00
OSB	0.00	0.000	0.00
Skylights	0.00	0.330	0.00
Standard	110.00	0.300	33.00
Option	0.00	0.300	0.00
Net: Floor	1369.33	0.032	43.82
Wall	1062.33	0.055	58.00
Ceiling	1369.33	0.0297	40.67
Th. Zone 1: Ext. Duct	78.50	0.242	18.98
Th. Zone 2: Ext. Duct	78.50	0.223	17.48
Th. Zone 3: Ext. Duct	78.50	0.206	16.14
Overhead TZ 1: Supply	0.00	0.000	0.00
Overhead TZ 2: Supply	0.00	0.000	0.00
Overhead TZ 3: Supply	0.00	0.00	0.00

Energy Star v3 & ZERH Max Glass (sq ft)	
Th. Zone 1	386.9
Th. Zone 2	276.9
Th. Zone 3	125.8

Thermal Zone	Outdoor Design Temp (F)	UA	Uo	ZERH / EStar 3.0 Compliant	Heatloss BTUH/F
1	11	218.78	0.054	OK	328.40
2	0	217.27	0.053	OK	326.90
3	-14	215.93	0.053	OK	325.60

Design Temperatures		
Furnace Heating Temp (F)	Economy Outdoor Temp (F)	
-34	-3	10kW
-55	-17	12kW
-86	-39	15kW
-52	-15	40k Gas
-113	-58	60k Gas
-174	-101	80k Gas

Thermal Zone	U-Value	Thermal Zone	U-Value	Thermal Zone	U-Value
Energy Star Version 2					
1-EHP-S	0.080	2-EHP-S	0.080	3-EHP-S	0.079
1-GAS-S	0.080	2-GAS-S	0.080	3-GAS-S	0.071
1-ENV-S	0.076	2-ENV-S	0.067	3-ENV-S	0.059
1-EHP-M	0.074	2-EHP-M	0.074	3-EHP-M	0.074
1-GAS-M	0.074	2-GAS-M	0.074	3-GAS-M	0.065
1-ENV-M	0.071	2-ENV-M	0.064	3-ENV-M	0.056

Energy Star Version 3 & ZERH					
1 Single	0.076	2 Single	0.065	3 Single	0.057
1 Double	0.070	2 Double	0.063	3 Double	0.054



Building Analysis

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ3
Date: June 11, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ3

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Design Conditions

Location:

OH 22
Elevation: 744 ft
Latitude: 40°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

10
-
-
15.0

Cooling

90
19 (M)
73
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
60
50
48.7

Cooling

75
15
50
33.4

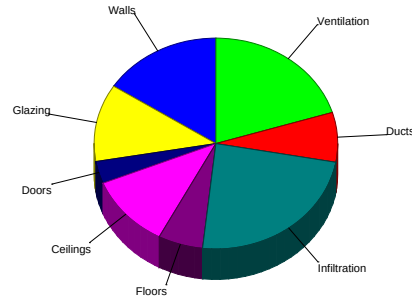
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

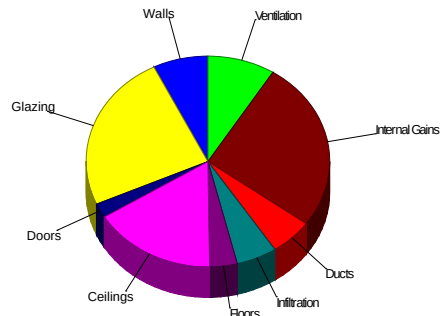
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.3	3516	15.9
Glazing	18.0	2636	11.9
Doors	18.0	755	3.4
Ceilings	1.8	2476	11.2
Floors	1.0	1321	6.0
Infiltration	4.2	5303	23.9
Ducts		1687	7.6
Piping		0	0
Humidification		0	0
Ventilation		4490	20.2
Adjustments		0	0
Total		22183	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.9	930	7.3
Glazing	21.1	3095	24.3
Doors	6.6	278	2.2
Ceilings	1.5	2090	16.4
Floors	0.3	465	3.7
Infiltration	0.5	688	5.4
Ducts		725	5.7
Ventilation		1139	8.9
Internal gains		3320	26.1
Blower		0	0
Adjustments		0	0
Total		12730	100.0



Latent Cooling Load = 3468 Btuh

Overall U-value = 0.050 Btuh/ft²-°F, Window / Floor Area = 10.6 %

Data entries checked.



Component Constructions
Entire House
CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ3
Date: June 11, 2026
By: Brian Riffey



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Project Information

For: 34M401-FDJ-TZ3

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Design Conditions

Location:

OH 22
Elevation: 744 ft
Latitude: 40°N

Outdoor:

	Heating	Cooling
Dry bulb (°F)	10	90
Daily range (°F)	-	19 (M)
Wet bulb (°F)	-	73
Wind speed (mph)	15.0	7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
60
50
48.7

Cooling

75
15
50
33.4

Infiltration:

Method	Simplified
Construction quality	Average
Fireplaces	0

Construction descriptions

Walls

CMH - DW - R-21 Wall - THP-510: Frm wall, vnl ext, 5/8" wood shth,
r-21 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
n	212	0.055	21.0	3.29	698	0.87	185
e	332	0.055	21.0	3.29	1092	0.87	289
s	204	0.055	21.0	3.29	671	0.87	178
w	320	0.055	21.0	3.29	1054	0.87	279
all	1067	0.055	21.0	3.29	3516	0.87	930

Partitions

(none)

Windows

Clayton - Therompane Low-E DOE: Clayton - Therompane Low-E DOE;
50% blinds 45°, medium; 50% outdoor insect screen; 6.67 ft head ht

e	8	0.300	0	18.0	135	21.1	159
e	15	0.300	0	18.0	270	21.1	317
e	41	0.300	0	18.0	735	21.1	865
s	8	0.300	0	18.0	148	11.1	92
w	75	0.300	0	18.0	1348	21.1	1585
all	147	0.300	0	18.0	2636	20.6	3017

Doors

CMH - Standard Door DOE: CMH - Standard Door -Solid no strom DOE

e	21	0.300	0	18.0	377	6.61	139
w	21	0.300	0	18.0	377	6.61	139
all	42	0.300	0	18.0	755	6.61	278

Ceilings

CMH - DW - 158 box R-38 - THP1255: Attic ceiling, asphalt shingles roof
mat, r-38 ceil ins, 1/2" gypsum board int fnsh

	1378	0.030	38.0	1.80	2476	1.52	2090
--	------	-------	------	------	------	------	------

Floors

CHM - DW - R-33 FW THP-221: Flr floor, frm flr, 6" thkns, vinyl flr fnsh,
r-30 ext ins, amb ovr

	1378	0.032	33.0	0.96	1321	0.34	465
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Project Summary

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ3
Date: June 11, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ3

Notes: Duct Capacity 26000 BTUH

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Design Information

Weather: OH 22

Winter Design Conditions

Outside db 10 °F
Inside db 70 °F
Design TD 60 °F

Ventilation Method MJ8

Heating Summary

Structure 16007 Btuh
Ducts (R-8.0) 1687 Btuh
Central vent (70 cfm) 4490 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 22183 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	1378	1378
Volume (ft ³)	11024	11024
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	83	42

Heating Equipment Summary

Make Smart Comfort
Trade PERFORMANCE 16 SEER2 HP
Model N5H5S24*K*AAA*
AHRI ref 217051505

Efficiency 7.5 HSPF2
Heating input
Heating output 22800 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 753 cfm
Air flow factor 0.043 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat
Capacity balance point = 18 °F

Backup: Smart Comfort
Input = 10 kW, Output = 34121 Btuh, 100 AFUE

Summer Design Conditions

Outside db 90 °F
Inside db 75 °F
Design TD 15 °F
Daily range M
Relative humidity 50 %
Moisture difference 33 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 10866 Btuh
Ducts (R-8.0) 725 Btuh
Central vent (70 cfm) 1139 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.95
Equipment sensible load 12119 Btuh

Latent Cooling Equipment Load Sizing

Structure 1735 Btuh
Ducts 183 Btuh
Central vent (70 cfm) 1550 Btuh
Outside air
Equipment latent load 3468 Btuh

Equipment Total Load (Sen+Lat) 15587 Btuh
Req. total capacity at 0.70 SHR 1.4 ton

Cooling Equipment Summary

Make Smart Comfort
Trade PERFORMANCE 16 SEER2 HP
Cond N5H5S24*K*AAA*
Coil FEVA0024***+NAVA53601CK
AHRI ref 217051505
Efficiency 12.0 EER2, 15.5 SEER2
Sensible cooling 15820 Btuh
Latent cooling 6780 Btuh
Total cooling 22600 Btuh
Actual air flow 753 cfm
Air flow factor 0.065 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.79

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



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Duct System Summary

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ3
Date: June 11, 2026
By: Brian Riffey

1420 Mountain Road, Andersonville, TN 37705 Phone: 865-494-7800 Ext 257 Fax: 865-494-0243 Web: www.claytonhomes.com

Project Information

For: 34M401-FDJ-TZ3

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	Heating	Cooling
External static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Supply / return available pressure	0.150 / 0.150 in H ₂ O	0.150 / 0.150 in H ₂ O
Lowest friction rate	0.194 in/100ft	0.194 in/100ft
Actual air flow	753 cfm	753 cfm
Total effective length (TEL)	154 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
BATH	h 592	25	12	0.206	5.0	0x0	VIFx	35.4	110.0	st5
BEDROOM 2	h 2217	94	76	0.194	6.0	0x0	VIFx	44.4	110.0	st5
BEDROOM 3	h 2168	92	71	0.417	5.0	0x0	VIFx	37.0	35.0	st3
KITCHEN/DINING	c 1676	82	109	0.750	5.0	0x0	VIFx	5.0	35.0	st3
KITCHEN/DINING-A	c 1676	82	109	0.522	5.0	0x0	VIFx	22.5	35.0	st3
LIVING ROOM	c 1293	63	84	0.229	6.0	0x0	VIFx	20.9	110.0	st4
LIVING ROOM-A	c 1293	63	84	0.214	6.0	0x0	VIFx	30.4	110.0	st5
PRIMARY BATH	h 2267	96	52	0.789	5.0	0x0	VIFx	3.0	35.0	st1
PRIMARY BEDROOM	c 1198	77	78	0.226	5.0	0x0	VIFx	22.9	110.0	st4
PRIMARY BEDROOM-A	c 1198	77	78	0.205	6.0	0x0	VIFx	36.4	110.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	96	52	0.789	198	4.5	5 x 14	ShtMetl	st2 st2
st4	Peak AVF	217	240	0.205	493	4.5	5 x 14	ShtMetl	
st5	Peak AVF	183	172	0.194	376	4.5	5 x 14	ShtMetl	
st3	Peak AVF	256	289	0.417	594	4.5	5 x 14	ShtMetl	
st2	Peak AVF	400	412	0.194	989	4.5	5 x 12	VinIFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	753	753	0	0	0	0	0x 0		VIFx	

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Manual S Compliance Report

Entire House

CMH-Manufacturing Appalachia

Job: 34M401-FDJ-TZ3
Date: June 11, 2026
By: Brian Riffey

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Project Information

For: 34M401-FDJ-TZ3

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Cooling Equipment

Design Conditions

Outdoor design DB:	90.2°F	Sensible gain:	12730 Btuh	Entering coil DB:	76.5°F
Outdoor design WB:	73.3°F	Latent gain:	3468 Btuh	Entering coil WB:	63.6°F
Indoor design DB:	75.0°F	Total gain:	16198 Btuh		
Indoor RH:	50%	Estimated airflow:	753 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Smart Comfort	Model:	N5H5S24*K*AAA*+FEVA0024**++NAVA53601CK		
Actual airflow:	753 cfm				
Sensible capacity:	18447 Btuh	145% of load			
Latent capacity:	3746 Btuh	108% of load			
Total capacity:	22193 Btuh	137% of load	SHR:	83%	

Heating Equipment

Design Conditions

Outdoor design DB:	10.1°F	Heat loss:	22183 Btuh	Entering coil DB:	64.3°F
Indoor design DB:	70.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Smart Comfort	Model:	N5H5S24*K*AAA*+FEVA0024**++NAVA53601CK		
Actual airflow:	753 cfm				
Output capacity:	16659 Btuh	75% of load	Capacity balance:	18 °F	
Supplemental heat required:	5524 Btuh		Economic balance:	-99 °F	

Backup equipment type:	Elec strip				
Manufacturer:	Smart Comfort	Model:			
Actual airflow:	753 cfm				
Output capacity:	10.0 kW	154% of load	Temp. rise:	41 °F	

Meets all requirements of ACCA Manual S.



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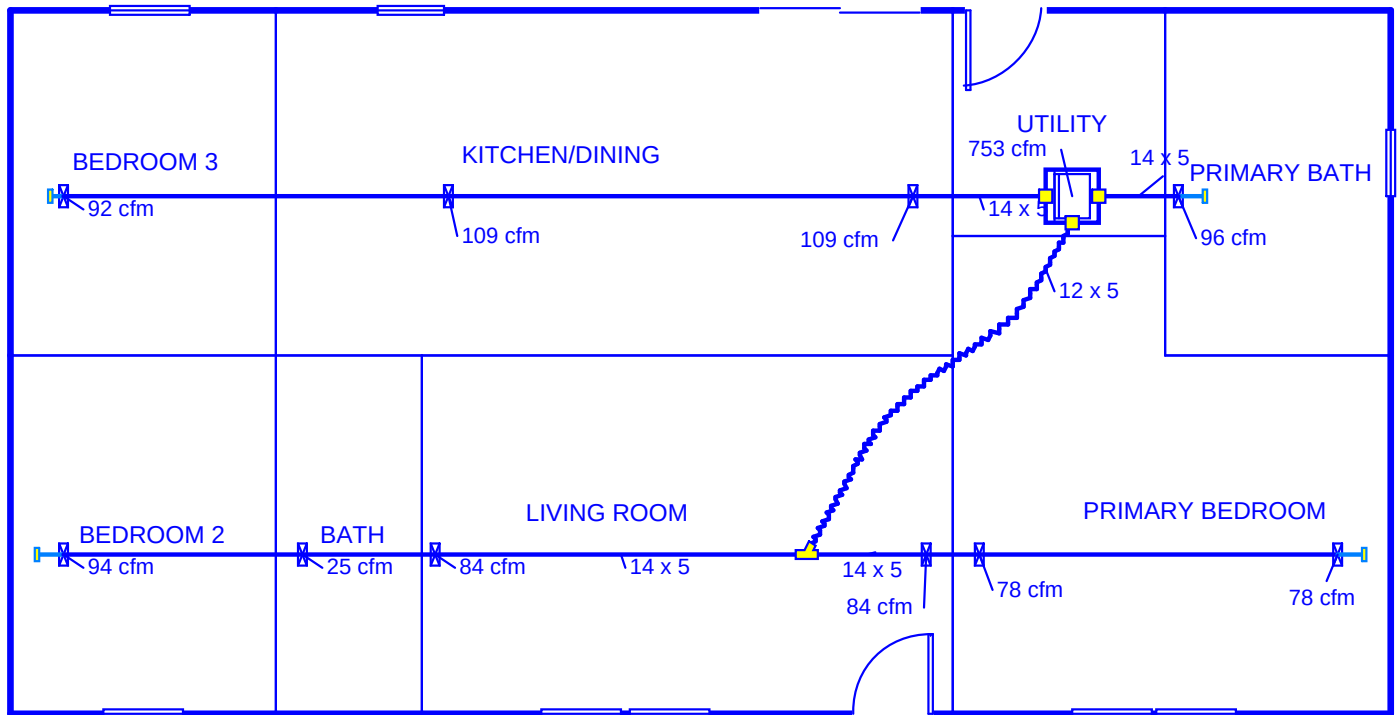
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Level 1



Job #: 34M401-FDJ-TZ3
Performed by Brian Riffey for:
34M401-FDJ-TZ3

CMH-Manufacturing Appalachia

1420 Mountain Road
Andersonville, TN 37705
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Model:

34M401

Serial Number:

TZ3

Cooling Equipment Summary

Duct Capacity: 26,000 btuh

Economy Outdoor Temp (°F) = -34 = (70 - Furnace Output / Estimated Heatloss)
(Outdoor Certification Temp.)

Furnace Heating Temp (°F) = -3 = If $0.3 * \text{Design TD} > 20$ then
(Operating Econ. Cert. Temp.) $0.3 * (70 - \text{Cert. Temp.}) + \text{Cert. Temp}$
else Cert. Temp. + 20

Air Ducts in Floor: 103 sq ft

Air Ducts Outside of Home: 78.5 sq ft

v-2.0