



REScheck Software Version 4.6.0 Compliance Certificate

Project Title: M25DUP2A_TNCHR-170

Energy Code: **2006 IECC**
 Location: **Knoxville, Tennessee**
 Construction Type: **Single Family**
 Project Type: **New construction**
 Conditioned Floor Area: **674 ft2**
 Glazing Area Percentage: **8%**
 Heating Degree Days: **3611**
 Climate Zone: **4**

Construction Site:

Owner/Agent:

Designer/Contractor:

Cory Chumley
Clayton Homes

Compliance: **Passes on UA trade-off**

Compliance: **31.9% Better Than Code** Maximum UA: **138** Your UA: **94** Maximum SHGC: **0.40** Your SHGC: **0.28**

The % Better or Worse Than Code index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Glazing or Door U-Factor	UA
Ceiling 1: Flat Ceiling or Scissor Truss	674	45.0	0.0		18
Wall 1: Wood Frame, 16" o.c.	727	21.0	3.0		31
Window 1: Vinyl Frame:Double Pane with Low-E SHGC: 0.28	61			0.310	19
Door 1: Solid	22			0.190	4
Floor 1: All-Wood Joist/Truss:Over Unconditioned Space	674	30.0	0.0		22

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2006 IECC requirements in REScheck Version 4.6.0 and to comply with the mandatory requirements listed in the REScheck Inspection Checklist.

Name - Title

Signature

Date

Project Notes:

15'-2" x 44'-4" MODULE-A

Off Frame

Required floor insulation to be site installed per attached Rescheck



Clayton Homes Rutledge (Plant 925)

395 HWY 11W SOUTH Rutledge, TN 37861

PH: 865.828.5771 FAX: 865.828.8097

TN# CHR-170

Project Title: M25DUP2A_TNCHR-170

Data filename: R:\MODULAR PLANS\M25DUP2A_TN\Z4-2006 A-MODULE.rock

Report date: 02/05/19

Page 1 of 3



REScheck Software Version 4.6.0 Inspection Checklist

Energy Code: **2006 IECC**
 Location: **Knoxville, Tennessee**
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 TN# CHR-170

Ceilings:

- Ceiling 1: Flat Ceiling or Scissor Truss, R-45.0 cavity insulation

Comments: _____

Above-Grade Walls:

- Wall 1: Wood Frame, 16" o.c., R-21.0 cavity + R-3.0 continuous insulation
 Continuous insulation specified for this above-grade wall has consistent R-value rating across full area of the wall.

Comments: _____

Windows:

- Window 1: Vinyl Frame:Double Pane with Low-E, U-factor: 0.310, SHGC: 0.28,
 For windows without labeled U-factors, describe features:
 #Panels _____ Frame Type _____ Thermal Break? _____ Yes _____ No

Comments: _____

Note: Up to 15 sq.ft. of glazed fenestration per dwelling is exempt from U-factor and SHGC requirements.

Doors:

- Door 1: Solid, U-factor: 0.190

Comments: _____

Floors:

- Floor 1: All-Wood Joist/Truss:Over Unconditioned Space, R-30.0 cavity insulation

Comments: _____

Floor insulation is installed in permanent contact with the underside of the subfloor decking.

Solar Heat Gain Coefficient:

- Solar Heat Gain Coefficient (SHGC) values are determined in accordance with the NFRC test procedure or taken from the default table.

Air Leakage:

- Joints, penetrations, and all other such openings in the building envelope that are sources of air leakage are sealed.
 Recessed lights are either 1) Type IC rated with enclosures sealed/gasketed against leaks to the ceiling, or 2) Type IC rated and ASTM E283 labeled, or 3) installed inside an air-tight assembly with a 0.5" clearance from combustible materials and a 3" clearance from insulation.

Sunrooms:

- Sunrooms that are thermally isolated from the building envelope have a maximum fenestration U-factor of 0.50 and the maximum skylight U-factor of 0.75. New windows and doors separating the sunroom from conditioned space meet the building thermal envelope requirements.

Materials Identification and Installation:

- Materials and equipment are installed in accordance with the manufacturer's installation instructions.
 Insulation is installed in substantial contact with the surface being insulated and in a manner that achieves the rated R-value.
 Materials and equipment are identified so that compliance can be determined.



- Manufacturer manuals for all installed heating and cooling equipment and service water heating equipment have been provided.
- Insulation R-values and glazing U-factors are clearly marked on the building plans or specifications.

Duct Insulation:

- Ducts in unconditioned spaces or outside the building are insulated to at least R-8.
- Ducts in floor trusses above unconditioned spaces or above the outdoors are insulated to at least R-6.

Duct Construction:

- Air handlers, filter boxes, and duct connections to flanges of air distribution system equipment or sheet metal fittings are sealed and mechanically fastened.
- All joints, seams, and connections are made substantially airtight with tapes, gasketing, mastics (adhesives) or other approved closure systems. Tapes and mastics are rated UL 181A or UL 181B.
- Building framing cavities are not used as supply ducts.
- Automatic or gravity dampers are installed on all outdoor air intakes and exhausts.
- Additional requirements for tape sealing and metal duct crimping are included by an inspection for compliance with the International Mechanical Code.

Temperature Controls:

- Thermostats exist for each separate HVAC system. A manual or automatic means to partially restrict or shut off the heating and/or cooling input to each zone or floor is provided.

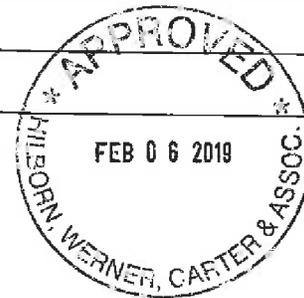
Circulating Service Hot Water Systems:

- Circulating service hot water pipes are insulated to R-2.
- Circulating service hot water systems include an automatic or accessible manual switch to turn off the circulating pump when the system is not in use.

Certificate:

- A permanent certificate is provided on or in the electrical distribution panel listing the predominant insulation R-values; window U-factors; type and efficiency of space-conditioning and water heating equipment.

NOTES TO FIELD: (Building Department Use Only)



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 PH: 865.828.5771 FAX: 865.828.8097
 TN# CHR-170



2006 IECC Energy Efficiency Certificate

Insulation Rating	R-Value
Ceiling / Roof	45.00
Wall	24.00
Floor / Foundation	30.00
Ductwork (unconditioned spaces):	_____

Glass & Door Rating	U-Factor	SHGC
Window	0.31	0.28
Door	0.19	NA

Heating & Cooling Equipment	Efficiency
Heating System: _____	_____
Cooling System: _____	_____
Water Heater: _____	_____

Name: _____ Date: _____

Comments:



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REScheck Software Version 4.6.0 Compliance Certificate

Project Title: M25DUP2A_TNCHR-170

Energy Code: **2006 IECC**
 Location: **Knoxville, Tennessee**
 Construction Type: **Single Family**
 Project Type: **New construction**
 Conditioned Floor Area: **674 ft2**
 Glazing Area Percentage: **10%**
 Heating Degree Days: **3611**
 Climate Zone: **4**

Construction Site:

Owner/Agent:

Designer/Contractor:

Cory Chumley
Clayton Homes

Compliance: **Passes on UA trade-off**

Compliance: **31.5% Better Than Code** Maximum UA: **143** Your UA: **98** Maximum SHGC: **0.40** Your SHGC: **0.28**

The % Better or Worse Than Code index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Glazing or Door U-Factor	UA
Ceiling 1: Flat Ceiling or Scissor Truss	674	45.0	0.0		18
Wall 1: Wood Frame, 16" o.c.	727	21.0	3.0		30
Window 1: Vinyl Frame:Double Pane with Low-E SHGC: 0.28	76			0.310	24
Door 1: Solid	22			0.190	4
Floor 1: All-Wood Joist/Truss:Over Unconditioned Space	674	30.0	0.0		22

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Name - Title	Signature	Date
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Project Notes:

- 15'-2" x 44'-4" MODULE-B
- Off Frame
- Required floor insulation to be site installed per attached Rescheck



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 For windows without labeled U-factors, describe features:
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Comments: _____

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Comments: _____

Floors:

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NOTES TO FIELD: (Building Department Use Only)



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 PH: 865.828.5771 FAX: 865.828.8097
 TN# CHR-170



2006 IECC Energy Efficiency Certificate

Insulation Rating R-Value

Ceiling / Roof	45.00
Wall	24.00
Floor / Foundation	30.00
Ductwork (unconditioned spaces):	_____

Glass & Door Rating U-Factor SHGC

Window	0.31	0.28
Door	0.19	NA

Heating & Cooling Equipment Efficiency

Heating System:	_____	_____
Cooling System:	_____	_____
Water Heater:	_____	_____

Name: _____ Date: _____

Comments:



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 395 HWY 11W SOUTH Rutledge, TN 37861
 PH: 865.828.5771 FAX: 865.828.8097
 TN# CHR-170

DUCT AIR FLOW AND SIZING WORKSHEET (MANUAL J)

This design is the property of CMH Manufacturing - 925 and cannot be used without authorization. This design is exclusively for use with new homes built by CMH Manufacturing - 925. Use with homes built by other companies is strictly prohibited.

Model Number: M25DUP2A, TN A-MODULE			Date: 02/05/19			Insulation: 30-24-45			
1	Name of Room Knoxville AP, Tennessee					Entire House			
2	Running Feet of Exposed Wall					80.8			
3	Ceiling Height at Walls (Ft) and Gross Wall Area (SqFt)					9 ft	727 sq. ft		
4	Floor Plan Area (SqFt)						674 sq. ft		
5	Gross Ceiling Area						674 sq. ft		
	Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh		
				Htg.	Clg.		Heating	S-Clg.	
							L-Clg.		
6a	Windows and Glass Doors	a	1E	W	16.43	33.48	60.67	997	2032
		b							
		c							
6b	Skylights	a							
7	Metal Door	a	1I		10.07	4.94	21.78	220	108
		b							
		c							
8	Above Grade Walls	a	12B		2.23	0.00	645	1436	0
		b							
		c							
9	Below Grade Walls	a							
		b							
		c							
10	Ceiling	a	16B		1.22	1.15	674	822	776
11a	Passive Floors	a	19A		1.80	0.43	674	1215	290
		b							
12	Infiltration	Heat Loss			2003	Btuh	WAR	2003	
		Sensible Gain			567	Btuh	1.0	567	
		Latent Gain			888	Btuh			888
13	Internal	a	Occupants at 230 and 200 Btuh			2		460	400
		b	Scenario Number 1					2400	
		c	Default Adjustments					0	
		liances							
		h 11a + line 12 + line 13					6693	6633	1288
		-Gain			0.124	0.047		829	311
									362
		35.39	Exh	35.39			2003	567	888
		Gal / Day			2.26		831		
								1188	
		ies 14 through 19					10,356	8,699	2,538



Perimeter-HVAC Design Worksheet A-MODULE.xls

Clayton Homes Rutledge (Plant 925)

395 HWY 11W SOUTH Rutledge, TN 37861

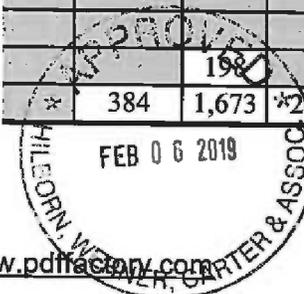
PH: 865.828.5771 FAX: 865.828.8097

TN# CHR-170

DUCT AIR FLOW AND SIZING WORKSHEET (MANUAL J)

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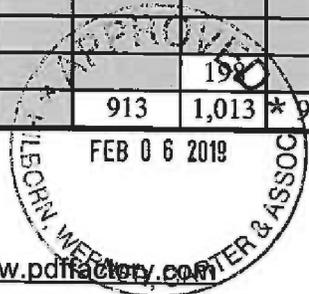
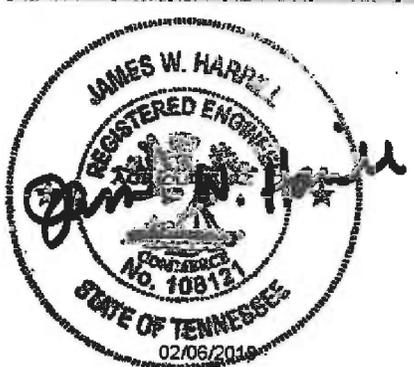
1	Dining				Kitchen				Living Room			
2	95.0 sq. ft				113.0 sq. ft				157.0 sq. ft			
3	9 ft	123.8 sq. ft			9 ft	0.0 sq. ft			9 ft	229.5 sq. ft		
4		95 sq. ft				113 sq. ft				157 sq. ft		
5		95.0 sq. ft				113.0 sq. ft				157.0 sq. ft		
6a	Area or Length	Btuh			Area or Length	Btuh			Area or Length	Btuh		
		Heating	S-Clg.	L-Clg.		Heating	S-Clg.	L-Clg.		Heating	S-Clg.	L-Clg.
	15.17	250	508		0.00	0	0		30.33	499	1016	
6b												
7									21.78	220	108	
8	108.6	242	0		0.0	0	0		177.4	395	0	
9												
10	95.0	116	110		113.0	138	130		157.0	192	181	
11a	95	172	41		113	204	49		157	283	68	
12	WAR	341			WAR	0			WAR	633		
	0.17		97		0.00		0		0.32		179	
13				151			0					280
	0		0	0	1		230	200	0		0	0
			0				1000				900	
			0				0				0	
14						342	1409	200		2222	2452	280
15						42	66			275	115	
16												
17												
18												
19												
20						384	1,673	*200		2,497	2,765	280



DUCT AIR FLOW AND SIZING WORKSHEET (MANUAL J)

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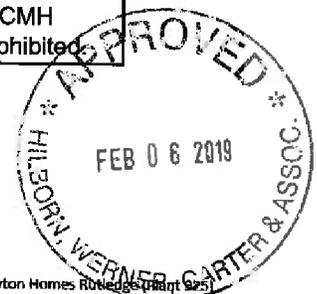
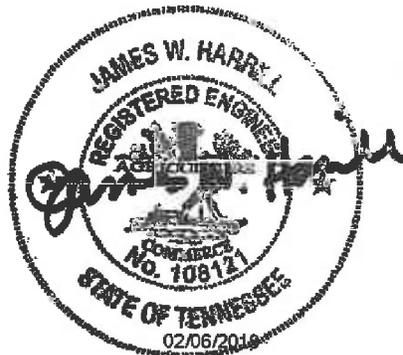
1	Utility				Bath				Bedroom			
	Area or Length	Heating	S-Clg.	L-Clg.	Area or Length	Heating	S-Clg.	L-Clg.	Area or Length	Heating	S-Clg.	L-Clg.
2	0.0 sq. ft				136.0 sq. ft				174.0 sq. ft			
3	9 ft	0.0	0		9 ft	80.2	0		9 ft	294.0	0	
4		0	0			136	0			174	0	
5	0.0 sq. ft				136.0 sq. ft				174.0 sq. ft			
6a	0.00	0	0		0.00	0	0		15.17	250	508	
6b												
7												
8	0.0	0	0		80.2	179	0		278.9	621	0	
9												
10	0.0	0	0		136.0	166	157		174.0	213	201	
11a	0	0	0		136	246	59		174	314	75	
12	WAR	0			WAR	221			WAR	810		
	0.00		0		0.11		63		0.40		229	
			0				98				359	
13	0		0	0	0		0	0	1		230	200
			500				500				0	
			0				0				0	
1						812	779	98		2208	1243	559
1						101	37			273	58	
1												
1												
1												
1												
2						913	1,013	* 98		2,482	1,500	559



Perimeter-HVAC Design Worksheet A-MODULE.xlsm

Clayton Homes Rutledge (Plant 925)
 395 HWY 11W SOUTH Rutledge, TN 37861 3 of 5
 PH: 865.828.5771 FAX: 865.828.8097
 TNH CHR-170

Friction Rate Worksheet		
Step #1	Manufacturer's Blower Data	
	ESP =	0.70
	CFM =	729
Step #2	Device Pressure Losses	
	Direct expansion refrigerant coil =	0.1
	Electric resistance heating coil =	0
	Hot water coil =	0
	Heat exchanger =	0
	Low efficiency filter =	0.1
	High or mid-efficiency filter =	0
	Electronic filter =	0
	Humidifier =	0
	Supply outlet =	0.03
	Return grille =	0.03
	Balancing damper =	0
	Other device =	0
	Total DPL =	0.26
Step #3	Available Static Pressure	
	ASP =	0.44 IWC
	ASP = (ESP - DPL)	
Step #4	Total Effective Length (TEL)	
	TEL =	268.166 ft
	Supply-side TEL + Return-side TEL	
Step #5	Friction Rate Design Value (FR)	
	FR =	0.16
	FR = IWC per 100ft	
EQUIPMENT INFORMATION		
	Low	ESP
NUMBERS INCLUDE COIL		
Electric	729	0.7
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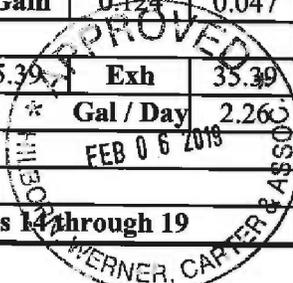
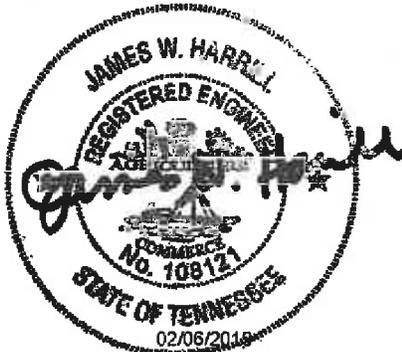


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DUCT AIR FLOW AND SIZING WORKSHEET (MANUAL J)

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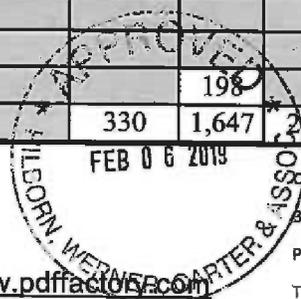
Model Number: M25DUF2A_TN B-MODULE			Date: 02/05/19			Insulation: 30-24-45				
1	Name of Room Knoxville AP, Tennessee					Entire House				
2	Running Feet of Exposed Wall					80.8				
3	Ceiling Height at Walls (Ft) and Gross Wall Area (SqFt)					9 ft	727 sq. ft			
4	Floor Plan Area (SqFt)					674 sq. ft				
5	Gross Ceiling Area					674 sq. ft				
	Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			
				Htg.	Clg.		Heating	S-Clg.	L-Clg.	
6a	Windows and Glass Doors	a	1E	W	16.43	33.48	75.84	1247	2540	
		b								
		c								
6b	Skylights	a								
7	Metal Door	a	11		10.07	4.94	21.78	220	108	
		b								
		c								
8	Above Grade Walls	a	12B		2.23	0.00	630	1403	0	
		b								
		c								
9	Below Grade Walls	a								
		b								
		c								
10	Ceiling	a	16B		1.22	1.15	674	822	776	
11a	Passive Floors	a	19A		1.80	0.43	674	1215	290	
		b								
12	Infiltration	Heat Loss			2003	Btuh	WAR	2003		
		Sensible Gain			567	Btuh		1.0	567	
		Latent Gain			888	Btuh				888
13	Internal	a	Occupants at 230 and 200 Btuh			2		460	400	
		b	Scenario Number 1					2400		
		c	Default Adjustments					0		
	Individual Appliances									
	6 through 11a + line 12 + line 13						6910	7141	1288	
	and ELF-Gain					0.124	0.047	856	335	
	n								362	
	CFM	35.39	Exh	35.39			2003	567	888	
	Load	* Gal / Day			2.265		831			
								1188		
	11b + lines 14 through 19						10,600	9,231	2,538	



DUCT AIR FLOW AND SIZING WORKSHEET (MANUAL J)

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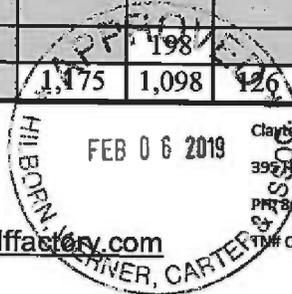
1	Dining				Kitchen				Living Room			
2	80.0 sq. ft				97.0 sq. ft				156.0 sq. ft			
3	9 ft	105.8 sq. ft			9 ft	0.0 sq. ft			9 ft	283.5 sq. ft		
4		80 sq. ft				97 sq. ft				156 sq. ft		
5		80.0 sq. ft				97.0 sq. ft				156.0 sq. ft		
6a	Area or Length	Btuh			Area or Length	Btuh			Area or Length	Btuh		
		Heating	S-Clg.	L-Clg.		Heating	S-Clg.	L-Clg.		Heating	S-Clg.	L-Clg.
	15.17	250	508		0.00	0	0		45.50	748	1524	
6b												
7	21.78	220	108									
8	68.8	154	0		0.0	0	0		238.0	530	0	
9												
10	80.0	98	92		97.0	119	112		156.0	191	180	
11a	80	145	35		97	175	42		156	282	68	
12	WAR	291			WAR	0			WAR	781		
	0.15		83		0.00		0		0.39		221	
13				129			0					346
	0		0	0	1		230	200	0		0	0
			0				1000				900	
			0				0				0	
						294	1384	200		2532	2893	346
						36	65			314	136	
							198				198	
						330	1,647	200		2,846	3,227	346



DUCT AIR FLOW AND SIZING WORKSHEET (MANUAL J)

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1	Utility				Bath				Bedroom			
2	0.0 sq. ft				176.0 sq. ft				166.0 sq. ft			
3	9 ft	0.0 sq. ft			9 ft	102.7 sq. ft			9 ft	235.5 sq. ft		
4	0 sq. ft				176 sq. ft				166 sq. ft			
5	0.0 sq. ft				176.0 sq. ft				166.0 sq. ft			
6a	Area or Length	Btuh			Area or Length	Btuh			Area or Length	Btuh		
		Heating	S-Clg.	L-Clg.		Heating	S-Clg.	L-Clg.		Heating	S-Clg.	L-Clg.
	0.00	0	0		0.00	0	0		15.17	250	508	
6b												
7												
8	0.0	0	0		102.7	229	0		220.3	491	0	
9												
10	0.0	0	0		176.0	215	203		166.0	203	191	
11a	0	0	0		176	318	76		166	300	72	
12	WAR	0			WAR	283			WAR	649		
	0.00		0		0.14		80		0.32		184	
13			0	0	0		0	0	1		230	200
			500				500				0	
			0				0				0	
1						1045	859	126		1893	1185	488
1						129	40			234	56	
1												
1												
1												
1												
2						1,175	1,098	126		2,127	1,438	488



DUCT AIR FLOW AND SIZING WORKSHEET (MANUAL D)

Manufacturer: CMH Manufacturing - 925
395 Hwy 11W South
Rutledge, TN

Model: M25DUP2A_TN B-MODULE
System Type: Perimeter Registers w/ Flex crossovers
Design Location: Knoxville AP, Tennessee
Trunk Material: Metal
System Location: Floor
Blower CFM: 729 @ 0.7 E.S.P
Duct Design CFM: 400
System FR: 0.160
1% DB = 90 F
WB = 74 F

Date: 2/5/19

10,600 btuh Total Heat Loss
11,769 btuh Total Heat Gain

Equipment: 10 kw
Fan Setting:

Design Conditions 99% DB = 19 F

Room - by - Room Analysis

Room	Trunk / Crossover	Total Eq. Length	Heat Btuh	Cool Btuh	Heat cfm	Cool cfm	Design cfm	Round Size	Rect (I.d.)	x	Size (I.d.)	Final Round Size	Final Velocity fpm
Living Room	1 / 1	261.17	1423	1614	98	127	127	6				6	649
Living Room	1 / 1	255.83	1423	1614	98	127	127	6				6	649
Kitchen	1 / 1	254.5	330	1647	23	130	130	6				6	662
Dining	2 / 1	254.83	1302	1062	90	84	90	5				6	456
Bath	2 / 1	268.67	1175	1098	81	87	87	5				6	441
Bedroom	2 / 1	274.83	1064	719	73	57	73	5				6	373
Bedroom	2 / 1	280.17	1064	719	73	57	73	5				6	373



7780	8472	535	669	707
------	------	-----	-----	-----

Trunk #	Room(s)	Design cfm	Square Duct Size	Round Duct Size	Final Square Duct Size	Final Round Size	Final Velocity fpm
Main Trunk #1	Living RoomLiving RoomKitchen	385	5x14	9	5x14	9	871
Main Trunk #2	DiningBathBedroomBedroom	323	5x14	8	5x14	9	730
Main Trunk #3							
Main Trunk #4							
Main Trunk #5							
Main Trunk #6							
Main Trunk #7							
Crossover #1	Living RoomLiving RoomKitchenDiningBath	707		12		12	901
Crossover #2							
Crossover #3							
Crossover #4							

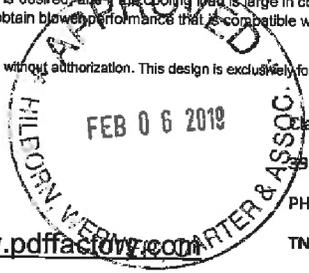
Return(s) @ a length of 0 ft and 20x25 Return Grill in Door 121 For Duct(s) #DIV/0!
608 Max CFMs for Door Grill 24 193

Equivalent lengths - 90s=50ft, Toe-Kick=95ft, In-line=80ft, Perimeter Boots=80ft, Crossovers=50ft
Registers - 4x10 will carry 120cfm max.
0 Fiberglass is equal to 0in round size
0 Fiberglass is equal to 0in round size
0 Fiberglass is equal to 0in round size
5x14 Metal is equal to 9" round size
3x9 in-line is equal to 5" round size

Maximum Total Cooling per Manual S: 13,534 btuh 15%
Maximum Sensible Cooling per Manual S: 10,615 btuh 15%
Maximum Heating per Manual S: 14,840 btuh 40% or 8kw

Note: According to Manual S, if year-round comfort is desired, and the cooling load is large in comparison to the heating load, a significantly oversized furnace may be required to obtain blower performance that is compatible with the size of the cooling coil.

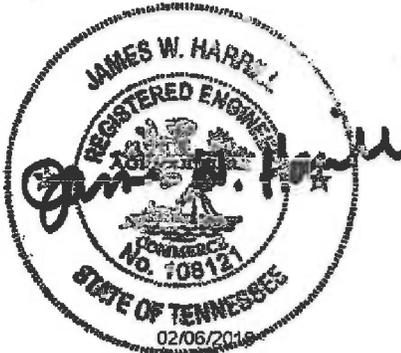
This design is the property of CMH Manufacturing - 925 and cannot be used without authorization. This design is exclusively for use with new homes built by CMH Manufacturing - 925. Use with homes built by other companies is strictly prohibited.



Perimeter-HVAC Design Worksheet B-MODULE.xlsm

Clayton Homes Rutledge (Plant 925)
395 HWY 11W SOUTH Rutledge, TN 37861
PH: 865.828.5771 FAX: 865.828.8097

Friction Rate Worksheet		
Step #1	Manufacturer's Blower Data	
	ESP =	0.70
	CFM =	729
Step #2	Device Pressure Losses	
	Direct expansion refrigerant coil =	0.1
	Electric resistance heating coil =	0
	Hot water coil =	0
	Heat exchanger =	0
	Low efficiency filter =	0.1
	High or mid-efficiency filter =	0
	Electronic filter =	0
	Humidifier =	0
	Supply outlet =	0.03
	Return grille =	0.03
	Balancing damper =	0
	Other device =	0
	Total DPL =	0.26
Step #3	Available Static Pressure	
	ASP =	0.44 IWC
	ASP = (ESP - DPL)	
Step #4	Total Effective Length (TEL)	
	TEL =	280.166 ft
	Supply-side TEL + Return-side TEL	
Step #5	Friction Rate Design Value (FR)	
	FR =	0.16
	FR = IWC per 100ft	
EQUIPMENT INFORMATION		
	Low	ESP
NUMBERS INCLUDE COIL		
Electric	729	0.7
<p>This design is the property of CMH Manufacturing - 925 and cannot be used without authorization. This design is exclusively for use with new homes built by CMH Manufacturing - 925. Use with homes built by other companies is strictly prohibited.</p>		



Clayton Homes Rutledge (Plant 925)
 395 HWY 11W SOUTH Rutledge, TN 37861
 PH: 865.828.5771 FAX: 865.828.8097
 TN# CHR-170

Job	Truss	Truss Type	Qty	Ply	CMH MANUFACTURING, INC. - NORRIS II	124809184
WPL-989-0215-004_(16W)	M865-09H	HINGED TRUSS	1	1	ETN-M865-P3 : 16' 5/12 FLAT - 08	
WoodPerfect, Guin, AL 33561						

6.730 e Jul 28 2015 MITek Industries, Inc. Tue Sep 01 14:01:42 2015 Page 1
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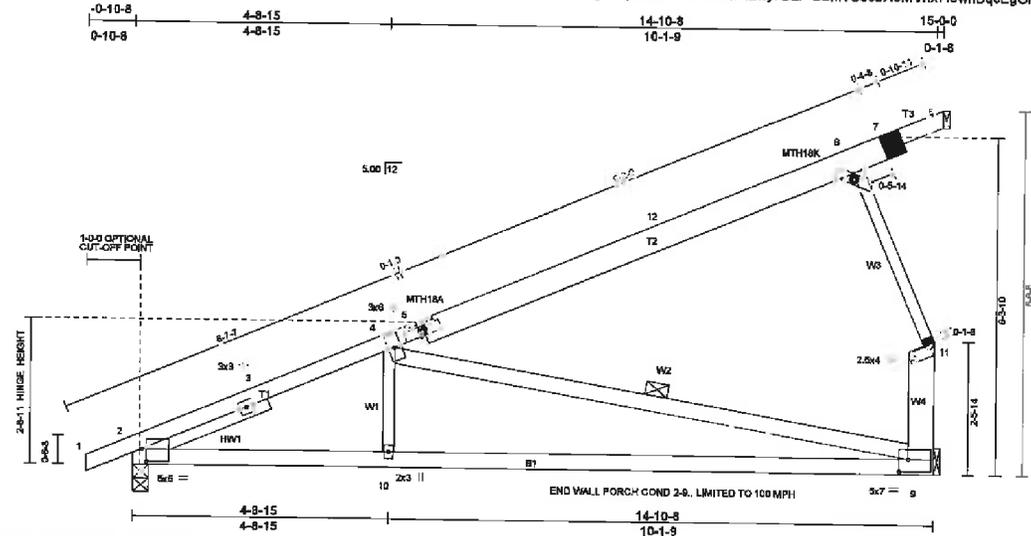


Plate Offsets (X,Y) -		[2:0-1-2,0-2-12], [5:0-0-11,0-1-2], [8:0-0-11,0-1-2], [9:0-9-3,1-7-15], [9:0-2-0,0-2-12]	
SPACING-: 2-0-0	LOADING (psf)	SPACING-: 1-4-0	LOADING (psf)
TCLL 23.1	(Ground Snow=30.0)	TCLL 34.7	(Ground Snow=45.0)
TCDL 11.0		TCDL 16.5	
BCLL 0.0 *		BCLL 0.0 *	
BCDL 10.0		BCDL 15.0	
SPACING-: 2-0-0	LOADING (psf)	CSF.	DEFL.
Plate Grip DOL 1.15	Lumber DOL 1.15	TC 0.87	in (loc) l/defl L/d
Rep Stress Incr YES	Code IBC2009/TPI2007	BC 0.92	Vert(LL) 0.55 9-10 >317 240
		WB 0.43	Vert(TL) -0.66 9-10 >263 180
		(Matrix)	Horz(TL) 0.03 9 n/a n/a
			PLATES GRIP
			MT20 197/144
			MT18HS 197/144
			Weight: 70 lb
			FT = 0%

LUMBER-
 TOP CHORD 2x4 SPF No.2 *Except*
 5-7: 2x6 SPF No.2
 BOT CHORD 2x4 SP No.1
 WEBS 2x3 SPF Stud *Except*
 4-9: 2x4 SPF No.2, 9-11: 2x6 SPF Stud
 SLIDER Left 2x3 SPF Stud 2-6-0

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 2-2-1 oc purlins, except end verticals. [PSA]
 BOT CHORD Rigid ceiling directly applied.
 WEBS 1 Row at midpt 4-9
 JOINTS 1 Brace at J.(s): 11

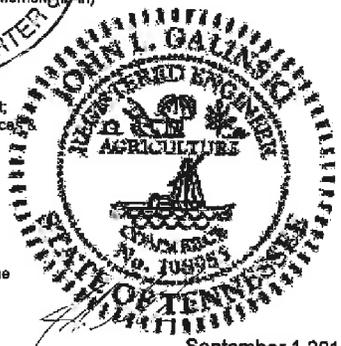
MITek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 2=738/0-3-8 (min. 0-1-8), 9=632/Mechanical, 8=0/Mechanical
 Max Horz 2=288(LC 9), 8=79(LC 14)
 Max Uplift 2=452(LC 9), 9=502(LC 9)
 Max Grav 2=768(LC 14), 9=741(LC 14)

FORCES. (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/14, 2-3=-1281/1328, 3-13=-1180/1336, 4-13=-1177/1338, 4-14=-338/0, 5-14=-332/0, 6-15=-357/3, 15-16=-357/6,
 12-16=-254/16, 8-12=-244/26, 6-7=-131/40, 7-8=89/47, 9-11=-410/272
 BOT CHORD 2-10=-1459/1043, 9-10=-1459/1043
 WEBS 4-10=-514/381, 4-9=911/1390, 6-11=-439/291

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Maximum Tension (lb)/ Maximum Shear (lb)/ Maximum Moment (ft-lb)
 7=108/44/48/0, 11=439/292/0/0

- NOTES-**
- Dado: 0-2-12 length x 0-0-12 deep dado, 0-0-0 to right edge from joint 5 on the top face.
 - Dado: 0-2-12 length x 0-0-12 deep dado, 0-0-0 to left edge from joint 5 on the top face.
 - Wind: ASCE 7-05; 100mph @24in o.c.; TCCL=4.4psf; BCDL=4.0psf; (Alt. 122mph @16in o.c.; TCCL=6.6psf; BCDL=6.0psf); h=22ft; Cat. II; Exp C; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) zone; porch left exposed; C-C for members and forces; MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - TCCL: ASCE 7-05; Pg=30.0 psf (ground snow); Ps=23.1 psf (roof snow); Category II; Exp C; Partially Exp.; Ct=1.1
 - Roof design snow load has been reduced to account for slope.
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 19.0 psf or 2.00 times flat roof load of 23.1 psf on overhangs non-concurrent with other live loads.
 - This truss has been designed for basic load combinations, which include cases with reductions for multiple concurrent live loads.
 - As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
 - All plates are MT20 plates unless otherwise indicated.
 - See HINGE PLATE DETAILS for plate placement.
 - Provisions must be made to prevent lateral movement of hinged member(s) during transportation.



September 1, 2015

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MI-7473 rev. 02/16/2015 BEFORE USE.
 Design valid for use only with Mittek connectors. This design is based upon parameters shown, and is for an individual building component. Applicability of design parameters and proper incorporation of component is responsibility of building designer, not truss designer. Bracing shown is for lateral support of individual members only. Additional temporary bracing to insure stability during construction is the responsibility of the erector. Additional permanent bracing of the overall structure is the responsibility of the building designer. For general guidance regarding fabrication, quality control, storage, delivery, erection and bracing, consult ANSI/TRI Quality Criteria, 658-89 and CSI Building Component Safety Information available from Truss Plate Institute, 781 N. Lee Street, Suite 312, Alexandria, VA 22314.

Job	Truss	Truss Type	Qty	Ply	CMH MANUFACTURING, INC. - NORRIS II	
WPL-959-0215-004_(16W)	M965-09H	HINGED TRUSS	1	1	ETN-M965-P3 - 16' 5/12 FLAT - 09 Job Reference (optional)	I24908184

WoodPerfect, Guin, AL 33563

7,630 • Jul 28 2015 Mitek Industries, Inc. Tue Sep 01 14:01:43 2015 Page 2
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NOTES-

- 13) All additional member connections shall be provided by others for forces as indicated.
- 14) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 15) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-6" tall by 2'-0" wide will fit between the bottom chord and any other members.
- 16) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 452 lb uplift at joint 2 and 502 lb uplift at joint 9.
- 17) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



Clayton Homes Rutledge (Plant 925)
395 HWY 11W SOUTH Rutledge, TN 37861
PH: 865.826.5771 FAX: 865.828.8097
TN# CHR-170

<p>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE M11-7473 rev. 01/16/2015 BEFORE USE. Design valid for use only with Mitek connectors. This design is based on: upon parameters shown, and is for an individual building component. Applicability of design parameters and proper incorporation of component is responsibility of building designer - not truss designer. Bracing shown is for lateral support of individual web members only. Additional temporary bracing to insure stability during construction is the responsibility of the erector. Additional permanent bracing of the overall structure is the responsibility of the building designer. For general guidance regarding fabrication, quality control, storage, delivery, erection and bracing, consult ANSI/TPI1 Quality Criteria, D58-89 and BCS1 Building Component Safety Information - available from Truss Plate Institute, 781 N. Lee Street, Suite 312, Alexandria, VA 22314.</p>	 <p>14515 N. Outer Farty, Suite #300 Chesterfield, MO 63017</p>
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Job	Truss	Truss Type	Qty	Ply	CMH MANUFACTURING, INC. - NORRIS 2	127837592
WPL-969-0215-004_(16W)	P586-09	HINGED COMMON	1		ETN-P586 : M865 5/12 B-OUT - 09	
WoodPerfect, Guin, AL 33563						

7.840 a Nov 10 2015 Mitek Industries, Inc. Fri Sep 23 15:14:27 2016 Page 1
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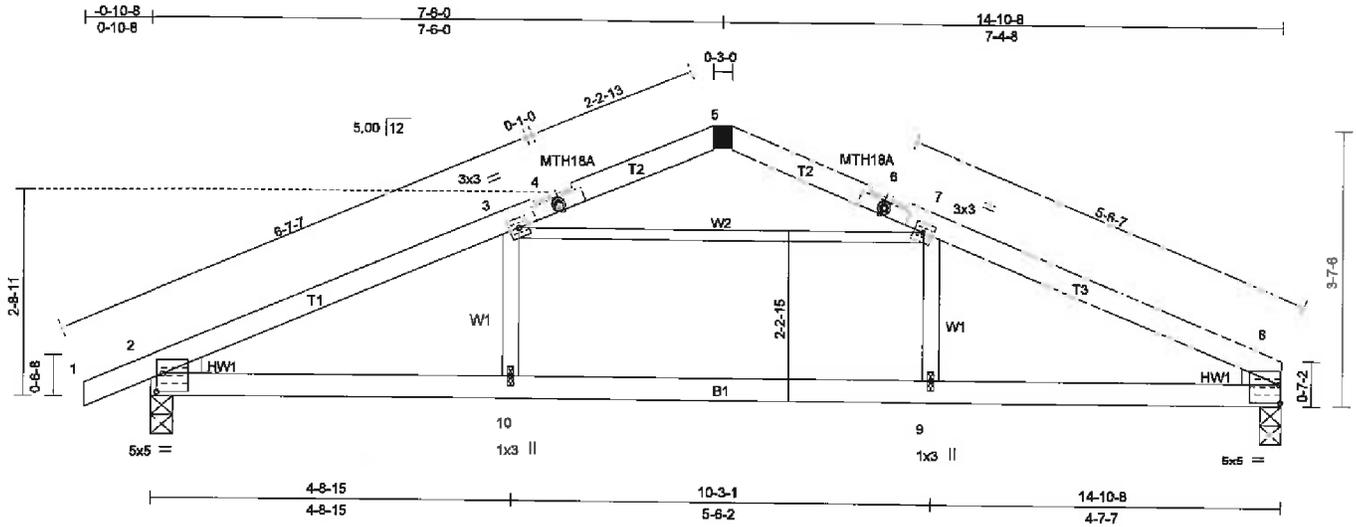


Plate Offsets (X,Y)- [2:0-1-0,0-2-14], [4:0-0-5,0-1-2], [6:0-0-5,0-1-2], [8:0-0-4,0-2-14]	
SPACING- 2-0-0 LOADING (psf) TCLL 23.1 (Ground Snow=30.0) TCDL 11.0 BCLL 0.0 BCDL 10.0	SPACING- 1-4-0 LOADING (psf) TCLL 34.7 (Ground Snow=45.0) TCDL 16.5 BCLL 0.0 BCDL 15.0
SPACING- 2-0-0 Plate Grip DOL 1.15 Lumber DOL 1.15 Rep Stress Incr YES Code IBC2008/TPI2007	CSL TC 0.49 BC 0.83 WB 0.91 (Matrix)
DEFL. in (loc) l/defl L/d Vert(LL) 0.16 2-10 >999 240 Vert(TL) -0.20 2-10 >859 180 Horz(TL) 0.03 8 n/a n/a	PLATES GRIP MT20 197/144 MT18HS 197/144 Weight: 43 lb FT = 0%

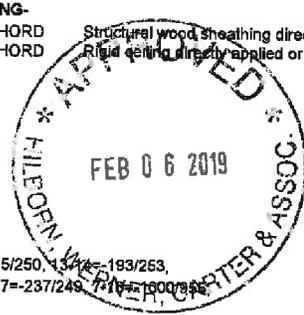
LUMBER-
 TOP CHORD 2x4 SPF No.2
 BOT CHORD 2x4 SPF No.2
 WEBS 2x3 SPF No.2 or 2x3 SPF Stud "Except"
 3-7: 1-8/16x1-10/16 SPF No.2

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 5-0-8 oc purlins.
 BOT CHORD Rigid girding directly applied or 6-9-1 oc bracing.

WEDGE
 Left: 2x3 SPF Stud or No.2, Right: 2x3 SPF Stud or No.2

REACTIONS. (lb/size) 2=715/0-3-8 (min. 0-1-8), 8=641/0-3-8 (min. 0-1-8)
 Max Horz 2=101(LC 9)
 Max Uplift 2=-556(LC 9), 8=-436(LC 10)

FORCES. (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/14, 2-11=-1117/949, 3-11=-997/957, 3-12=-237/249, 4-12=-228/249, 4-13=-215/250, 4-14=-193/263, 5-14=-191/256, 5-16=-191/256, 15-16=-194/254, 6-15=-216/251, 6-17=-228/249, 7-17=-237/249, 7-18=-190/256, 8-18=-1119/946
 BOT CHORD 2-10=-741/944, 9-10=-741/944, 8-9=-741/944
 WEBS 3-10=-33/215, 7-9=-34/225, 3-7=-765/792

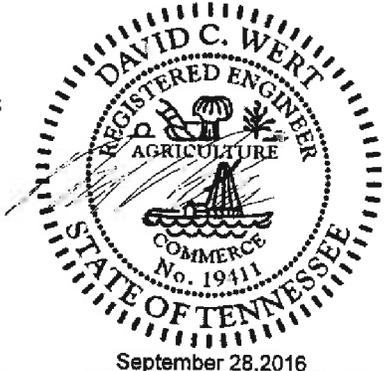


Clayton Homes Rutledge (Plant 925)
 395 HWY 11W SOUTH Rutledge, TN 37861
 PH: 865.828.5771 FAX: 865.828.8097
 T/M# CHR-170

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Maximum Tension (lb)/ Maximum Shear (lb)/ Maximum Moment (lb-in)
 5=166/257/107/0

NOTES-

- 1) Dado: 0-2-10 length x 0-0-12 deep dado, 0-0-0 to right edge from joint 4 on the top face.
- 2) Dado: 0-2-10 length x 0-0-12 deep dado, 0-0-0 to left edge from joint 6 on the top face.
- 3) Dado: 0-2-10 length x 0-0-12 deep dado, 0-0-0 to left edge from joint 4 on the top face.
- 4) Dado: 0-2-10 length x 0-0-12 deep dado, 0-0-0 to right edge from joint 6 on the top face.
- 5) Wind: ASCE 7-05; 130mph @24in o.c.; TCCL=4.4psf; BCCL=4.0psf; (Alt. 150mph @16in o.c.; TCCL=6.6psf; BCCL=6.0psf); h=22ft; Cat. II; Exp C; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 6) TCCL: ASCE 7-05; Pg=30.0 psf (ground snow); Ps=23.1 psf (roof snow); Category II; Exp C; Partially Exp.; Ct=1.1
- 7) Roof design snow load has been reduced to account for slope.
- 8) Unbalanced snow loads have been considered for this design.
- 9) This truss has been designed for greater of min roof live load of 19.0 psf or 2.00 times flat roof load of 23.1 psf on overhangs non-concurrent with other live loads.
- 10) This truss has been designed for basic load combinations, which include cases with reductions for multiple concurrent live loads.
- 11) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
- 12) All plates are MT20 plates unless otherwise indicated.
- 13) See HINGE PLATE DETAILS for plate placement.
- 14) Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
- 15) All additional member connections shall be provided by others for forces as indicated.



Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MK-7473 rev. 10/03/2015 BEFORE USE.
 Design valid for use only with Mitek connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSITPI1 Quality Criteria, DSB-89 and BC91 Building Component Safety Information available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



Job	Truss	Truss Type	Qty	Ply	CMH MANUFACTURING, INC. - NORRIS 2	127837592
WFL-868-0215-004_(16W)	P588-08	HINGED COMMON	1	1	ETN-P588 : M965 5/12 B-OUT - 09	
WoodPerfect, Guin, AL 33563					Job Reference (optional)	

7.640 s Nov 10 2015 MiTek Industries, Inc. Fri Sep 23 15:14:27 2016 Page 2
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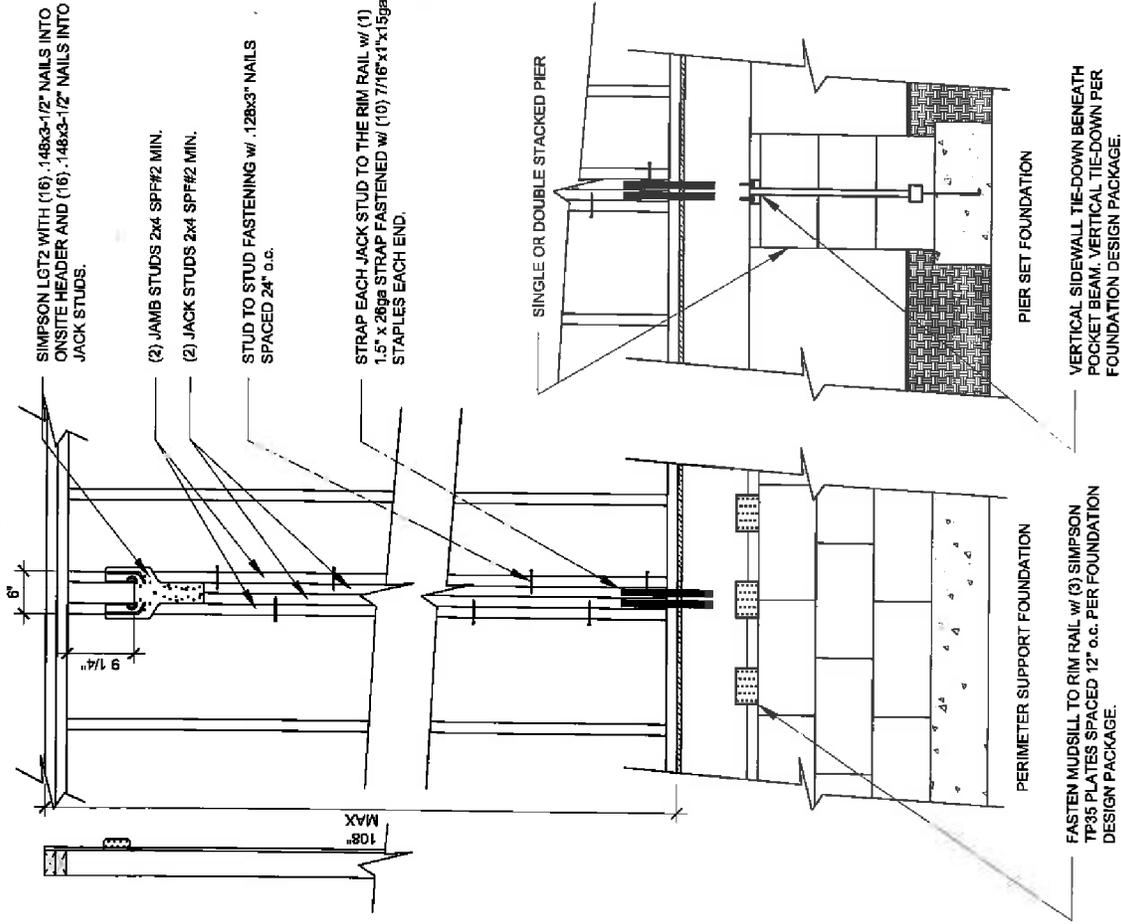
NOTES-

- 16) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 17) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- 18) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 556 lb uplift at joint 2 and 436 lb uplift at joint 8.
- 19) This truss is designed in accordance with the 2009 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
- 20) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.



Clayton Homes Rutledge (Plant 925)
 395 HWY 11W SOUTH Rutledge, TN 37861
 PH: 865.828.5771 FAX: 865.828.8097
 TN# CHR-170

<p>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MI-7473 rev. 10/03/2015 BEFORE USE. Design valid for use only with MITEK® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSITPI1 Quality Criteria, DCS-60 and DCS1 Building Component Safety Information available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.</p>	 <p>16023 Swingley Ridge Rd Chesterfield, MO 63017</p>
--	--



SIMPSON LGT2 WITH (16), 148x3-1/2" NAILS INTO ONSITE HEADER AND (16), 148x3-1/2" NAILS INTO JACK STUDS.

(2) JAMB STUDS 2x4 SPF#2 MIN.

(2) JACK STUDS 2x4 SPF#2 MIN.

STUD TO STUD FASTENING w/ 128x3" NAILS SPACED 24" o.c.

STRAP EACH JACK STUD TO THE RIM RAIL w/ (1) 1.5" x .28ga STRAP FASTENED w/ (10) 7/16"x1"x15ga STAPLES EACH END.

SINGLE OR DOUBLE STACKED PIER

PIER SET FOUNDATION

VERTICAL SIDEWALL TIE-DOWN BENEATH POCKET BEAM. VERTICAL TIE-DOWN PER FOUNDATION DESIGN PACKAGE.

PERIMETER SUPPORT FOUNDATION

FASTEN MUDSILL TO RIM RAIL w/ (3) SIMPSON TP35 PLATES SPACED 12" o.c. PER FOUNDATION DESIGN PACKAGE.

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 TN# CHR-170

1 FRAMING
 SCALE: 1/2"=1'

1. BEAM POCKET MAY SUPPORT 4000 lbs MAXIMUM GRAVITY LOAD AND 1700 lbs MAXIMUM UPLIFT LOAD.
2. PLANS, DESIGN AND APPROVAL FOR ALL ONSITE CONSTRUCTION OF STRUCTURAL HEADERS, COLUMNS AND FOUNDATION ARE THE RESPONSIBILITY OF OTHERS AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH AUTHORITY HAVING JURISDICTION.
3. THE HOME'S STRUCTURAL SYSTEM SHALL NOT BE CUT OR ALTERED IN ANY WAY. ALL ALTERATIONS OR CHANGES SHALL BE APPROVED BY A REGISTERED ENGINEER OR ARCHITECT.
4. ALL JOINTS BETWEEN THE HOME AND THE STRUCTURE MUST BE PROPERLY SEALED SO THEY ARE WATERTIGHT.
5. THE HOME'S MECHANICAL SYSTEM HAS BEEN SIZED FOR THE HOME ITSELF AND DOES NOT CONSIDER THE HEATING OR COOLING FOR ANY TYPE OF SITE-BUILT STRUCTURE.
6. THE HOME MANUFACTURER DOES NOT ACCEPT ANY RESPONSIBILITY FOR ANY SITE-BUILT STRUCTURE.
7. THE HOME MANUFACTURER WILL NOT WARRANTY ANY PROBLEM THAT RELATES TO THE CONSTRUCTION OF THE SITE-BUILT STRUCTURE (LEAK PROBLEMS, ETC).
8. IF A DORMER ROOF IS INSTALLED ON THE HOME TO MATCH THE PITCH OF THE STRUCTURE'S ROOF OR PORCH'S ROOF THEN THE SHINGLES BELOW THE DORMER MUST BE REMOVED AND THE DORMER MUST BE VENTED PROPERLY. THE DORMER WEIGHT SHALL BE NO MORE THAN 5 PSF AND DISTRIBUTED UNIFORMLY OVER THE ROOF TRUSSES OF THE HOME. CONNECTIONS MAY BE MADE TO ATTACH THE DORMER TO THE HOME, BUT NOT BE USED TO SUPPORT THE ROOF LOADS OF THE ADDITION OR PORCH. THE DORMER SHALL BE SHINGLED AND SEALED PROPERLY TO PREVENT LEAKS (FOLLOW SHINGLE MANUFACTURER'S INSTRUCTIONS AND ARMA GUIDELINES FOR SHINGLE VALLEY APPLICATIONS).
9. UPLIFT CAPACITY PROVIDED IN THIS DESIGN IS CAPABLE OF SUPPORTING THE FOLLOWING SITE-BUILT GABLE AND SHED PORCH OR CARPORT WITH FOUR SUPPORT LOCATIONS (2 POCKET BEAMS AND 2 POSTS).
 - 9.1. 130mph: 144 sq ft (example: 16x8)
 - 9.2. 110mph: 280 sq ft (example: 28x10)
 - 9.3. 90mph: 486 sq ft (example: 48x12)
10. UTILIZE THE FOLLOWING FORMULA TO DETERMINE IF GRAVITY CAPACITY IS SUFFICIENT FOR VARIOUS GROUND SNOW LOAD REGIONS:
 - 10.1. (Ground Snow Load PSF + 15psf) x (AREA / 4) ≤ 4,000lbs

2 NOTES
 SCALE: N.T.S.



P.L. SEAL		THIRD PARTY SEAL	
TITLE: POCKET BEAM DETAIL			
DRAWN BY:	DATE:	CMH MANUFACTURING, INC. Clayton - Plant 925 395 Hwy 11W South, Rutledge, TN 37861 PH: 865.828.5771 FAX: 865.828.8097	
REVIEWED BY:	LAST REVISED:	1/18/2019	SHEET: Pocket Beam Detail
CHECKED BY:	CALC REF:	1/28/2019	

Date:
December 19, 2018

TYPE : MODULAR

MODEL PLAN INDEX

Model # -	M25DUP2A_TN	State Label
Manufacturer -	CMH Manufacturing, Inc.	TN
Unit Size -	15'-2" x 44'-4"	
Description -	Residential	
Drawn by -	Cory C.	

Approx. Height	15'-0"
# of Stories	1
Sq. Ft.	674

Category	Document Description	Page or Sheet #
<i>Index</i>	<i>Index and Information Sheet</i>	C-1
Tech Sheet	REScheck w Checklist	See Attached
Tech Sheet	Duct Sizing Inputs	See Attached
Model Plan	Cover Sheet	C-2
Model Plan	Floor Plan	A-1
Model Plan	Front & Rear Elevations	A-2
Model Plan	Left & Right Elevations	A-3
Model Plan	Electrical Plan	E-1
Model Plan	HVAC / Ridgebeam Layout	M-1
Model Plan	DWV Lines	P-1
Model Plan	Supply Lines	P-2
Model Plan	Off Frame Foundation	F-2
Model Plan	Off Frame Cross Section	X-2
Model Plan	Fire Partition Cross Section Detail	X-2.1
Model Plan	Cross Section Details	D-1
Model Plan	Pocket Beam Detail	See Attached
Tech Sheet	Off Frame Foundatin Notes & Details	See Attached

TRUSS INFORMATION		
TRUSS	Truss Job #	Manual Page #
OPT. TRUSS/TRUSSES	M965-09	See Attached
	P586-09	See Attached
DORMER TRUSSES		
OPT.(S)		

ELECTRICAL PANEL SIZE					
Box Width	15.17"				
Box Length	44.33"				
Electrical Appliances Standards		Gas Appliances Standards			
Floor Area	674 sq. ft	2.0 KVA	Floor Area	674 sq. ft	2.0 KVA
Small Appliance Circuits	3	4.5 KVA	Small Appliance Circuits	3	4.5 KVA
Range @	11.1 kw	11.1 KVA	Range @	11.1 kw	11.1 KVA
Water Heater @	3.8 kw	4.8 KVA	Washer @	1500 va	1.5 KVA
Washer @	1500 va	1.5 KVA	Dryer @	5 kw	5.0 KVA
Dryer @	5 kw	5.0 KVA	Dishwasher @	1.4 kw	1.4 KVA
Dishwasher @	1.4 kw	1.4 KVA	Garbage Disposal @	1.4 kw	1.4 KVA
Garbage Disposal @	1.4 kw	1.4 KVA	Spa @ N/A	kw	N/A KVA
Spa @ N/A	kw	N/A KVA	Blower @	0.8 kw	0.8 KVA
Total Load	31.7 KVA		Total Load	27.7 KVA	
First 10 KVA @ 100%	10.0 KVA		First 10 KVA @ 100%	10.0 KVA	
Remainder @ 40%	8.7 KVA		Remainder @ 40%	7.1 KVA	
HVAC @ 100%	18.0 KVA				
Total	36.7 KVA		Total	17.1 KVA	
Total Amps	146.3 AMPS		Total Amps	71.2 AMPS	
Install a	200 AMP Panel		Install a	100 AMP Panel	

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TN# CHR-170



JAMES HARRILL PE
P.O. BOX 9790
Maryville, TN 37802

P.E. SEAL

THIRD PARTY SEAL

TN# CHR-170
STATE LABEL(S): TN

PROJECT #M25DUP2A_TN
SCALE: 3/16" = 1' - 0"
JOB #1869-0020

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

Clayton - Plant 925
395 Hwy 11W South Rutledge, TN 37861
PH: 865.828.5771 FAX: 865.828.8097

INDEX AND
INFORMATION SHEET

SHEET:
C-1

ELECTRICAL NOTES: NEC, 2008 EDITION w/TN AMENDMENTS	MECHANICAL NOTES: 2006 IRC	GENERAL NOTES: 2006 IRC	PLUMBING NOTES: 2006 IRC
<ol style="list-style-type: none"> ALL CIRCUITS AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPROPRIATE ARTICLES OF THE NEC. WHEN LIGHT FIXTURES ARE INSTALLED IN CLOSETS THEY SHALL BE SURFACE MOUNTED OR RECESSED. INCANDESCENT FIXTURES SHALL HAVE COMPLETELY ENCLOSED LAMPS. SURFACE MOUNTED INCANDESCENT FIXTURES SHALL HAVE A MINIMUM CLEARANCE OF 12 INCHES AND ALL OTHER FIXTURES SHALL HAVE A MINIMUM CLEARANCE OF 6 INCHES FROM "STORAGE AREA" AS DEFINED BY NEC 410.2. WHEN WATER HEATERS ARE INSTALLED THEY SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE WATER HEATERS SERVED. THE BRANCH CIRCUIT SWITCH OR CIRCUIT BREAKER SHALL BE PERMITTED TO SERVE AS THE DISCONNECTING MEANS ONLY WHERE THE SWITCH OR CIRCUIT BREAKER IS WITHIN SIGHT FROM THE WATER HEATER OR IS CAPABLE OF BEING LOCKED IN THE OPEN POSITION. HVAC, WHIRLPOOL, GARBAGE DISPOSAL, DISHWASHER SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE EQUIPMENT SERVED. A UNIT SWITCH WITH A MARKED "OFF" POSITION THAT IS A PART OF THE APPLIANCE AND DISCONNECTS ALL UNGROUNDED CONDUCTORS SHALL BE PERMITTED AS THE DISCONNECTING MEANS WHERE OTHER DISCONNECTING MEANS ARE ALSO PROVIDED BY A READILY ACCESSIBLE CIRCUIT BREAKER. PRIOR TO ENERGIZING THE ELECTRICAL SYSTEM THE INTERRUPTING RATING OF THE MAIN BREAKER MUST BE DESIGNED AND VERIFIED AS BEING IN COMPLIANCE WITH SECTION 110-9 OF THE N.E.C. BY LOCAL ELECTRICAL CONSULTANT. THE MAIN ELECTRICAL PANEL AND FEEDERS ARE DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO LOCAL JURISDICTION APPROVAL. ALL CIRCUITS CROSSING OVER MODULE MATING LINE(S) SHALL BE SITE CONNECTED WITH APPROVED ACCESSIBLE JUNCTION BOXES OR CABLE CONNECTORS. SMOKE DETECTORS SHALL BE WIRED SO THAT THE OPERATION OF ANY ONE SMOKE DETECTOR WILL CAUSE SIMULTANEOUS ACTIVATION OF ALL OTHERS. SMOKE DETECTORS SHALL HAVE BATTERY BACKUP. SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC OR SILENCING WITHIN 20 FT. OF ANY COOKING APPLIANCE. ALL RECEPTACLES INSTALLED IN WET LOCATIONS (EXTERIOR) SHALL BE WEATHER RESISTANT (WR) AND IN WEATHER PROOF (WP) ENCLOSURES, THE INTEGRITY OF WHICH IS NOT AFFECTED WHEN AN ATTACHMENT PLUG IS INSERTED OR REMOVED. 	<ol style="list-style-type: none"> DUCT DESIGN PER HVAC/RIDGEBEAM DETAIL SHEET. INTERIOR DOORS MAY BE UNDERCUT 1.5 INCHES ABOVE FINISHED FLOOR FOR AIR RETURN OR RETURN AIR VENTS INSTALLED. BATHROOM VENT FANS SHALL PROVIDE EXHAUST DIRECTLY TO THE EXTERIOR. CAPABLE OF 50 CFM FOR INTERMITTENT VENTILATION OR 20 CFM FOR CONTINUOUS VENTILATION. KITCHEN VENT FANS SHALL PROVIDE EXHAUST DIRECTLY TO THE EXTERIOR. CAPABLE OF 100 CFM FOR INTERMITTENT VENTILATION OR 25 CFM FOR CONTINUOUS VENTILATION. VENT FANS SHALL BE DUCTED TO THE EXTERIOR AND TERMINATE AT AN APPROVED VENT CAP. HVAC EQUIPMENT SHALL BE EQUIPPED WITH OUTSIDE FRESH AIR INTAKE. THIS BUILDING DESIGN COMPLIES WITH OR EXCEEDS MINIMUM REQUIREMENTS FOR TENNESSEE CLIMATE ZONE 4. FOR COMBUSTION AIR AND VENTING REQUIREMENTS ON GAS APPLIANCES, SEE MANUFACTURER'S INSTALLATION MANUAL. GAS WATER HEATERS SHALL BE THE DIRECT VENT TYPE. HVAC MAY BE SITE INSTALLED BY OTHERS. HEAT LOSS & GAIN ANALYSIS IS IN COMPLIANCE WITH THE 2006 INTERNATIONAL ENERGY CONSERVATION CODE. ALL FLEX DUCTS ARE TO BE A MINIMUM OF R-6 DUCT WHEN DUCT IS WITH-IN THE BUILDING ENVELOPE. 	<ol style="list-style-type: none"> ALL GLAZING WITHIN 24 INCH ARC OF DOORS, WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR, AND ALL GLAZING IN DOORS SHALL BE SAFETY, TEMPERED OR ACRYLIC PLASTIC SHEET. FLOOR DESIGN LIVE LOAD-40PSF. ROOF LIVE LOAD-20PSF. GROUND SNOW LOAD 20PSF. MAXIMUM WIND SPEED - 90 MPH EXP. C SEISMIC DESIGN CATEGORY C. OCCUPANCY IS RESIDENTIAL (ONE & TWO FAMILY DWELLING) OCCUPANT LOAD IS BASED ON ONE PERSON PER 200 SQUARE FEET OF FLOOR AREA. CONSTRUCTION IS TYPE VB, UNPROTECTED, AND UNSPRINKLERED. CEILING FANS SHALL BE 80 INCHES MINIMUM FROM BOTTOM OF BLADES TO FINISH FLOOR. MINIMUM CORRIDOR WIDTH IS 36 INCHES. ONE EXTERIOR DOOR TO BE 36" x 80". OTHER EXTERIOR HINGED OR SLIDING DOORS SHALL NOT BE REQUIRED TO COMPLY WITH THESE MINIMUM DIMENSIONS. BUILDING MAY BE MIRRORED END FOR END. ALL WINDOWS SHALL BE VERTICAL SLIDING, DOUBLE GLAZED, CLEAR GLASS, AND VINYL FRAMES UNLESS OTHERWISE NOTED. EXTERIOR WALLS ARE BUILT WITH 2X6 STUDS. SAFETY GLAZING MATERIAL, TENN. TITLE 68, CHAPTER 120, PART 3 (TENN. CODE ANN. 68-120-301 ET. SEQ). ALL DOOR CALL-OUTS ARE LABELED IN INCHES. 	<ol style="list-style-type: none"> ALL PLUMBING FIXTURES SHALL HAVE SEPARATE SHUT-OFF VALVES. WATER HEATER SHALL HAVE A 1 1/2" DEEP SAFETY PAN WITH 1 INCH DRAIN TO EXTERIOR, T&P RELIEF VALVE WITH DRAIN TO EXTERIOR, AND A SHUT-OFF VALVE WITHIN 3 FEET ON THE COLD WATER SUPPLY LINE. WATER PIPES INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED ATTIC SHALL BE INSULATED WITH AN INSULATION OF R-6.5 MINIMUM. WATER SUPPLY LINES SHALL BE CPVC OR QUESTPEX. WHEN QUESTPEX SUPPLY LINES ARE INSTALLED THE MAXIMUM WATER HEATER TEMPERATURE SETTING IS 180°F. THE QUESTPEX PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS LIMITATIONS AND INSTRUCTIONS. BUILDING DRAIN AND CLEANOUTS ARE DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL JURISDICTION APPROVAL. TUB ACCESS PROVIDED UNDER HOME UNLESS OTHERWISE NOTED. SHOWER STALLS SHALL BE COVERED WITH NON-ABSORBENT MATERIAL TO A HEIGHT OF 72 INCHES ABOVE FINISHED FLOOR. THERMAL EXPANSION DEVICE REQUIRED BY WATER HEATER INSTALLED AND IF NOT SHOWN ON PLUMBING PLAN IS DESIGNED AND SITE INSTALLED BY OTHERS SUBJECT TO LOCAL APPROVAL. SHOWERS SHALL BE CONTROLLED BY AN APPROVED MIXING VALVE WITH A MAXIMUM WATER OUTLET TEMPERATURE OF 120°F (48.8°C). DWV SHALL BE EITHER ABS OR PVC - DWV. THIS UNIT MUST BE CONNECTED TO A PUBLIC WATER SUPPLY AND SEWER SYSTEM IF THESE ARE AVAILABLE. PIPING IN UNCONDITIONED SPACES MUST BE PROTECTED WITH INSULATION HAVING A MINIMUM R FACTOR OF 3. ALL GAS LINES TO BE STRAIGHT DROPS. ALL OTHER LINES TO BE COMPLETED ON SITE. SUBJECT TO LOCAL APPROVAL. WATER HEATER MAY BE SITE INSTALLED BY OTHERS.

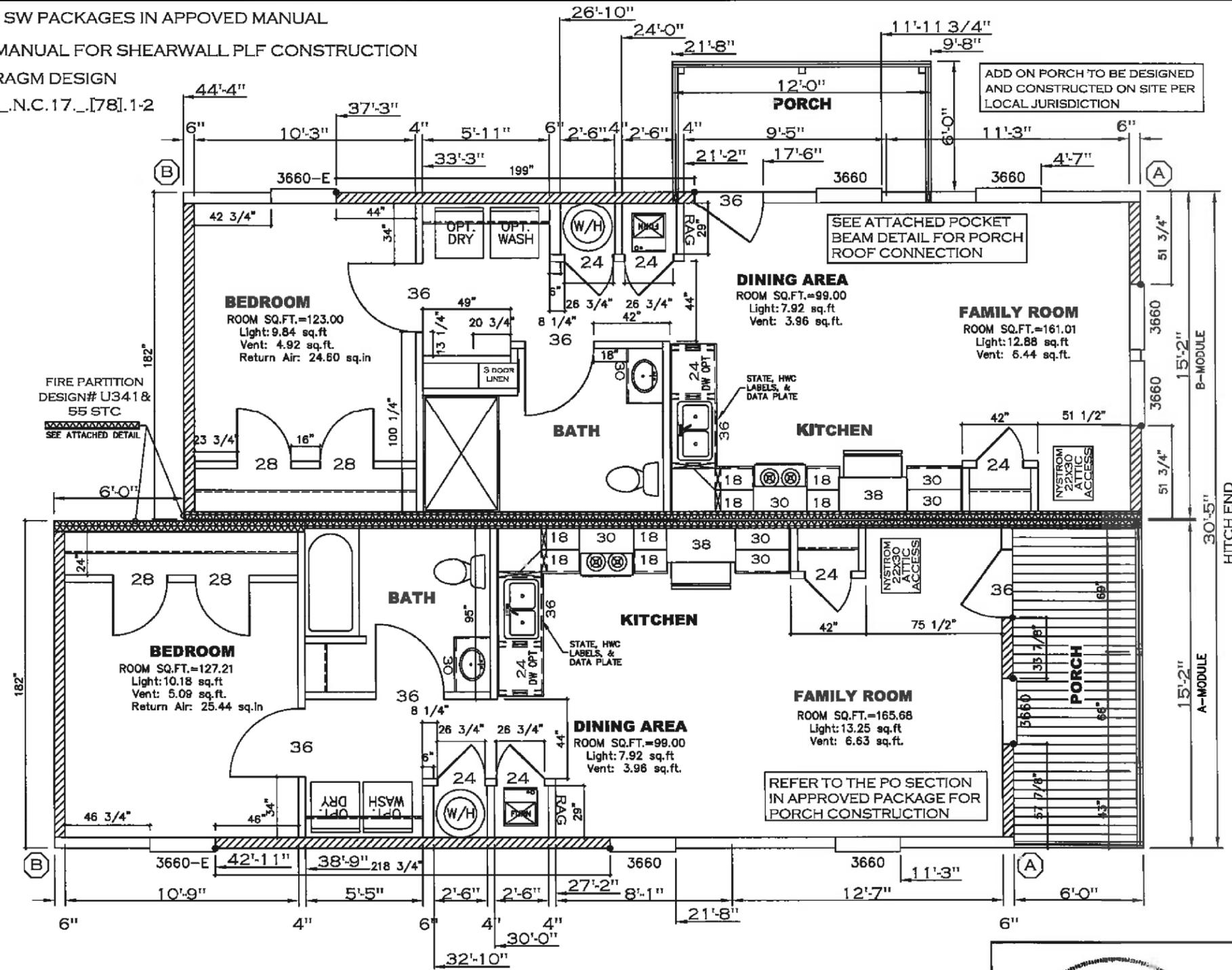


Clayton Homes Rutledge (Plant 925)
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 TN# CHR-170

JAMES HARRILL, PE
 P.O. BOX 9780
 Maryville, TN 37802

CLAYTON HOMES		10/22/04	
CODES: SEE NOTES	REVISIONS	BY	DATE
STATE LABEL(S): TN	Revised notes under Mechanical & Electrical note #8	AW	9/8/09
SCALE: N.T.S.	Added CO Note under Electrical section.	SMW	9/17/09
	Plumbing notes code changed to 2008	JDC	9/18/09
	Revised note #3 & 12	JDC	11/5/09
TENNESSEE COVER SHEET		PLAN#	XX-X
		TN#	CHR-170
		SHEET	C-2

● = FREE END HOLD DOWNS PER SW PACKAGES IN APPROVED MANUAL
 SEE SW-195, SW-241 IN APPROVED MANUAL FOR SHEARWALL PLF CONSTRUCTION
 237E CLADDING AND SHEAR DIAPHRAGM DESIGN
 REFERENCE SW CHARTS SW-31.10_N.C.17_[78].1-2



90-MPH
SHEARWALL INFO
 PLF CONST. PER SW SECTION
 IN STATE APPROVED PKG.
 (A) = 241 PLF
 (B) = 195 PLF

SHEAR WALL DESIGN
 METHOD ENGINEERED
 SIDE WALL SHEAR
 WALL CONSTRUCTED
 TO 195 PLF

IF HOME IS PLACED ON SITE WHERE
 ANY WINDOW SILL IS LESS THAN 24"
 ABOVE FINISHED FLOOR AND 72" OR
 GREATER ABOVE THE EXTERIOR GRADE,
 A WINDOW GUARD MUST BE INSTALLED
 THAT COMPLIES WITH ASTM F2006 OR
 ASTM F2090.

WINDOW SYMBOLS WITH THE
 LETTERS 'E' OR 'S' BESIDE THEM
 DESIGNATE THAT WINDOW AS
 BEING EITHER AN 'EGRESS' OR
 'SAFETY GLAZED' WINDOW
 ex. 3660-E for EGRESS
 3660-S for SAFETY GLAZED

ZONES	INSULATION PACKAGE R VALUES			FURNACE		EXTERIOR WINDOW				
	FLOOR	WALL	CEILING	KW	SECTION #	SIZE	U-VALUE	SHGC	LIGHT	VENT
4	30	21+3	45	15	M1-1.0	3660	.31	.28	12.20	6.14
						36	.19	.40	36	36"
									28	28"
									24	24"

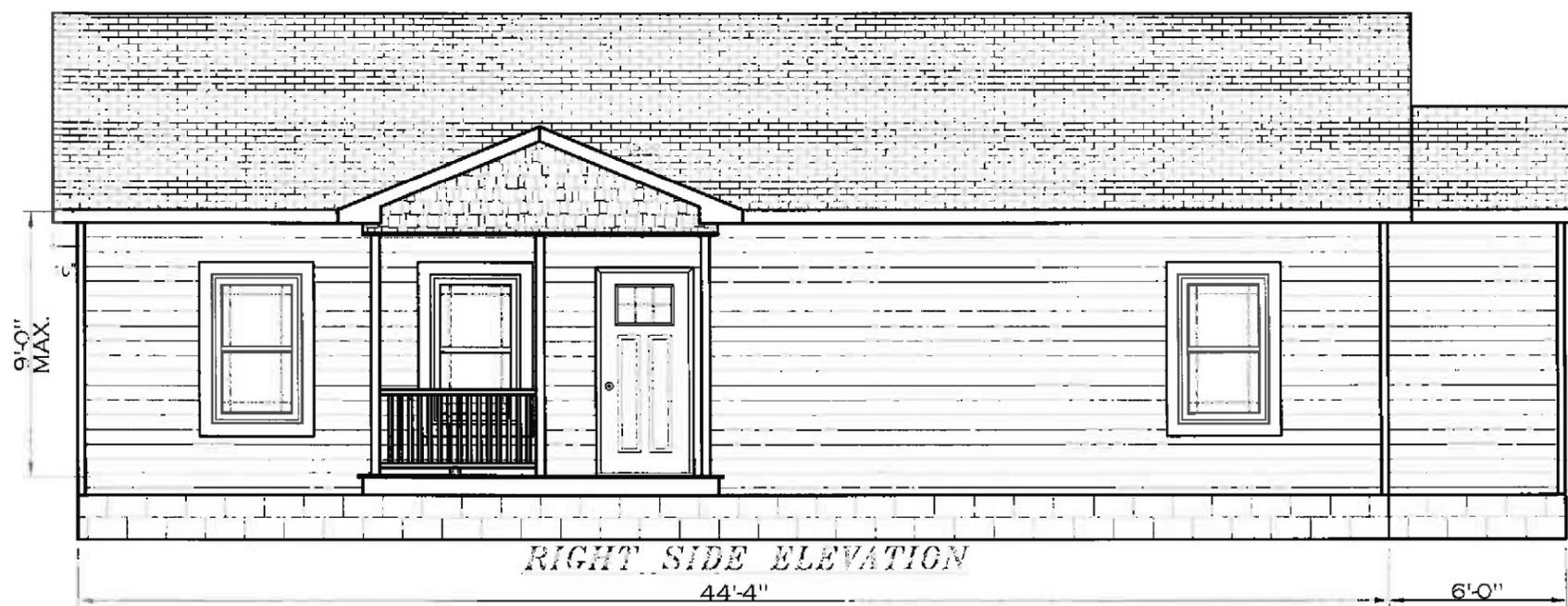
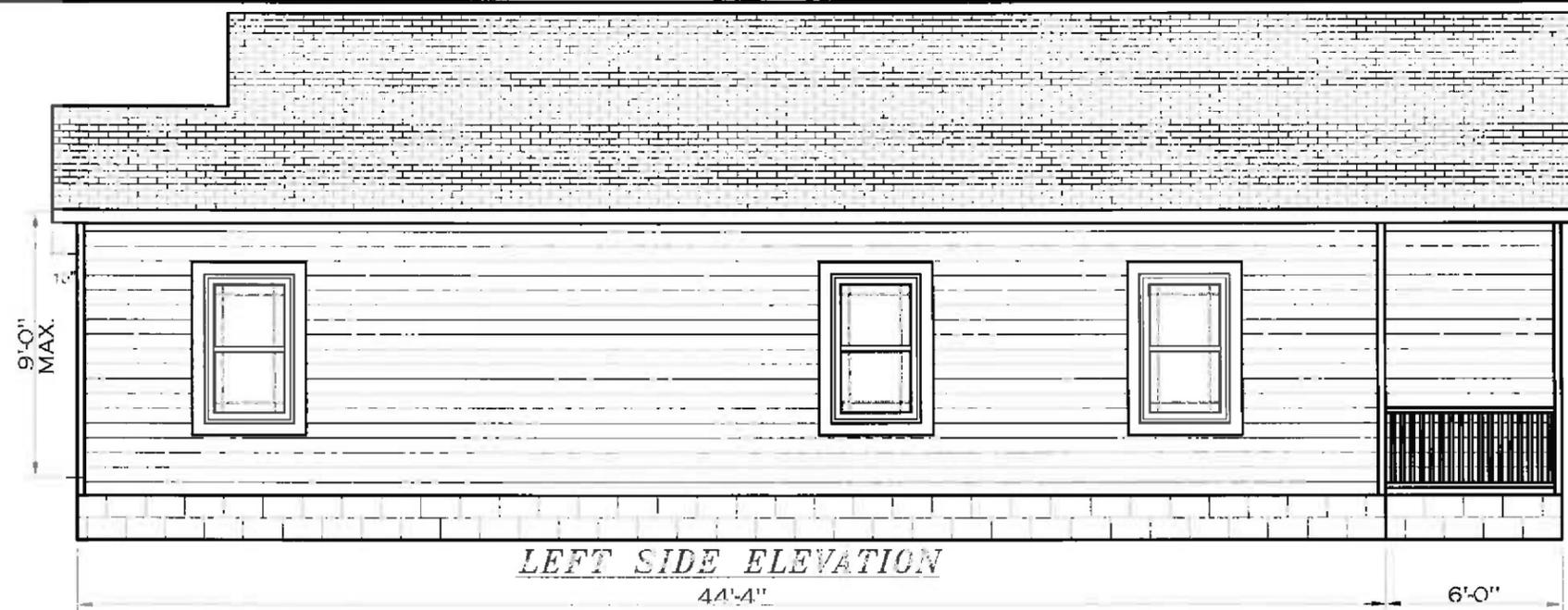


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P.E. SEAL

THIRD PARTY SEAL

PROJECT #: M25DUP2A_TN
 SCALE: 3/16" = 1'-0"
 JOB #: 1869-0020
 PROJECT: CHR-170
 STATE LABEL(S): TN
 HILBORN, WERNER, CARTER, AND ASSOCIATES, INC.
 1627 SOUTH MYRTLE AVE.
 CLEARWATER, FL 33756
 Clayton - Plant 925
 395 Hwy 11W South Rutledge, TN 37861
 PH: 865.828.5771 FAX: 865.828.8097
 TN# CHR-170
 FLOOR PLAN
 SHEET:
 A-1



ELEVATION NOTES: TYPICAL

SEE D-1 PAGE FOR METHOD OF ROOF VENTILATION.

ACCESSIBLE RAMP(S), STAIR(S), AND HANDRAILS ARE SITE INSTALLED, DESIGNED BY OTHERS, AND SUBJECT TO LOCAL JURISDICTION.

FOUNDATION ENCLOSURE (WHEN PROVIDED) MUST HAVE 1 SQUARE FOOT NET VENT AREA PER 1/150TH OF THE FLOOR AREA, AND A 16" X 24" MINIMUM CRAWL SPACE ACCESS, SITE INSTALLED BY OTHERS SUBJECT TO LOCAL JURISDICTION.

JAMES W. HARRILL, PE
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MAYFIELD, TN 37802

- SITE WORK:**
1. LEFT AND RIGHT SIDE VINYL SIDING INSTALLATION.
 2. SHINGLES TO COMPLETE PEAK.

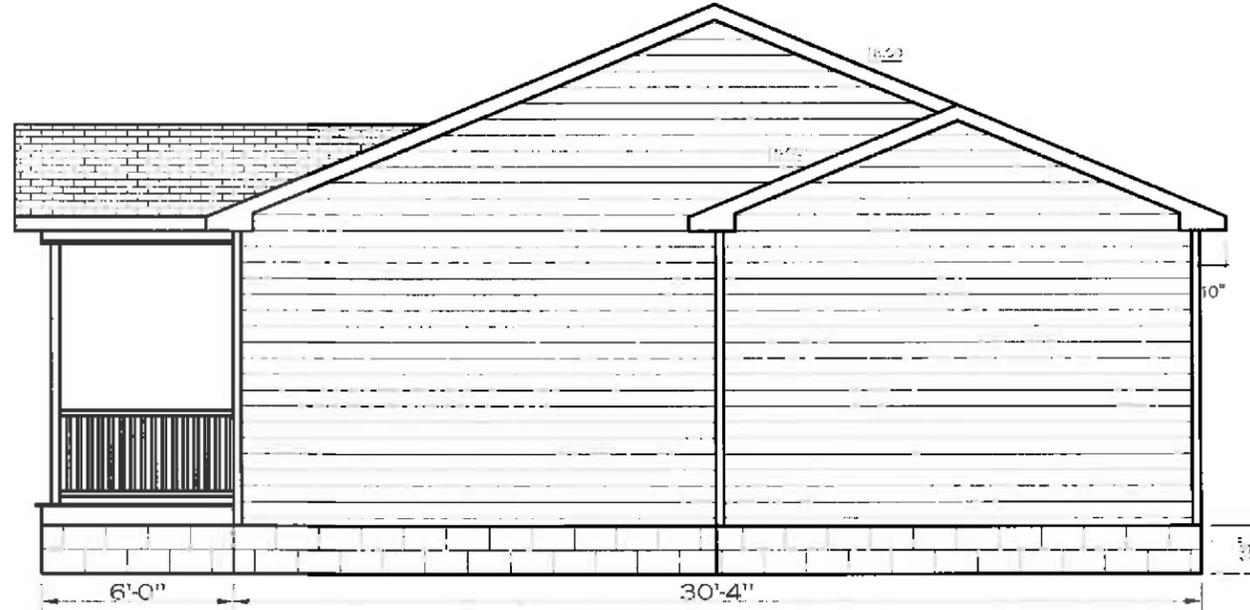


P.E. SEAL

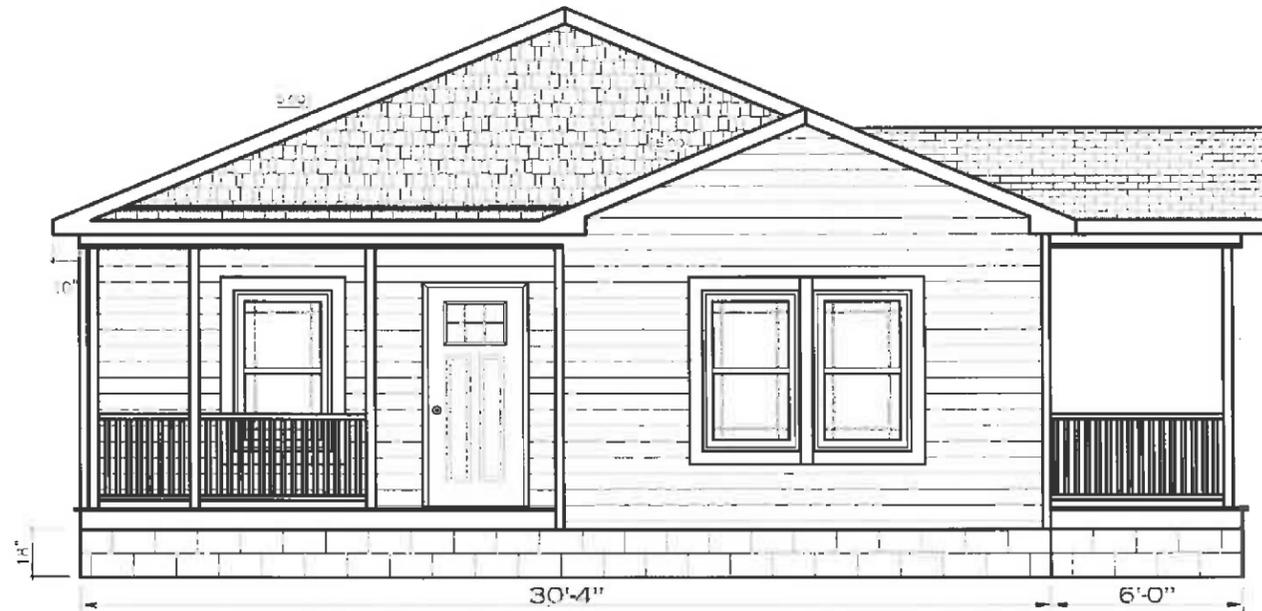
THIRD PARTY SEAL

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PH: 865.828.5771 FAX: 865.828.8097
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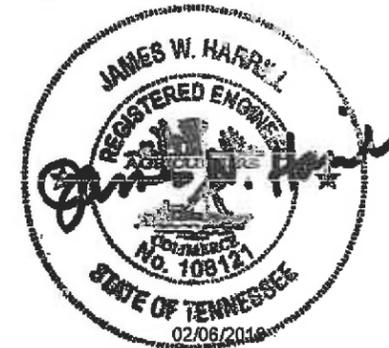
PROJECT #M25DUP2A_TN	TN# CHR-170
SCALE: 3/16" = 1'-0"	STATE LABEL(S): TN
JOB #1869-0020	
HILBORN, WERNER, CARTER, AND ASSOCIATES, INC. 1827 SOUTH MYRTLE AVE. CLEARWATER, FL 33768	
Clayton - Plant 925 395 HWY 11W South Rutledge, TN 37861 PH: 865.828.5771 FAX: 865.828.8097	
FRONT AND REAR ELEVATIONS	
A-2	



REAR ELEVATION



FRONT ELEVATION



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TN# CHR-170
STATE LABEL(S): TN

PROJECT #M25DUP2A_TN

SCALE: 3/16" = 1'-0"

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HILBORN, WERNER, CARTER,
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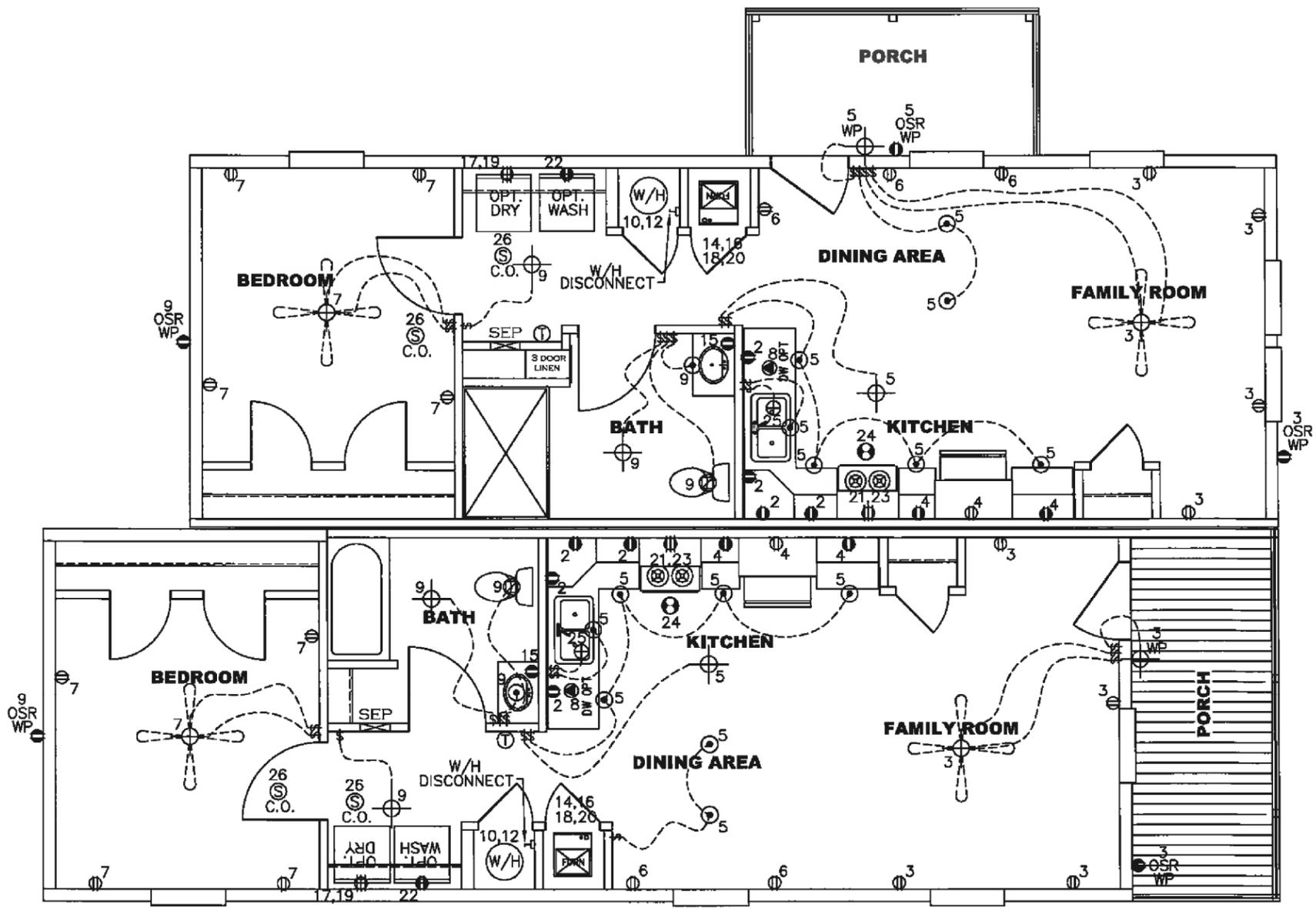


LEFT AND
RIGHT ELEVATIONS

SHEET
A-3

1" = 1" SEAL

THIRD PARTY SEAL



B-MODULE
A-MODULE

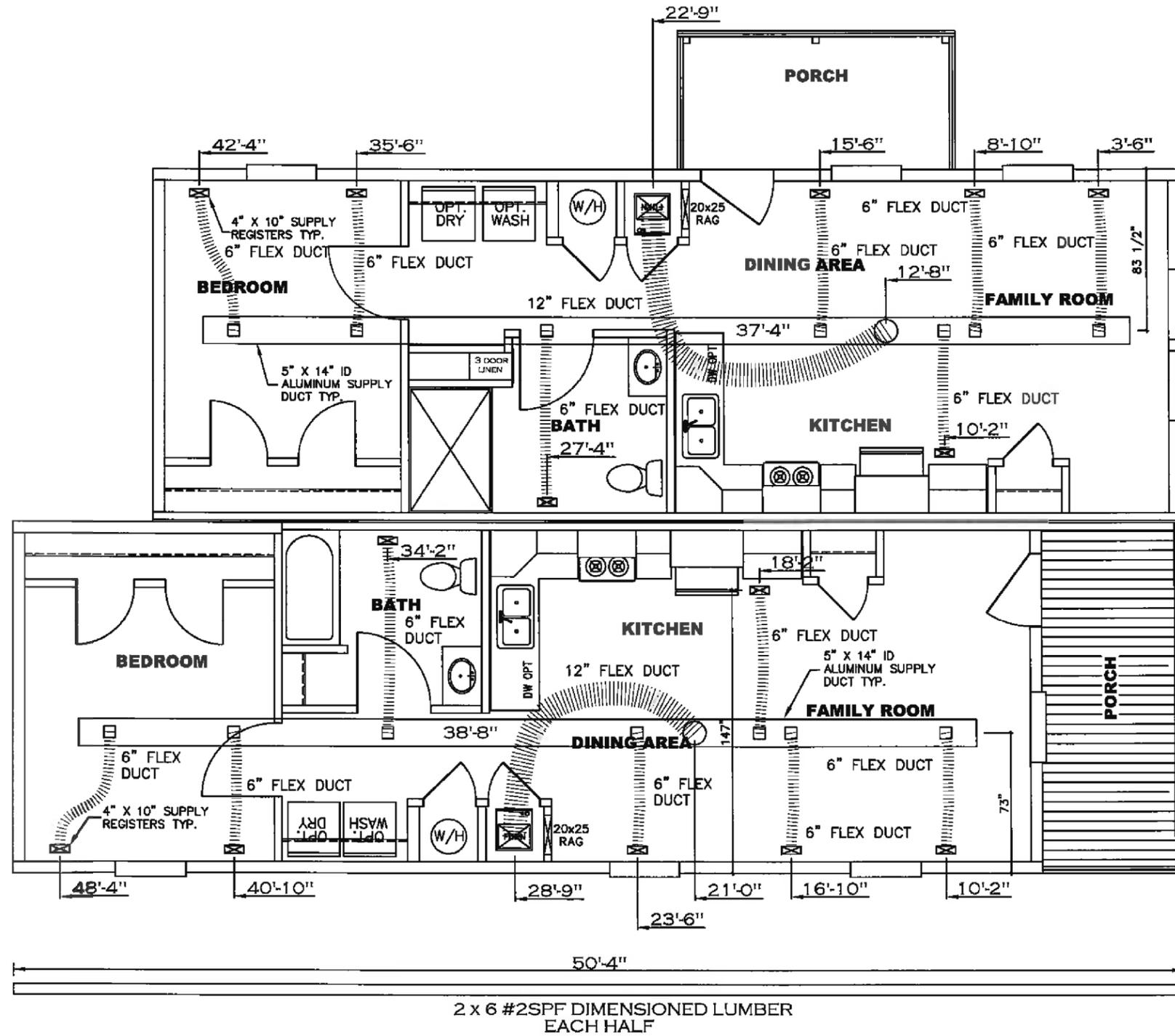
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ELECTRICAL SCHEDULE										SYMBOLS						
NOMENCLATURE	CIRCUIT #	VOLTS	WIRE	BREAKER	NOMENCLATURE	CIRCUIT #	VOLTS	WIRE	BREAKER	RECESSED CAN LIGHT	SUPPLY AIR REGISTER	FLUORESCENT FIXTURE WITH 2- 40W TUBES	EXIT SIGNS	JUNCTION BOX (NON POWERED UNLESS CIRCUIT NO. IS SHOWN)	EMERGENCY LIGHT WITH BATTERY BACKUP	GARBAGE DISPOSAL
DRYER	17,19	240	10-3	30-DP	SMOKE DETECTOR	28	120	14-3	15-SP AFCI	⊗	⊠	⏚	⊗	⊠	⏚	⊕
WATER HEATER	10,12	240	12-2	20-DP	RANGE HOOD / OPT. MICROWAVE	24	120	12-2	20-SP	⊙	⊡	⏚	⊗	⊠	⏚	⊕
RANGE	21,23	220	8-3	40-DP	OPT. FREEZER	N/A	120	14-2	15-SP	⊙	⊡	⏚	⊗	⊠	⏚	⊕
FURNACE	14,16 18,20	240	#10 NM-B 4-4-5 SE	30-DP 60-DP	SMOKE DETECTOR	⊙				⊙	⊡	⏚	⊗	⊠	⏚	⊕
OPT. D/WASH	8	120	14-2	15-SP	GFI RECEPTACLE 120 V.	⊖				⊙	⊡	⏚	⊗	⊠	⏚	⊕
OPT. G/DISP	25	120	14-2	15-SP	DUPLEX RECEPTACLE 120 V.	⊖				⊙	⊡	⏚	⊗	⊠	⏚	⊕
OPT. SPA OR WP OR JAC	N/A	120	12-2	20-SP/GFI	SINGLE RECEPTACLE 240 V.	⊖				⊙	⊡	⏚	⊗	⊠	⏚	⊕
					INCANDESCENT LIGHT WITH 1- 60 W. BULB	⊕				⊙	⊡	⏚	⊗	⊠	⏚	⊕
					VENT FAN	⊖				⊙	⊡	⏚	⊗	⊠	⏚	⊕
					COMB. VENT FAN & LIGHT	⊖				⊙	⊡	⏚	⊗	⊠	⏚	⊕

PROJECT #M25DUP2A_TN
SCALE: 3/16" = 1'-0"
JOB #1869-0020
HILBORN, WERNER, CARTER, AND ASSOCIATES, INC.
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33796
Clayton - Plant 925
395 Hwy 11W South, Rutledge, TN 37861
PH: 865.828.5771 FAX: 865.828.8097
ELECTRICAL PLAN
SHEET: E-1
TN#: CHR-170
STATE LABEL(S): TN



JAMES HARRILL PE
P.O. BOX 8790
Maryville, TN 37802



| P.E. SEAL

| THIRD PARTY SEAL

Clayton Homes Rutledge (Plant 925)
395 HWY 11W SOUTH Rutledge, TN 37861
PH: 865.828.5771 FAX: 865.828.8097
TN# CHR-170

HVAC AND
RIDGEBEAM LAYOUT

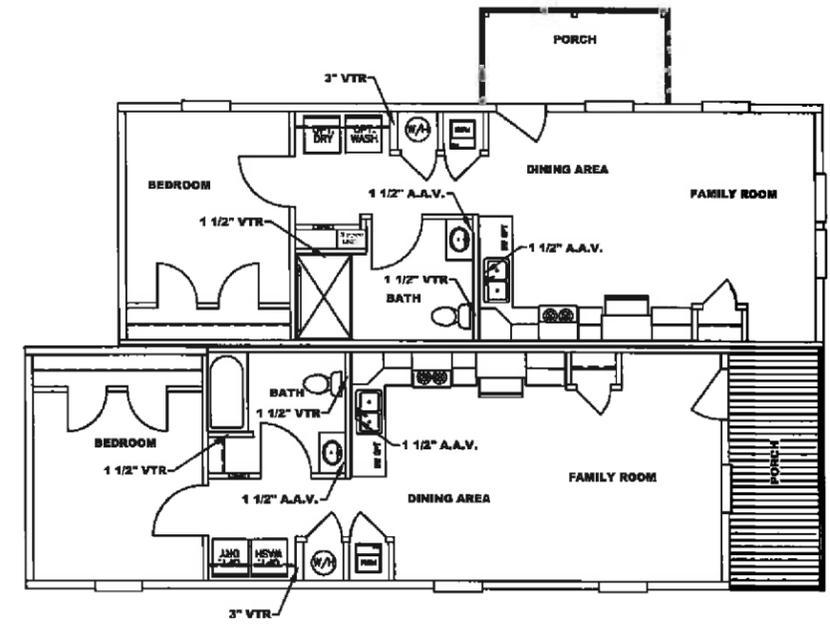
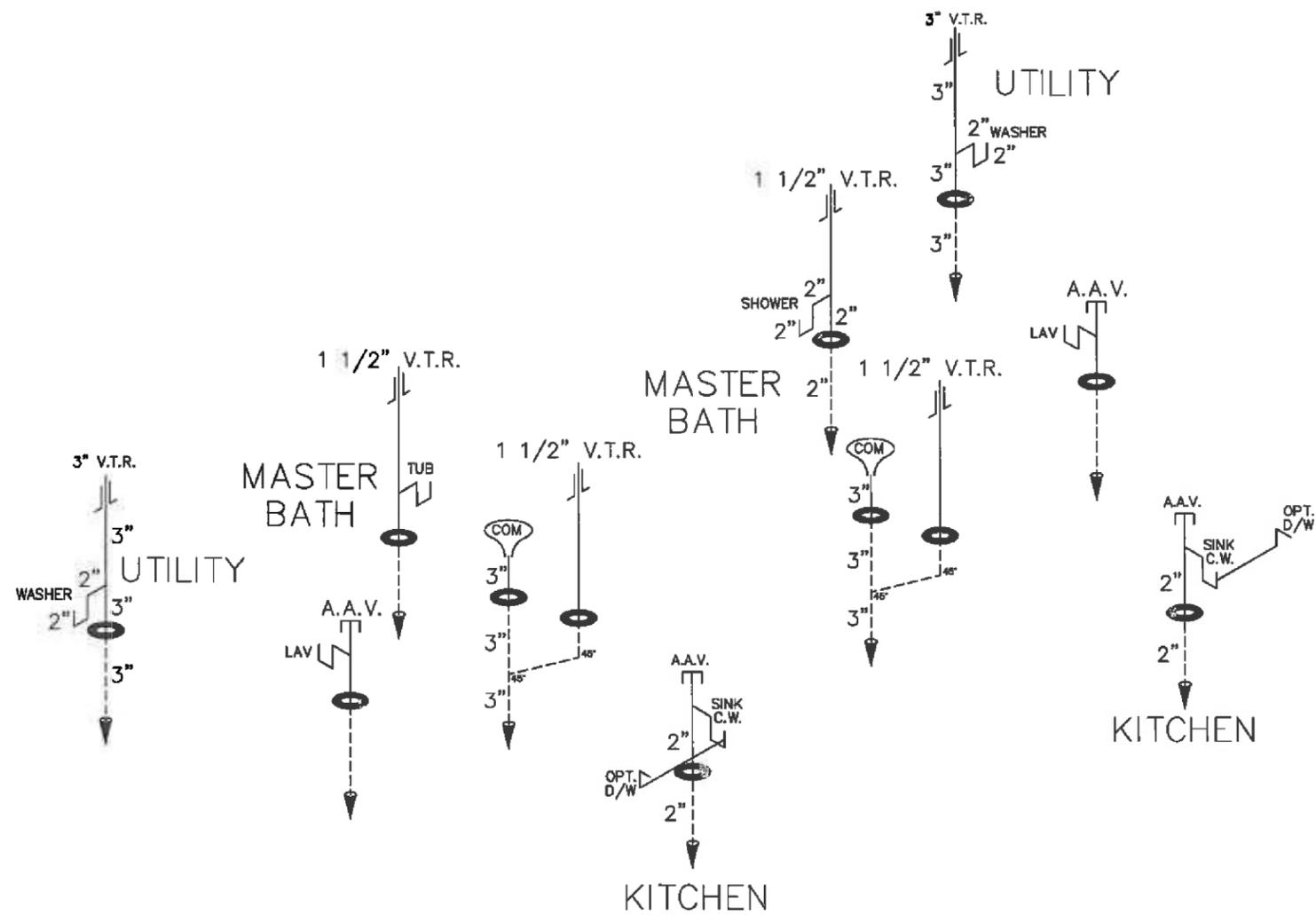
SHEET:
M-1

Clayton
Clayton - Plant 925
395 Hwy 11W South Rutledge, TN 37861
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HILBORN, WERNER, CARTER,
AND ASSOCIATES, INC.
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

PROJECT #M25DUP2A_TN
SCALE: 3/16"=1'-0"
JOB #1869-0020

TN# CHR-170
STATE LABEL(S): TN

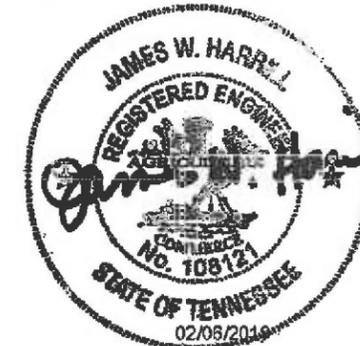


ALL DASHED LINES ON D.W.V. ARE FIELD INSTALLED.

SITE WORK:
1. UNDER FLOOR DWV

***ALL DWV LINES
1 1/2" UNLESS
OTHERWISE NOTED.**

JAMES HARRILL PE
P.O. BOX 9780
Mayville, TN 37802



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SCALE: 3/16" = 1'-0"

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HILBORN, WERNER, CARTER,
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DWV LINES

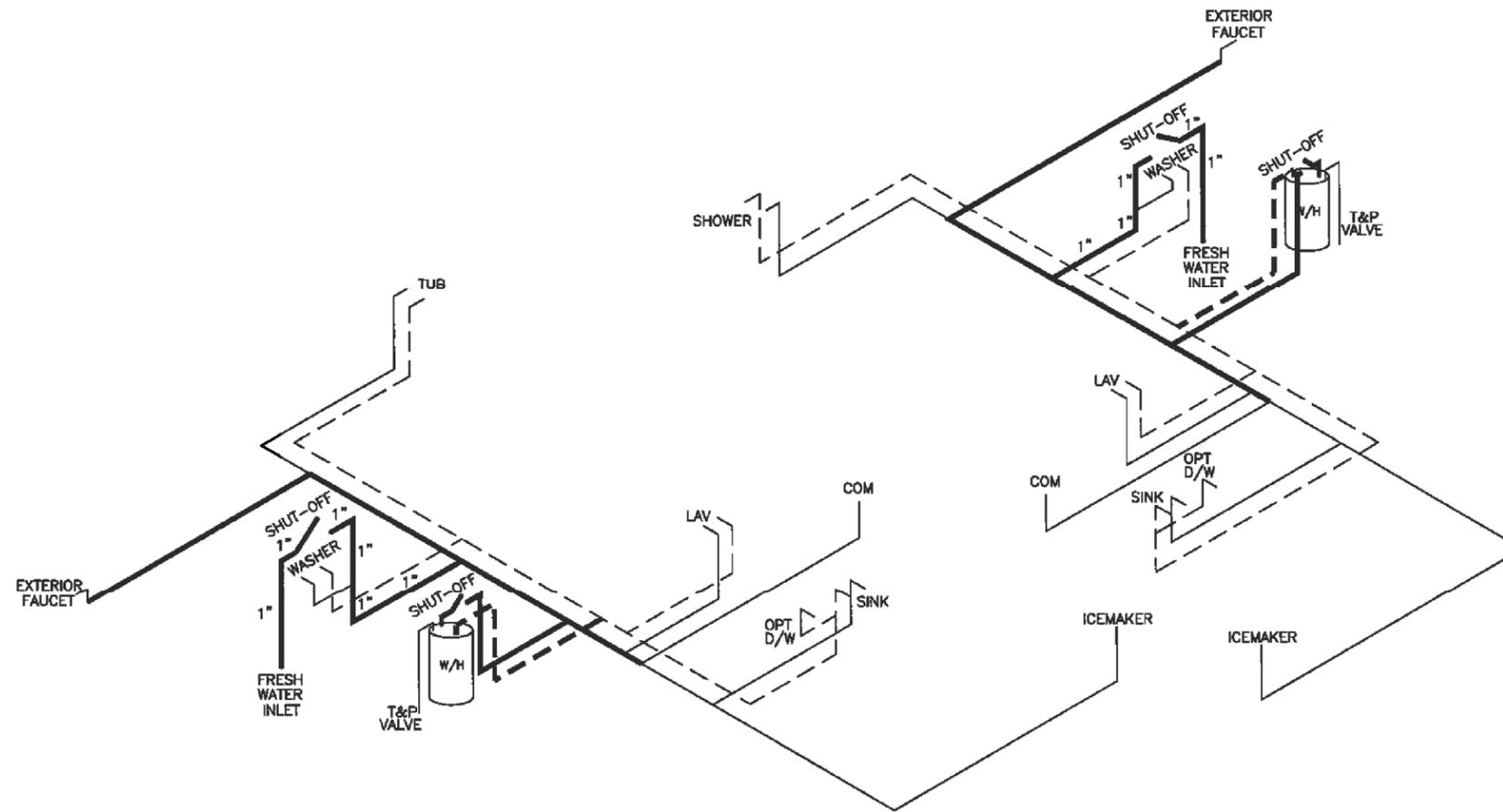
SHEET:
P-1

NOTE:
DASHED LINES INDICATE HOT WATER
SOLID LINES INDICATE COLD WATER

———— = 3/4"
———— = 1/2"
** 1" PIPE SIZE NOTED

MDL = 28'

SUPPLY LINE SIZING IS BASED ON AN ASSUMED AVAILABLE PRESSURE OF 40 TO 49 PSI AT MAIN INLET AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.



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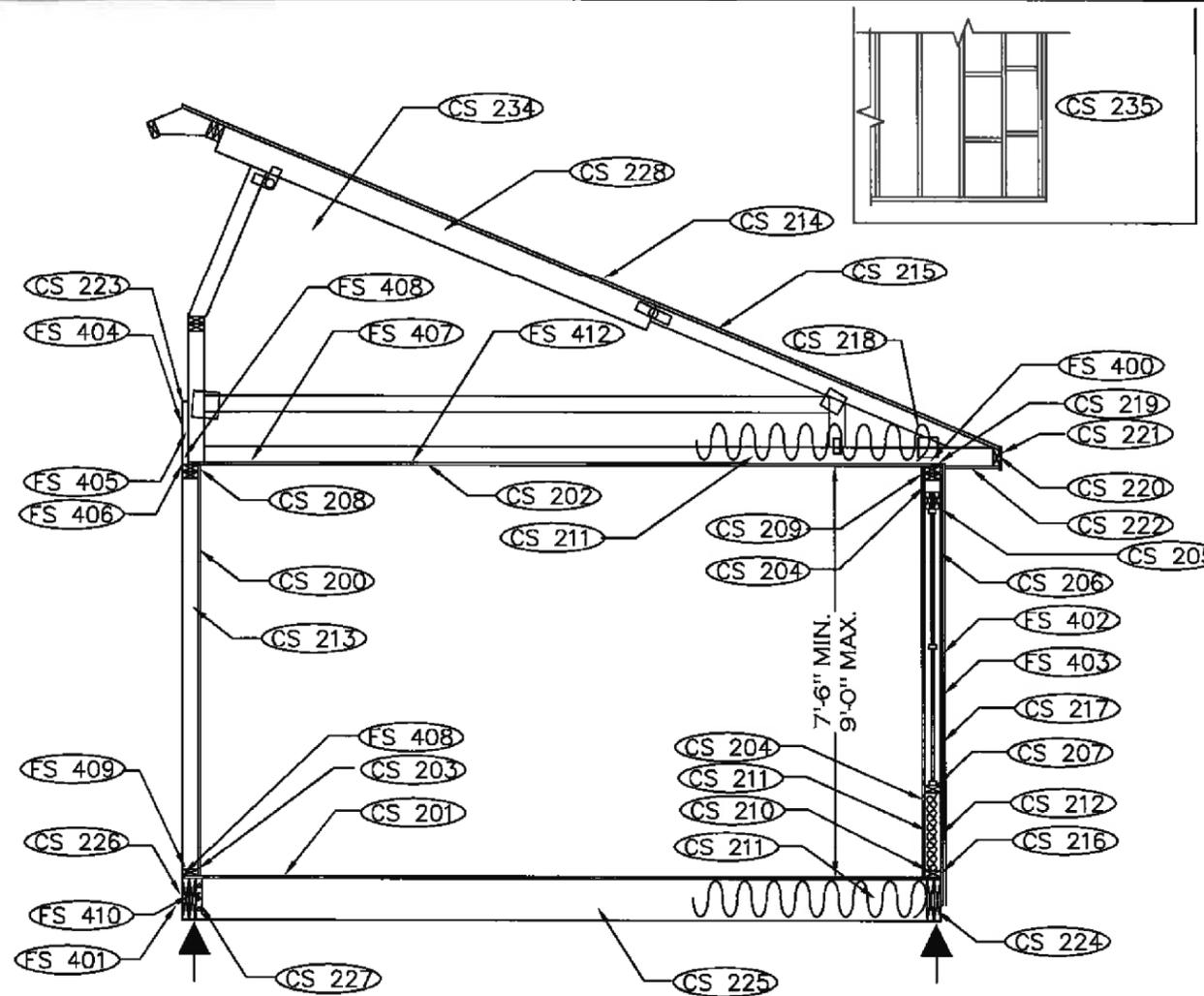
JAMES HARRILL PE
P.O. BOX 8780
Maryville, TN 37802



P.E. SEAL

THIRD PARTY SEAL

PROJECT # M25DUP2A_TN
SCALE: 3/16" = 1'-0"
JOB # 1869-0020
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1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756
Clayton - Plant 925
395 Hwy 11W South Rutledge, TN 37861
PH: 865.828.5771 FAX: 865.828.8097
SUPPLY LINES
SHEET:
P-2
TN# CHR-170
STATE LABEL(S): TN



- CS 200 - SEE FIRE RESISTANCE RATING ATTACHED DETAIL FOR MARRIAGE WALL SHEATHING
- CS 201 - 19/32" MINIMUM T&G OSB , EXP. 1, 24/16 OR 5/8" T&G PLYWOOD, STURD-I-FLOOR EXP. 1. ALL ENDS ARE BUTT JOINTS. INSTALLED PERPENDICULAR TO JOIST.
- CS 202 - SEE FIRE RESISTANCE RATING ATTACHED DETAIL FOR CEILING SHEATHING
- CS 203 - BOTTOM SOLE PLATE 2X3 #3 SPF MIN.
- CS 204 - CRIPPLE STUD 2X6 #2 SPF MIN. 16" O.C.
- CS 205 - 2x HEADER PER EW-20.0 IN APPROVED PACKAGE.
- CS 206 - TYPICAL WINDOW OR DOOR SEE FLOOR PLAN FOR SPECIFICATIONS.
- CS 207 - WINDOW SILL PLATE MIN. 2x6 SPF#2
- CS 208 - DOUBLE TOP PLATE MIN. 2X3 #3 SPF
- CS 209 - DOUBLE TOP PLATE MIN. 2X6 #3 SPF
- CS 210 - BOTTOM SOLE PLATE 2X6 #3 SPF MIN.
- CS 211 - INSULATION W/ VAPOR BARRIER-SEE ATTACHED RESCHECKS OR FLOOR PLAN FOR R - VALUE.
- CS 212 - EXTERIOR WALL STUDS 2X6 SPF #2 AT 16" O.C. OR SP #2 @ 12" O.C. WITHIN 36" CORNER ZONES & 16" O.C. ELSEWHERE.
- CS 213 - MARRIAGE WALL STUDS MIN 2X3 SPF #3 AT 16" O.C.
- CS 214 - 7/16" OSB SHEATHING RATED EXP 1, 24/16
- CS 215 - ASPHALT OR FIBERGLASS SHINGLES OVER TWO LAYERS OF 15# FELT FOR PITCHES UP TO 4:12 AND ONE LAYER FOR 4:12 OR STEEPER INSTALLED PER MANUFACTURER'S SPECIFICATIONS. UNDERLAYMENT SHALL CONFORM WITH ASTM D 226, TYPE I, OR ASTM D 4869, TYPE I. CLOSED VALLEY FLASHING SHALL COMPLY WITH ASTM D 6380 TYPE II OR TYPE III. ASTM D 1970 MAY BE USED IN LIEU OF LINING MATERIAL.

- CS 216 - 7/16" OSB SHEATHING RATED EXP. 1, 24/16 WITH WEATHER RESISTIVE BARRIER BELOW ALL EXT. FINISH MATERIAL. CORROSION-RESISTANT FLASHING REQUIRED AT ALL LOCATIONS AS SHOWN ON APPROVED MANUAL DETAILS
- CS 217 - LAP BOARD, WOOD OR VINYL SIDING, HARDI SIDING, OR EXPOSED SHEATHING FOR ON SITE EXTERIOR FINISH INSTALLATION.
- CS 218 - MAINTAIN 1" MIN. SPACE BETWEEN INSULATION AND ROOF SHEATHING.
- CS 219 - COMPRESSION STRIP SHIM (2" CONTINUOUS)
- CS 220 - 2X MIN. SPF #3 RIM
- CS 221 - ALUMINUM OR HARDI FASCIA MATERIAL
- CS 222 - CONTINUOUS VENTILATED SOFFIT
- CS 223 - RIDGE BEAM PER RC-80.0 IN APPROVED PACKAGE
- CS 224 - FLOOR RIM JOIST PER EL-100.0 IN APPROVED PACKAGE
- CS 225 - FLOOR JOIST PER EL-100.0 IN APPROVED PACKAGE
- CS 226 - MATE LINE FLOOR RIM JOIST PER EL-100.0 IN APPROVED PACKAGE
- CS 227 - JOIST HANGER PER EL-120.0 IN APPROVED PACKAGE
- CS 228 - ENGINEERED TRUSSES PER C-1 SHEET
- CS 229 - ENDWALL OVERHANG DETAIL PER RC-10.0 DETAIL(S)
- CS 230 - RESERVED FOR FUTURE USES
- CS 231 - RESERVED FOR FUTURE USES.
- CS 232 - RESERVED FOR FUTURE USES
- CS 233 - RESERVED FOR FUTURE USES
- CS 234 - GABLE ENDWALL FRAMING PER RC-21.0 DETAIL(S).
- CS 235 - 2x FULL DEPTH BLOCKING PER FL-100.0 AT ALL ENDWALL LOCATIONS WHEN AN UNBALANCED BACKFILL OCCURS.

- FS 400 - ROOF TRUSS ATTACHMENT TO TOP PLATE PER RC-30.0 IN APPROVED PACKAGE.
- FS 401 - EXTERIOR WALL STRAPPING AND FASTENING PER EW-31.0 IN APPROVED PACKAGE.
- FS 402 - EXTERIOR STRUCTURAL SHEATHING PER SW-10.0 OR SW-35.0, WHICH EVER IS WORST CASE OF, APPROVED STATE PACKAGE.
- FS 403 - RESERVED FOR FUTURE USES
- FS 404 - SITE SET UP CONNECTION: 3/8" LAG BOLT WITH 1" MIN. PENETRATION LAG SCREW SPACED 16" O.C. STAGGERED FROM SIDE TO SIDE. ALT. 1/2" DIA. BOLT WITH 1 3/8" WASHER SPACED 24" O.C. MAX.
- FS 405 - FASTEN RIDGE BEAM TO EACH TRUSS PER RC-80.0 IN APPROVED PACKAGE.
- FS 406 - RIDGEBEAM FASTENED TO TOP PLATE WITH #8x4" SCREWS 16" O.C.
- FS 407 - INTERIOR PARTITIONS FASTENED TO TRUSS OR LAYFLATS IN ROOF AND FLOOR PER PT-40.0 IN APPROVED PACKAGE.
- FS 408 - MARRIAGE WALL STRAPPING AND FASTENING PER MW-30.0 IN APPROVED PACKAGE. (TYPICAL EACH MARRIAGE WALL)
- FS 409 - EXTERIOR WALLS FASTENED TO FLOOR PER EW-31.0 IN APPROVED PACKAGE.
- FS 410 - SITE SET UP CONNECTION: 3/8" LAG SCREWS STAGGERED FROM SIDE TO SIDE AT 48" O.C. MAXIMUM. LAG SCREWS MUST PENETRATE 1.75" MINIMUM INTO ADJACENT MODULE RIM JOIST OR SITE INSTALL 1/2" X 4" BOLTS INTO PRE-DRILLED HOLES AT 48" O.C. MAX.
- FS 412 - ENDWALL TRUSS TO PLATE AND PLATE TO FLOOR PER SW SECTION IN APPROVED STATE MANUAL.

NOTE:
 1. BUILDING IS SYMMETRICAL.
 2. FLOOR INSULATION MAY BE SITE INSTALLED.

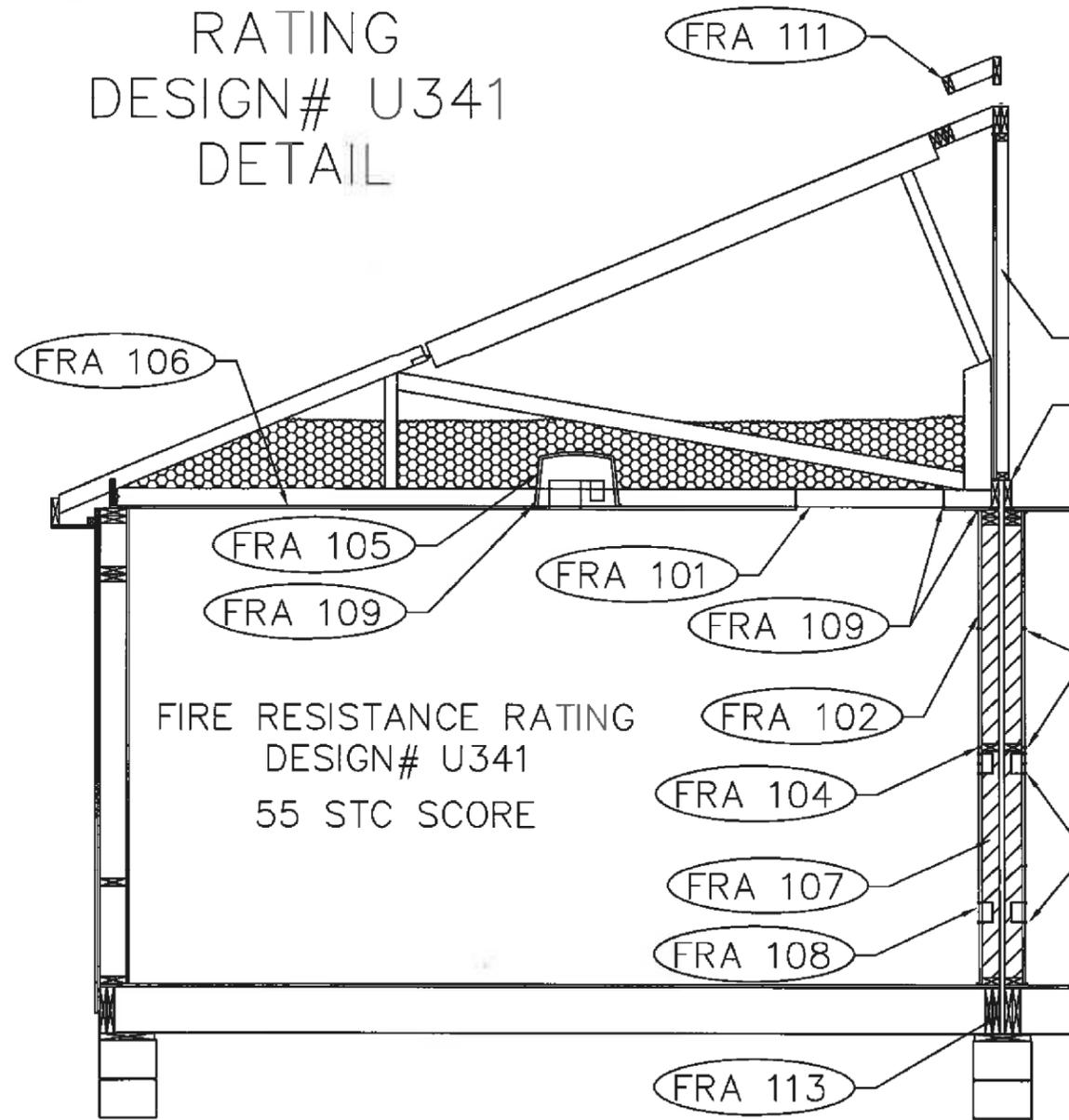
Clayton Homes Rutledge (Plant 925)
 395 HWY 11W SOUTH Rutledge, TN 37861
 PH: 865.828.5771 FAX: 865.828.8097
 TN# CHR-170

JAMES HARRILL PE
 P.O. BOX 8790
 Maryville, TN 37802



DRAWN BY: B. RUSSELL
 TN# CHR-170
 STATE LABEL(S): TN
 SCALE: N.T.S.
 HILBORN, WERNER, CARTER, AND ASSOCIATES, INC.
 1627 SOUTH MYRTLE AVE.
 CLEARWATER, FL 33756
 CMH MANUFACTURING, INC.
 305 Hwy 110B, Box 3711, Fayetteville, TN 37834
 PH: 865.828.5771 FAX: 865.828.8097
 OFF FRAME CROSS SECTION
 SHEET: X-2

FIRE RESISTANCE
RATING
DESIGN# U341
DETAIL

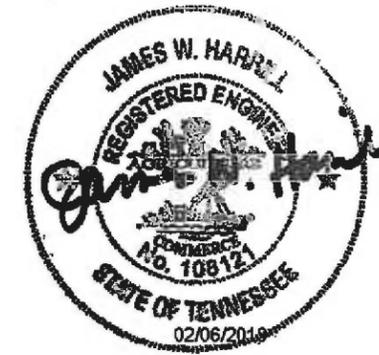


FIRE RESISTANCE RATING
DESIGN# U341
55 STC SCORE

- FRA 101 — NYSTROM (IWK2230) 22 X 30 FIRE-RATED INSULATED LATCHED ATTIC ACCESS OR EQUIVALENT SEALED WITH FIRE & DRAFT CAULK
- FRA 102 — 5/8" FIRE-RATED GYPSUM APPLIED HORIZ. W/ 1-1/4" COURSE THREAD SCREWS @ 8" O.C.
- FRA 103 — GYPSUM BOARD OUTER LAYER JOINTS AND SCREW HEADS TO BE TAPED AND/OR SEALED W/ JOINT COMPOUND
- FRA 104 — MID-HEIGHT CROSS BLOCKING
- FRA 105 — TENMAT FF109-350 FIRE RATED LIGHT BOX COVERS OR EQUIVALENT SEALED W/ FIRE & DRAFT CAULK
- FRA 106 — 5/8 FIRE-RATED CEILING GYPSUM APPLIED PER MANUFACTURER'S INSTRUCTION
- FRA 107 — 3 1/2" GLASS/MINERAL FIBER BATT INSULATION
- FRA 108 — ALLIED MOULDED FIRE RATED OUTLET BOXES AND FITTINGS SEALED W/ FIRE & DRAFT FIRE CAULK
- FRA 109 — FIRE & DRAFT SEALER FIRESTOPPING SEALANT
- FRA 110 — DRAFT STOP CONSTRUCTED W/ 2x3 FRAMING SHEATHED AND SEALED AT EVERY CONNECTION TO BE COMPLETED ON SITE PER LOCAL JURISDICTION
- FRA 111 — SOLID RIDGE CAP SEE D-1 PAGE FOR ATTIC VENTILATION METHOD
- FRA 112 — 2X6 CONTINUOUS RIDGE BEAM
- FRA 113 — 1" GAP BETWEEN THE UNITS

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P.O. BOX 9790
Maryville, TN 37802



P.E. SEAL

THIRD PARTY SEAL

FIRE PARTITION DETAIL

SHEET:
X-2.1

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

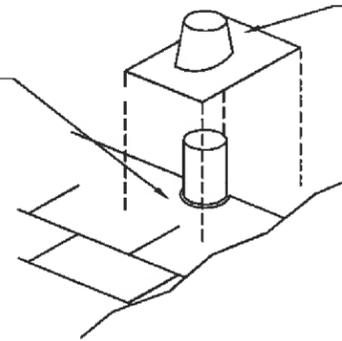
Clayton
Clayton - Plant 925
395 Hwy 11W South, Rutledge, TN 37861
PH: 865.828.5771 FAX: 865.828.8097

PROJECT #M25DUP2A_TN
SCALE: 3/16" = 1'-0"
JOB #1869-0020

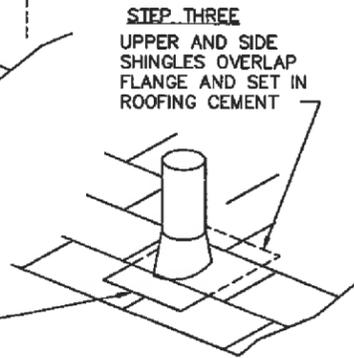
TN# CHR-170
STATE LABEL(S): TN

ROOF PENETRATIONS

STEP ONE
SHINGLE CUT TO FIT OVER PIPE AND SET IN ROOFING CEMENT



STEP TWO
FLANGE INSTALLED OVER PIPE ACCORDING TO MANUFACTURERS INSTRUCTIONS

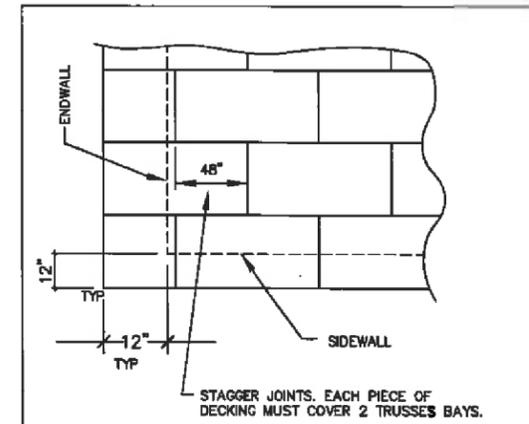


STEP THREE
UPPER AND SIDE SHINGLES OVERLAP FLANGE AND SET IN ROOFING CEMENT

LOWER PART OF FLANGE OVERLAPS LOWER SHINGLES

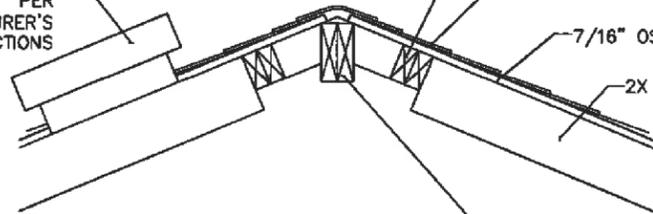
NOTES:

1. WHEN ROOF DECKING IS PENETRATED, THE AREA PENETRATED MAY BE 1/2" +/- 1/4" LARGER THEN ITEM PROTRUDING THRU OR PER THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
2. ALL SHINGLES PENETRATIONS TO BE SEALED IN ACCORDANCE WITH THE FLASHING MANUFACTURER INSTALLATION INSTRUCTIONS WHEN APPLICABLE. OTHERWISE USE DETAIL ABOVE.
3. DO NOT USE PETROLEUM BASED SEALANTS ON BASE OF FLASHING WHEN USING A NO CAULK FLASHING.
4. PLUMBING VENT PENETRATION SHALL EXTEND A MINIMUM OF 6" ABOVE ROOF FINISH.
5. CHIMNEYS TO BE LOCATED BETWEEN TRUSSES TO MAINTAIN MINIMUM REQUIRED DISTANCES FROM COMBUSTIBLE MATERIAL.
6. DETAILS APPLICABLE TO PLUMBING VENTS, FLUES AND CHIMNEYS, AND ELECTRICAL MASTS.



GAF RT65 PLASTIC SQUARE—TOP OR EQUIVALENT

ROOF VENT—INSTALLED PER MANUFACTURER'S INSTRUCTIONS



FASTENING PER TRUSS DETAIL.

FIBERGLASS SHINGLES

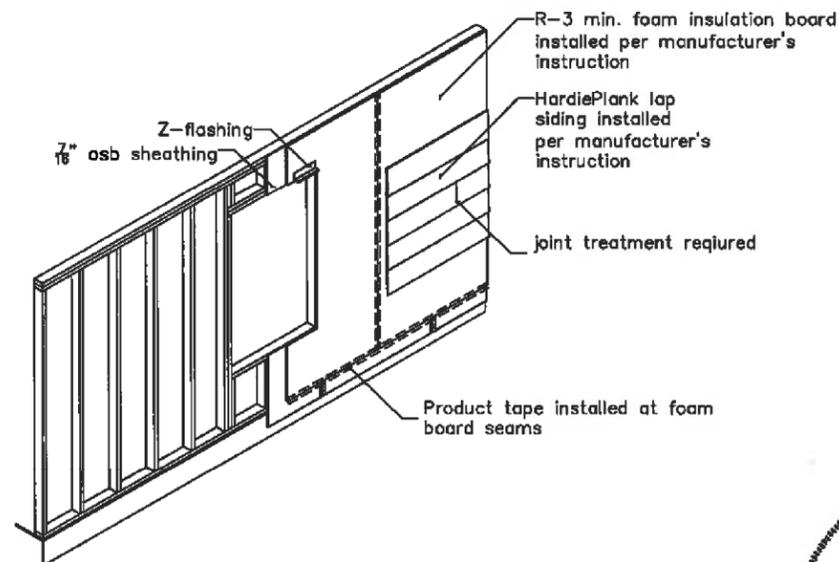
7/16" OSB DECKING

2X TRUSS EXTENSION

— RIDGE BLOCK PER TRUSS DETAIL.

ROOF VENT REQUIREMENT: 672 sq ft/PER UNIT
ROOF EXHAUST: 162 sq in/PER UNIT
ROOF VENT: 60 sq in net free ventilating area

3 VENTS PER HALF
6 VENTS TOTAL PER UNIT

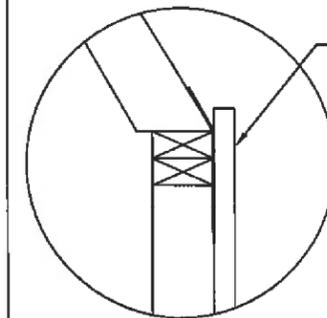


R-3 min. foam insulation board installed per manufacturer's instruction

HardiePlank lap siding installed per manufacturer's instruction

joint treatment required

Product tape installed at foam board seams

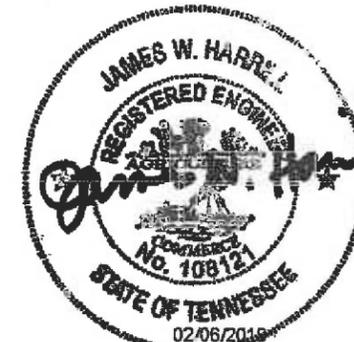


FASTEN HINGED KINGPOST TO THE FIXED KINGPOST WITH (1) 26 GA. x 1-1/2" x LENGTH STRAP SECURED W/ (12) 15 GA. x 1" PENETRATING STAPLES EACH END. LATERAL BOARDS SCREWED OR NAILED (OR EQUIVALENT) TOGETHER AT 16" O.C.

(DESIGNED FOR THE FOLLOWING MAXIMUM TRUSS REACTION AT CONNECTION: 524# TENSION, 650# COMPRESSION, 282# SHEAR.)

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P.O. BOX 9790
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CROSS SECTION DETAILS

SHEET: D-1

PROJECT #M25DUP2A_TN
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