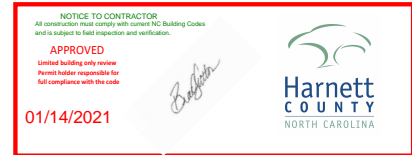


November 20, 2020



Mr. Mike Hamm, P.E.
State of North Carolina Department of Insurance
Manufactured Building Division
1202 Mail Service Center
Raleigh, NC 27699-1202

RE: Crestline Custom Builders
Model: 16-CP-68' BROWN-NC

Dear Mr. Hamm,

Enclosed, you will find one (1) copy of the above-mentioned project for your files.

Should you have any questions or comments, please contact me at your earliest convenience.

Sincerely,

Kip Whitehead

Kip Whitehead
Account Manager
ICC-NTA LLC

A MEMBER OF THE ICC FAMILY OF SOLUTIONS

NORTH CAROLINA		
MODULAR PLANS REVIEW CHECKLIST		
	PAGE 1 of 3	revised May 2011
Manufacturer	Manis & Crestline Custom Builders	
Model number/name	16-CP-68' BROWN	
3rd Party	ICC NTA LLC	
Review Date	11-20-2020	
Reviewer	Kip Whitehead	
	Plan Sheet Page # and NOTES	
QC MANUAL (current and complete)	Ok	
APPENDIX B (required and attached)	not required	
PLAN SHEETS		
Each plan sheet third-party stamped with approver's name	Yes	
Each plan sheet is numbered and/or indexed	Yes	
GENERAL (cover sheet)		
Code References	1	
Statement regarding connection to public utilities	1	
Statement regarding bathrooms if not included	not required	
Construction type	1	
Occupancy classification	1	
Fire resistance ratings (if required)	not required	
Floor live load	1	
Roof live load	1	
Design wind velocity	1	
Seismic information (commercial projects)	1	
Thermal zones	3	
Notice to inspections department regarding items to be site installed	2	
FLOOR PLANS		
Interior and exterior wall layouts	5	
Door and window schedule	5.1	
Light and Ventilation requirements	5, 5.1	
Attic access (size and location)	5	
Non-prescriptive headers	5	
Safety glazing requirements	5, 5.1	
Fire rating of Exterior walls (if applicable)	not required	
EXTERIOR ELEVATIONS		
Exterior materials	4, 11	
Attic ventilation requirements	3, 11	
PLUMBING		
Plan	7, 8	
All fixtures furnished by mfg. shown on plans	7	
Materials (water supply & distribution, DWV, storm drainage)	7,8	
Supply and waste risers, including DWV system (generic) beneath the building	7,8	
Water heater (type and capacity)	6, 6.1, 7	

**NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST**

PAGE 2 of 3

revised May 2011

Plan Sheet Page # and NOTES

MECHANICAL

Design calculations	3, 10
Installed unit capacity	not required
Supply and returns (locations and sizes)	5, 5.1, 10
Duct sizes	10
Specifications (units, ducts)	10
All appliances furnished by mfg. shown on plans	5

ELECTRICAL

Plan	6
Location of all electrical boxes	6
Electrical panel location	5, 6
Note regarding main disconnect (if applicable)	2, 6, 6.1
Exterior lighting and receptacles	6
Ground level receptacles (if applicable)	6
Smoke detector location(s)	6
Electrical load calculations	6.1
Electrical panel layout (breaker and wire sizes, circuit schedule)	6
Panel and service entrance sizes	2, 6.1
All fixtures furnished by mfg. shown on plans	6

ACCESSIBILITY

(for other than 1 & 2 family dwellings)

Entrances and means of egress	not required
Doors, doorways, and door hardware	not required
Stairs and handrails	not required
Toilet rooms, plumbing fixtures, grab bars, etc	not required
Bathrooms and shower rooms	not required
Occupancy specific requirements	not required
Multi-family dwellings: Type A and B units	not required

FLOOR X-SECTION

Joist and beam sizes and spacing	11
Materials species and grade	11
Sheathing, decking, and concrete as applicable	11
Fastening instructions	11
Insulation	11
Details as required for clarification	11

WALL X-SECTION

Stud and column sizes and spacing	11
Materials species and grade	11
Sheathing and bracing	11
Headers and lintels	11
Finishes	11
Fastening instructions	11
Insulation	11
Details as required for clarification	11

**NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST**

PAGE 3 of 3

revised May 2011

Plan Sheet Page # and NOTES

CEILING/ROOF X-SECTION

Truss, rafter, and beam spacing	11
Lumber species and grade	11
Sheathing and decking	11
Finishes	11
Fastening instructions	11
Insulation	11
Details including NC sealed truss designs or manual reference	11

FOUNDATION PLAN

Footings, pier, and curtain wall locations and specifications	9, 9.1
X-sections with dimensions	9, 9.1
Anchorage - sill plate to piers and curtain wall	9.1
Anchorage - building to sill plate	9.1
Anchorage - tie downs (lateral and longitudinal)	9
Soil bearing capacity	9.1
Minimum concrete compressive strength	9.1
Mortar type	9.1
Ventilation requirements (with and without vapor barrier)	3, 9, 9.1
Crawl space access requirements	9, 9.1

ENERGY COMPLIANCE

Demonstrate compliance	3
------------------------	---

SET-UP INSTRUCTIONS

Floor and ceiling connections	11
Marriage wall connections	11
Roof set-up connections	11
Plumbing connections	11
Mechanical connections	11
Electrical connections	11
Fire stopping	11
Air infiltration elimination	11
Notice to inspections department attachment if set-up instructions are by attachment	1

ITEMS NOT INSPECTED IN PLANT

List of items not inspected by 3rd. Party	2
Notice to inspections department	2

APPROVAL PLANS INDEX	
SHEET	DESCRIPTION
1.0	INDEX AND CRITERIA SHEET
2.0	SITE INSTALLED DATA & SERVICE DISCONNECT
3.0	ENERGY CODE DATA & Ventilation
4.0	ELEVATION
5.0	FLOOR PLAN LAYOUT BRACED FLOOR PLAN DETAILS & NOTES
5.1	FLOOR PLAN, WINDOW & DOOR SCHEDULES, AND PLUMBING FIXTURE SCHEDULES
6.0	ELECTRICAL LAYOUT
6.1	ELECTRICAL SCHEDULES
7.0	SUPPLY PLUMBING
8.0	DWV PLUMBING
9.0-9.1	FOUNDATION PLAN & NOTES
10.0	HVAC LAYOUT
11.0	CROSS-SECTION
11.1	ENERGY CODE COMPLIANCE DETAILS
ATTACHED ONLY WHEN NEEDED	MODEL SPECIFIC CALCULATIONS

N. C. BUILDING DESIGN CRITERIA

CODES:
 NC RESIDENTIAL CODE - 2018 EDITION
 NC PLUMBING CODE - 2018 EDITION
 NC MECHANICAL CODE - 2018 EDITION
 NC ENERGY CONSERVATION CODE - 2018 EDITION
 NC FUEL & FUEL GAS CODES - 2018 EDITION
 NC ELECTRICAL CODE - 2017 EDITION


DUAL LABELED STOCK NOTE:
 WHEN DUAL LABELING A STOCK MODEL, THE HOME WILL BE BUILT TO INCLUDE BOTH REQUIRED CONSTRUCTION METHODS OF BRACING, WHEN OVERLAPPING OCCURS, THE WORSE CASE METHOD WILL GOVERN.

TYPES:
 CONSTRUCTION TYPE: VB, UNPROTECTED
 OCCUPANCY TYPE: RESIDENTIAL

NOTE: THIS HOME IS DESIGNED FOR A MAXIMUM MEAN ROOF HEIGHT OF 30'
LOADS: ROOF LOAD: 20 PSF GSI
 FLOOR LOAD: 40 PSF LL 1st & 2nd FLOOR if applicable
 WIND LOAD: VIT=150 MPH EXPOSURE C
 NOTE: MEETS CH. 46 REQUIREMENTS!

NOTE: THIS MODEL IS NOT BUILT FOR COASTAL, HIGH HAZARD OR OCEAN HAZARD AREAS!
 20 PSF LL ATTIC FLOOR, 40 IF HABITABLE ATTIC
 SEISMIC ZONE: C
 CRITERIA USED IS ASCE-7 10

APPROVED THIRD PARTY AND OTHER APPLICABLE SEALS



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NOTES:
 1) ATTENTION LOCAL INSPECTION DEPT.
 2) SET-UP INSTRUCTIONS FOR OUR MODULAR HOMES ARE INCLUDED BY ATTACHMENT TO THESE PLANS. ANY PLAN SET WHICH DOES NOT INCLUDE AN ATTACHMENT ENTITLED: "SETUP/CONSTRUCTION GUIDELINES" IS INCOMPLETE. SEE THE X-SECTION FOR ALL REQUIRED PAGE NUMBER REFERENCES.
 3) THIS UNIT MUST BE CONNECTED TO A PUBLIC WATER SUPPLY AND SEWER SYSTEM IF THESE ARE AVAILABLE.
 4) STATE LABEL LOCATED INSIDE KITCHEN SINK CABINET.

NOTE TO LOCAL INSPECTION DEPARTMENT:
 IF THIS STRUCTURE IS IN A THERMAL ZONE MORE STRINGENT THAN THAT LISTED ON THESE PLANS, IS SET ON A FULL OR PARTIAL ABOVE GROUND BASEMENT ENCLOSURE, OR IS SET ON PILING, OR IS INSTALLED AT A MOUNTAIN REGION OR COASTAL REGION, THE SET-UP INSTRUCTIONS OR OTHER DESIGN FRAME SHEET MUST BE REFERRED TO. DESIGN FRAME SHEET MUST BE REFERRED TO FOR ACTUAL SITE CONDITIONS. ALTERATIONS MAY BE REQUIRED TO BRING THE HOME INTO COMPLIANCE WITH THE MORE STRINGENT CONDITIONS.

PLAN: N/A	PLANT: N/A
FLOORS: 1	DATE: 11/12/2020

SHEET 1.0

2018 NC ENERGY COMPLIANCE			
WORSE CASE CLIMATE ZONE: 4			
ASSEMBLY	CAVITY R-VALUE	GLAZING OR DOOR U-FACTOR	SHGC VALUE
CEILING	R-30		
WALL	R-19		
WINDOWS		0.33	0.27
DOORS		0.19	
DOORS >50% GLASS		0.35	0.30
F_DOOR	R-25		

NOTE: PRESCRIPTIVE PER TABLE N1102.1.2 (R402.1.2) AND FOOTNOTES L & M: THE FULL HEIGHT OF UNCOMPRESSED R-30 INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES AND PROVIDES A 1" AIR GAP. SEE DETAIL ON SHEET 11.0.

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VENTILATION REQUIREMENTS

Model: 16-CP-78' Brown
 House Size:
 L (ft): 68
 W (ft): 29.5
 Crawl Space: Vapor barrier required
 2008 sf
 13.37 sf of ventilation required

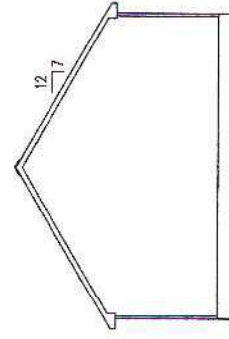
Attic: 288654 sq. in.
 Required inlet area: 481.44 sq. in.
 Provided inlet area: 1788 sq. in.
 1788 sq. in. > 481.4 Therefore, OK.
 Required outlet area: 481.44 sq. in.
 Provided outlet area:
 52 sq. in. per 4" piece of Ridge Vent, so
 10 Pieces required, as
 10 X 52 = 520
 520 sq. in. > 481.4 Therefore, OK.

Manis & Crestline Custom Builders
 5880 Crestline Rd
 Laurinburg, NC 28352
 (910) 276-0195

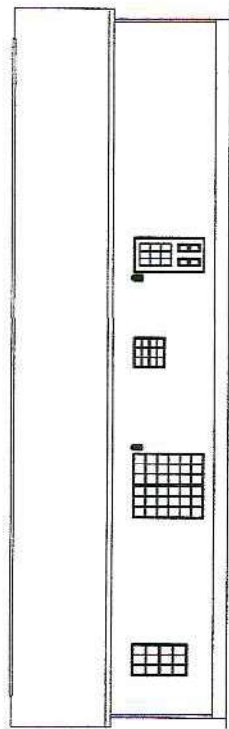
MANIS AND CRESTLINE CUSTOM BUILDERS

rev. 11/20/2020 p. 3

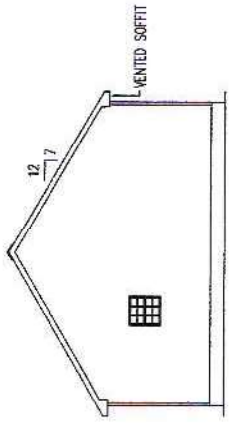
Manis & Crestline Custom Builders 5880 Crestline Road Laurinburg, NC 28352 1-800-772-0195 www.maniscustombuilders.com © 2019 2020 Manis & Crestline Custom Builders, Inc.	DATE: 10/5/20 DRAWN: CJR	SCALE: 3/16" = 1'-0"
	REV:	PANEL DETAIL B



RIGHT SIDE ELEVATION
SCALE: 3/32" = 1'-0"



REAR ELEVATION
SCALE: 3/32" = 1'-0"

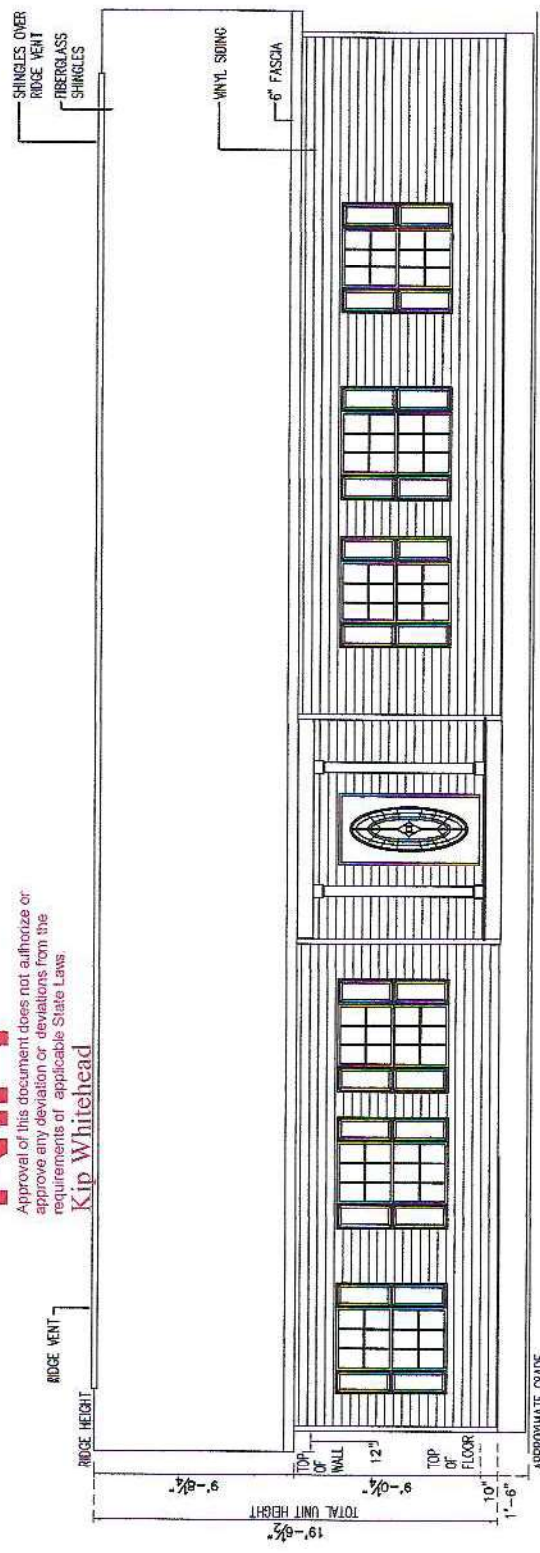


LEFT SIDE ELEVATION
SCALE: 3/32" = 1'-0"

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FRONT ELEVATION

QTY		STYLE	NOMINAL SIZE	R.O. WIDTH	R.O. HEIGHT	GLASS S.F.	VENT S.F.	DESCRIPTION
1	E-9L-36	3'-0"x6'-8"	3'-2"	6'-10 1/2"	5.340	0.000	0.000	Exterior 9 lite steel
1	E-0E-36	3'-0"x6'-8"	3'-2"	6'-10 1/2"	6.790	0.000	0.000	Exterior oval etched
1	E-560-72	6'-0"x6'-8"	6'-0"	6'-10 1/2"	40.500	20.250	0.000	Exterior sliding glass
1	ACC	2'-3"	5'-0"	0.000	0.000	0.000	0.000	Interior cased opening
1	OPENING	4'-2"	0'-10 1/2"	0.000	0.000	0.000	0.000	Interior cased opening
4	OPENING	5'-0"	6'-10 1/2"	0.000	0.000	0.000	0.000	Interior cased opening
1	OPENING	14'-0"	6'-10 1/2"	0.000	0.000	0.000	0.000	Interior cased opening
1	OPENING	18'-3"	6'-10 1/2"	0.000	0.000	0.000	0.000	Interior cased opening
1	Dbl-30	2'-2"-6'-0"x6'-8"	5'-2"	6'-10 1/2"	0.000	0.000	0.000	Interior double six panel hollow core
3	24	2'-0"x6'-8"	2'-2"	6'-10 1/2"	0.000	0.000	0.000	Interior six panel hollow core
1	28	2'-0"x6'-8"	2'-0"	6'-10 1/2"	0.000	0.000	0.000	Interior six panel hollow core
9	30	2'-6"x6'-8"	2'-6"	6'-10 1/2"	0.000	0.000	0.000	Interior six panel hollow core

WINDOW DESCRIPTION NOTES:
 1) ALL WINDOWS ARE LOW-E SINGLE HUNG WITH GRIDS UNLESS SPECIFIED OTHERWISE ON THE CUSTOMERS ORDER.
 2) PER THE LATEST RESIDENTIAL CODE AND/OR ACRS SECTION 312.2, ANY SECOND STORY WINDOWS WILL HAVE SAFETY DEVICES INSTALLED AT THE PLANT BEFORE SHIPMENT.

WINDOW EGRESS NOTE:
 ALL WINDOWS WITH 5.0 SQ. FT. OF FREE AREA OR MORE ARE CONSIDERED EGRESS WINDOWS FOR THE GROUND LEVEL FLOOR. UPPER LEVEL WINDOWS SHALL HAVE A MINIMUM OF 5.7 SQ. FT. OF FREE AREA TO MEET EGRESS REQUIREMENTS.

NOTES:
 1) COMPLIES WITH R308.4 FOR SAFETY GLAZING.
 2) WINDOWS LABELED WITH SG ARE SAFETY GLAZED.
 3) ALL SIDE LIGHTS AT EXTERIOR DOORS WILL BE SAFETY GLAZED.
 4) ALL WINDOWS AND DOORS HAVE A MINIMUM DESIGN PRESSURE (DP) RATING OF 50.

WINDOW NOTE:
 WHEN USED; ALL PICTURE, OCTAGON, & TRANSOM WINDOWS ARE SAFETY GLAZED.

QTY		STYLE	R.O. WIDTH	R.O. HEIGHT	GLASS S.F.	VENT S.F.	DESCRIPTION
1	3636	3'-0 1/4"	3'-0 1/4"	5.900	2.900	?	
1	3616-56	3'-0 1/4"	3'-0 1/4"	5.900	2.900	?	
7	3664	3'-0 1/4"	5'-4 1/4"	11.000	5.900	?	
1	MANP-PH	1'-2 1/2"	2'-5 1/2"	0.060	0.000	?	

MANUFACTURER	FIXTURE	SCHEDULE	MODEL NO.
RAYMINT	TUB/SHOWER COMBO		5101 / 5102
	60" CORNER TUB		5201
	60" SHOWER		5309
MAAX	28-23 DBL. INHL. SINK		2023
MAAX	TUBLET		130
	HANDICAPPED TOILET		137
	CHINA LAV. 19X16		N/A
FAT	UTILITY SINK		1610

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RETURN AIR GRILLE DATA CHART

RAG SIZE	RAG TYPE	FREE AIR AREA	FACE JET VELOCITY	DUCT %	CFM
12" x 12"	LOUVERED	121 sq. in.	CFM	CFM	400
14" x 14"	LOUVERED	163 sq. in.	CFM	CFM	0.017
16" x 20"	LOUVERED	200 sq. in.	CFM	CFM	292
20" x 25"	LOUVERED	416 sq. in.	CFM	CFM	404
					741
					1173

1) Cubic feet per minute (CFM) based on 2 CFM per square inch
 2) from: feet per minute

RETURN AIR GRILLE NOTE:
 ISOLATED RETURN AIR GRILLES ARE CONNECTED TO THE HVAC UNIT OR COMPARTMENT WITH R-8 FLEX DUCT OR OTHER APPROVED MATERIALS. ON-SITE BY OTHERS, AND IS SUBJECT TO LOCAL INSPECTION AND APPROVAL.

RETURN AIR GRILLE CHART:
 DATA PROVIDED BY TRUAIRE AND EAST COAST METAL DISTRIBUTORS.

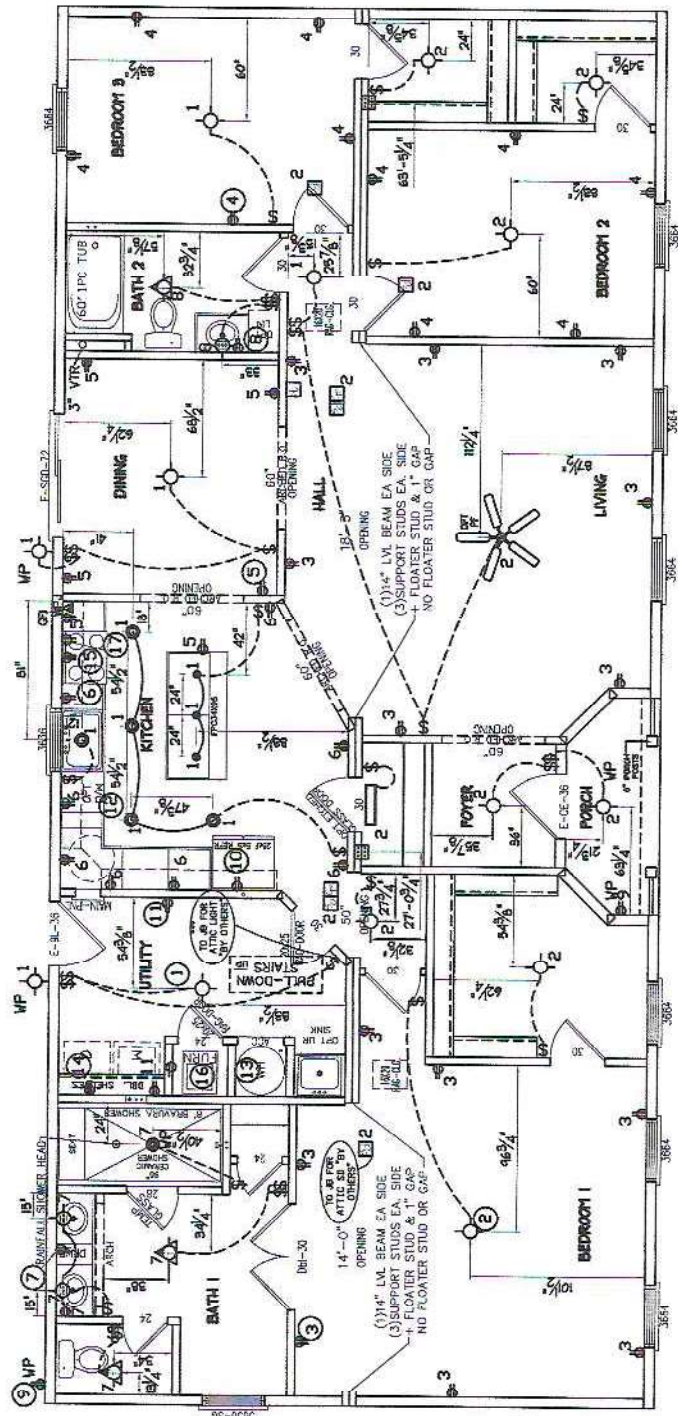
* - DENOTES GFI PROTECTION.

MP - DENOTES ARC-FAULT PROTECTION.

CIRCUIT	LOCATION	WIRE	BREAKER	#	OUTSIDE	12-2	1-20amp.
MP 1	GEN. LIGHTING	14-2	1-15amp.	10	REFRIGERATOR	12-2	1-20amp.
MP 2	GEN. LIGHTING	14-2	1-15amp.	11	LAUNDRY	12-2	1-20amp.
MP 3	GEN. LIGHTING	12-2	1-20amp.	12	WATER HEATER	10-2	2-25amp.
MP 4	GEN. LIGHTING	12-2	1-20amp.	13	DRYER	10-3	2-30amp.
MP 5	KITCHEN/DINING	12-2	1-20amp.	14	RANGE	8-3	2-40amp.
MP 6	KITCHEN	12-2	1-20amp.	15	FURNACE	1-4-6	2-60amp.
MP 7	BATH 1	12-2	1-20amp.	16	DEPT. MICROWAVE	12-2	1-20amp.
MP 8	BATH 2	12-2	1-20amp.	17			

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ALL APPLIANCES ARE SHOWN FOR REPRESENTATION ONLY. INSTALLATION AND/OR SHIPPING OF APPLIANCES DEPENDS ON SALES ORDER.

TOTAL AREA = 2006sf
 LIVING - 1963sf
 PORCH - 43sf



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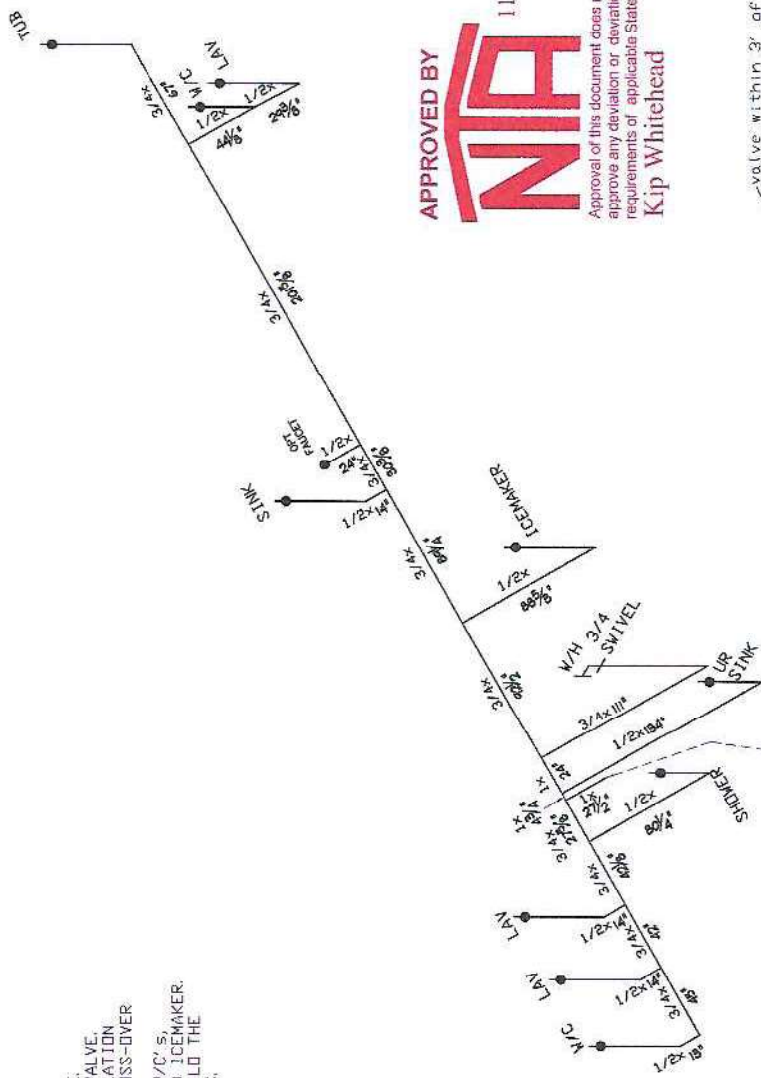
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LEGEND	
⊕ 110 RECEPTACLE	☐ THERMOSTAT WIRE LOCATION
⊕ 220 RECEPTACLE	☐ SMOKE DETECTOR
⊕ SWITCH	☐ CARBON MONOXIDE DETECTOR
⊕ LIGHT FIXTURE	☐ 4' FLUORESCENT FIXTURE
⊕ FAN	☐ 2' FLUORESCENT FIXTURE
	☐ ELECTRICAL CROSS-OVER
	☐ RECESSED CAN LIGHT
	☐ JUNCTION BOX
	☐ BATH FAN W/LIGHT
	☐ SERVICE DISCONNECT
	☐ WPU WIRED PHONE JACK

LEAD CALCULATIONS	
GEN. LIGHTING (2006SF)*3	= 6018w
SMALL APPLIANCES (1500x2)	= 3000w
LAUNDRY (1500x1)	= 1500w
TOTAL	= 10518w
FIRST 3000w @ 100%	= 3000w
REMAINDER @ 35%	= 2632w
TOTAL	= 5632w
5632w DIV. BY 240	= 23.5A
GEN. LTNG. & SMALL APPL.	= 23.5A
RANGE	= 33.7A
DRYER	= 24.0A
FURNACE	= 71.3A
DISHWASHER	= 3.4A
REFRIGERATOR	= 6.5A
MICROWAVE	= 6.9A
50.00L. ELEC. W/H	= 18.8A
TOTAL STANDARD LOAD	= 188.1A

ELECTRICAL FIXTURE SCHEDULE		
MANUF.	HARD-WIRED FIXTURE	PART NO.
BROAN	VENTLESS RANGE HOOD	41300
BRK ELEC.	SMOKE/CARBON DETECTOR	4120SB
BROAN	BATH EXHAUST FAN W/ LIGHT	769RL
KENMORE	DISHWASHER	22-15242

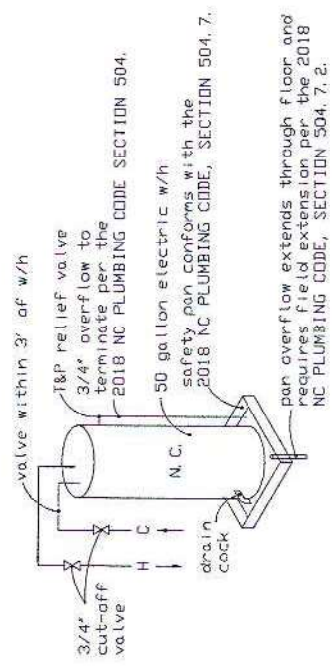
- NOTES:
- 1) A 200A SINGLE PHASE PANEL BOX IS INSTALLED IN THIS UNIT.
 - 2) A MIN. 12" CLEARANCE IS REQUIRED FROM THE STORAGE AREA TO AN INCANDESCENT LIGHT FIXTURE IN ALL APPLICABLE CLOTHES CLOSETS. 6" CLEARANCE IS REQUIRED FOR FLUORESCENT LIGHT FIXTURES.
 - 3) SMOKE DETECTORS SHALL HAVE A BATTERY BACK-UP, SHALL BE ON THE SAME CIRCUIT, AND SHALL BE INTERCONNECTED FOR SIMULTANEOUS OPERATION USING 14-3 WIRE. A WIRED JUNCTION BOX IS INSTALLED IN THE ATTIC/BASEMENT, WHEN APPLICABLE, TO ALLOW THE CUSTOMER TO ADD A SMOKE DETECTOR, APPROVED FOR SUCH AREAS, AT THEIR DISCRETION.
 - 4) WIRE IS NM TYPE.
 - 5) A 200A PANEL BOX USES 3/4" WIRE WITH A #4 GROUND AND A 2" CONDUIT.
 - 6) ALL 120-VOLT, SINGLE PHASE, 15 AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS ARE TO BE PROTECTED BY A "COMBINATION TYPE" ARC-FAULT CIRCUIT INTERRUPTER IN ACCORDANCE WITH THE 2017 NC ELECTRICAL CODE.
 - 7) ***- DENOTES A J-BOX IN THE ATTIC AND/OR BASEMENT FOR SITE INSTALLED LIGHT AND SWITCH; PROVIDED BY OTHERS.
 - 8) FOR VENTED FIREPLACES WITH MOTORS, RUN WIRE FROM NEAREST RECEPTACLE AND PLACE A RECEPTACLE IN THE FIREPLACE AREA FOR A MOTOR.
 - 9) ALL OUTLETS ON 15 AND 20-AMPERE BRANCH CIRCUITS ARE LISTED TAMPER RESISTANT IN ACCORDANCE WITH THE 2017 NC ELECTRICAL CODE.
 - 10) EXTERIOR OUTLETS ARE LISTED WEATHER-RESISTANT PER THE 2017 NC ELECTRICAL CODE.
 - 11) A CARBON MONOXIDE DETECTOR IS REQUIRED TO BE LOCATED OUTSIDE EACH SLEEPING AREA IN ACCORDANCE WITH THE 2018 NC RESIDENTIAL CODE.
 - 12) A PROGRAMMABLE THERMOSTAT IS REQUIRED PER THE NC 2018 ENERGY CONSERVATION CODE AND WILL BE PROVIDED ON-SITE BY OTHERS. A THERMOSTAT WIRE WILL BE PULLED TO THE WALL LOCATION FOR SITE USE.
 - 13) ALL KITCHEN COUNTERTOP RECEPTACLES ARE GFI PROTECTED AS WELL AS ANY WALL-RECEPTACLES WHICH ARE LOCATED WITHIN 6' OF THE EDGE OF THE KITCHEN SINK.
 - 14) ALL DISHWASHERS, WHEN INSTALLED, ARE DIRECT WIRED.



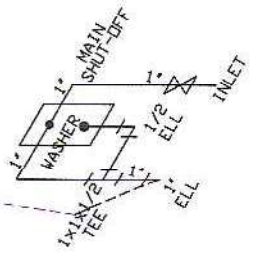
- NOTES:
- 1) SUPPLY LINES ARE PEX.
 - 2) ● - DENOTES A CUT-OFF VALVE.
 - 3) X - DENOTES A 1" SHUT-OFF VALVE.
 - 4) SEE PG. 13.2 OF THE INSTALLATION INSTRUCTIONS MANUAL FOR CROSS-OVER CONNECTION INFORMATION.
 - 5) FOR HOT SUPPLY LINES OMIT W/C'S.
 - 6) INLET, EXTERIOR FAUCETS AND ICEMAKER, 3/4" SUPPLY PIPE IS USED. ILL THE 1" SHOWN FOR THE HOT LINES.
 - 7) SEE SHEET 5.1 FOR THE PLUMBING FIXTURE SCHEDULE.

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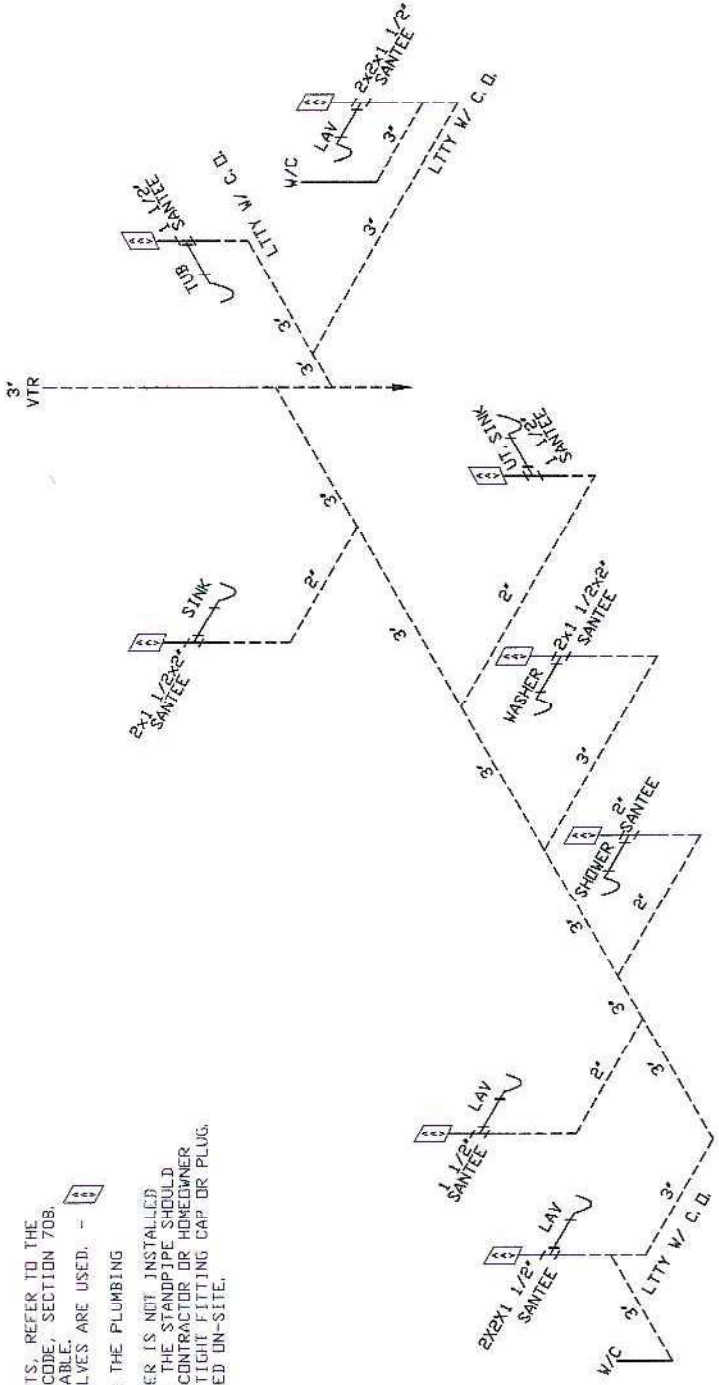
 11/20/2020
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Kip Whitehead



valve within 3' of w/h
 T&P relief valve
 3/4" overflow to terminate per the 2018 NC PLUMBING CODE SECTION 504.
 50 gallon electric w/h
 safety pan conforms with the 2018 NC PLUMBING CODE, SECTION 504.7.
 drain cock
 H C
 par overflow extends through floor and requires field extension per the 2018 NC PLUMBING CODE, SECTION 504.7.2.



- NOTES:
- 1) FOR STACK CLEANOUTS, REFER TO THE 2018 NC PLUMBING CODE, SECTION 708.
 - 2) P-TRAPS ARE REMOVABLE.
 - 3) AIR ADMITTANCE VALVES ARE USED.
 - 4) PIPE IS PVC.
 - 5) SEE SHEET 5.1 FOR THE PLUMBING FIXTURE SCHEDULE.
 - 6) IF A CLOTHES WASHER IS NOT INSTALLED BEFORE OCCUPANCY, THE STANDPIPE SHOULD BE SEALED BY THE CONTRACTOR OR HOMEOWNER WITH A REMOVABLE TIGHT FITTING CAP OR PLUG.
 - 7) 3" VTR IS INSTALLED UN-SITE.



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NC
2018 NC PLUMBING CODE, TABLE # 909.1
MAX. DISTANCE OF FIXTURE TRAP FROM VENT

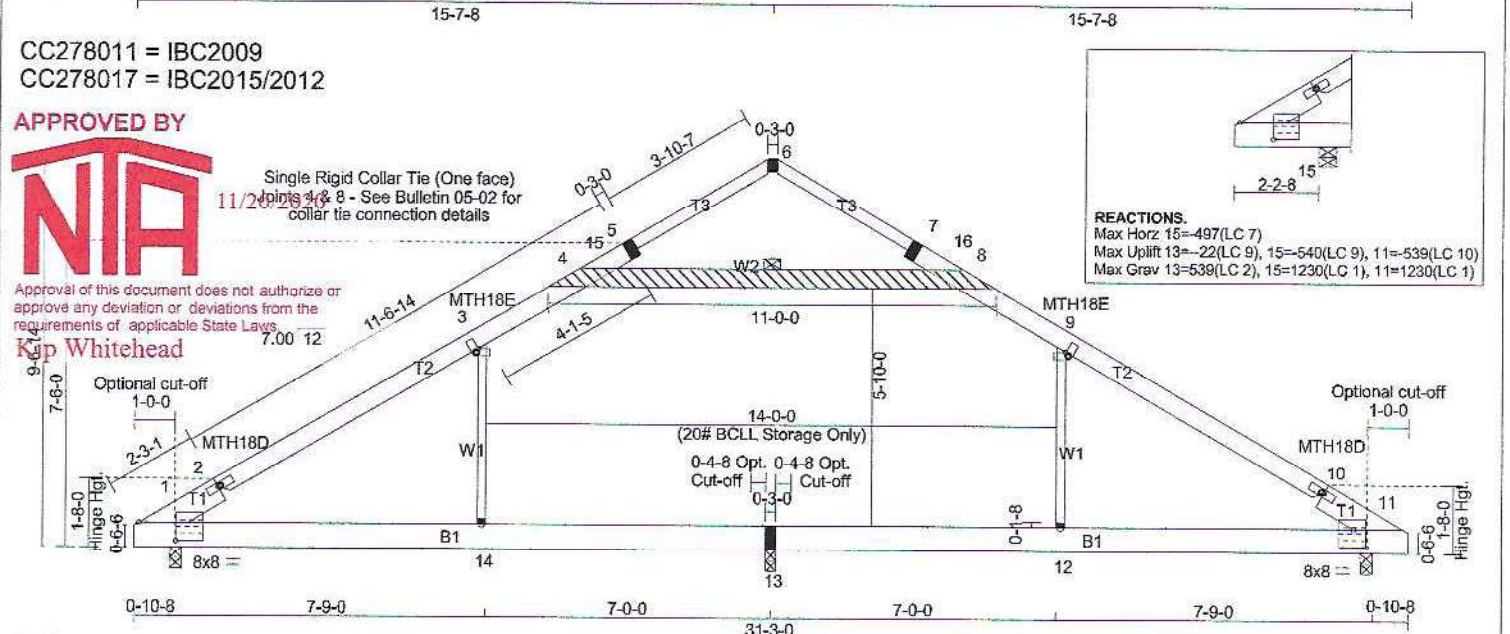
SIZE OF TRAP (inches)	SLOPE (inch per foot)	DISTANCE FROM TRAP (feet)
1 1/4	1/4	5
1 1/2	1/4	6
2	1/4	12
3	1/8	16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm,
1 inch per foot = 83.3 mm/m.

SHEET 8.0

Job 84927	Truss CC278017	Truss Type HINGED ATTIC	Qty 1	Ply 1	Crestline Homes 315 #261 Ref.#3157054
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Universal Forest Products Inc., Grand Rapids, MI 49525, Weston Gorby 7.640 e Apr 22 2016 MiTek Industries, Inc. Thu Sep 22 09:02:35 2016 Page 1 of 2
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Ken Whitehead

REACTIONS.

Max Horz	15=497(LC 7)
Max Uplift	13=22(LC 9), 15=540(LC 9), 11=539(LC 10)
Max Grav	13=539(LC 2), 15=1230(LC 1), 11=1230(LC 1)

Plate Offsets (X,Y)-- [1:0-10-12,0-5-4], [2:0-0-11,0-0-0], [3:0-0-11,0-1-2], [9:0-0-11,0-1-2], [10:0-0-11,0-0-0], [11:0-3-10,0-5-4]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 23.1 (Ground Snow=30.0)	2-0-0 Plate Grip DOL 1.15 Lumber DOL 1.15	TC 0.48 BC 0.54 WB 0.83 (Matrix)	in (loc) l/defl L/d Vert(LL) 0.48 1-14 >370 240 Vert(CT) 0.42 1-14 >425 180 Horz(CT) 0.03 11 n/a n/a Attic -0.26 12-13 655 360	MT20 MT18HS	197/144 197/144
TCDL 10.0	Rep Stress Incr YES				
BCLL 0.0 *	Code IBC2015/TPI2014				
BCDL 10.0	IBC2012/TPI2007			Weight: 180 lb	FT = 0%

LUMBER-	BRACING-
TOP CHORD 2x8 SP No.1 or 2x8 SPF No.2 *Except* T2: 2x6 SP No.1 or 2x6 SPF No.2 T3: 2x4 SP No.1 or 2x4 SPF No.2	TOP CHORD Structural wood sheathing directly applied or 5-1-8 oc purlins.
BOT CHORD 2x8 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x3 SPF Stud *Except* W2: 2x6 SPF No.2	WEBS 1 Row at midpt 4-8

REACTIONS. (lb/size) 1=1213/0-5-8 (min. 0-1-14), 11=1213/0-5-8 (min. 0-1-14), 13=271/0-3-0 (min. 0-1-8)
 Max Horz 1=497(LC 7)
 Max Uplift 1=511(LC 9), 11=511(LC 10), 13=1(LC 9)
 Max Grav 1=1213(LC 1), 11=1213(LC 1), 13=488(LC 13)

FORCES. (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-1596/731, 2-3=-1419/733, 3-4=-1342/846, 4-15=-354/170, 5-15=-333/171, 5-6=-220/195,
 6-7=-221/196, 7-16=-334/171, 8-16=-353/170, 8-9=-1342/846, 9-10=-1419/733, 10-11=-1596/732
 BOT CHORD 1-14=-424/1237, 13-14=-423/1237, 12-13=-423/1237, 11-12=-424/1237
 WEBS 9-12=-117/288, 3-14=-120/291, 4-8=-1048/802

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Tension (lb)/ Shear (lb)/ Moment (lb-in)
 4=1048/802/113/5398, 5=308/176/150/0, 6=191/198/146/0, 7=307/177/149/0, 8=1048/802/113/5362,
 12=117/288/0/0, 13=423/1237/276/0, 14=120/291/0/0

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=150mph (3-second gust) Vasd=119mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp C; enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) TCLL: ASCE 7-10; Pg=30.0 psf (ground snow); Ps=23.1 psf (roof snow); Category II; Exp C; Partially Exp.; Ct=1.1
 - 3) Roof design snow load has been reduced to account for slope.
 - 4) Unbalanced snow loads have been considered for this design.
 - 5) All plates are MT20 plates unless otherwise indicated.
 - 6) See HINGE PLATE DETAILS for plate placement.

The professional engineering seal indicates that a licensed professional has reviewed the design under the standards referenced within this document, not necessarily the current state building code. The engineering seal is not an approval to use in a specific state. The final determination on whether a truss design is acceptable under the locally adopted building code rest with the building official or designated appointee.



WARNING - Verify design parameters and READ NOTES

Universal Forest Products, Inc. 2801 EAST BELTLINE RD, NE
 PHONE (616)-364-6161 FAX (616)-365-0060 GRAND RAPIDS, MI 49525

Truss shall not be cut or modified without approval of the truss design engineer.
 This component has only been designed for the loads noted on this drawing. Construction and lifting forces have not been considered. The builder is responsible for lifting methods and system design. Builder responsibilities are defined under TPI1. This design is based only upon parameters shown, and is for an individual building component to be installed and loaded vertically. 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 BCSI 1-06 from the Wood Truss Council of America and Truss Plate Institute Recommendation available from WTCA, 6300 Enterprise LN, Madison, WI 53719 J:\support\MitekSupp\templates\ufp.tpe

Job 84927	Truss CC278017	Truss Type HINGED ATTIC	Qty 1	Ply 1	Crestline Homes 315 #261 Ref.#3157054
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- 7) Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
- 8) All additional member connections shall be provided by others for forces as indicated.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * 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.
- 11) Ceiling dead load (5.0 psf) on member(s). 3-4, 8-9, 4-8
- 12) Bottom chord live load (20.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 13-14, 12-13
- 13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 511 lb uplift at joint 1, 511 lb uplift at joint 11 and 1 lb uplift at joint 13.
- 14) Fixity of member 4 - 8 has been changed.
- 15) This truss is designed in accordance with the 2015 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
- 16) Attic space shown is not designed for occupancy.
- 17) This truss is designed in accordance with the 2012 IBC Sec 2306.1 and referenced standard ANSI/TPI 1
- 18) Take precaution to keep the chords in plane, any bending or twisting of the hinge plate must be repaired before the building is put into service.
- 19) The field-installed members are an integral part of the truss design. Retain a design professional to specify final field connections and temporary supports. All field-installed members must be properly fastened prior to applying any loading to the truss. This design anticipates the final set position.
- 20) Based on: CC278012
- 21) Revision: IBC2015 version

APPROVED BY

NIA

11/20/2020

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Kip Whitehead

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WARNING - Verify design parameters and READ NOTES

Truss shall not be cut or modified without approval of the truss design engineer.

This component has only been designed for the loads noted on this drawing. Construction and lifting forces have not been considered. The builder is responsible for lifting methods and system design. Builder responsibilities are defined under TPI1. This design is based only upon parameters shown, and is for an individual building component to be installed and loaded vertically. 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 BCSI 1-06 from the Wood Truss Council of America and Truss Plate Institute Recommendation available from WTCIA, 6300 Enterprise Ln, Madison, WI 53718. E-mail: #MitekSupport@metek.com

Universal Forest Products, Inc.
PHONE (616)-364-6161 FAX (616)-365-0060

2801 EAST BELTLINE RD, NE
GRAND RAPIDS, MI 49525



Setup / Construction Guidelines

4.2.4.4. The shingles are woven through the valley, extending at least 12" beyond the centerline of the valley.

4.3. Pod Tie-In and Accent Dormer Construction

4.3.1. Materials and details are provided to build these items. Use the appropriate state Residential Building Code for all connection requirements.

4.4. Gable Ends / Drip Edge

4.4.1. Drip edge is not installed at the plant on the gable ends of the homes. This is due to the distance at the gable end from the eave to the hinge point of the truss. The drip edge, if installed would be a short piece, which oftentimes is bent during setup and esthetically is not pleasing to the homeowners. The drip edge must be installed and the shingles along the gable end fastened during setup.

To facilitate this, the shingles are not fastened approximately 18" from the gable ends of the roof. Therefore they can be lifted, the drip edge installed in full-length sections, and the shingles secured. [Fasten per the shingle manufacturer's instructions for high wind zones]

4.5. Sealing Roof Penetrations

4.5.1. Nail Holes / Damage

4.5.1.1. Replace the shingle(s). There is no other acceptable repair.

4.5.2. Vents / Chimneys

4.5.2.1. Proper Flashing

4.5.2.1.1. Refer to the flashing and shingle manufacturer's installation instructions for fastening and sealing

5. Windows

5.1. Installation

5.1.1. The procedure for field installing windows is as follows:

5.1.1.1. Ensure window is closed and locked

5.1.1.2. Apply ¼" [minimum] continuous bead of exterior caulking to the backsides of the mounting flange.

Setup / Construction Guidelines

- 5.1.1.3. Place the window in the opening, resting on the sill and while holding it flat against the opening, install fasteners in the top left and right corners.
- 5.1.1.4. Verify square installation by diagonal measurements
- 5.1.1.5. Install fasteners in the bottom left and right corners, then in the center of the top and bottom.
- 5.1.1.6. Complete the fastening by installing the remaining fasteners, spaced 6" or less.
- 5.1.1.7. Seal the window from the outside by use of window /door sealant tape, installing the sides first and the top of the window last.

6. Electrical

- 6.1. Homes are wired in compliance with the National Electrical Code. 12-gauge wire is used as a minimum for receptacle circuits and 14-gauge wire for lighting circuits. Appliances drawing a heavier load [dryers, stoves, etc.] are wired as detailed by the code.
- 6.2. Electrical circuits that cross over from one section of the home to the other, do so through a junction box that is located behind an access panel whose location is identified on the electrical print.
 - 6.2.1. The wires on one section of the home terminate in a junction box. The wires on the other section are left in the bay directly opposite the junction box in the mating half.
 - 6.2.2. The wires are identified with the number of the circuit that is shown on the electrical print. Each wire in the junction box has a mate in the opposite bay.
 - 6.2.3. The wires are joined by the use of appropriately sized wire nuts that twist the wires together.
- 6.3. A complete electrical test is performed at MCB on every circuit in each house.
 - 6.3.1. Operational
 - 6.3.2. Polarity
 - 6.3.3. Continuity
 - 6.3.4. High Pot – High potential test to identify any penetrations of the electrical cable by a staple or nail

Setup / Construction Guidelines

6.3.5. Ground Fault

6.3.6. Arc Fault



7. Plumbing

7.1. With the exception of some 2nd floor fixtures all drain lines [DWV plumbing] are dropped straight through the floor of the house for interconnection by a licensed plumber after the house is set. The work that is done on site is identified in the plumbing diagram for the house by dashed lines.

7.1.1. These drop outs and the fixtures they're attached to are tested at the factory for leaks. However they may loosen due to movement during transportation, setting or while being plumbed after setup.

Therefore, it is important that after interconnection of the DWV is complete that it be tested as required by the International Residential Plumbing Code Section 312.2.

7.1.2. The most common problems encountered with these interconnections are:

7.1.2.1. A pipe, which was installed in the wall as a chase for 2nd floor electrical or refrigerant lines, is plumbed as a vent pipe. Result: Sewer smell in the 2nd floor.

7.1.2.2. A commode's wet vent is not plumbed. Result: Bubbling when flushed

7.2. Supply line plumbing consists of 1", ¾" and ½" lines. These are leakage tested at the factory to ensure proper operation.

7.2.1. Mating male and female connections are installed at the marriage walls when there are wet sections on more than one portion of the home.

7.2.2. Common problems encountered with the supply lines are:

7.2.2.1. Water not being hot enough for the homeowner in the shower/tub. This is typically due to a scald-proof faucet, which the homeowner must adjust to their liking.

7.2.2.2. Shut-off valves not being open either under a fixture or at the hot water tank.

Setup / Construction Guidelines

8. Mechanical

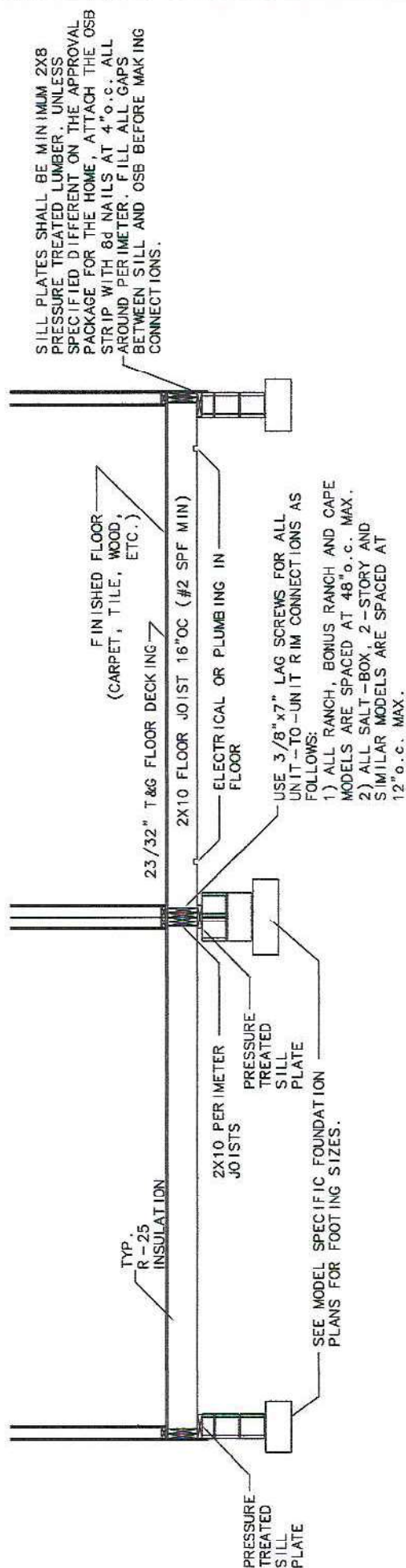
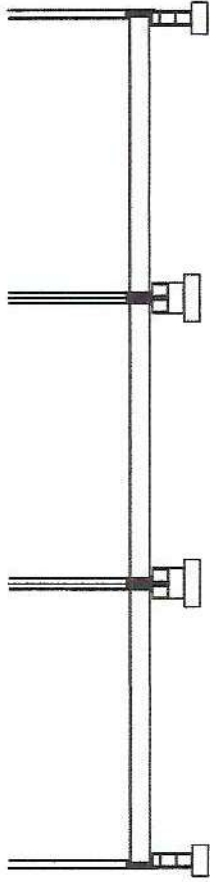
- 8.1. Given the requirements of the area where the home may be located and the preference of the builder or homeowner, either perimeter floor registers or overhead registers may be installed. In either case both supply and return air must be properly sized and ducted.
- 8.2. When applicable, CCB installs a typical number of supply registers with flex duct run-offs and return air locations. No other HVAC components are installed. This is subject to change based on the model series, the floor plan, and the customer order. All equipment is sized based on loads calculated in accordance with ACCA Manual D or SMACNA Installation Standards for Residential Heating and Air Conditioning Systems. Additional supply registers may be required as determined by the load and duct calculations. These calculations have not been performed by CCB and must be performed by a heating contractor licensed by the applicable State Board of Examiners of Plumbing, Heating, and Fire Sprinkler Contractors.
- 8.3. Dependent upon the layout, the size of the home, the state and local jurisdictions, and the roof truss selected, the manner in which either the return air or supply air is ducted may vary. It is important that the HVAC Licensed Installer follows the duct diagram provided with the home as close as possible to avoid any alterations in the register quantities and locations.
- 8.4. It is not uncommon after a down draft perimeter floor system is installed to have a homeowner state that they have no airflow from some of their registers. This normally is due to the flex from the register not being connected to the trunk line.
 - 8.4.1. In the section of the home where the furnace or air handler would normally be located, the flex duct that connects to the boots of the registers is left in the belly of the house for transportation. This is due to the short length normally required to connect with the trunk line. The area where they are located is marked with a painted circle. A hole needs to be cut in the silver board in that location and the flex duct pulled out to make that connection. The other section of the house has a box of flex secured to the frame for transportation.

9. Uncovered Decks / Porches

- 9.1. Uncovered decks or porches must be built at least 6" below the threshold of the door. Failure to do this **voids the warranty** of the door manufacturer against deterioration and leakage of the door.

NOTE: REFER TO THE MODEL SPECIFIC FOUNDATION PLAN AND/OR THE SHEAR WALL CALCULATIONS FOR OTHER RELATED DETAILS AND FOR ALL APPLICABLE, HIGH WIND AND SHEAR - DESIGN, TIE-DOWN REQUIREMENTS.

TYPICAL BONUS RANCH CROSS-SECTION



- NOTES:
- 1) FLOOR JOISTS SHALL BE A MINIMUM OF 18" ABOVE THE GROUND.
 - 2) WOOD GIRDERS SHALL BE A MINIMUM OF 12" ABOVE THE GROUND.
 - 3) WOOD SIDING SHALL BE A MINIMUM OF 6" ABOVE THE GROUND.
 - 4) ACCESS PANELS ARE PROVIDED IN FLOORS AND/OR CEILINGS FOR PLUMBING & ELECTRICAL CONNECTIONS BETWEEN FLOORS.
 - 5) 2x12's AND 9 1/4" WEB JOISTS ARE OPTIONAL.
 - 6) REFER TO THE CROSS-SECTION IN THE APPROVAL PACKAGE FOR ADDITIONAL INFORMATION.

- NOTE!
- REFER TO THE INSTALLATION INSTRUCTIONS FOR UTILITY CONNECTIONS BETWEEN SECTIONS:
- 1) PLUMBING-PGS. IN-13.1 - 13.2
 - 2) MECHANICAL-PGS. IN-13.2 - 13.3
 - 3) ELECTRICAL-PG. IN-13.1. ALSO, WHERE APPLICABLE, SEE THE NOTES ON THE ELECTRICAL PRINT TO DETERMINE THE WIRE CONNECTIONS FROM THE 2ND FLOOR SUB-PANEL TO THE 1ST FLOOR MAIN PANEL BOX.

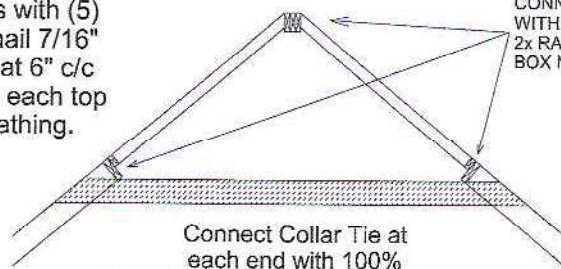


DRAWN	DATE
REV.	DATE

Job PER201558 IN-15C	Truss CAPE CONNECTION DETAILS	Truss Type HINGED ATTIC	Qty 1	Ply 1	CRESTLINE/MANIS CUSTOM BUILDERS Standard Cape Connection Details
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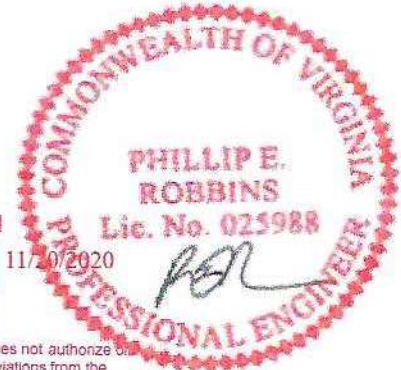
**CONNECTION DETAILS FOR 7/12 #231 and #261
STANDARD (2 BOX) CAPE TRUSSES.
Universal truss CC124361 and CC278025
150 MPH Vult**

Strap across top chord field joints with 1.5" x 18" x 26 gauge straps attached with (6) .120" x 1.5" roofing nails each end or Simpson LSTA12 straps with (5) .131" x 1.5" nails each end or nail 7/16" sheathing with .131" x 3" nails at 6" c/c into edge rails and 4 nails down each top chord before butt joint in sheathing.

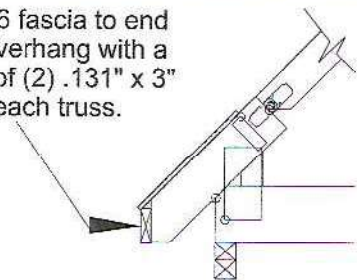


CONNECT 2x RAILS TO EACH END OF CHORDS WITH (4)-.131" x 3" BOX NAILS AND CONNECT EACH 2x RAIL TO THE OTHER WITH (2)-ROWS OF .131" x 3" BOX NAIL AT 8" c/c.

Connect Collar Tie at each end with 100% Structural Adhesive CONTACTA approved (8) .131" x 3" nails. See Universal Bulletin 05-02



Attach 2x6 fascia to end of truss overhang with a minimum of (2) .131" x 3" nails each truss.

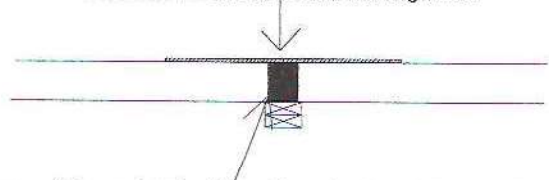


ATTACH BOTTOM CHORD TO TOP PLATE WITH (2) SIMPSON SDWC15600 OR SDS25600 TOE-SCREWS OR (1) SIMPSON MTS12.



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Marriage Line cape truss floor tension connection use (1) Simpson MSTA36 strap centered on truss bottom chords across marriage line.



Face nail inner ply of adjacent header into end grain of truss bottom chord with (6) .131" x 3" at marriage line each box. For 2-ply marriage beam face nail ply-to-ply with (3) rows of .131" x 3" nails at 12" c/c. For 3-ply and 4-ply marriage beams laminate beams together with (2) rows of Simpson SDS 1/4" x 4.5" (3-ply) or 1/4" x 6" (4-ply) screws at 12" c/c.

Connect beam to studs at 48" c/c with (1) 1.5" x 18" x 26 ga. strap and (6) 1" x 1.5" x 16 gauge staples each end.

Raised marriage beam connection Attach 1-ply or 2-ply LVL to truss bottom chord with (5) Simpson SDWC15600 screws. Fasten LVL to LVL in field with (2) rows of SDWC15600 screws at 12" c/c face to face. Maximum 1.5" gap. Gaps shall be fully shimmed at fastener locations OR use (1) Simpson MSTA36 strap centered on truss bottom chords across marriage line.

KNEE WALL

OPTION 1

30.0 DEG.

(1) SIMPSON SDS 1/4" X 6" OR SDWC15600 TOE-SCREWS

2"

1-1/2" MAX.

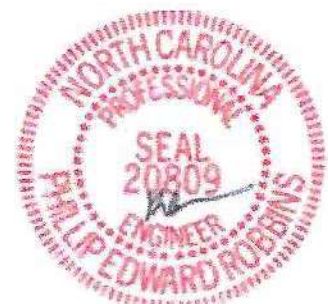
BOTTOM CHORD

KNEE WALL

OPTION 2

SIMPSON MTS12 (7) .148" x 1.5" NAILS EACH END.

BOTTOM CHORD



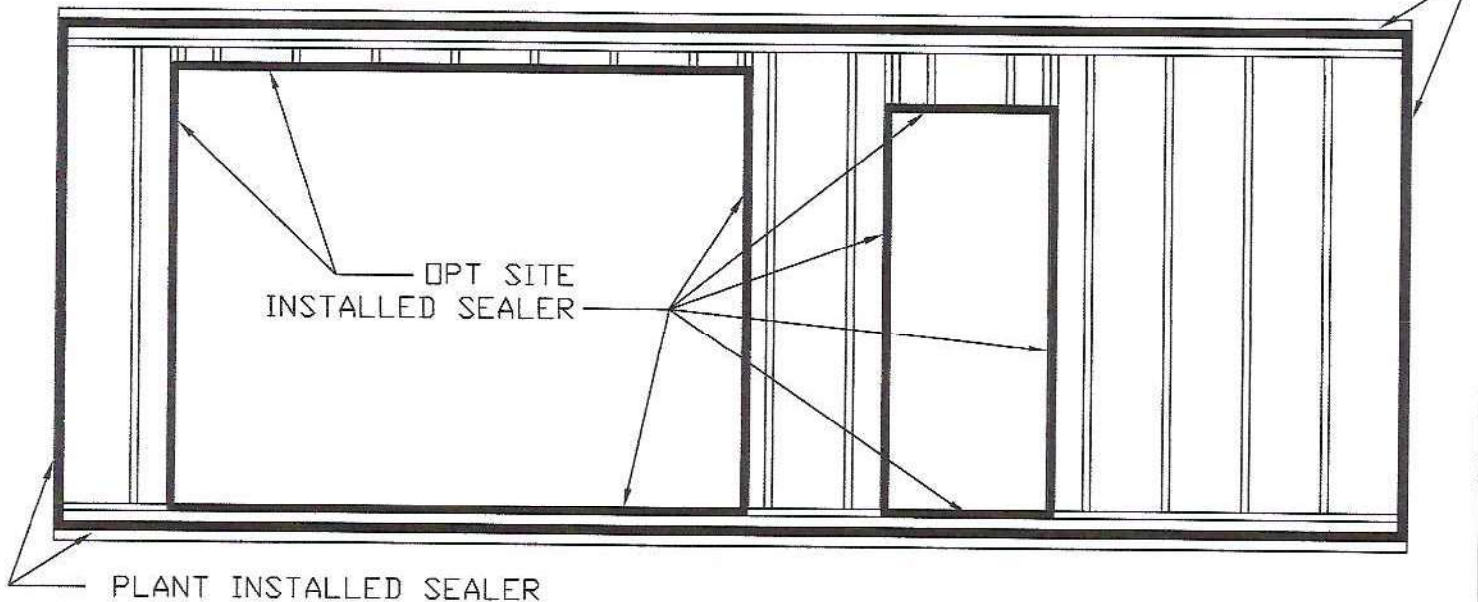
07/17/2020

ON-SITE APPLICATION OF MATING WALL INSULATION SEALER

CRESTLINE CUSTOM BUILDERS INSTALLS AN INSULATION SEALER THAT IS USED TO CREATE A BARRIER FROM OUTSIDE AIR INFILTRATION. THIS WILL REDUCE THE LOSS OF CONDITIONED AIR FROM INSIDE THE HOUSE AND GIVE THE CUSTOMER A MORE ENERGY EFFICIENT HOME.

THE SEALER IS ATTACHED TO THE MATING WALL EXTERIOR EDGES AS DEPICTED BY THE BOLD OUTLINE IN THE DETAIL SHOWN BELOW. BEFORE THE MULTIPLE SECTIONS OF THE HOME ARE JOINED TOGETHER, INSURE THE SEALER IS INTACT AROUND THE ENTIRE PERIMETER OF THE HOME. AFTER THE SECTIONS ARE TOGETHER, CHECK FOR ANY VOIDS THAT MAY HAVE OCCURRED AND PROMPTLY FILL THEM WITH SEALER, INSULATION, OR AN APPROVED CAULKING MATERIAL. THE SAME MAY BE DONE AT ALL MATING WALL PENETRATIONS, DOORWAYS, AND OPENINGS AT THE DISCRETION OF THE BUILDER OR HOMEOWNER, BUT IS NOT REQUIRED. MATERIALS ARE PROVIDED BY OTHERS.

PLANT INSTALLED SEALER



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11/20/2020

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MODULAR	TYPICAL
DWG. TITLE: MATING WALL INSULATION SEALER	
MODEL SIZE: N/A	REV'D.: 2/23/18
SCALE: NONE	SHT.: 1 OF 1

MANIS & CRESTLINE CUSTOM BUILDERS
5880 CRESTLINE RD.
LAURINBURG, NC 28352
1-800-772-0195

IN-16

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11/20/2020

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 requirements of applicable State Laws.

.ip Whitehead

CRESTLINE CUSTOM BUILDERS

5880 Crestline Road Laurinburg, NC 28352
 Phone: (800) 772-0195 Fax: (910) 610-1497

DATE: 10/29/08

Crestline's standard home is designed and built to a 150 MPH ultimate wind speed criteria, which is defined by the International Residential Code [IRC]. With additional modifications, they also comply with the 150 MPH ultimate wind speed criteria. The states' adoption of the IRC as the accepted building code has affected parts of the design and some of the components and fastening schedules for a Crestline home. The following pages, which consist of detailed setup instructions, identify the significant changes that must be adhered to. There are fourteen (14) specific items throughout the following pages and are addressed as follows:

1. Staples are no longer allowed as a means of fastening shingles. Standard fastening criteria requires the use of galvanized or stainless steel, aluminum or copper nails. Given that our minimum design is to a 150 MPH wind zone, six (6) fasteners must be used per shingle.
2. N.C. Only: This note is to alert you to the fact that any home, which is located in a 150 MPH wind zone in North Carolina, must comply with the requirements of the Coastal and Flood Plain Standards, Chapter 45 of the N.C. IRC, regardless of where it is located. This directly affects shingle fastening, item #3.
3. In a 150 MPH wind zone, shingles must be fastened with a "hot dipped galvanized" nail. There is a 1 1/4" hot dipped galvanized nail sold under the name of "Mave" which can be shot through a Senco nail gun. This is the nail we presently are using at Crestline for this application.
4. Pages IN-18 and IN-20 show the fastening at the ridge and fold-back for 7/12, 9/12, and 12/12 pitch roofs in 150 MPH wind speed zones.
5. Page IN-18 explains the fastening of the collar ties with the exception of those on either side of a dormer. [Refer to item #14].
6. Page IN-18 requires that the bottom chord of the trusses at the marriage line, on 7/12, 9/12, and 12/12 pitch roofs, be decked and secured with both nails and GLUE.
7. Page IN-18 also shows multiple options on how to secure the knee walls on 7/12, 9/12, and 12/12 pitch roofs to the bottom chord of the truss. However, one (1) of the three (3) must be used for each and every knee wall.
8. Page IN-19 shows how a single 4x8x7/16" piece of sheathing must be secured with

nails to either the top or bottom of the collar ties at each gable end.

9. Page IN-19 identifies 1/8" as the amount of allowable gap between the end-wall and top chord of the truss before shimming is required.

10. Page IN-19 details the securement of the end-wall to the top chord of the truss.

11. Page IN-19 defines the shimming [1/8" maximum gap] and fastening in the area where the end-wall is secured to the fold-back.

12. Page IN-19 also contains the following collar tie details:

- A collar tie must be secured to each stud on the end wall and the top chord of the truss.
- Two inches of blocking must be secured to the end truss in order that the collar tie can be fastened.

13. Page IN-20 explains how to secure the dormers to the roof truss framing on the house with the lag screws provided; which were taped to one of the dormer rafters. Each individual dormer has it's own quantity of screws necessary for attaching that specific dormer.

APPROVED BY
 11/20/2020
Approval of this document does not authorize or
approve any deviation or deviations from the
requirements of applicable State Laws.
Kip Whitehead

GABLE END FRAMING

7/12, 9/12 AND 12/12 ROOF PITCH

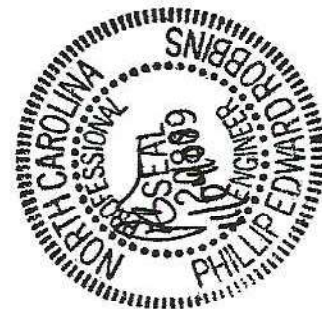


ATTACH 4' DEEP X WIDTH OF OPENING X 1/8" 24 / 16 APA RATED SHEATHING TO TOP OR BOTTOM EDGE OF COLLAR TIES, CENTERED WITH (1) ROW OF .099 X 2 1/2" NAILS AT 6" C/C.

- 0" TO 1" — NO SHIM
- 1" TO 1 1/2" — SHIM
- 1 1/2" TO 2" — (1) #8 X 5" SCREWS

SECURE WALLS TO TRUSS USING (1) ROW 16d NAILS OR .131" X 3" @ 6" C/C TOP AND BOTTOM.

TOP AND BOTTOM WALL PLATE SPLICES MAY BE ALIGNED FOR GABLE END FRAMING. PLATES MAY BE DOUBLE OR SINGLE.



Roof Truss

SHIM WITH 2 X 4 AND 1/2" SHEATHING AS NECESSARY, CONNECTED TO TRUSS AND TO TOP PLATE WITH (1) ROW OF 16d NAILS OR .131" X 3" NAILS AT 6" C/C

ATTACH COLLAR TIE TO EACH END WALL STUD WITH (2) #8 X 3" SCREWS. SHIM ENDS OF COLLAR TIE TO TRUSS WITH 2 X 4 BLOCKS AND 1/2" SHEATHING AND ATTACH WITH (7) #8 X 5" SCREWS EACH END.

CONNECT EACH STUD TO PLATES WITH (9) .131" X 3" NAILS EACH END

REMOVE WALL POSTS

TYP. TRUSS ASSEMBLY, WITH FOLDBACKS.



GABLE WALL ASSEMBLY AND SECUREMENT APPLIES TO 7 / 12, 9 / 12, AND 12 / 12 TRUSS DESIGN.

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11/20/2020

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Kip Whitehead

ALL FRAMING DIMENSION VALUES ARE DEPENDENT ON THE APPLICATION.

150 Vult WIND SPEED

MANIS AND
CUSTOMER: CRESTLINE CUSTOM BUILDERS
JOB # : CRC 08136
DISCRPTION: GABLE END FRAMING
PREPARED BY : PIR

P.E. ROBBINS, P.E.
105 WEST MAIN ST.
VICTORIA, ILLINOIS
61485

GABLE END FRAMING
30 PSF GROUND SNOW LOAD AND 130 MPH ,
EXPOSURE C, HEIGHT = 30'

DATE: 11/03/08