June 27, 2022

Mr. Mike Hamm, P.E.
Chief Building Code Consultant
North Carolina Department of Insurance - OSFM
325 North Salisbury Street
Raleigh, NC 27603

RE: Champion Home Builders #23
Lillington, NC
Model: 23-3276-07 062322

Dear Mr. Hamm:

Enclosed is one set of PFS accepted documents for the above referenced manufacturer. PFS has reviewed these documents and to the best of our knowledge have found them to conform to the North Carolina codes:

2018 NC Residential Code w/Amendments (includes plumbing, mechanical, & energy codes – Chapter 11)
2017 NC Electrical Code w/Amendments

If you have any questions, please contact us.

Sincerely,

Ian Lehrer, P.E.
Agency Engineer

Enclosure: As Stated

cc: Ryan Duke
File

PFS Corporation has reviewed and approved the above referenced material and to the best of our knowledge these documents conform to the referenced codes.

Construction Review
Ian Lehrer, P.E.

Structural Review
Ian Lehrer, P.E.

Plumbing Review
Ian Lehrer, P.E.

Mechanical Review
Ian Lehrer, P.E.

Electrical Review
Ian Lehrer, P.E.

N//A

Quality Control Review
Ian Lehrer, P.E.

Date Received at PFS: 6-27-2022
IBC Transmittal No. (by PFS): _____
Project No. (by PFS): 22006064

ADDITIONAL OR MODIFIED ACCEPTANCE (MODULARS/PANELIZED)

This form is to be used only when the manufacturer is seeking acceptance of an additional model, modified model or model name change which uses a previously accepted building system.

Current PFS Building System Acceptance #: 21-002679
Model Name/ No. 23-3276-07 062322
Manufacturer's Name: Champion Home Builders, Inc
Plant(s) at which model will be produced Division 023, Lillington North Carolina
Check One: X NEW MODEL _____ Revised Model*

TECHNICAL DATA

	Conforms		
Floor Plan Showing:	Yes	No	N/A
Braced Wall Method or Shearwalls	X		
Building Size (LxW Dimensions)	X		
Room Sizes, Light & Ventilation Schedule	X		
Exit Requirements	X		
Electrical Outlet Spacing & Smoke Detector	X		
Location of Labels & Data Plates	X		
Use Group, Type Const., Total Sq.Ft. Area	X		
Plumbing System Design or Reference No. (PL-101, PL-102)	X		
Heat Loss Calculations or Reference No. (MANUAL D & J)	X		
HVAC/Furnace Size/Model No. (MANUAL D & J/ 10KW FURNACE INSTALL IN PLANT - NORDYNE E7)	X		
Thermal Performance Calculations or Reference No. (Attached-(Appendix E))	X		
Electrical Load Calculations or Reference No. (E-101)	X		
Service Size and Location (200A/Utility, E-101)	X		
Applicable Building Codes CS-101	X		

Submit model to the followingstates: North Carolina

*Description of Modification: New model

Requested by: Brian Herring Date: 06/25/22
(designer)

For PFS Use

Staff Plan Reviewer Tim Busche IBC Certification #: B5002446 R3 Date: 6-27-2022

Structural Calculation(s) Reviewed By: _____ P.E. #: _____ Date: _____
Remarks: _____

**(1) copy sent to IBC within 15 days of approval.*

VERBAL APPROVAL GIVEN ☐ By Whom: _____ To Whom _____ Date: _____
MODEL WAS DEVIATED ☐ Revision Number: _____

THIS FORM SHALL BE FILLED OUT COMPLETELY WITH EACH MODEL ACCEPTANCE OR MODIFICATION PRIOR TO SUBMITTAL TO PFS.

cc: file, NC
\forms\form-m
Rev 05/26/16 ds

NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST

Manufacturer		Champion Home Builders, Inc.
Model number/name		23-3276-07 062322
3rd Party		PFS Corporation
Review Date		
Reviewer		
		Plan Sheet Page # and NOTES
	QC MANUAL (current and complete)	Approved 04-26-21 PFS ID# 21-002679
	APPENDIX B (required and attached)	N/A
	PLAN SHEETS	
	Each plan sheet third-party stamped with approver's name	
	Each plan sheets is numbered and/or indexed	
	GENERAL (cover sheet)	
	Code References	CS-101
	Statement regarding connection to public utilities	CS-101
	Statement regarding bathrooms if not included	N/A
	Construction type	CS-101
	Occupancy classification	CS-101
	Fire resistance ratings (if required)	CS-101
	Floor live load	CS-101
	Roof live load	CS-101
	Design wind velocity	CS-101
	Seismic information (commercial projects)	N/A
	Thermal zones	APPENDIX E / CS-101 UNDER GENERAL NOTES
	Notice to inspections department regarding items to be site inspected	CS-101, CS-102, SU-101 TO SU-103
	FLOOR PLANS	
	Interior and exterior wall layouts	A-101
	Door and window schedule	A-101
	Light and Ventilation requirements	A-101
	Attic access (size and location)	A-101
	Non-prescriptive headers	STR-101
	Safety glazing requirements	A-101
	Fire rating of Exterior walls (if applicable)	N/A
	EXTERIOR ELEVATIONS	
	Exterior materials	EV-101 / XS-101
	Attic ventilation requirements	EV-101
	PLUMBING	
	Plan	PL-101 / PL-102
	All fixtures furnished by mfg. shown on plans	PL-101 / PL-102 / A-101
	Materials (water supply & distribution, DWV, storm drainage)	PL-101 / PL-102
	Supply and waste risers, including DWV system (generic) beneath the building.	PL-101/PL-102
	Water heater (type and capacity)	PL-102

NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST

		Plan Sheet Page # and NOTES
	MECHANICAL	
	Design calculations	N/A, BY OTHERS
	Installed unit capacity	N/A, BY OTHERS
	Supply and returns (locations and sizes)	N/A, BY OTHERS
	Duct sizes	N/A
	Specifications (units, ducts)	N/A
	All appliances furnished by mfg. shown on plans	A-101
	ELECTRICAL	
	Plan	E-101
	Location of all electrical boxes	E-101
	Electrical panel location	E-101
	Note regarding main disconnect (if applicable)	E-101
	Exterior lighting and receptacles	E-101
	Ground level receptacles (if applicable)	E-101
	Smoke detector location(s)	E-101
	Electrical load calculations	E-101
	Electrical panel layout (breaker and wire sizes, circuit schedule)	E-101
	Panel and service entrance sizes	E-101
	All fixtures furnished by mfg. shown on plans	E-101
	ACCESSIBILITY	
	(for other than 1 & 2 family dwellings)	
	Entrances and means of egress	N/A
	Doors, doorways, and door hardware	N/A
	Stairs and handrails	N/A
	Toilet rooms, plumbing fixtures, grab bars, etc	N/A
	Bathrooms and shower rooms	N/A
	Occupancy specific requirements	N/A
	Multi-family dwellings: Type A and B units	N/A
	FLOOR X-SECTION	
	Joists and beam sizes and spacing	XS-101
	Materials species and grade	XS-101
	Sheathing, decking, and concrete as applicable	SXS101
	Fastening instructions	SU-101 TO SU-103
	Insulation	XS-101 / APPENDIX E
	Details as required for clarification	SU-101 TO SU-103
	WALL X-SECTION	
	Stud and column sizes and spacing	STR-101
	Materials species and grade	XS-101 / STR-101
	Sheathing and bracing	XS-101, STR-101, SU-101 TO SU-103
	Headers and lintels	STR-101
	Finishes	XS-101
	Fastening instructions	SU-101 TO SU-103
	Insulation	XS-101
	Details as required for clarification	XS-101, SU-101 TO SU-103

NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST

		Plan Sheet Page # and NOTES
	CEILING / ROOF X-SECTION	
	Truss, rafter, and beam spacing	XS-101, SU-101 TO SU-103
	Lumber species and grade	XS-101
	Sheathing and decking	XS-101, SU-101 TO SU-103
	Finishes	XS-101
	Fastening instructions	SU-101 TO SU-103
	Insulation	XS-101
	Details including NC sealed truss designs or manual reference	ATTACHED (TRUSS PAGES)
	FOUNDATION PLAN	
	Footings, pier, and curtain wall locations and specifications	PF-101
	X-sections with dimensions	FD-01.01 - FD-2.04
	Anchorage - sill plate to piers and curtain wall	PF-101
	Anchorage - building to sill plate	PF-101
	Anchorage - tie downs (lateral and longitudinal)	N/A
	Soil bearing capacity	PF-101
	Minimum concrete compressive strength	PF-101
	Mortar type	PF-101
	Ventilation requirements (with and without vapor barrier)	PF-101
	Crawl space access requirements	PF-101
	ENERGY COMPLIANCE	
	Demonstrated compliance	APPENDIX E
	SET-UP INSTRUCTIONS	
	Floor and ceiling connections	SU-101 TO SU-103
	Marriage wall connections	SU-101 TO SU-103
	Roof set-up and connection	SU-101 TO SU-103
	Plumbing connections	PL-101
	Mechanical connections	CS-102 (SEE MECHANICAL NOTES)
	Electrical connections	E-101, CS-102 (SEE ELECTRICAL NOTES)
	Fire stopping	CS-101, CS-102 (SEE PLUMBING NOTES)
	Air infiltration elimination	CS-101, CS-102 (SEE PLUMBING NOTES)
	Notice to inspections department attachment if set-up instructions are by attachment	CS-101, CS-102, ALSO SU-101 TO SU-103
	ITEMS NOT INSPECTED IN PLANT	
	List of items not inspected by 3rd. Party	CS-101, CS-102
	Notice to inspections department	CS-101, CS-102, ALSO SEE SU-101 TO SU-103

North Carolina

2018 N.C. Residential Code
2017 N.C. Electrical Code w/ Amendments

DRAWING INDEX			
SHEET	**DESCRIPTION**	**SHEET**	**DESCRIPTION**
CS-101	COVER SHEET	XS-101	CROSS SECTION
CS-102	COVER SHEET CONT.	SU-101 TO SU-103	SITE WORK DETAILS 3 PAGES
A-101	FLOOR PLAN	EV-101	ELEVATION
STR-101	STRUCTURAL	PL-101	DWV
BW-101	PRESCRIPTIVE BRACED WALL	PL-102	WATER
E-101	ELECTRICAL	HVAC LAYOUT & SUMMARY	MECHANICAL DETAILS PAGES 1-7
		PF-101	FOUNDATION
		FD-01.01 & FD-02.04	FOUNDATION DETAILS PGS 1 TO 2
ATTACHED SHEETS			
7/12 TRUSS CERTIFICATES	PAGES 1-2	RF-03.04	CAPE RIDGE BEAMS
APPENDIX E	PAGES 1-21		

ATTENTION LOCAL INSPECTIONS DEPARTMENT

THE FOLLOWING ITEMS HAVE NOT BEEN COMPLETED BY CHAMPION HOME BUILDERS, HAVE NOT BEEN INSPECTED BY THE THIRD PARTY INSPECTORS (PFS), AND ARE NOT INCLUDED IN THE STATE MODULAR CERTIFICATION LABEL. CODE COMPLIANCE MUST BE DETERMINED AT THE LOCAL LEVEL.

- SEE CS-102 FOR ADDITIONAL INSPECTIONS LIST
- ALL UTILITY CONNECTIONS
  - Electrical connections onsite (pages 26-29 setup manaul)
  - Plumbing connections onsite (pages 24-25 setup manual)
- ALL ASPECTS OF SOIL AND SITE PREP
- SITE CONNECTIONS OF UNITS
  - Roofs, Floors, Walls (Setup manual pages 11-13, pages A-101, SU-101, XS-101, PF-101.. PILING DETAILS ONSITE BY OTHERS.)
- SITE CONNECTIONS OF WATER AND DRAIN LINES
- SITE INSTALLED INSULATION DUE TO PLUMBING OR MISC SITE WORK
  - .3/4" HOT WATER LINES TO BE INSULATED WITH R-3 MIN ONSITE PER N1103.5.3
- SITE INSTALLED APPLIANCES (EXAMPLE: DRYER AND VENT ETC.)
- ENTIRETY OF FOUNDATION INCLUDING DESIGN EXCEPT ADDITIONAL HOLD DOWNS AS REQUIRED PER PAGE SW-101 IF INCLUDED OTHERWISE PRESCRIPTIVE USED
- ENTIRETY OF SITE BUILT SPACES SUCH AS BASEMENTS, FINISHED ATTICS, ETC.
- SITE BUILT COMPONENTS SUCH AS PORCHES, DECKS, EXTERIOR STAIRS
- INSPECTION OF BASEMENT/PILING INSULATED DOOR REQUIRED TO BE SITE INSTALLED AND INSPECTED
- SITE INSTALLED HVAC COMPONENTS
  - 4x10 REGISTERS/BOOTS PROVIDED IN TYPICAL LOCATIONS (MANUAL D)
  - TRUNKLINE, MANUAL D & J SHOULD BE RECALCULATED BY OTHERS ON SITE IF SYSTEM DIFFERS FROM THAT PROVIDED.
  - DRYER VENTING BY OTHERS (PAGE 21 SET-UP MANUAL)
  - BLOWER DOOR TESTING TO BE COMPLETED BY OTHERS ON SITE
- SEE PRESCRIPTIVE ENERGY CODE (APPENDIX E) FOR FACTORY COMPLETED ITEMS AND SITE COMPLETED ITEMS
- RODENT PROOFING PER RP-101 (HOME OWNERS PACKET)QAMan.(SECT. 5 Page 36)
- WINDBORNE DEBRIS PROTECTION OF WINDOWS AND DOORS, IF REQ'D
- SCREEN DOOR REQUIRED FOR VENTING INSTALLED AND VERIFIED.
- SPRINKLER SYSTEM NOT REQUIRED, FIRE EXTINGUISHER TO BE PROVIDED AND INSTALLED BY OTHERS ON SITE
- ANY FALL PROTECTION DEVICES REQ'D BY R312.2 TO BE PROVIDED AND INSTALLED ON SITE BY OTHERS
- ATTIC ACCESS SHOWN ON A-101
- ON BASEMENT ENTRY HOMES, FLOOR INSULATION IS NOT PROVIDED BY FACTORY. ALL BASEMENT WORK, INCLUDING FOUNDATION DESIGN, STAIRS, HVAC AND CONNECTION OF SMOKE DETECTOR AND REQUIRED OUTLETS PROVIDED BY OTHERS ON SITE.
  - PROVISIONS FOR EGRESS FROM BASEMENT PROVIDED BY OTHERS ON SITE.
  - ALL ENERGY COMPLIANCE FOR BASEMENTS ON SITE BY OTHERS.

Building Description

Use Group	Detached single family dwelling	**INSULATION**
Construction type	VB	OMITTED FLOOR INSULATION: R-19 MIN.
Area of 1st floor	2305 Square Feet	WALLS: R-18
Area of 2nd floor	N/A	ROOF: R-30
Stories above grade	1	
Finished floor height above grade < 6'-0"	Yes	U-VALUES AND SHGC typ. wdws
Occupancy	Single Family	SHGC: 29
Located in flood zone?	No	U-VALUE: 34
Foundation Type	Crawl Space	see A-101 for others
Sprinklers required?	No	
Climate Zone	4A	

METHOD OF COMPLIANCE: PER NC PRESCRIPTIVE / APPENDIX E MEASURES

Structural Loads

TCLL	23.1 PSF
Ground snow load	30 PSF
Roof dead load	15 PSF
Uninhabitable attic live load with limited storage	20 PSF
Attic dead load	15 PSF
1st floor live load	40 PSF
Floor dead load	10 PSF
wind speed	120 MPH
Wind exposure	C
Seismic Design	C
Elevation	<252' Feet A.S.L.
fire rating exterior wall	0 Hrs.
tenant seperation	0 Hrs.
max mean roof ht.	20.00'

HOMEOWNER SITE LOCATION

178 SKEET RANGE RD.
COATS, NC 27521

LOCATION OF BUILDING ON LOT: > 5'-0" FROM LOT LINE
ANY EXISTING STRUCTURE TO BE REMOVED

ATTENTION LOCAL INSPECTIONS DEPARTMENT:

SET-UP INSTRUCTIONS INCLUDED ON THE PLAN SHEETS AND SET UP MANUAL INCLUDED WITH HOME. SEE NOTES, CROSS SECTION, SET-UP AND FOUNDATION PAGES. PLAN SET IS INCOMPLETE WITHOUT INSTALLATION MANUAL

THIS MODEL NOT TO BE LOCATED IN A COASTAL HIGH HAZARD OR OCEAN HAZARD AREA.

STRUCTURES TO BE PLACED ON FLOOD PLAINS, PILINGS, IN MOUNTAIN REGION, OR COASTAL HIGH HAZARD SITE MUST BE DESIGNED FOR ACTUAL SITE CONDITIONS

ATTENTION LOCAL INSPECTIONS DEPARTMENT:
This unit must be connected to a public water supply and sewer system if these are available

ATTENTION LOCAL INSPECTIONS DEPARTMENT:

SET UP PAGES HAVE BEEN INCLUDED TO ASSIST IN THE ON-SITE INSPECTION. PLEASE SEE PAGES CS-102, AND SU-101 TO SU-103

THIRD PARTY INSPECTION AGENCY

PFS CORPORATION
417 CENTRAL ROAD SUITE #2 BLOOMSBURG, PA
17815 (570) 784-8396

MODULAR LABELS SEE A-101 FOR LOCATIONS:

STATE LABEL = STATE ENERGY CERTIFICATE LABEL = ELC
DATA PLATE = DP
THIRD PARTY INSPECTION LABEL = 3RD

*** THIS APPROVAL PACKAGE IS USED IN CONJUNCTION WITH CHAMPION HOMES CALCULATIONS MANUAL AND DESIGN MANUAL ON FILE WITH THE STATE AND PFS THIRD PARTY AGENCY. PFS APPROVAL 06/18/20 PFS ID #002689 ITEMS NOT DIRECTLY REFERENCED MAY BE FOUND IN THIS DOCUMENT ***

MATERIAL SPECIFICATIONS

- LUMBER SPECIFICATION SHALL BE : (UNLESS NOTED OTHERWISE IN THIS DRAWING PACKAGE)
- STUDS = STUD GRADE OR EQUAL FLOOR
- CEILING JOISTS = PER TRUSS PRINT.
- EXTERIOR FINISH MATERIALS SHALL BE : VINYL SIDING UNLESS DIFFERENT TYPE IS SPECIFIED IN THESE PLANS
- FIBERGLASS ROOF SHINGLES, CLASS C MIN. UNLESS DIFFERENT TYPE IS SPECIFIED IN THESE PLANS. – SEE ORDER FORM FOR EXTENT OF MATERIALS AND INSTALLATION PROVIDED BY CHAMPION HOME BUILDERS, INC. (DIVISION 23).
- THE BUILDER SHALL BE RESPONSIBLE FOR INSTALLING ANY VINYL SIDING NOT INSTALLED BY CHAMPION HOME BUILDERS, INC. AS SITE WORK
- INTERIOR FINISHES OF UNITS : CLASS "C" MIN.

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code
09/20/2022
Harnett COUNTY NORTH CAROLINA

PFS CORPORATION
Approval Limited to Factory Built Portion Only
State: North Carolina
Signature: Tim Brooke
Title: Staff Plan Reviewer
Date: 6/27/22

GENERAL NOTES

- THE BUILDER SHALL BE RESPONSIBLE FOR PROVIDING ALL SITE REQUIRED ELEMENTS OF EGRESS.
- THE BUILDER SHALL BE RESPONSIBLE FOR ALL APPLICABLE UTILITY CONNECTIONS ON SITE
- THE BUILDER IS RESPONSIBLE FOR ENTIRETY OF FOUNDATION DESIGN AND CONSTRUCTION
- SITE WORK SHALL BE SUBJECT TO LOCAL BUILDING DEPARTMENT INSPECTION. THIS DRAWING SET INCLUDES THE MODULAR PORTION OF THIS PROJECT ONLY. THE BUILDER SHALL BE RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL SITE CONSTRUCTED ELEMENTS.
- THE BUILDER SHALL BE RESPONSIBLE FOR INSTALLING THE HEAT (ON SITE) TO INCLUDE: TYPE, CHASES AND ALL PLUMBING (IF REQ'D.)
- THE BUILDER IS RESPONSIBLE FOR INSTALLING ALL ITEMS LISTED ON CHAMPION HOME BUILDER , INC. MODULAR HOMES SHIP LOOSE LIST PER INSTALLATION PROCEDURES (IF APPLICABLE).
- THE ROOF SYSTEM IS OF THE ENGINEERED TRUSS NATURE TO BE ERECTED ON SITE BY CERTIFIED INSTALLATION CREW PER CHAMPION HOME BUILDERS, INC MODULAR HOME SITE INSTALLATION PROCEDURES MANUAL.
- ALL PENETRATIONS THROUGH FLOOR OR CEILING TO BE FIRE STOPPED

CHAMPION
MANUFACTURED BEAUTIFULLY™
4055 Hwy. 401 South Lillington, NC 27546

CHAMPION
MANUFACTURED BEAUTIFULLY™
755 W. BIG BEAVER ROAD, SUITE 1000 TROY, MI 48084
PHONE: 248-614-8200

BUILDER:
GIG HOUSING

CUSTOMER/PROJECT:
CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

MODIFICATIONS:

PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
COVER SHEET
CS-101

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

ATTENTION LOCAL INSPECTIONS DEPARTMENT

ATTENTION LOCAL BUILDING DEPARTMENT

THE FOLLOWING ITEMS HAVE NOT BEEN COMPLETED BY THE MANUFACTURER, HAVE NOT BEEN INSPECTED BY THE THIRD PARTY INSPECTORS, AND ARE NOT INCLUDED IN THE STATE MODULAR CERTIFICATION LABEL. CODE COMPLIANCE MUST BE DETERMINED AT THE LOCAL LEVEL.

- ALL UTILITY CONNECTIONS
- ALL ASPECTS OF SOIL AND SITE PREP
- SITE CONNECTIONS OF UNITS
- SITE CONNECTIONS OF WATER AND DRAIN LINES
- INSULATION ON WATER LINES PER N1103.5.3
- SITE INSTALLED INSULATION (FLOOR)
- SITE INSTALLED APPLIANCES
- ENTIRETY OF FOUNDATION INCLUDING DESIGN
- ENTIRETY OF SITE BUILT SPACES SUCH AS BASEMENTS, FINISHED ATTICS, ETC.
- SITE BUILT COMPONENTS SUCH AS PORCHES, DECKS, EXTERIOR STAIRS
- SITE INSTALLED HVAC COMPONENTS
- BLOWER DOOR TESTING
- RODENT PROOFING AND FIRE BLOCKING VERIFICATION AFTER DWV COMPLETION
- WINDBORNE DEBRIS PROTECTION OF WINDOWS AND DOORS, IF REQ'D
- SPRINKLER SYSTEM NOT REQUIRED, FIRE EXTINGUISHER TO BE PROVIDED AND INSTALLED BY OTHERS ON SITE
- ANY FALL PROTECTION DEVICES REQ'D BY R612.2 TO BE PROVIDED AND INSTALLED ON SITE BY OTHERS
- CERTAIN PARTS OF APPENDIX E OF NC AMENDMENTS. SEE PAGES THIS APPROVAL
- CERTAIN PARTS OF RESCHECK INSPECTION CHECKLIST . SEE PAGES THIS APPROVAL

GENERAL NOTES FOR BUILDER RESPONSIBILITY

- THE BUILDER SHALL BE RESPONSIBLE FOR PROVIDING ALL SITE REQUIRED ELEMENTS OF EGRESS.
- THE BUILDER SHALL BE RESPONSIBLE FOR ALL APPLICABLE UTILITY CONNECTIONS ON SITE
- THE BUILDER IS RESPONSIBLE FOR ENTIRETY OF FOUNDATION DESIGN AND CONSTRUCTION
- SITE WORK SHALL BE SUBJECT TO LOCAL BUILDING DEPARTMENT INSPECTION. THIS DRAWING SET INCLUDES THE MODULAR PORTION OF THIS PROJECT ONLY. THE BUILDER SHALL BE RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL SITE CONSTRUCTED ELEMENTS.
- THE BUILDER SHALL BE RESPONSIBLE FOR INSTALLING THE HEAT (ON SITE) TO INCLUDE: TYPE, CHASES AND ALL PLUMBING (IF REQ'D.)
- THE BUILDER IS RESPONSIBLE FOR INSTALLING ALL ITEMS LISTED ON CHAMPION HOME BUILDER , INC. MODULAR HOMES SHIP LOOSE LIST PER INSTALLATION PROCEDURES (IF APPLICABLE).
- THE ROOF SYSTEM IS OF THE ENGINEERED TRUSS NATURE TO BE ERECTED ON SITE BY CERTIFIED INSTALLATION CREW PER CHAMPION HOME BUILDERS, INC MODULAR HOME SITE INSTALLATION PROCEDURES MANUAL.
- ALL PENETRATIONS THROUGH FLOOR OR CEILING TO BE FIRE BLOCKED PER R302.11

SET-UP INSTRUCTIONS INCLUDED ON THE PLAN SHEETS, "SU-101 TO SU-103" PAGES OF THIS APPROVAL AND SET UP MANUAL INCLUDED WITH HOME. SEE NOTES, CROSS SECTION, SET-UP AND FOUNDATION PAGES. PLAN SET IS INCOMPLETE WITHOUT INSTALLATION MANUAL

STRUCTURES TO BE PLACED ON PILINGS, IN MOUNTAIN REGION, OR COASTAL HIGH HAZARD SITE MUST BE DESIGNED FOR ACTUAL SITE CONDITIONS

Notice:

- THIS UNIT MUST BE CONNECTED TO PUBLIC WATER AND SEWAGE SYSTEM IF THESE SERVICES ARE AVAILABLE
- THIS PLAN MAY BE FLIPPED END TO END OR MIRRORED
- DRYER TO BE VENTED IN ACCORDANCE WITH IRC M1502
- STAIRWALLS EXPOSED TO UNCONDITIONED SPACE MUST BE INSULATED TO A MINIMUM OF R13 WALLS AND R5 DOOR
- IF FACTORY PROVIDES AND/OR INSTALLS WATER HEATER TO BE A MINIMUM OF 50 GALLON CAPACITY AND INSTALLED IN ACCORDANCE WITH IRC CHAPTER 28
- ALL OPERABLE WINDOWS,ATRIUM OR SLIDING DOORS TO INCLUDE INSECT SCREENS
- IF HOME IS EQUIPPED WITH WOOD BURNING FIREPLACE SEE PAGE 22 OF SET UP MANUAL AND MANUFACTURE'S INSTALLATION MANUAL FOR SITE INSTALLATION
- MANUFACTURER MUST BE INFORMED IF THIS HOUSE IS TO GO INTO CITY OF CHARLESTON S.C OR INTO A SPECIAL MOUNTAIN REGION
- HOMES GOING INTO RADON AREAS WILL HAVE A 3" VTR AND SWITCH LEG TO SWITCH LABELED "RADON" ON TRIM PLATE. LOCATION MAY VARY PER MODEL
- THIS HOME DESIGNED FOR UP TO CLIMATE ZONE 4 FOR NC & SC AND CLIMATE ZONE 4A FOR VA. MANUFACTURER MUST BE INFORMED IF HOME TO BE LOCATED IN A HIGHER CLIMATE ZONE.

Fastening: ALL FASTENING TO BE PERFORMED IN ACCORDANCE WITH TABLE R602.3(1), R602.3(2), & R602.3(3) OF THE IRC CODE ABOVE UNLESS ALTERNATE CALCULATIONS ARE PROVIDED

ATTENTION LOCAL BUILDING DEPARTMENT

ELECTRICAL NOTES:

- MULTI-SECTION UNITS WILL HAVE ELECTRICAL CROSSOVERS EITHER NEAR THE ENDS OF THE MARRAIGE LINE OR ACROSS FROM THE PANEL BOX NEAR MARRAIGE LINE.
- LOCATE THE JUNCTION BOXES OR QUICK CONNECTORS. THE CONDUCTORS SHOULD BE COLOR CODED OR MARKED FOR EASY IDENTIFICATION. DO NOT INTERCONNECT CIRCUITS OR CROSS CONDUCTORS.
- ALL CIRCUITS AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPROPRIATE ARTICLES OF THE NATIONAL ELECTRIC CODE (NEC)
- WHEN LIGHT FIXTURES ARE INSTALLED IN CLOSETS THY SHALL BE SURFACE MOUNTED OR RECESSED AND BE 6" MIN. FROM STORAGE AREA. INCANDESCENT FIXTURES SHALL HAVE COMPLETELY ENCLOSED LAMPS AND BE A MINIMUM OF 12 INCHES FROM "STORAGE" AREA AS DEFINED BY NEC.
- WHEN WATER HEATERS, DISHWASHERS, AND WALL OVENS ARE INSTALLED THEY SHALL BE PROVIDED WITH READILY ASSESSIBLE 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 EQUIPMENT SHALL BE PROVIDED W/ READILY ASSESSIBLE DISCONNECTS ADJACENT TO THE EQUIPMENT SERVED. A UNIT SWITCH WITH A MARKED "OFF" POSITION THAT IS PART OF THE HVAC EQUIPMENT AND DISCONNECTS ALL UNGROUNDED CONDUCTORS SHALL BE PERMITTED AS THE DISCONNECTING MEANS WHERE OTHER DISCONNECTING MEANS ARE ALSO PROVIDED BY A READILY ASSESSIBLE 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 THE NEC BY LOCAL ELECTRICAL CONSULTANT.
- THE MAIL ELECTRICAL PANEL (DISCONNECT) AND FEEDERS ARE DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO LOCAL JURISDICTION APPROVAL.
- SMOKE DETECTORS SHALL BE WIRED SO THAT THE OPERATION OF ANY ONE SMOKE DETECTOR WILL CAUSE SIMULTANEOUS ACTIVATION OF ALL OTHERS.
- ALL CIRCUITS CROSSING OVER MODULE MATING LINE(S) SHALL BE SITE CONNECTED IN APPROVED ACCESSIBLE JUNCTION BOXES OR WITH APPROVED CABLE CONNECTIONS.
- ALL WIRING SHALL BE NMC
- ANY STRIP RECEPT MOUNTED BENEATH A COUNTER TOP SHALL BE WITH IN 6" OF THE EDGE
- ALL BRANCH CIRCUITS SUPPLYING 15 & 20 AMP OUTLETS IN LIVING AREAS ARE PROTECTED BY AN ARC-FAULT CIRCUIT INTERUPTER IN ACCORDANCE WITH SECTION 210.12 NEC
- ALL ELECTRICAL FIXTURES/WIRING SHALL COMPLY WITH SECTION E3303.3 (SC & VA)
- IT IS THE BUILDERS RESPONSIBILITY TO PROVIDE ELECTRICAL PROVISIONS FOR ANY "MOBILE" WORKSTATION IF IT IS PERMANENTLY MOUNTED.
- CO/SMOKE DETECTORS COMPLIES WITH UL 217 AND UL 2034 (FIRST ALERT MODEL #SC9120B)

ATTENTION LOCAL BUILDING DEPARTMENT

PLUMBING NOTES:

ALL P-TRAPS AT TUBS,SHOWERS, AND TUB/SHOWERS MUST BE RODENT PROOFED AND FINAL DRAFT STOPPING COMPLETED ONSITE BY OTHERS AFTER COMPLETION OF ALL PLUMBING TESTS. ALL OTHER RODENT PROOFING AND FIRE BLOCKING AT FLOOR LEVEL DONE AT FACTORY. THIS SHOULD BE SITE VERIFIED UPON COMPLETION OF DWV INSTALL (SEE PAGE AE-101 IN SETUP MANUAL IN HOME FOR DETAILS. SECTION 5, STARTING PAGE 25 QA MANUAL) (SEE Q/A MANUAL FOR APPROVED PLUMBING FIXTURES SECTION 4 PAGE 5)

ON-SITE PLUMBING CONNECTIONS:

- WATER LINES:
  - Waterlines shall be Insulated with R-3 minimum if they are located outside of conditioned space
  - ALL HOT LINES $\frac{3}{4}$" AND LARGER SHALL BE INSULATED R-3 MIN PER N1103.5.3
- LOCATE AND CONNECT WATER LINE CROSS-OVERS LOCATED UNDER THE FLOOR AT THE MARRAIGE LINE. TURN THE WATER ON AND CHECK FOR LEAKS.
- DRAIN LINES:
- CONNECT DRAIN DROP OUTS TO THE MAIN DRAIN. BE SURE ALL CONNECTIONS ARE MADE TO COMPLY WITH LOCAL PLUMBING CODES.
- BUILDING AND DRAIN AND CLEANOUTS ARE DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL JURISDICTION APPROVAL.
- TUB ACCESS PROVIDED UNDER HOME UNLESS OTHERWISE NOTED.
- SHAOWER STALLS SHALL BE COVERED W/NON-ABSORBANT MATERIAL TO A HEIGHT OF 72" ABOVE FINISH FLOOR.
- T&P RELIEF VALVE W/DRAIN TO EXTERIOR AND SHUT-OFF WITH-IN 3" OF WATER SUPPLY AT WATER HEATER
- EXPANSION TANK SHALL BE INSTALLED ONSITE BY OTHERS WHEN REQUIRED PER PLUMBING CODE 607.3
- AIR ADMITTANCE VALVES SHOULD BE INSTALLED ON-SITE AFTER TESTING

ON-SITE GAS CONNECTIONS (IF APPLICABLE)

- LOCATE 'QUICK DISCONNECT" AND CONNECT. THE "QUICK DISCONNECT" IS LOCATED UNDER THE FLOOR AT THE MARRAIGE LINE. VERIFY THAT ALL CONNECTIONS ARE TIGHT AND HAVE BEEN CHECKED FOR LEAKS.

ATTENTION LOCAL BUILDING DEPARTMENT

MECHANICAL NOTES (NORTH CAROLINA):

- ALL AIR SUPPLY REGISTERS ARE ADJUSTABLE EXCEPT WHERE OTHERWISE SPECIFIED.
- INTERIOR DOORS SHALL BE UNDERCUT 1" MIN. ABOVE FINISHED FLOOR FOR AIR RETURN.
- BATHROOMS SHALL BE PROVIDED WITH A WINDOW OR MIN 50 CFM VENT FAN. (VA REQUIRES A MINIMUM .35 AIR CHANGE EVERY HOUR).
- BATH VENT FANS SHALL BE DUCTED TO THE EXTERIOR AND TERMINATE AT AN APPROVED VENT CAP.
- HVAC EQUIPMENT SHALL BE EQUPPED WITH OUTSIDE FRESH AIR INTAKES.
- HVAC SUPPLY DUCTS AND CALCULATIONS ARE PROVIDED IN THE MANUAL D&J. IT IS RECOMMENDED THAT A NEW MANUAL D&J BE RE-FIGURED WHEN SYSTEM IS COMPLETED BY OTHERS ONSITE IF ANY VARIATION TO PROVIDED SYSTEM OCCURS.
- ALL DUCTS SHALL HAVE A MIN. OF R-8 INSULATION
- ALL RETURN GRILLS BY FACTORY UNLESS SPECIFIED.
- *** SUPPLEMENTAL AIR HANDLER/FURNACE IS FOR HEAT ONLY *** (SEE Q/A MANUAL SECTION 4 PAGE 31)
- *** AIR HANDLER/FURNACE TO BE FACTORY INSTALLED. FURNACE MODEL IS NORDYNE E7-KW SIZING PER MANUAL J PROVIDED AND TO BE VERIFIED BY OTHERS IF SITE HVAC SYSTEM DIFFERS FROM PROVIDED MANUAL D&J.
- AIR HANDLER/FURNACE USED FOR HEATING ONLY. FOR OPTIMAL EFFICIENCY A HEAT PUMP SHOULD BE INSTALLED.
- *** CHAMPION HOMES ASSUMES NO RESPONSIBILITY FOR THE HVAC SYSTEM. CHAMPION PROVIDES A GENERIC MANUAL D&J, THAT IF SYSTEM IS INSTALLED PER THAT DESIGN WILL WORK FOR THE HOME. CHAMPION RECOMMENDS THAT A NEW MANUAL D&J BE GENERATED AFTER ACTUAL HVAC SYSTEM IS INSTALLED AND BEFORE LOCAL INSPECTION IS COMPLETED.

ON-SITE DUCT CONNECTIONS:

- FOR CEILING/ATTIC CROSSOVER DUCT INSTALLATIONS.
  - SLIDE EACH END OF THE CROSSOVER DUCT OVER THE DROP OUT UNDERNEATH EACH SECTION. SECURE AS REQUIRED.
  - WRAP/CPVER ALL SEAMS AND JOINTS WITH UL181 DUCT TAPE/MASTIC TO REDUCE AIR LEAKAGE
  - WRAP/COVER EXPOSED METAL WITH FIBERGLASS INSULATION TO REDUCE HEAT LOSS.
- INTEGRITY OF MARRAIGE LINE RIDGE BEAM SHALL NOT BE COMPROMISED UNLESS SPECIFICALLY DESIGNED FOR AND SHOWN ON APPROVED PLANS

ATTENTION LOCAL BUILDING DEPARTMENT

STRUCTURAL NOTES:

- FOR SITE CONNECTIONS REFER TO SU-101 TO SU-103 SECTION DRAWINGS FOUNDATION PLANS AND TIE DOWN PLANS (ON-FRAME)
- ADDITIONAL DETAILS MAY BE REFERENCED IN SET-UP MANUAL.
- MANUFACTURE INSTALLATION INSTRUCTIONS MAY ALSO BE REFERENCED WHERE APPLICABLE.

TWO-STORY DESIGNS:

- SOME 2 STORY MODELS WILL REQUIRE ADDITIONAL VERTICAL CONNECTIONS. SEE PLAN SHEETS FOR LOCATIONS AND ACCESS POINTS

PFS

PFS CORPORATION

Approval Limited to Factory Built Portion Only

State: North Carolina

Signature: Tim Busche

Title: Staff Plan Reviewer

Date: **6/27/22**

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755 W. BIG BEAVER ROAD, SUITE 1000 TROY, MI 48084
PHONE: 248-614-8200

BUILDER: GIG HOUSING

CUSTOMER/PROJECT: CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

MODIFICATIONS

PROJECT: 23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE: LOCAL INSPECTIONS DEPT

DRAWN BY: Staff

DATE: 05-20-21

SCALE:

23-3276-07 062322 NC NEW

SHEET: CS-102

- ALL WINDOW OPENINGS WHICH ARE 72" ABOVE THE FINISHED GRADE, WITH THE BOTTOM OF THE CLEAR OPENIING LESS THAN 24" ABOVE THE FINISHED FLOOR, SHALL BE PROVIDED WITH FIELD SUPPLIED AND INSTALLED WINDOW GUARDS PER R312.2.
- GAS LINES (IF REQUIRED) TO BE PROVIDED, SIZED, AND INSTALLED ON SITE BY OTHERS IN ACCORDANCE WITH PREVAILING CODE.
- SEE QA MANUAL MATERIALS SECTION 4 PAGE 13 FOR WINDOW SPECIFICATIONS
- SEE QA MANUAL MATERIALS SECTION 4 STARTING PAGE 2 FOR APPLIANCES
- DRYER VENT TO BE INSTALLED ONSITE
- SEE EV-101 FOR ATTIC VENTALATION
- SEE QA MANUAL SECTION 6 FOR ATTIC ACCESS DETAILS PAGE 36.
- THIS UNIT DOES NOT HAVE SOFFIT OVER CABINETS
- TUBS AND SHOWERS INSTALLED PER APPENDIX E
- SEE STR-101 FOR HEADER DETAILS
- SEE SECTION EX-01.01 TO EX-03.01 OF DESIGN MANUAL FOR PORCH DETAILS
- WIND VELOCITY SHEARWALLS REFERENCED TO ATTACHED CALCULATIONS SEE PAGES SW-101 TO SW-103. CALCULATIONS PAGES 11-17 IN THIS PACKAGE IF REQUIRED BEYOND PRESCRIPTIVE
- TUB SUPPORTED BY FLOOR JOIST CALC PER QA MANUAL SECTION 6 PAGE 26
- FLOOR JOIST DESIGN MANUAL REF: FL-02-01A
- ATTIC PULL DOWN STAIRS:
  - INSTALLED PER N1102.2.4 AND MANUF. INSTALLATION INSTRUCTIONS. INSULATED AND GASKET PER EXCEPTION #2

108" MAX SIDEWALL HEIGHT

DRYER VENT TO BE INSTALLED ONSITE

GENERAL NOTES

- 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.
- OCCUPANT LOAD IS BASED ON 1 PERSON PER 200 SQUARE FEET OF FLOOR AREA.
- ALL STEEL STRAPS REFERENCED ON FLOOR PLAN SHALL BE Minimum 1.5 INCH x 26 GA. MIN.
- CEILING FANS SHALL BE 80 INCHES MIN. FROM BOTTOM OF BLADES TO FINISH FLOOR.
- MINIMUM CORRIDOR WIDTH IS 36 INCHES
- ALL WINDOWS SHALL BE DOUBLE GLAZED.
- FIRE STOPPING AND AIR INFILTRATION BARRIER BETWEEN UNITS SHALL BE PROVIDED BY DRAFTSTOP BRAND NONCOMBUSTIBLE FILLER COMPOUND OR EQUAL MEETING ASTM-E136

WOOD BURNING FIREPLACE TO BE SUPERIOR MHW36CB/MHW36R OR EQUIVELENT
(VENT STACK TO BE INSTALLED ON SITE BY OTHERS PER MANUFACTURES INSTALLATION INSTRUCTIONS)

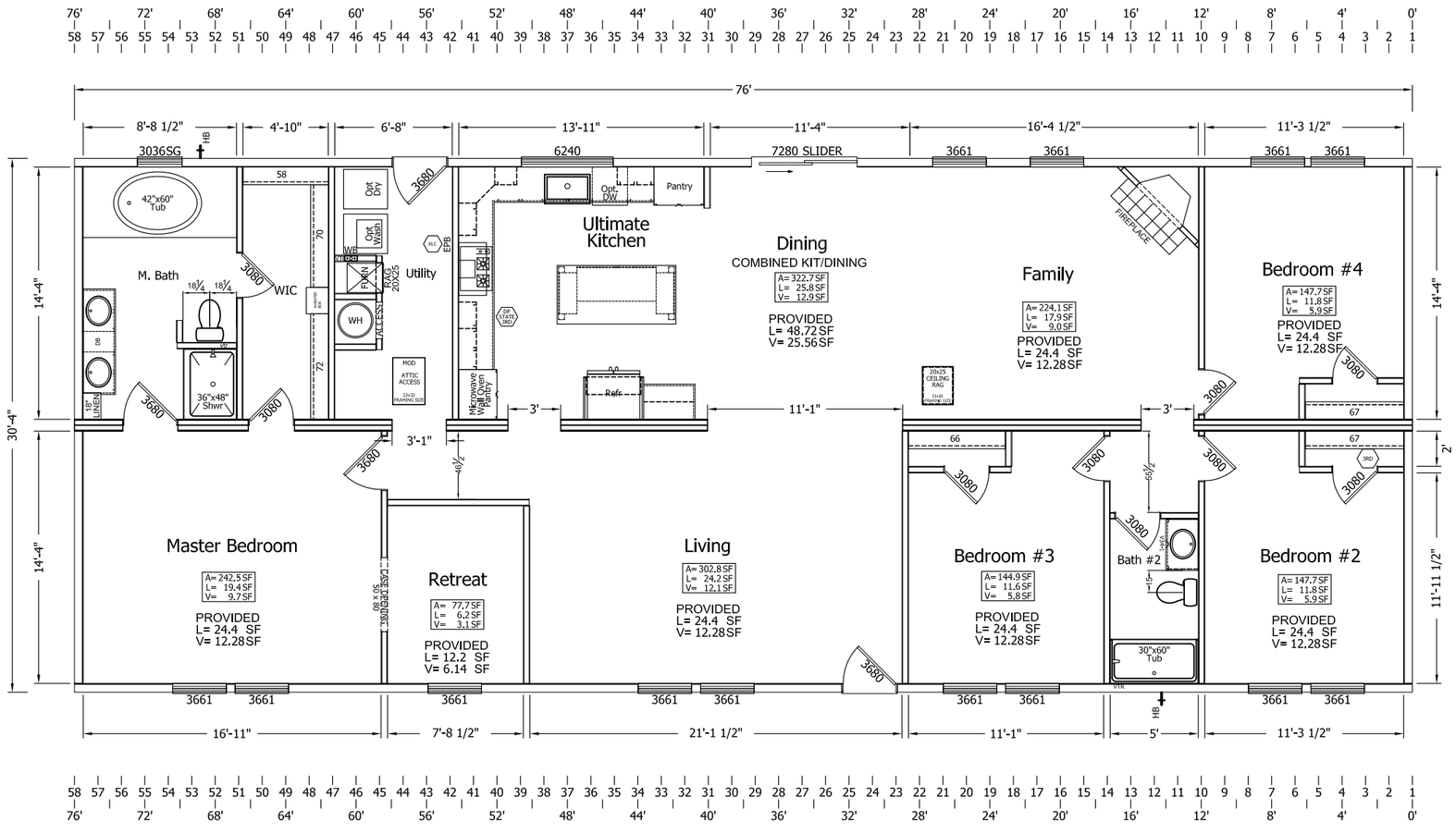
OR

*VENTLESS GAS FIREPLACE TO BE INTERTHERM VRT2536WS OR EQUIVELENT
W/ VFGL-18VSP GAL LOGS (14,000 - 25,000 BTHU)

FIREPLACE VENT AREA
224.1sq ft TOTAL AREA x 8 =1792.8 cu ft
1792.8 / 50 = 35.9 or 35.856 BTU/H
35,856 - 25,000 = 10,856 REMAINING
GAS LOGS
NO ADDITION FRESH AREA REQUIRED
CALCULATIONS BASED FROM PAGE 4 OF FIREPLACE INSTALLATION INSTRUCTIONS

	DESCRIPTION	GLAZED SQ. FT.	VENTING SQ. FT.	DESIGN PRESSURE	SHGC	U-VALUE	MANUFACTURER
	WINDOW SCHEDULE						
3661	36" x 61" EGRESS opt. SAFETY GLAZED	12.2	6.14	DP 50 / DP 66	.29	.34	KINRO (9750 series)
3061	30" x 61"	9.95	5.85	DP 50	.29	.34	KINRO (9750 series)
3036	30" x 36" opt. SAFETY GLAZED	5.55	2.76	DP 66	.29	.34	KINRO (9750 series)
4661	46" x 61" EGRESS	16.07	8.01	DP 25	.29	.34	KINRO (9750 series)
3072	30" x 72" FIXED PANEL SAFETY GLAZED	13.1	0	DP 66	.35	.32	KINRO (9750 series)
2448	24" x 48" opt. SAFETY GLAZED	4.85	2.44	DP 66	.29	.34	KINRO (9750 series)
1440	14" x 40" opt. SAFETY GLAZED	2.48	1.29	DP 66	.32	.34	KINRO (9750 series)
4234	34" x 42" BLOCK GLASS	6.28	0	DP 50	.56	.45	HY-LITE
6240	62" x 40"	14.35	6.11	DP 50	.29	.34	KINRO (9750 series)
4638	46" x 38" ARCH SAFETY GLAZED	8.26	3.58	DP 50	.32	.34	KINRO (9750 series)
3008	30" x 8" TRANSOM	1.3	0	DP 66	.35	.32	KINRO (9750 series)
3608	36" x 8" TRANSOM (MAY FLIP)	1.7	0	DP 66	.35	.32	KINRO (9750 series)
7208	72" x 8" TRANSOM	2.9	0	DP 66	.35	.32	KINRO (9750 series)
	DOOR SCHEDULE						
3680	36" x 80" EXTERIOR DOOR	0	19.45	DP 50	.01	.17	LIPPERT
3680	36" x 80" EXTERIOR DOOR with 9 LITE WINDOWS	4.40	19.45	DP 50	.09	.29	LIPPERT
3680	36" x 80" EXTERIOR DOOR with 15 LITE WINDOWS	14.68	19.45	DP 50	.17	.28	LIPPERT
7280	72" x 80" SLIDING GLASS	34.37	19.45	DP 50	.29	.32	LIPPERT
7480	74" x 80" ATRIUM DOOR with 15 LITE WINDOWS	24.96	19.45	DP 50	.30	.35	LIPPERT
3280	32" x 80" INSULATED DOOR with WEATHER STRIPS	4.40	19.45	DP 50	.01	.24	LIPPERT
3080	30" x 80" INTERIOR	N/A					
2480	24" x 80" INTERIOR	N/A					
3680	36" x 80" INTERIOR	N/A					
4980	49" x 80" INTERIOR DOUBLE DOORS	N/A					
6080	60" x 80" INTERIOR DOUBLE DOORS	N/A					

Note: EXTERIOR DOORS WILL NOT BE GENERALLY USED FOR LIGHT AND VENT PURPOSES. WHEN THEY ARE USED THE DISTINCTION BETWEEN WHICH TYPE WILL BE REQUIRED FOR PLAN REVIEWER VERIFICATION



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CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

MODIFICATIONS

PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
FLOOR PLAN
A-101

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

STRUCTURAL MEMBERS DERIVED FROM MANUAL ON FILE WITH STATE AND/OR THIRD PARTY APPROVAL AGENCY
PFS ID #20-002689 APPROVED-6-18-2020-NC/SC/VA

7-12 MHT-1 TRUSS

EXTERIOR WALL HEADER
1-1/2, LOWER LEVEL 2 STORY
182" WIDE 7/12 ROOF
FOR 30lb/SF GROUND SNOW LOAD

	MEMBER	SPAN	# of JACK STUDS	Design manual Ref.
E-1	3- #2 SPF 2x4	3'-8" (44")	1-2x6 #2 SPF Min	WA-05.02
E-2	3- #2 SPF 2x6	5'-4" (64")	1-2x6 #2 SPF Min	WA-05.02
E-3	3- #2 SPF 2x8	7'-1" (85")	1-2x6 #2 SPF Min	WA-05.02

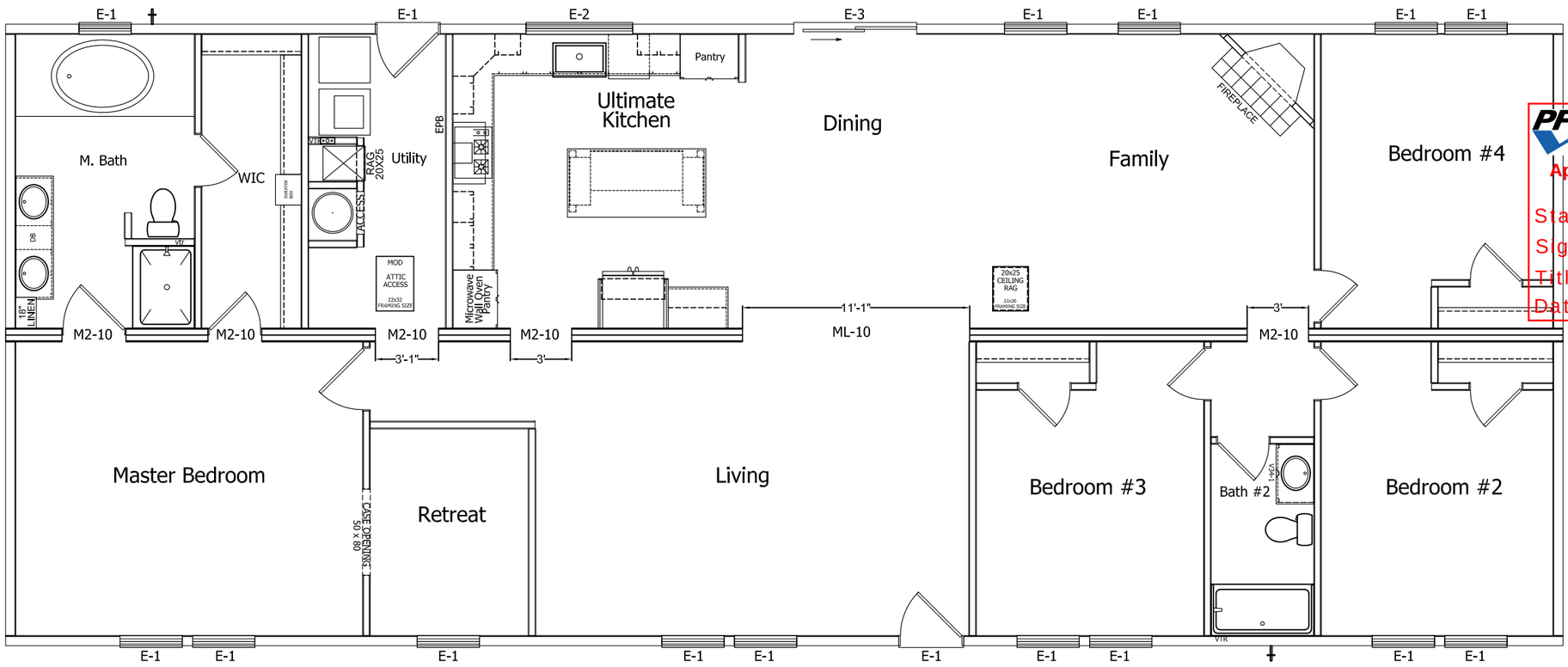
- MURPHY LVL (2.0E) OR EQUIVALENT LISTED AS ALTERNATE MATERIAL IN QA MANUAL SECTION 4A PAGE 45
- LUMBER BEAMS DERIVED FROM SECTION MW-105 OF CALC MANUAL
- DESIGN MANUAL REF: WA.05.02, CAPE (1 ½) STORY RESPECTIVELY

7-12 MHT-1 TRUSS

MATING WALL HEADER
1-1/2, LOWER LEVEL of 2 STORY
182" WIDE 7/12 ROOF STANDARD
FOR 30lb/SF GROUND SNOW LOAD

	MEMBER	SPAN	# of JACK STUDS	Design manual or calcs Ref.
M2-10	1-2" x 10" LUMBER	7'-3" (87") @ 24" O.C.	1-2x4 #2 SPF Min	RF-03.04
ML-10	1-1 1/2" x 9-1/4" LVL	12'-8"(152") @ 24" O.C.	2-2x4 #2 SPF min	RF-03.04

- MURPHY LVL (2.0E) OR EQUIVALENT
- LVL BEAMS DERIVED FROM ATTACHMENT REF. PAGE RF-03.04
  - 7-12 (MHT-1) 182" TRUSS MAX GRAV: 819
- LUMBER BEAMS DERIVED FROM ATTACHMENT PAGE RF-03.04



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APPROVERS SEAL
PFS CORPORATION
Approval Limited to Factory Built Portion Only
North Carolina
State:
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

MODIFICATIONS

PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
FLOOR PLAN
STRUCTURAL
STR-101

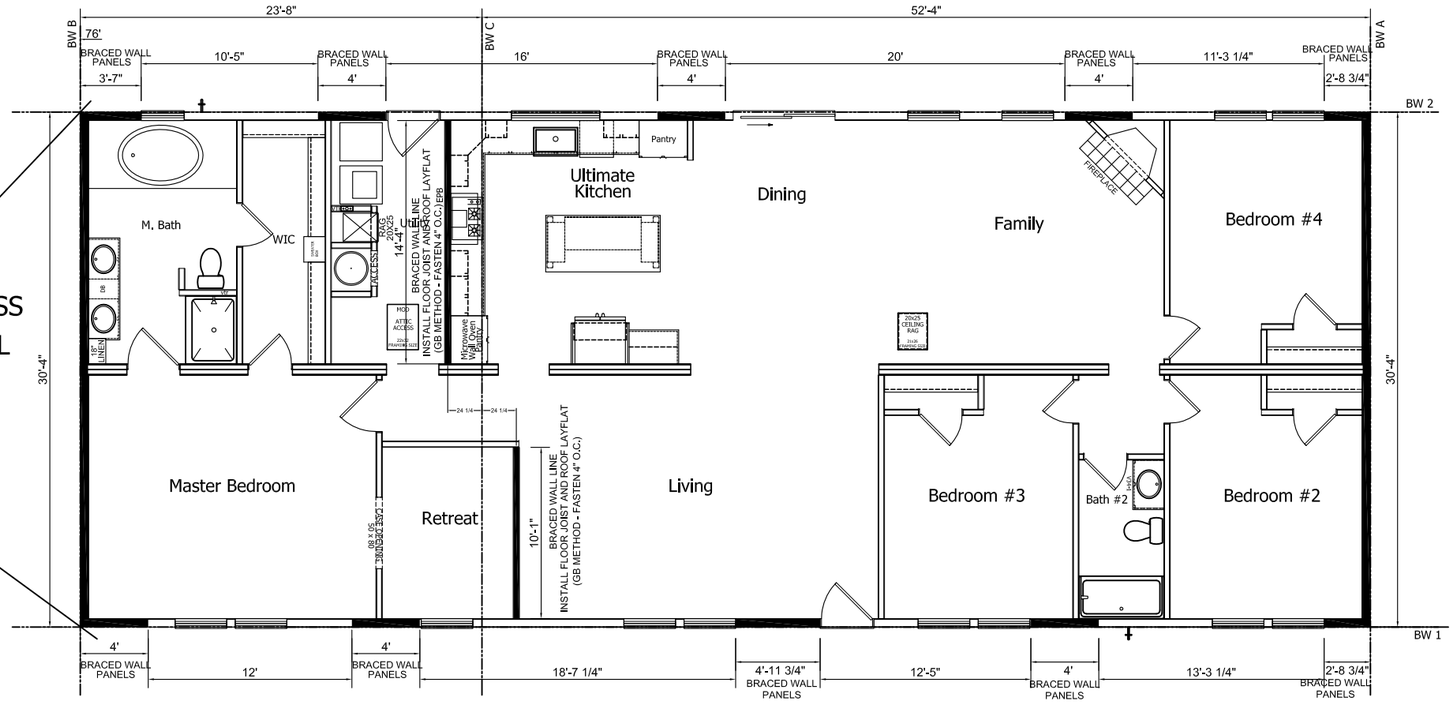
DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

NOTES:

- BRACED WALL LENGTH IN ACCORDANCE WITH 2015 IRC SECTION 602.10.3
- REQUIREMENTS OF TABLE 602.3(3) MUST BE FOLLOWED IF WOOD STRUCTURAL PANELS ARE TO BE USED TO RESIST WIND PRESSURES EQUAL TO OR GREATER THAN 130 MPH
- Design Manual Ref: SW-01.01 to SW-02.05

BLOCKS REQUIRED BETWEEN TRUSS HEELS DUE TO THE OVER 9 $\frac{1}{4}$" HEEL HEIGHT.
FOR EACH CS-WSP SIDEWALL SEGMENT



NUMBER OF BRACED WALL LINES IS A TOTAL NUMBER INDICATOR FOR LEFT TO RIGHT BRACED WALL

BW 1&2 ARE SIDEWALL SEGMENTS

BW A&B ARE ENDWALL SEGMENTS
BW C IS THE INTERIOR SEGMENT

2015 IRC BRACED WALL LINE PRESCRIPTIVE MEASURES

Wind Speed =	120	mph	Module Width =	182	in.
Exposure =	C		Home Length =	76.00	ft.
No. of Stories =	1		Roof Pitch =	7	:12
No. of modules =	2	per story	Overhang, OH =	12	in.
Eave to Ridge Ht. =	114	in.	1st Floor Wall Ht, H =	108	in.
Panel Uplift Load =	136	plf	#8x4" Toe-screw	1	per truss

1ST FLOOR SIDE WALL REQUIREMENTS

Sheathing Method = CS-WSP
Block Seams = Yes
Number of Braced Wall Lines = 2
Braced Wall Line Spacing = 30.33 ft.

1st Floor Factors:
Exposure = 1.20
Wall Height = 0.95
Block Seams = 1.00
Eave to Ridge Ht. = 0.97 *(Interpolated)*
No. Braced Wall Lines = 1.00
GB Method 4" o.c. = 1.00 No

1st Floor Required Wall Length: 5.05 ft. = 5 ft - 1in. *(Interpolated)*
[From Table R602.10.3(1)]
Factored Required Wall Length: 5.58 ft. = 5 ft - 8in. Required

Largest Opening on Sidewall = 80 in. (Height, EX: Door = 80")
Min. Panel Width = 30 in.

1ST FLOOR END WALL REQUIREMENTS

Sheathing Method = CS-WSP
Block Seems = Yes
Number of Braced Wall Lines = 3
Braced Wall Line Spacing = 52.33 ft.

Block Seams = 1.00
No. Braced Wall Lines = 1.30
GB Method 4" o.c. = 1.00 No

1st Floor Required Wall Length: 8.35 ft. = 8 ft - 5in. *(Interpolated)*
[From Table R602.10.3(1)]
Factored Required Wall Length: 12.00 ft. = 12 ft - 1in. Required

Largest Opening on Endwall = 0 in.
Min. Panel Width = 27 in.

1ST FLOOR INTERIOR WALL REQUIREMENTS

Sheathing Method = GB
Block Seems = Yes
Number of Braced Wall Lines = 3
Braced Wall Line Spacing = 52.33 ft.

Block Seams = 1.00
GB Method 4" o.c. = 0.70 Yes

1st Floor Required Wall Length: 17.20 ft. = 17 ft - 3in. *(Interpolated)*
[From Table R602.10.3(1)]
Factored Required Wall Length: 17.31 ft. = 17 ft - 4in. Required

Largest Opening = 0 in.
Min. Panel Width = 48 in.

ROOF DIAPHRAGM

THE ROOF DIAPHRAGM TRANSFERS APPLIED LOADS TO BRACED WALL LINES. ROOF DIAPHRAGMS SHALL BE CONSTRUCTED ACCORDING TO IRC REQUIREMENTS. ROOF SHEATHING IS TYPICLLY 7/16" OSB SHEATHING FASTNED AS SHOWN IN THE TABLE BELOW

FASTENER	EDGES (IN.)	NAIL (IN.)
.131 X 2 1/2" NAIL (SEE NOTE A)	6	12
15GA X 1 3/4" STAPLE (SEE NOTE B)	4	8
.097 X 2 1/4" NAIL (SEE NOTE B)	3	6
16GA X 1 3/4" STAPLE (SEE NOTE B)	3	6

STAPLES HAVE A MIN. CROWN WIDTH OF 7/16"

NOTE A:
WHERE THE BASIC WIND SPEED IS EQUAL TO OR GREATER THAN 130 MPH THEN INTERMEDIATE FASTENING SHALL BE FASTENED AT THE SAME SPACING AS EDGE FASTENING

Note B:
THESE FASTENERS SHALL ONLY BE USED IN WIND ZONES LESS THAN 130 MPH PER IRC TABLE R602.3(2) NOTE G.

Design Man Ref: SW-02.02

WP & CS-WP: WOOD STRUCTURAL SHEATHING SHALL BE AS INDICATED IN TABLE R602.3(3) OF THE IRC, SHOWN HERE

MINIMUM FASTENERS		MIN. PANEL SPAN RATING	MIN. PANEL THICKNESS	MAX. STUD SPACING	PANEL NAIL SPACING		MAX. DESIGN SPEED (MPH) WIND EXPOSURE CATEGORY		
SIZE	PENETRATION				EDGES	FIELD	B	C	D
0.113 x 2"	1½"	24/0	3/8	16	6	12	140	X	X
0.131 x 2½"	1¾"	24/16	7/16	16	6	12	170	140	135
				24	6	12	140	X	X
THERMO-PLY RED STRUCTURAL SHEATHING (NOT ALLOWED W/ 2 PART ADHESIVE ON GYP PANELS)									
16 ga 7/16" crown x 1 1/2" staple	1"	16"/24" o.c. stud spacing	0.113"	16	3	3	130	130	N/A
0.120 X 1 1/4"	1"	16"/24" o.c. stud spacing	0.113"	16	3	3	130	130	N/A
"INTERIOR DRYWALL SECUREMENT FOR THERMO-PLY RED SHEATHING PER IRC R702.3.5 (INTERIOR GYPSUM CANNOT BE SECURED WITH FOAM ADHESIVE. MUST BE EITHER SCREW OR NAIL PER R702.3.5)"									
1 1/4" MIN DRYWALL SCREW TYP. USED		16" o.c. stud spacing	1/2	16	8	16			

PER TABLE R702.3.5: (13 gage, 1 3/8" long, 19/64" head; 0.098" dlameter, 1 1/4" long, annular-ringed; 5d cooler nail, 0.086" dlameter, 1 5/8" long, 15/64" head; or gypsum board nail, 0.086" dlameter, 1 5/8" long, 9/32" head.)

PFS CORPORATION
Approval Limited to Factory Built Portion Only
State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

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ENGINEER'S / ARCHITECT'S SEAL

MODIFICATIONS

PROJECT: 23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH
TITLE: BRACED WALLS BW-101
DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW
SHEET:

ELECTRICAL LEGEND

GENERAL LIGHTING RECEPTACLE 110 VOLT - 15 AMP	P.C. DENOTES PULL CHAIN	SPECIAL PURPOSE CONNECTION	JUNCTION BOX
GROUND FAULT INTERRUPT RECEPTACLE 110 VOLT - 15 AMP	RECESSED LED LIGHT	CARBON MONOXIDE ALARM	HEAT TAPE RECEPTICLE 110 VOLT - 15 AMP
SMALL APPLIANCE RECEPTACLE 110 VOLT - 20 AMP	PENDANT LIGHT	COMBO SMOKE / CARBON MONOXIDE ALARM	HEAT TAPE RECEPTACLE GFI 110 VOLT - 15 AMP
GROUND FAULT INTERRUPT SMALL APPLIANCE RECEPTACLE 110 VOLT - 20 AMP	THERMOSTAT	SMOKE ALARM	MAIN PANEL
220 VOLT RECEPTACLE	CEILING VENT FAN	PHONE JACK	TV JACK
CEILING VENT FAN WITH LIGHT	SINGLE POLE SWITCH (3 - DENOTES 3 WAY)	1. SMOKE DETECTORS ARE INTERCONNECTED. FOR MODEL WITH BASEMENT, A #14/3 WIRE IS RUN FROM UPSTAIRS SMOKE DETECTOR TO UNDER FLOOR JUNCTION BOX (ON SITE CONNECTION TO BASEMENT SMOKE DETECTOR). 2. ELECTRICAL: 200 AMP MAIN & SERVICE IS STANDARD.	
CEILING LIGHT	FLUORESCENT LIGHT		
WALL LIGHT	W.P. DENOTES WEATHERPROOF		

ELECTRICAL SCHEDULE

CIR #	BRKR	NOMENCLATURE	VOLTS	WIRE
1 GFI	20 AF	PORTABLE APPLIANCE	120	12/2
2 GFI	20 AF	PORTABLE APPLIANCE	120	12/2
3 GFI	20 AF	PORTABLE APPLIANCE	120	12/2
4 GFI	20 AF	WASHER	120	12/2
5 AF	15	KIT/UTL/M,BATH	120	14/2
6 AF	15	DIN/FAM	120	14/2
7 AF	15	BEDROOM #4/SD	120	14/2
8 AF	15	M.BEDRM/RETREAT	120	14/2
9 GFI	20 AF	REFRIGERATOR	120	12/2
10 GFI	20	BATH GFI's	120	12/2
11	30	DRYER	240	10/3
12	40	WALL OVEN	240	8/3
13 GFI	15 AF	DISH WASHER	120	14/2
14	25	WATER HEATER	240	10/2
15	30	COUNTER TOP RANGE	PER MANUF	
16	15 OPT	FURNACE (GAS)	120	14/2
17	60/35	FURNACE (ELECTRIC)	240	6/6/8
18	20 OPT	TRASH COMPACTOR	120	12/2
19	15 OPT	DISPOSAL	120	14/2

ELECTRICAL SCHEDULE – CONT –

CIR #	BRKR	NOMENCLATURE	VOLTS	WIRE
24 AF	15	LIVING ROOM	120	14/2
25 AF	15	BEDR #2/BTH #2/BEDR #3	120	14/2
26	OPT GFI	OUTDOOR HYDRO MASSAGE SPA	PER MANF	
27 GFI	20 OPT	FREEZER	120	12/2
28 AF	15	RANGE HOOD	120	14/2
29 GFI	20 OPT	INDOOR HYDRO MASSAGE SPA	PER MANUF.	
33 AF	20	MICROWAVE	120	12/2

WIRE SIZING MAY INCREASE DUE TO DISTANCE FROM PANEL BOX

*GFI	GROUND FAULT PROTECTED
*AF	ARC FAULT PROTECTED
*SD	SMOKE DETECTOR
*OPT	OPTIONAL

* OTHER CIRCUITS MAY BE ADDED AS NECESSARY.

FURNACE NOTE: 10KW NORDYNE E7 FURNACE

- SERVICE ENTRANCE DISCONNECT TO BE PROVIDED AND INSTALLED ON SITE BY OTHERS.
- ALL 120-VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT KITCHEN, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS,LAUNDRY AREAS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN 210.12 (A).(NEC)
- BOXES USED AT LUMINARIES OR LAMPHOLDER OUTLETS. OUTLET BOXES OR FITTINGS DESIGNED FOR THE SUPPORT OF LUMINARIES AND LAMPHOLDERS, AND INSTALLED AS REQUIRED BY 314.23, SHALL BE PERMITTED TO SUPPORT A LUMINAIRE OR LAMPHOLDER.
- ALL RECEPTACLES ARE TO BE TAMPER PROOF.
- ALL BATH VENT FANS TO BE 50 CFM MIN.
- RANGE HOOD TO BE 100 CFM MIN.
- SEE QA MANUAL SECTION 4 PAGE 4 FOR FIXTURES LIST
- ALL ELECTRICAL FIXTURES/WIRING SHALL COMPLY WITH SECTION E3303.3 (SC & VA)
- ALL WIRING SHALL BE NMC
- FACTORY INSTALLED SUB PANEL SHALL HAVE A 2" MINIMUM CONDUIT FOR FEEDERS
- FURNACE INSTALLED IS PROVIDED FOR SUPPLEMENTAL HEAT AND SHOULD HAVE ITS KW SIZE VERIFIED BY ON-SITE MANUAL D AND J IF SYSTEM DIFFERS FROM THAT PROVIDED. SEE QA MANUAL SECTION 4 PG 18 FOR FURNACE DETAILS
- SEE QA MANUAL SECTION 4 PAGE 4 FOR APPROVED ELECTRICAL FIXTURES
- BREAKER LOCKOUT TO BE INSTALLED FOR WATER HEATER AND DISHWASHER
- NC-MODS NOTE: PER IECC A MINIMUM OF 75% LAMPS INSTALLED IN PERMANENTLY INSTALLED FIXTURES MUST BE HIGH EFFICENT LAMPS (EXAMPLE. CFLS) ALL BULBS TO BE PROVIDED ON-SITE BY OTHERS

FEEDER AND SERVICE LOAD CALCULATION:

MODEL PLAN NUMBER: 23-3276-07 062322
UNIT SERIAL NUMBER:
First Story Size (feet): 30'-4" x 76'
Second Story Size (feet): x

ELECTRICAL SERVICE PANEL SIZING: **(kW or kVA)**

TOTAL FLOOR AREA: 2305 SF x 3 Watt / 1000 = 6.915

3	Small Appliance Circuits at 1500 VA /1000 per Circuit			=	4.5
1	Laundry Circuits at 1500 VA /1000 per Circuit			=	1.5
	Standard Appliances:				
0	Range With Oven:	9600	Watts	=	0
1	Range Hood Vent Fan:	1440	Watts	=	1.44
1	Refrigerator	1800	Watts	=	1.8
1	Microwave	1632	Watts	=	1.632
1	Dishwasher:	1188	Watts	=	1.188
0	Waste Food Disposal:	804	Watts	=	0
1	Clothes Washer	1500	Watts	=	1.5
1	Clothes Dryer:	5760	Watts	=	5.76
1	Electric Water Heater:	6000	Watts	=	6
2	Bathroom Vent Fan(s):	96	Watts	=	0.192
0	Hydro-Massage Tub:	720	Watts	=	0
	Miscellaneous Items:				
1	Furnace Blower w/ Gas Option:	1440	Watts	=	1.44
0	Whole House Vent fan	96	Watts	=	0
1	Oven	9600	Watts	=	9.6
1	Cook Top	7900	Watts	=	7.9
0	(Enter Item #5:)	0	Watts	=	0

TOTAL LOAD: 51.367

ELECTRICAL HVAC EQUIPMENT:

1	Heating Equipment:	15385	Watts (at 65%)	=	10.000
0	Cooling Equipment:	9600	Watts (at 100%)	=	0.000

Calculate Total Electrical Design Load:

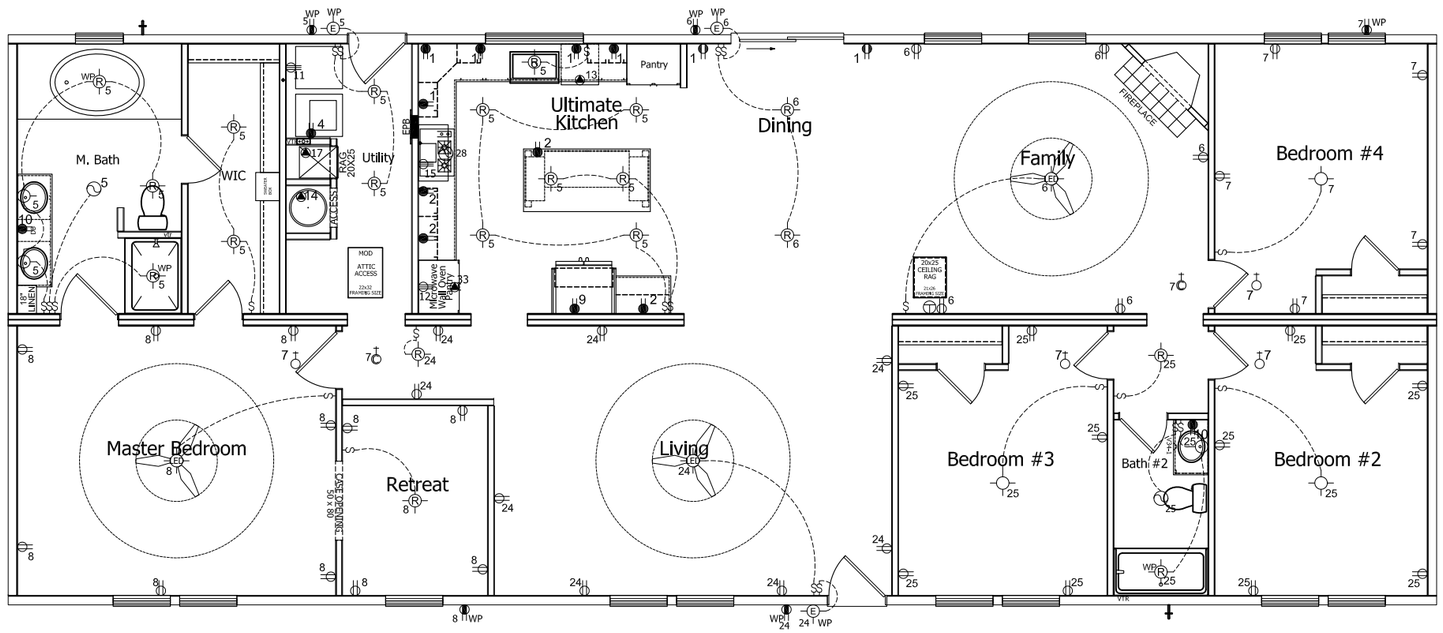
FIRST 10 kVA of TOTAL LOAD at 100%	=	10.000
REMAINDER of TOTAL LOAD at 40%	=	16.547
HVAC EQUIPMENT (Maximum: Heating or Cooling)	=	10.000

Design Total: 36.547 kVA

REQUIRED AMPERAGE [(Design Total / 240-Volts) x 1000] = 152.3 Amps

INSTALL: 200 AMP PANEL, 120/240-Volt, SINGLE PHASE, ELECTRICAL SERVICE PANEL

- THIS FEEDER AND SERVICE LOAD CALCULATION MAY INCLUDE SOME OPTIONAL ... NOT CURRENTLY PART OF THIS HOME. THESE ITEMS ARE INCLUDED TO SHOW ... FUTURE ITEMS COULD IMPACT THE PANEL AND STILL ALLOW FOR ENOUGH GROWTH TO MAINTAIN COMPLIANCE.



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BUILDER:
GIG HOUSING

CUSTOMER/PROJECT:
CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

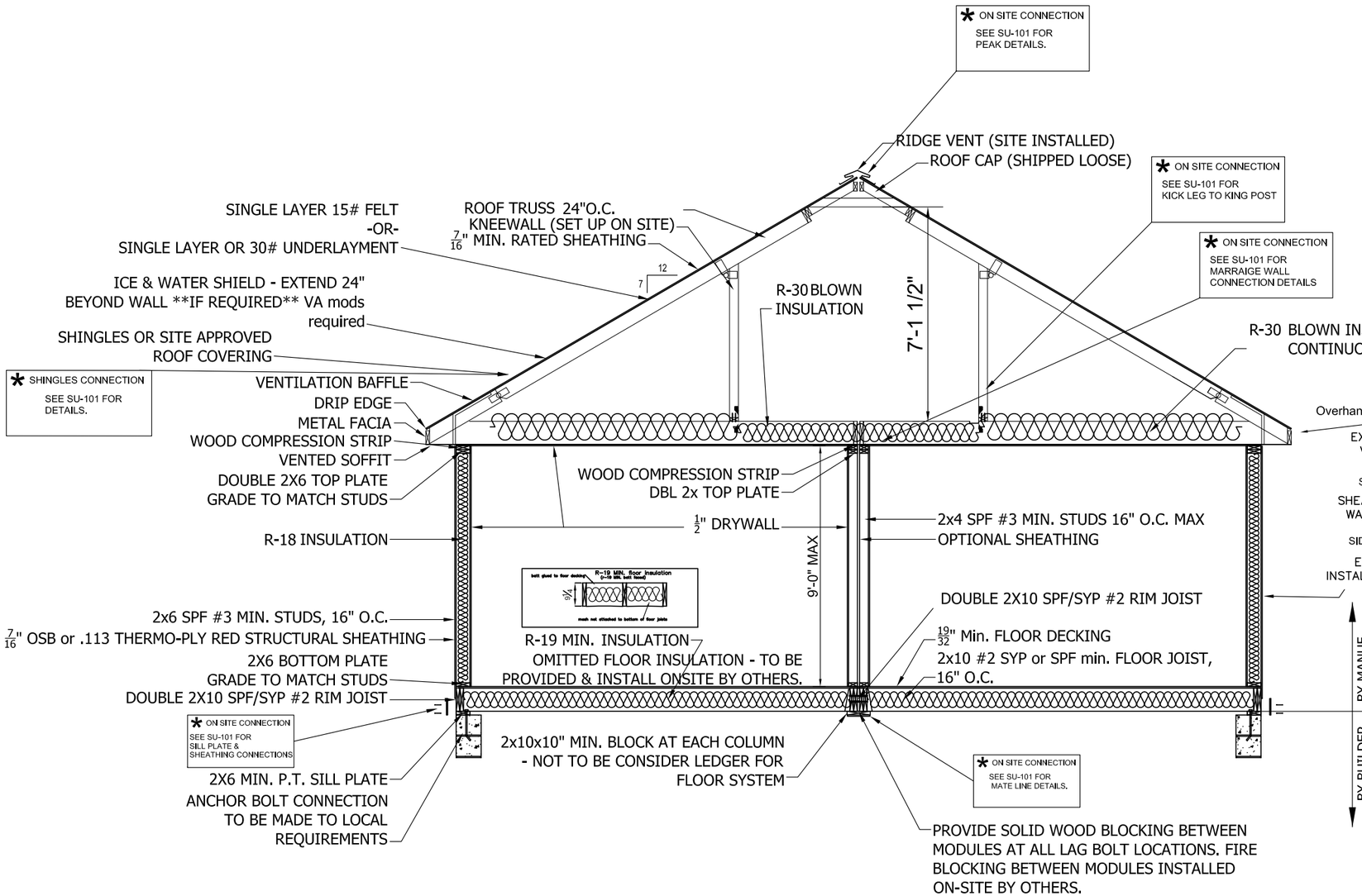
MODIFICATIONS

PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
ELECTRICAL
E-101

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:



LOCATION 7A: SHINGLES - SHINGLES INSTALLED PER MANUF. LOACATED ON EACH WRAPPER FOR INSTALLATION INSTRUCTIONS - IKO CAMBRIDGE OR TAMCO HERITAGE ARCHITECTURAL "OR EQUAL" - (HIGH WIND requires 6 fasteners per shingle -130MPH OR GREATER)
LOCATION 7B: VINYL SIDING - INSTALLED PER MANUF. INSTALLATION INSTRUCTIONS -PLYGEM TRUE WALL BRAND "OR EQUAL" (FASTENER SPACING-16"o.c. Horizontal vinyl 12" o.c. vertical vinyl and accesories at 8" to 10" o.c. ALL WIND SPEEDS)

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State:
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MODIFICATIONS

PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
CROSS SECTION
7-12
XS-101

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

LOCATION 1: ROOF CAP (FLIPS) - #8 X 3" SCREWS @ 16" O.C./ADD A MIN. 26 GA STRAP EACH TRUSS TOP CORD TO FLIP TO PROVIDE FOR TENSION CONNECTION (6) .113 X 2" NAILS EACH SIDE OR EQUIVALENT Design manual ref: RF-05.03 and RF-08.01

LOCATION 2: COLLAR TIE - (9) .148 X 3" NAILS or (13) #8 X 3" SCREWS EACH END Design Manual Sec: RF-08.04

LOCATION 3: ROOF KNEE WALL - (4) #10x4" toe screws rail into bottom chord at each kneewall leg. OR uplift strap at every truss (use 2 at multiply trusses) strap capacity per tension load on truss drawing. 1x4 min, ledger nailed with (2) .120x3" nails each end each bay. Design Manual Sec: RF-08.01

LOCATION 4: CENTERLINE FLOOR BAND - $\frac{5}{16}$" X 7" LAGS(min.) @ 36" O.C or $\frac{1}{2}$" X 8" (min) CARRAIGE BOLT @ 72" O.C. Ref: RF-05.04 of Design ManuaL

LOCATION 5: MARRAIGE WALL CEILING Same as location 12
SEE SU-102 PAGE FOR THE TENSION CONNECTION **STRAP REQUIRED

LOCATION 6: MARRAIGE WALL ENDS 12"o.c. #10x5" Screws DESIGN MANUAL SEC. WA-03.01

LOCATION 7A: SHINGLES - SHINGLES INSTALLED PER MANUF. LOACATED ON EACH WRAPPER FOR INSTALLATION INSTRUCTIONS - IKO CAMBRIDGE OR TAMCO HERITAGE ARCHITECTURAL "OR EQUAL" - (HIGH WIND requires 6 fasteners per shingle)
LOCATION 7B: VINYL SIDING - INSTALLED PER MANUF. INSTALLATION INSTRUCTIONS -PLYGEM TRUE WALL BRAND "OR EQUAL" (FASTENER SPACING-16"o.c. Horizontal vinyl 12" o.c. vertical vinyl and accesories at 8" to 10" o.c. ALL WIND SPEEDS)

LOCATION 8: GABLE ENDWALLS (3) #8x4 $\frac{1}{2}$" wood screws per 16" gable wall stud cavity Ref: Design manual RF-05.01

LOCATION 9: GABLE END SHEATHING - PER BW-101 OR SW-101
THERMO-PLY RED 3" oc Edge & Field REF: Design Manual SW-02.03
THERMO-PLY RED STRUCTURAL SHEATING

LOCATION 10: DORMER DETAILS IF REQUIRED- Per RF-06.01-02 OR RF-08.03A of the Design Manual. Also Approved drawings in set up manual package

LOCATION 11: PERIMETER SHEATHING - .131X 2 $\frac{1}{2}$" NAILS @ 6" O.C. ONE ROW IN RIM JOIST ONE ROW IN SILL PLATE Ref: Design manual FD-01.02, To Be installed per edge fastening BW-101 or SW-101 section (Which ever is applicable to package) / THERMO-PLY PER TER REPORT 1004-01

LOCATION 12: ROOF PEAK - $\frac{5}{16}$" X 5" LAGS(MIN.) @ 7" O.C. ALTERNATING SIDES or #10 X 5" SCREWS 4" O.C. ALTERNATING SIDES UP TO 140 MPH Ref: RF-05.04 of Design Manual

LOCATION 13: FOUNDATION - SHOULD BE INSTALLED PER IRC CHAPTER 4 OR CHAPTER 45(HIGH WIND). SEE FD-01.01 TO FD-02.05 FOR TYPICAL FOUNDATION DETAILS AND SUBJECT TO LOCAL JURISDICATION.

LOCATION 14: VINYL SIDING OR OTHER EXTERIOR COSMETICS SHOULD BE INSTALLED PER MANUFACTURER INSTALLATION INSTRUCTIONS FOR WIND OR OTHER SITE CONDITIONS

ATTENTION LOCAL INSPECTIONS DEPARTMENT:

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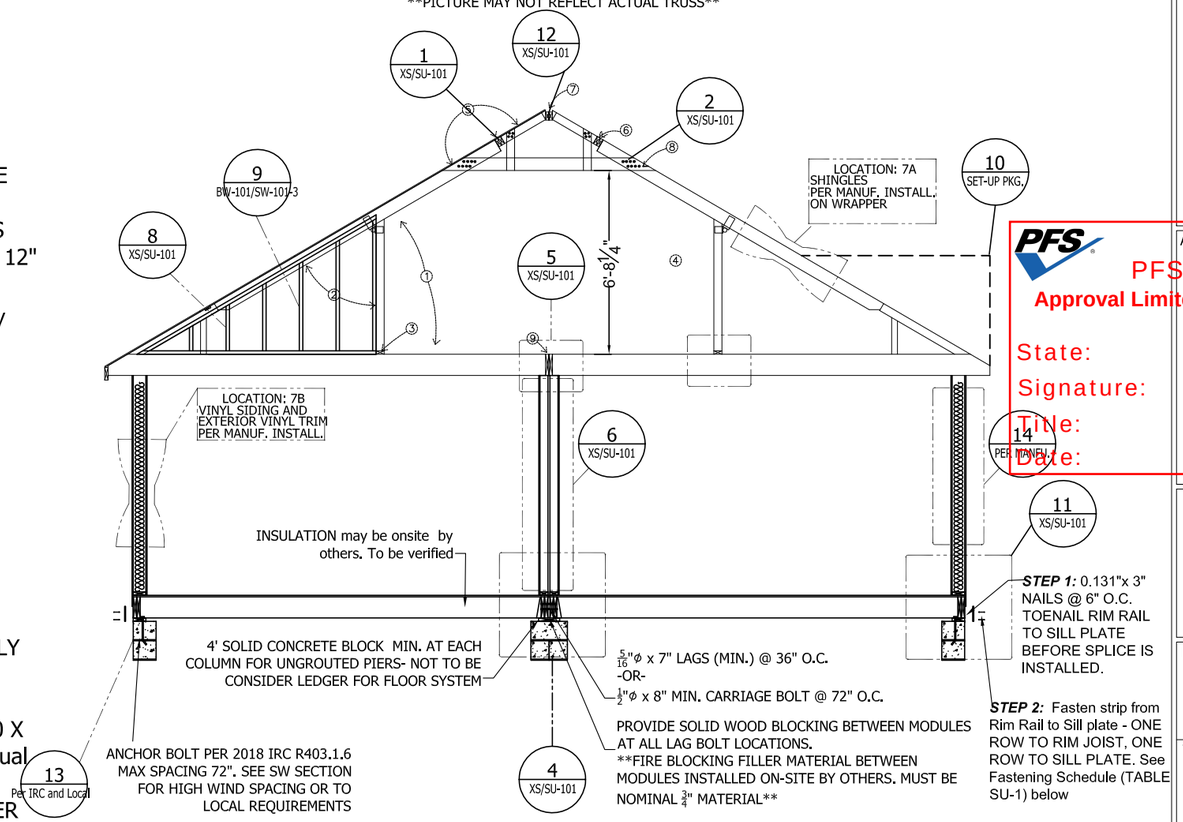
***IT IS THE INTENT THAT THIS DOCUMENT WILL ASSIST THE LOCAL INSPECTIONS DEPARTMENT BY OFFERING AN EASILY ACCESIBLE LOCATION FOR ALL TYPICAL CONNECTIONS. ANY CONNECTIONS NOT LISTED MAY BE FOUND ON THE APPROPRIATE PAGES OF THIS PLAN SET. SEE INDEX**

BASED ON 7 / 12 ---32' TRUSS
CC557330 - UFP DESIGN
- OR -
MHT-1 - PLANT BUILT
PICTURE MAY NOT REFLECT ACTUAL TRUSS



(TABLE SU-1) FASTENING SCHEDULE for SHEATHING

SHEATHING	FASTENER	SPACING
WOOD RATED SHEATHING	0.131" x 2 1/2" NAILS	6"
THERMO-PLY RED STRUCTURAL SHEATHING	0.120" x 1 1/2" NAILS	3"
	16 ga. 15/16" CROWN x 1 1/4" STAPLE	

CALCULATIONS DERIVED FROM MANUAL ON FILE WITH STATE AND/OR THIRD PARTY APPROVAL AGENCY PFS ID #20-002689 APPROVED 6-18-20 NC/SC/VA

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MODIFICATIONS

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23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
LOCAL INSPECTIONS

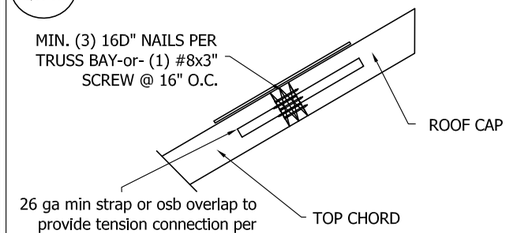
DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:
SU-101

1 XS/SU-101

DESIGN MANUAL REF: RF-08.01

TOP CHORD TO ROOF CAP CONNECTION



10 SET-UP PKG.

DESIGN MANUAL REF: RF-06.01-02 or APPROVED DORMERS THIS PLAN SET

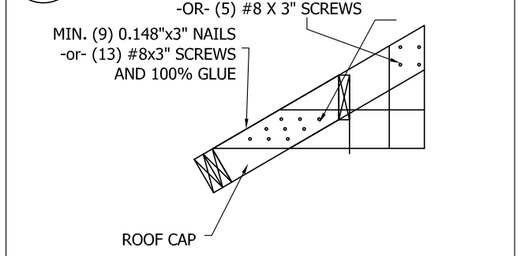
LOCATION: 7 PER MANUF. INSTALL. OR SET-UP MANUAL PAGES XX-XX

shingles should be installed per manufacturer installation instructions AND can be found on the shingle package or located in the set-up manuAl

2 XS/SU-101

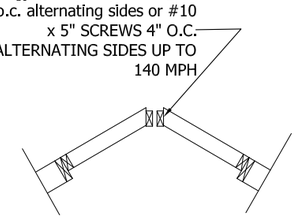
DESIGN MANUAL REF: RF-08.01, RF-08.05

ROOF CAP TO COLLAR TIE CONNECTION



12 SET-UP PKG.

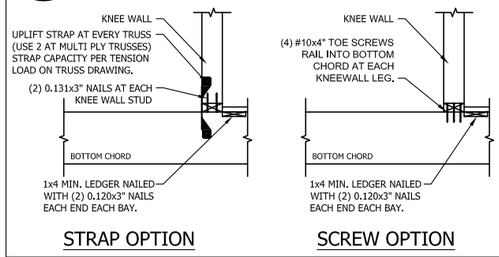
DESIGN MANUAL REF: RF-05.04



3 XS/SU-101

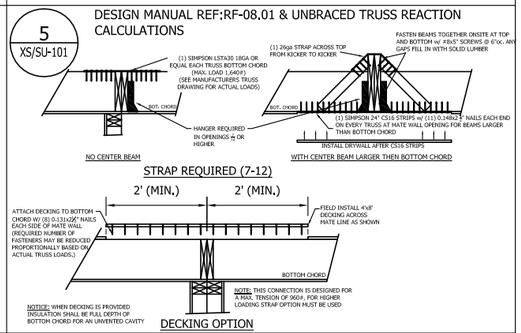
DESIGN MANUAL REF:RF-08.01

KNEE WALL TO TRUSS BOTTOM CORD CONNECTION



5 XS/SU-101

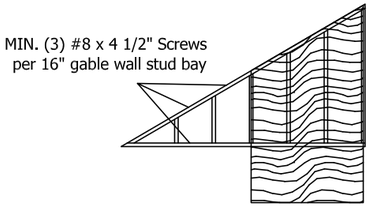
DESIGN MANUAL REF:RF-08.01 & UNBRACED TRUSS REACTION CALCULATIONS



8 XS/SU-101

DESIGN MANUAL REF: RF-08.01

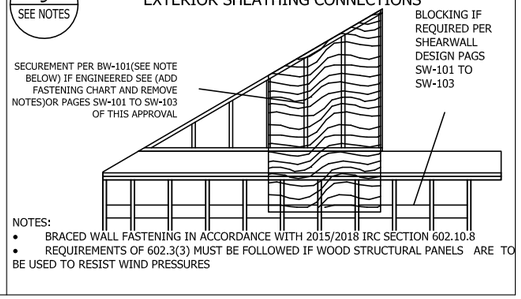
GABLE WALL CONNECTIONS



9 SEE NOTES

DESIGN MANUAL REF: SW-02.03-04

EXTERIOR SHEATHING CONNECTIONS



NOTES:
- BRACED WALL FASTENING IN ACCORDANCE WITH 2015/2018 IRC SECTION 602.10.8
- REQUIREMENTS OF 602.3(3) MUST BE FOLLOWED IF WOOD STRUCTURAL PANELS ARE TO BE USED TO RESIST WIND PRESSURES

CALCULATIONS DERIVED FROM MANUAL ON FILE WITH STATE AND/OR THIRD PARTY APPROVAL AGENCY PFS ID #20-002689 APPROVED 6-18-20 NC/SC/VA

(TABLE SU-1) FASTENING SCHEDULE for SHEATHING

SHEATHING	FASTENER	SPACING
WOOD RATED SHEATHING	0.131" x 2 ½" NAILS	6"
THERMO-PLY RED STRUCTURAL SHEATHING	0.120" x 1 ½" NAILS	3"
	16 ga. 15/16" CROWN x 1 ¼" STAPLE	

Gable End Framing
7/12 - 32' wide Storage
161.7 square ft
7/12 - 28' wide Storage
131.47 square ft

ATTENTION LOCAL INSPECTIONS DEPARTMENT:
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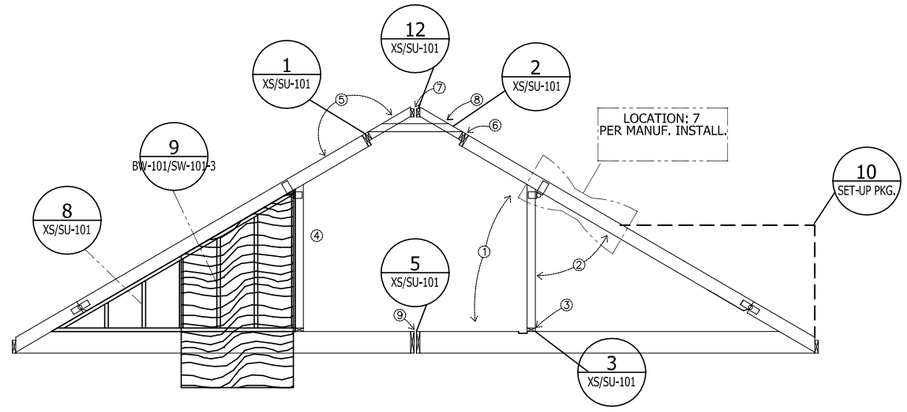
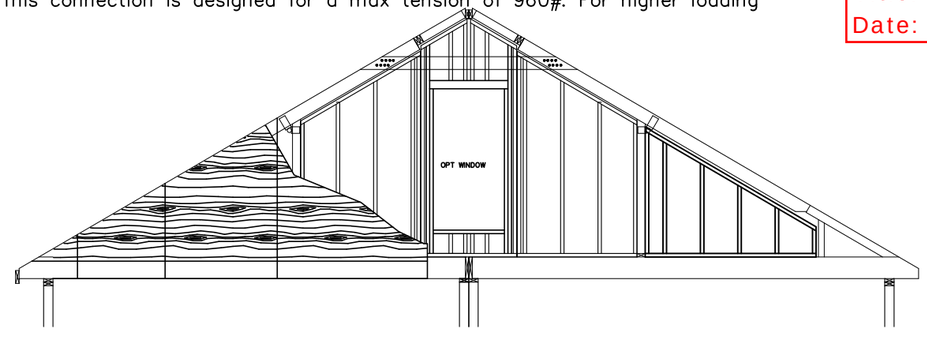


Step 1, Raise Front Module Top chord
Step 2, Lower Front Module Kneewall to Sit On Bottom Chord
Step 3, Secure Hindged Kneewall to Bottom Chord w/ (4) 16d "Toe-Nails" OR (4) #10 X 4" Toe Screws
See Strap option in panel to left for additional option.
Step 4, Repeat steps one through three for rear module
Step 5, Flip Top chord Extension Into Place & Secure
Step 6, Secure Top chord Extension W/ (12 #10x3" Screw @ 16" O.C. or (3) 16d nails each rafter bay
make Tension connection with 1-26 Ga strap per detail this page
Step 7, Secure Ridge With 5/16" x 5" Lag Screws @ 7" O.C. Alternating Sides upto 140 mph
See SW pages for winds above 140 MPH
Step 8, Install Collar Tie w/ (9) 16d Nails Ea. End or (13) #8X3" Screws each end.
Step 9, Connect Bottom Chords w/ 4' sheathing lap 2' per module fasten
with (8) x .131 x 2 1/2" nails each side of matewall
This connection is designed for a max tension of 960#. For higher loading



RATED/STRUCTURAL SHEATHING

ALL SHEATHING SHALL BE INSTALLED ON THE ENTIRE EXTERIOR OF THE HOME.

ALL SHEATHING TO BE FASTENED WITH SPECIFIED FASTENERS. SEE NOTE BELOW. OR USE SW PAGES IN PLAN SET.

NOTES:
- BRACED WALL FASTENING IN ACCORDANCE WITH 2015/2018 IRC SECTION 602.10.8
- REQUIREMENTS OF 602.3(3) MUST BE FOLLOWED IF WOOD STRUCTURAL PANELS ARE TO BE USED TO RESIST WIND PRESSURES
- THEROM-PLY SEE (TABLE-SU-1) FOR FASTENING SCHEDULE

GABLE END FILLERS

2X4 GABLE END WALLS ARE ASSEMBLED AT THE PLANT

INSTALL WALL SECTIONS IN PLACE AS SHOWN ON EACH END OF HOME. SECURE BOTTOM AND TOP PLATES OF WALL SECTIONS TO FLOOR AND ROOF WITH 16d NAILS OR #8 X 3 1/2" WOOD SCREWS AT 12" O.C.. SECURE WALL SECTIONS TOGRTHER WITH 16d NAILS OR #8 X 3 1/2" WOOD SCREWS AT 12" O.C.

ANY GAPS THAT MAY EXIST BETWEEN WALL SECTIONS OR BETWEEN SECTIONS AND FLOOR OR ROOF WILL NEED TO BE SHIMED. SHIM TIGHT WITH DIMENSIONAL LUMBER, OSB, OR EQUIVALENT.

NOTE:
IF WALL IS TOO TALL, STUDS MAY BE CUT DOWN TO FIT BY REMOVING TOP PLATE OR BOTTOM PLATE.
REATTACHMENT IS PER IRC

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Date:

MODIFICATIONS 6/27/22

PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

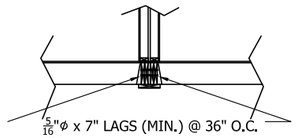
TITLE:
LOCAL INSPECTIONS-2

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:
SU-102

4 XS/SU-101

MODULE TO MODULE CONNECTION AT FLOOR RIM BAND



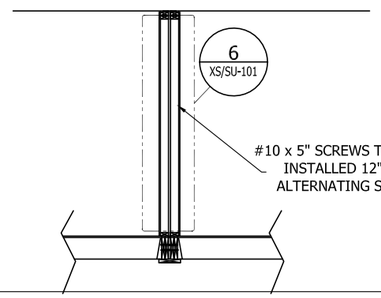
$\frac{5}{16}$"ø x 7" LAGS (MIN.) @ 36" O.C.
-OR-
$\frac{1}{2}$"ø x 8" MIN. CARRIAGE BOLT @ 72" O.C.

14 PER MANFU.

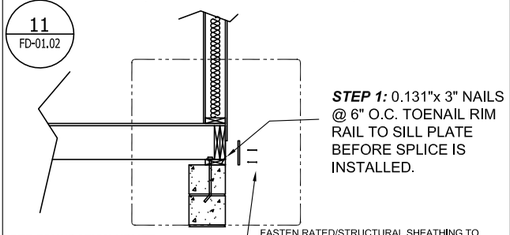
PROVIDE SOLID WOOD BLOCKING BETWEEN MODULES AT ALL LAG BOLT LOCATIONS. PROVIDED AND INSTALLED ONSITE BY OTHERS
FIRE BLOCKING FILLER MATERIAL BETWEEN MODULES INSTALLED ON-SITE BY OTHERS. MUST BE NOMINAL $\frac{3}{4}$" MATERIAL

6 XS/SU-101

MODULE TO MODULE ENDWALL CONNECTION

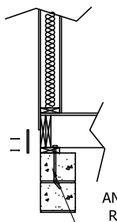


11 FD-01.02



SEE FOUNDATION UPLIFT DETAILS PER FD-01.02 OR IF REQUIRED SW SECTION THIS PLAN SET.
SEE DESIGN MANAUL FA-01.02 OR SW-55.02 FOR DETAILS

13 Per IRC and Local

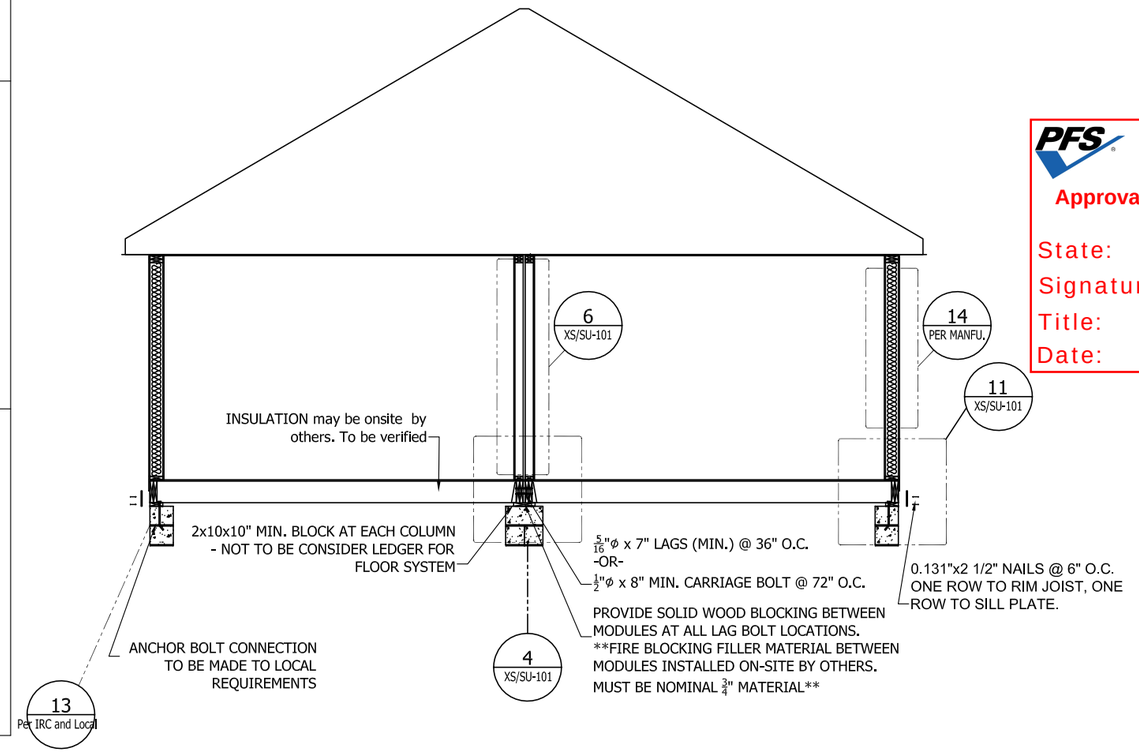


ANCHOR BOLT PER 2018 IRC R403.1.6 MAX SPACING 72". SEE SW SECTION FOR HIGH WIND SPACING OR TO LOCAL REQUIREMENTS

CALCULATIONS DERIVED FROM MANUAL ON FILE WITH STATE AND/OR THIRD PARTY APPROVAL AGENCY PFS ID #20-002689 APPROVED 6-18-20 NC/SC/VA

ATTENTION LOCAL INSPECTIONS DEPARTMENT:
THIS PAGE WAS INCLUDED AS A QUICK REFERENCE GUIDE FOR ITEMS COMPLETED BY THE HOME SETUP CREW. THESE DETAILS ILLUSTRATE SITE CONNECTIONS.

***IT IS THE INTENT THAT THIS DOCUMENT WILL ASSIST THE LOCAL INSPECTIONS DEPARTMENT BY OFFERING AN EASILY ACCESIBLE LOCATION FOR ALL TYPICAL CONNECTIONS. ANY CONNECTIONS NOT LISTED MAY BE FOUND ON THE APPROPRIATE PAGES OF THIS PLAN SET. SEE INDEX**



(TABLE SU-1) FASTENING SCHEDULE for SHEATHING

SHEATHING	FASTENER	SPACING
WOOD RATED SHEATHING	0.131" x 2 1/2" NAILS	6"
THERMO-PLY RED STRUCTURAL SHEATHING	0.120" x 1 1/2" NAILS	3"
	16 ga. 15/16" CROWN x 1 1/4" STAPLE	

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PHONE: 248-614-8200

BUILDER: GIG HOUSING

CUSTOMER/PROJECT: CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL
PFS CORPORATION
Approval Limited to Factory Built Portion Only
State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

MODIFICATIONS

PROJECT: 23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE: LOCAL INSPECTIONS-2

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET: SU-103

ACCESS TO GRADE AT ALL DOORS TO BE PROVIDED AND INSTALLED ON SITE, BY OTHERS IN COMPLIANCE WITH PREVAILING CODE

North Carolina Required Ventilation

Floor Length: 76 ft.

Floor Type
- ○ 28 Wide
- ◉ 32 Wide
- ○ Triple Wide
- ○ T-Ranch
- ☐ Check if pod

Manufactor Specifications

Ridge Vent: **18 sq. in. per lf.**
Soffit Vent: **5.89 sq. in. per lf.**

House Required Ventilation

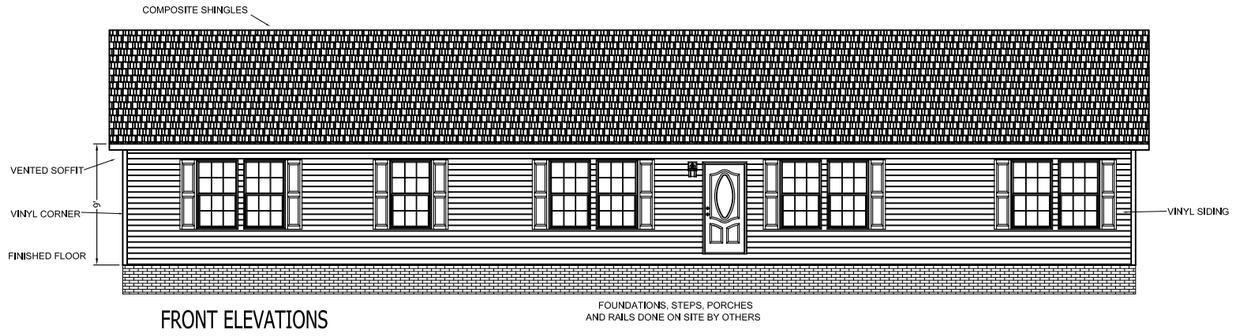
Required Ventilation for House:	1106.56	sq. in.
Inches Required for Soffit Ventilation:	553.28	sq. in.
Inches Required for Ridge Ventilation:	553.28	sq. in.
Number of Ridge Vents Required:	7.684444	pc.
	30.73778	**lf. of Ridge Vent**

Ventilatioin in House

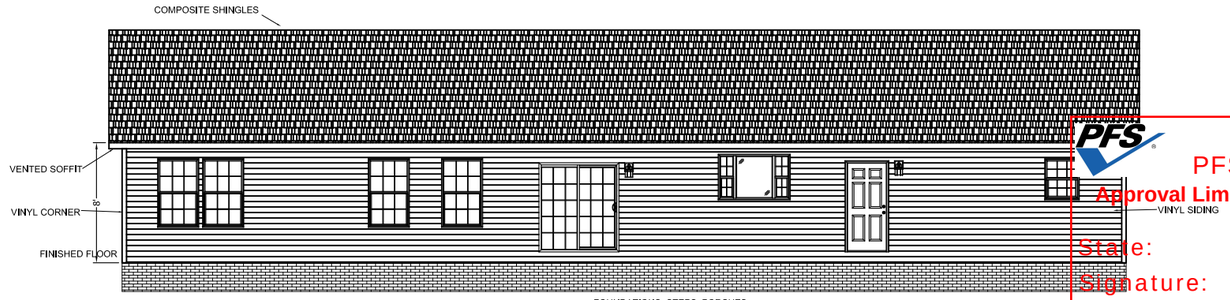
Soffit Ventilation in house:	874	sq. in.	
Ridge Ventilatiicn in house:	576	sq. in.	**52.05% through Ridge Vent**
Number of Ridge Vents in house:	8	pc.	
	32	**lf. of Ridge Vent**	

Code can be found at R806.2 in the IRC

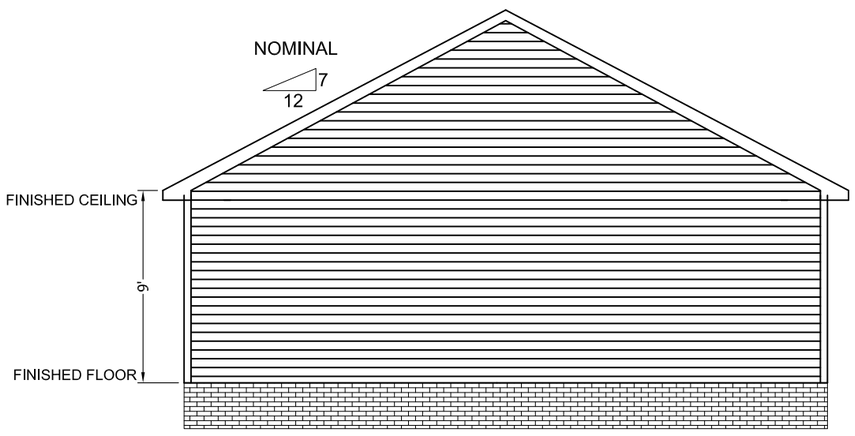
ELEVATION IS TO SHOW CHAMPION HOMES PORTION OF THE STRUCTURE. FOUNDATION IS A REPRESENTATION ONLY AND MAY NOT REFLECT ACTUAL SITE CONDITIONS.



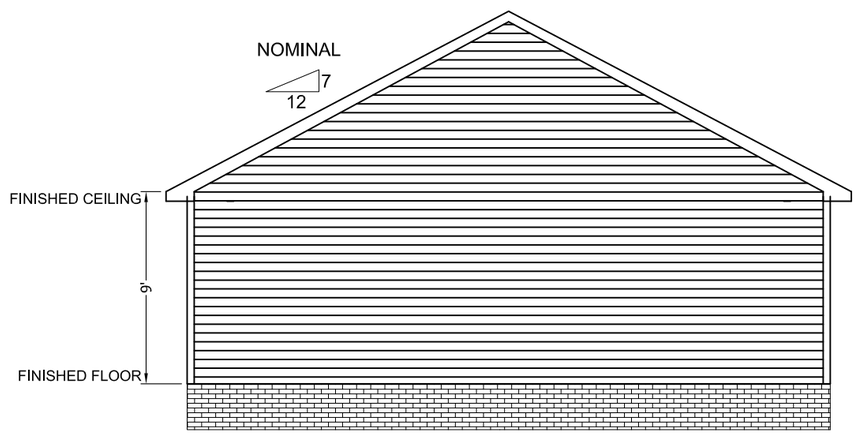
FRONT ELEVATIONS



REAR ELEVATIONS



LEFT ELEVATION



RIGHT ELEVATION

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CHAMPION
MANUFACTURED BEAUTIFULLY™
755 W. BIG BEAVER ROAD, SUITE 1000 TROY, MI 48084
PHONE: 248-614-8200

BUILDER:
GIG HOUSING

CUSTOMER/PROJECT:
CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL
PFS CORPORATION
Approval Limited to Factory Built Portion Only
North Carolina
State:
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

MODIFICATIONS

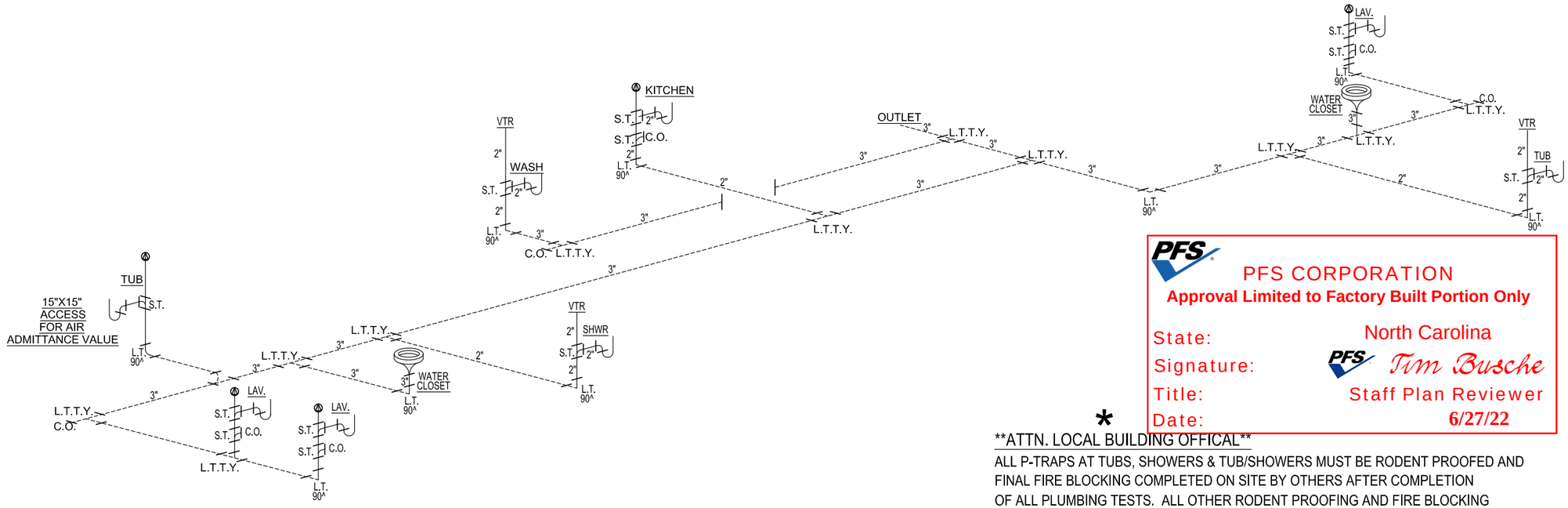
PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
ELEVATION
EV-101

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

VENTS MAY BE RUN INDIVIDUALLY OR TIED TOGETHER IN ATTIC CAVITY



△	APPROVED AUTOVENT
VTR	VENT THROUGH ROOF
------	INSTALLED ON SITE

PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

*

ATTN. LOCAL BUILDING OFFICAL

ALL P-TRAPS AT TUBS, SHOWERS & TUB/SHOWERS MUST BE RODENT PROOFED AND FINAL FIRE BLOCKING COMPLETED ON SITE BY OTHERS AFTER COMPLETION OF ALL PLUMBING TESTS. ALL OTHER RODENT PROOFING AND FIRE BLOCKING AT FLOOR LEVEL DONE AT FACTORY. (REFERENCE IRC R302.11 FOR CORRECT METHODS)

SEE PAGE AE-101 IN SETUP MANUAL IN HOME FOR DETAILS (SECTION 5, PG 36 QA MANUAL).

SEE Q/A MANUAL FOR APPROVED PLUMBING FIXTURES SECTION 4 PAGE 5

NOTES:

1-ALL PIPE SIZES ARE 1 1/2" UNLESS OTHERWISE SPECIFIED.
2-ONE FIXTURE IN "BATHROOM GROUP" MAY BE ELIMINATED WITHOUT AFFECTING PIPE SIZING.
3-ALL PIPES SHOWN IN DASHED LINE ARE FIELD INSTALLED BY OTHERS SUBJECT TO LOCAL JURISDICTION.
4-AUTO VENTS TO BE INSTALLED ON SITE AFTER COMPLETE PLUMBING SYSTEM TEST.
5-WATER STAND TEST MUST BE DONE ON SITE AFTER COMPLETION OF PLUMBING SYSTEM.
6-ALL VENT PIPES MUST TERMINATE MIN. 6" ABOVE ROOF. WITH APPROVED WATER TIGHT FLASHING.(P904.1 & P904.3)
7-IF HOME LOCATED IN AREA WHERE 97.5% FOR OUTSIDE DESIGN TEMPERATURE IS 0° OR LESS, EVERY VENT EXTENSION SHALL BE MIN. 3". THIS TO BE DONE ON SITE BY OTHERS. (P904.2)
8-RODENT PROOFING AT ALL SHOWERS, TUBS, TUB/SHOWER TO BE COMPLETED ON SITE BY OTHERS AFTER PLUMBING TEST COMPLETED.
9-DWV SYSTEM SHALL EITHER ABS or PVC -DWV

- 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 w/ NON-ABSORBANT MATERIAL TO A HEIGHT OF 72 INCHES ABOVE FINISH FLOOR.
- T&P RELIEF VALVE w/DRAIN TO EXTERIOR AND SHUT-OFF WITHIN 3' of WATER SUPPLY AT WATER HEATER

15"X15"
ACCESS
FOR AIR
ADMITTANCE VALUE

PIPE SUPPORT TO BE AS FOLLOWS:
MAX HORIZONTAL SPACING = 4'
MAX VERTICAL SPACING = 10'

REFERENCE IPC TABLE 308.5

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PHONE: 248-614-8200

BUILDER: GIG HOUSING

CUSTOMER/PROJECT: CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

MODIFICATIONS

PROJECT: 23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

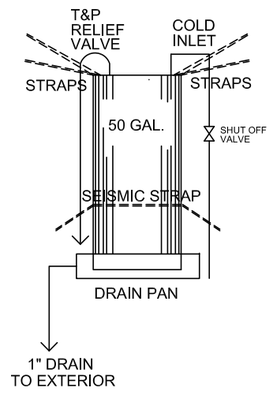
TITLE: DRAIN LINE
PL-101

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

WATER HEATER SECURED IN PLACE FOR TRANSIT WITH METAL SHIPPING STRAPS FROM WALL TO WALL

STATE WATER HEATER
MODEL # SC 152 DORTE 3 (ELECTRIC)
CO1094 IM 50 NHDST 2 (GAS)
MANF. INFORMATION LOCATED IN Q.A. MANUAL, SECTION 4, PAGE 04.01.01



SUPPLY AT WATER HEATER

1. ALL PLUMBING FIXTURES HAVE SEPARATE SHUTOFF VALVES.
2. WATER HEATER SHALL HAVE A SAFETY PAN WITH 1 INCH DRAIN TO EXTERIOR.
3. 3/4" HOT WATER PIPES SHALL BE INSULATED PER N1103.5.3 AND INSULATED WITH R-3 MIN **THE MAIN WATER PIPES LOCATED UNDER FLOOR SHALL BE INSULATED AND INSPECTED ON-SITE TO VERIFY COMPLIANCE. IF 3/4" HOT WATER LINES ARE INSTALLED IN ATTIC SPACE, THIS IS ALSO TO BE INSULATED TO R-3 MIN AND VERIFIED BY ONSITE INSPECTION
4. SHOWER VALVES MUST LIMIT TEMP TO 120 deg MAX
5. WATER SUPPLY LINES SHALL BE POLY-ETHYLENE (PEX), CPVC, OR COPPER. WHEN POLYETHYLENE SUPPLY LINES ARE INSTALLED THE MAXIMUM WATER HEATER SETTING IS 180 deg F. THE POLYETHYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES LIMITATIONS AND INSTRUCTIONS.
6. BUILDING DRAIN AND CLEANOUTS ARE DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL JURISDICTION APPROVAL.
7. TUB ACCESS PROVIDED UNDER HOME UNLESS OTHERWISE NOTED.
8. SHOWER STALLS SHALL BE COVERED w/ NON-ABSORANT MATERIAL TO A HEIGHT OF 72 INCHES ABOVE FINISH FLOOR.
9. T&P RELIEF VALVE w/DRAIN TO EXTERIOR OR PAN and SHUT-OFF WITHIN 3' of WATER SUPPLY AT WATER HEATER
10. WHOLE HOUSE SHUT OFF VALVE LOCATED AT WASHER BOX FOR WATER HEATER. SHOULD BE NEAR THE WATER HEATER. IF THE WATER HEATER LOCATION IS NOT "NEAR" THEN SHUT OFF PROVISIONS MUST BE MADE PER P2903.9.2 OR A DOOR SHOULD BE INSTALLED ON WATER HEATER COMPARTMENT
11. FOR SEISMIC D0-D2 CONDITIONS WATER HEATER SHALL HAVE AN ADDITIONAL STRAP AROUND LOWER 1/3 IN ADDITION TO THE UPPER STRAPPING STRAPPING SHALL COMPLY WITH M1307.2 SEE ILLUSTRATION
10. THIS UNIT MUST BE CONNECTED TO PUBLIC WATER SUPPLY AND SEWAGE SYSTEM IF THESE ARE AVAILABLE
11. WATER PIPE DESIGNED FOR MAXIMUM INLET PRESSURE OF 80 PSI. SEE SETUP MANUAL SECTION 6.1

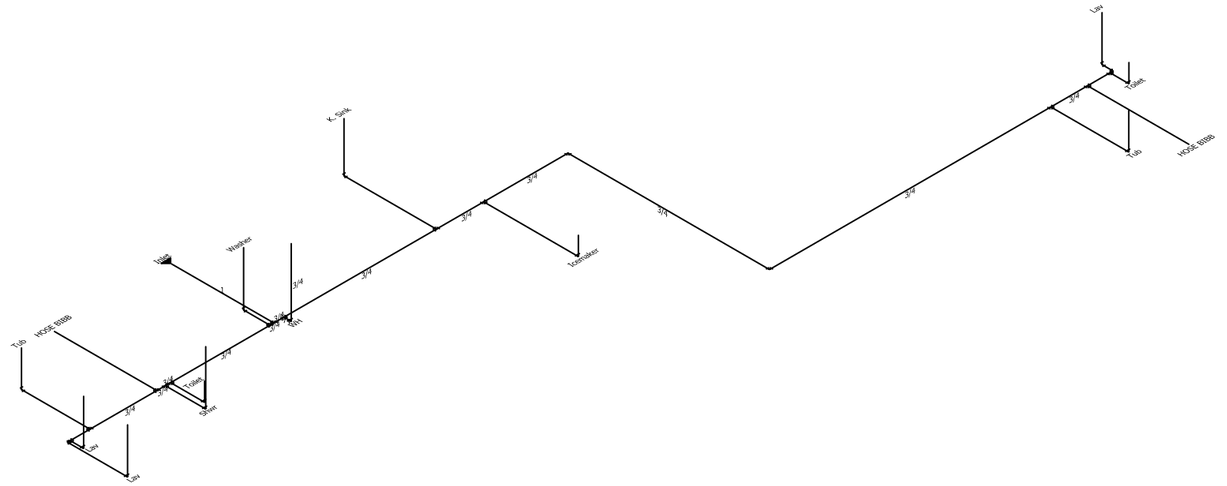
SEE Q/A MANUAL FOR APPROVED PLUMBING FIXTURES SECTION 4 PAGE 5
ALL PLUMBING FIXTURES/PIPING SHALL COMPLY WITH 2018 IRC AND IPC.

ALL TUBS AND SHOWER SHALL HAVE TEMPERATURE LIMITING VALVES PER 2018 IRC .

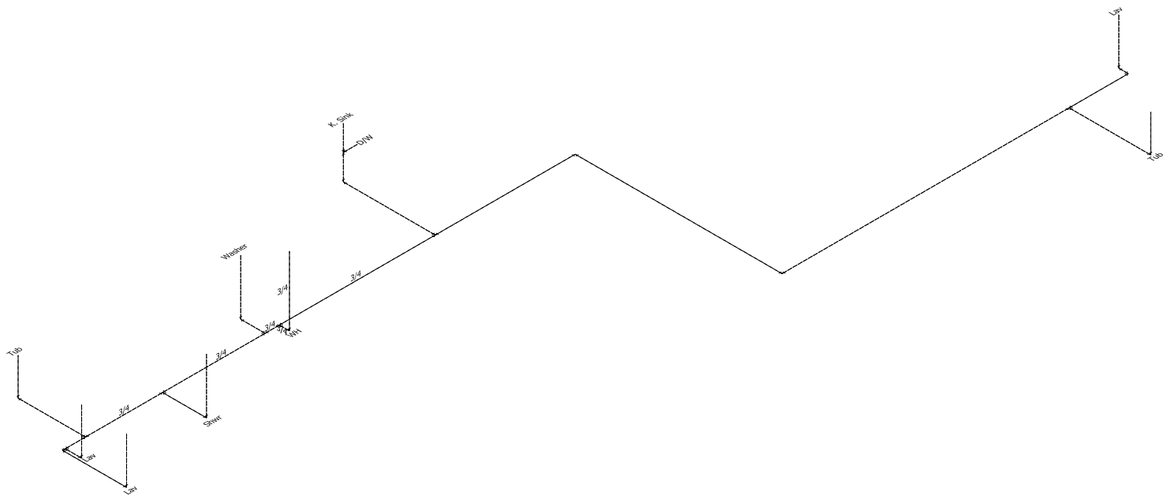
WATER SUPPLY LINES SHALL BE POLYETHYLENE (PEX), WHEN POLYETHYLENE (PEX), SUPPLY LINES ARE INSTALLED THE MAXIMUM WATER HEATER SETTING IS 180 deg F. THE POLYETHYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES LIMITATIONS AND INSTRUCTIONS.

WATER HAMMER ARRESTERS SHALL BE INSTALLED AT EACH QUICK CLOSING VALVE ie. ICE MAKERS, DISH WASHERS, AND CLOTHES WASHERS.

COLD LINE



HOT LINE



WATER SUPPLY NOTES:

- ALL SUPPLY LINES TO BE ½" UNLESS OTHERWISE NOTED
- ONLY FACTORY INSTALLED PORTION DISPLAYED, REMAINDER OF SYSTEM DESIGNED, PROVIDED AND INSTALLED BY OTHERS ON SITE IN ACCORDANCE WITH PREVAILING CODE
- WATER HEATER EXPANSION TANK WHEN REQUIRED, TO BE PROVIDED AND INSTALLED ONSITE BY OTHERS PER PLUMBING CODE 607.3

WATER SUPPLY and DISTRIBUTION

PLUMBING FIXTURE OR FIXTURE FITTING	MAX. FLOW RATE OR QUANTITY
LAVATORY FAUCET	2.2 gpm at 60 psi
SHOWER HEAD(including hand held shower spray)	2.5 gpm at 80 psi
SINK FAUCET	2.2 gpm at 60 psi
WATER CLOSET	1.6 gallons per flushing cycle

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PHONE: 248-614-8200

BUILDER:
GIG HOUSING

CUSTOMER/PROJECT:
CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

MODIFICATIONS

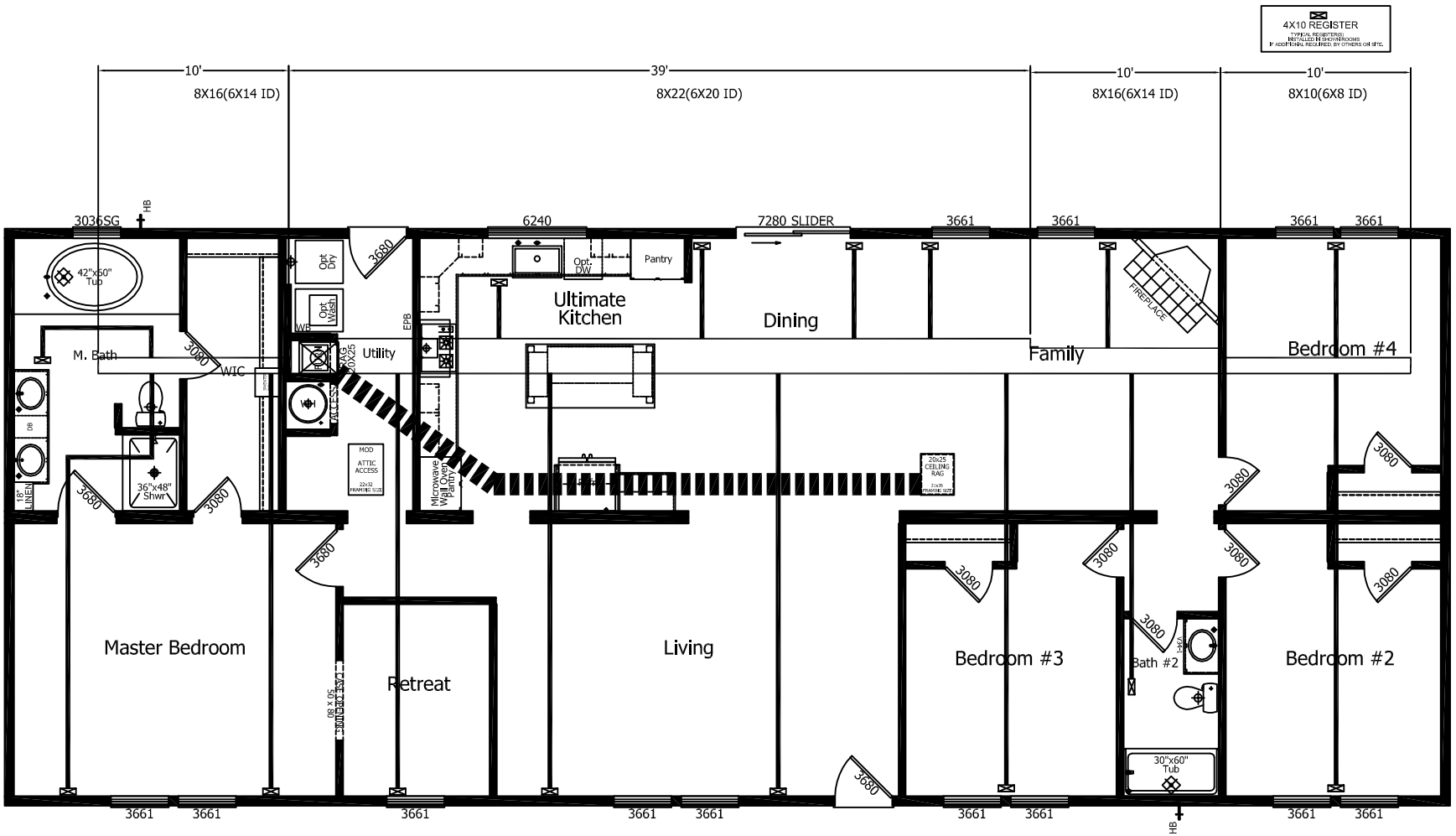
PROJECT:
23-3276-07 062322
30'-4" x 76' 4 BD 2 BTH

TITLE:
FACTORY INSTALLED WATER LINES
PL-102

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

062322



PFS CORPORATION

Approval Limited to Factory Built Portion Only

State: North Carolina

Signature: Tim Busche

Title: Staff Plan Reviewer

Date: 6/27/22

THE AMS GROUP ELKHART, IN.

CUSTOMER: CHAMPION HOME BUILDER

DESCRIPTION: PERIMETER

MODEL: 23-3276-07

DRAWN: JL

CAD FILENAME: DS\CHAMPION LILLINGTON

SCALE:

DATE: 6/24/22

wrightsoft®

Load Short Form
Entire House
AMS Of Indiana, Inc.

3933 East Jackson Blvd., Elkhart, IN 46516

Job: 23-3276-07 062322.
Date: 6/24/22
By: AMS of Indiana, Inc.

PFS CORPORATION
Approval Limited to Factory Built Portion Only
State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

Project Information

For: Champion Home Builders
Lillington, NC

Design Information

	Htg	Clg
Outside db (°F)	***23***	***92***
Inside db (°F)	70	75
Design TD (°F)	47	17
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	41	63

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	1 (Average)

HEATING EQUIPMENT

Make	Generic		
Trade			
Model	AFUE 96		
AHRI ref			
Efficiency		96 AFUE	
Heating input		37519	Btuh
Heating output		36018	Btuh
Temperature rise		27	°F
Actual air flow		1210	cfm
Air flow factor		0.039	cfm/Btuh
Static pressure		0.50	in H2O
Space thermostat			

COOLING EQUIPMENT

Make	Generic		
Trade			
Cond	SEER 14.0		
Coil			
AHRI ref			
Efficiency		12.2 EER, 14 SEER	
Sensible cooling		27375	Btuh
Latent cooling		11732	Btuh
Total cooling		39107	Btuh
Actual air flow		1210	cfm
Air flow factor		0.046	cfm/Btuh
Static pressure		0.50	in H2O
Load sensible heat ratio		0.73	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
BA1	145	3096	1467	120	67
WIC	80	0	0	0	0
UTL	107	0	0	0	0
KIT-D/R-F/R	644	8585	7344	333	335
B4	183	3310	2600	128	119
B1	271	4480	3813	174	174
RETREAT	90	1243	1523	48	70
L/R	360	4354	3755	169	172
B3	175	2169	2689	84	123
BA2	56	673	286	26	13
B2	179	3302	3007	128	137
ALCOVE	28	0	0	0	0

Bold/italic values have been manually overridden

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

Entire House	2318	31212	26483	1210	1210
Other equip loads		4806	1738		
Equip. @ 0.97 RSM			27375		
Latent cooling			10216		
TOTALS	2318	36018	37591	1210	1210

PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

Bold/italic values have been manually overridden

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

Project Summary
Entire House
AMS Of Indiana, Inc.

Job: 23-3276-07 062322.
Date: 6/24/22
By: AMS of Indiana, Inc.

3933 East Jackson Blvd., Elkhart, IN 46516

PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

Project Information

For: Champion Home Builders
Lillington, NC

Notes:

Design Information

Weather: Raleigh-Durham Intl, NC, US

Winter Design Conditions

Outside db	***23***	°F
Inside db	70	°F
Design TD	47	°F

Summer Design Conditions

Outside db	***92***	°F
Inside db	75	°F
Design TD	17	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	63	gr/lb

Heating Summary

Structure	23687	Btuh
Ducts	7525	Btuh
Central vent (94 cfm)	4806	Btuh
Outside air		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	36018	Btuh

Sensible Cooling Equipment Load Sizing

Structure	20299	Btuh
Ducts	6185	Btuh
Central vent (94 cfm)	1738	Btuh
Outside air		
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	0.97	
Equipment sensible load	27375	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	1 (Average)

	Heating	Cooling
Area (ft²)	2318	2318
Volume (ft³)	20862	20862
Air changes/hour	0.38	0.16
Equiv. AVF (cfm)	131	56

Latent Cooling Equipment Load Sizing

Structure	3931	Btuh
Ducts	2332	Btuh
Central vent (94 cfm)	3954	Btuh
Outside air		
Equipment latent load	10216	Btuh
Equipment Total Load (Sen+Lat)	37591	Btuh
Req. total capacity at 0.70 SHR	3.3	ton

Heating Equipment Summary

Make	Generic
Trade	
Model	AFUE 96
AHRI ref	

Efficiency	96 AFUE	
Heating input	37519	Btuh
Heating output	36018	Btuh
Temperature rise	27	°F
Actual air flow	1210	cfm
Air flow factor	0.039	cfm/Btuh
Static pressure	0.50	in H2O
Space thermostat		

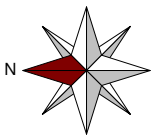
Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 14.0
Coil	
AHRI ref	

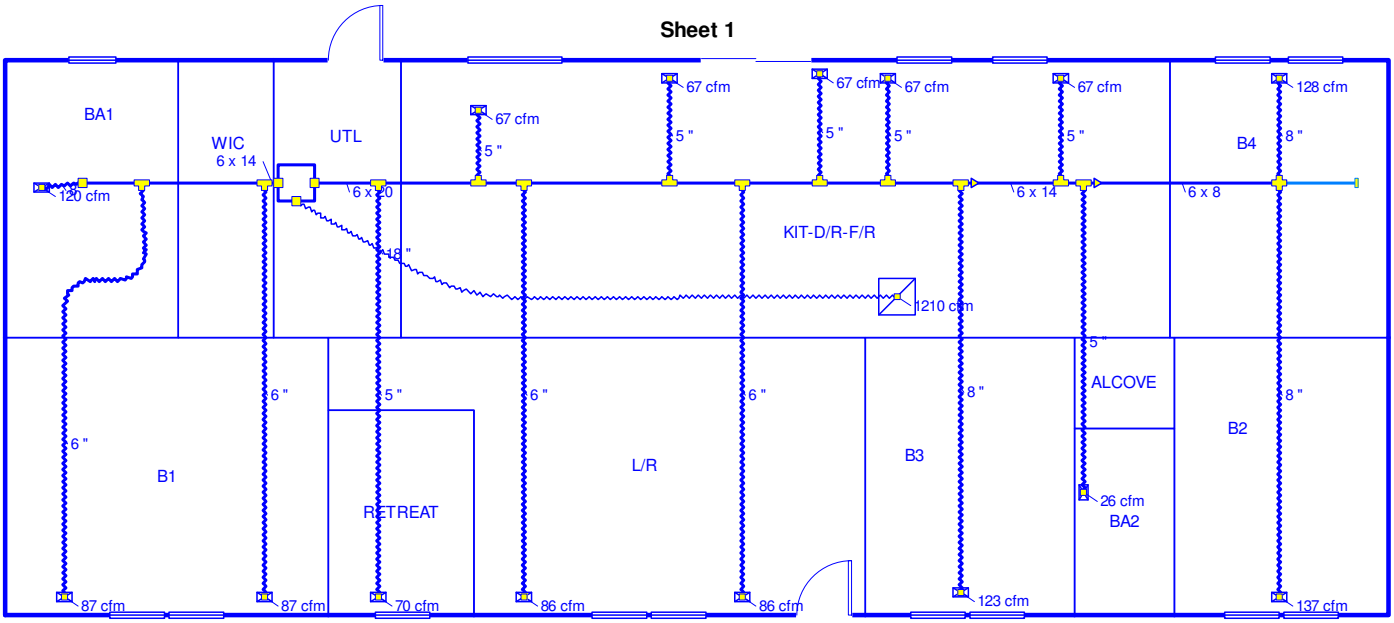
Efficiency	12.2 EER, 14 SEER	
Sensible cooling	27375	Btuh
Latent cooling	11732	Btuh
Total cooling	39107	Btuh
Actual air flow	1210	cfm
Air flow factor	0.046	cfm/Btuh
Static pressure	0.50	in H2O
Load sensible heat ratio	0.73	

Bold/italic values have been manually overridden

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



Sheet 1



PFS CORPORATION

Approval Limited to Factory Built Portion Only

State: North Carolina

Signature: Tim Busche

Title: Staff Plan Reviewer

Date: 6/27/22

Job #: 23-3276-07 062322. **Performed by AMS of Indiana, Inc. for:** Champion Home Builders Lillington, NC	**AMS Of Indiana, Inc.** 3933 East Jackson Blvd. Elkhart, IN 46516	Scale: 1 : 127 Page 1 Right-Suite® Universal 2022 22.0.01 RSU02009 2022-Jun-24 14:24:01 ...\Commodore\23-3276-07 062322....

Duct System Summary
Entire House

AMS Of Indiana, Inc.

3933 East Jackson Blvd., Elkhart, IN 46516

Job: 23-3276-07 062322.
Date: 6/24/22
By: AMS of Indiana, Inc.

PFS CORPORATION
Approval Limited to Factory Built Portion Only
State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

Project Information

For: Champion Home Builders
Lillington, NC

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0.16 in H2O	0.16 in H2O
Available static pressure	0.34 in H2O	0.34 in H2O
Supply / return available pressure	0.242 / 0.098 in H2O	0.242 / 0.098 in H2O
Lowest friction rate	0.098 in/100ft	0.098 in/100ft
Actual air flow	1210 cfm	1210 cfm
Total effective length (TEL)	345 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
B1	c 1906	87	87	0.131	6.0	0x 0	VlFx	34.8	150.0	st2
B1-A	c 1906	87	87	0.140	6.0	0x 0	VlFx	23.5	150.0	st2
B2	c 3007	128	137	0.098	8.0	0x 0	VlFx	75.8	170.0	st1B
B3	c 2689	84	123	0.129	8.0	0x 0	VlFx	58.0	130.0	st1
B4	h 3310	128	119	0.106	8.0	0x 0	VlFx	58.8	170.0	st1B
BA1	h 3096	120	67	0.169	8.0	0x 0	VlFx	13.0	130.0	st2
BA2	h 673	26	13	0.116	5.0	0x 0	VlFx	59.3	150.0	st1A
KIT-D/R-F/R	c 1469	67	67	0.129	5.0	0x 0	VlFx	13.0	175.0	st1
KIT-D/R-F/R-A	c 1469	67	67	0.127	5.0	0x 0	VlFx	25.3	165.0	st1
KIT-D/R-F/R-B	c 1469	67	67	0.132	5.0	0x 0	VlFx	33.8	150.0	st1
KIT-D/R-F/R-C	c 1469	67	67	0.137	5.0	0x 0	VlFx	37.3	140.0	st1
KIT-D/R-F/R-D	c 1469	67	67	0.117	5.0	0x 0	VlFx	46.8	160.0	st1A
L/R	c 1877	84	86	0.116	6.0	0x 0	VlFx	34.3	175.0	st1
L/R-A	c 1877	84	86	0.117	6.0	0x 0	VlFx	46.3	160.0	st1
RETREAT	c 1523	48	70	0.120	5.0	0x 0	VlFx	26.3	175.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st2	Peak AVF	294	241	0.131	503	***9.4***	***14*** x ***6***	RectFbg	
st1	Peak AVF	916	969	0.098	1162	***15.0***	***20*** x ***6***	RectFbg	
st1A	Peak AVF	349	336	0.098	598	***15.0***	***14*** x ***6***	RectFbg	st1
st1B	Peak AVF	256	256	0.098	769	***15.0***	***8*** x ***6***	RectFbg	st1A

Bold/italic values have been manually overridden

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	1210	1210	99.5	0.098	685	18.0	0x 0		VlFx	

PFS CORPORATION

Approval Limited to Factory Built Portion Only

State: North Carolina

Signature: Tim Busche

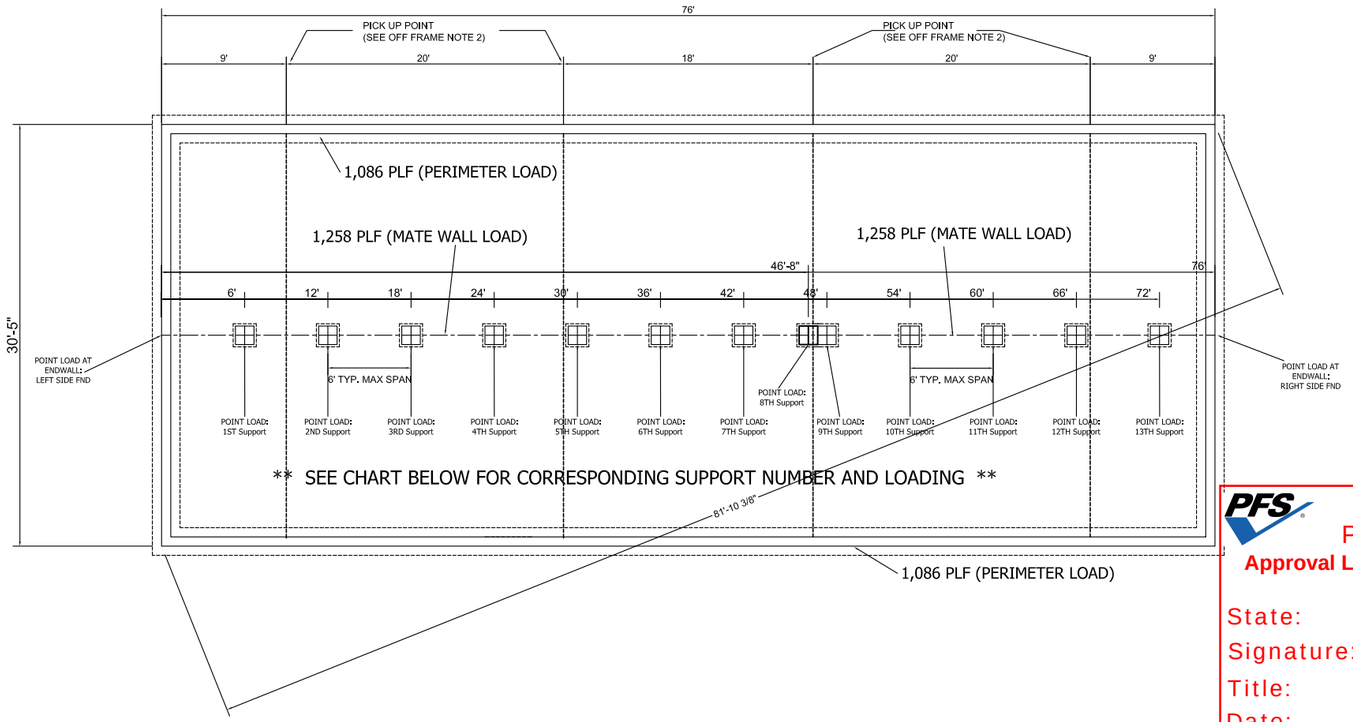
Title: Staff Plan Reviewer

Date: 6/27/22

NOTE:

1. FOUNDATION AND DETAILS SHOWN ARE FOR THIS STRUCTURE ONLY, PROVIDING BASIC DIMENSIONS AND SUPPORT REQUIREMENTS. ACTUAL FOUNDATION DESIGN SHALL BE BY PER IRC CHAPTER 4 OR (NC)Chapter 45(HIGH WIND). IF THE SITE CONDITIONS DO NOT FOLLOW PRESCRIPTIVE IRC SPECIFICATIONS THEN THE FOUNDATION SHOULD BE DONE BY A REGISTERED ARCHITECT OR PROFESSIONAL ENGINEER BASED ON SITE SOIL CONDITIONS AND STATE/LOCAL CODE REQUIREMENTS.
2. CHAMPION HOME BUILDERS, INC. ASSUMES NO RESPONSIBILITY FOR FOUNDATION CONSTRUCTION OR DESIGN.
3. FOR HEATED BASEMENTS; INSULATION REQUIREMENTS SHALL BE BASED ON ENERGY AND HEAT LOSS CALCULATION PER STATE CODE.
4. UNLESS A BASEMENT ACCESS IS PROVIDED FROM THE DWELLING UNIT TO THE BASEMENT THE BUILDER IS RESPONSIBLE FOR PROVIDING ON SITE ACCESS FROM THE BASEMENT OR CRAWL SPACE TO THE EXTERIOR.
5. VENTILATION OF THE BASEMENT/ CRAWL SPACE REQUIREMENTS TO BE DETERMINED, PROVIDED AND INSTALLED ON SITE BY OTHERS IN ACCORDANCE WITH LOCAL AUTHORITY HAVING JURISDICTION
6. 1/2" ANCHOR BOLTS W/ 1/4"x3"x3" PLATE WASHERS REQUIRED 6'-0" O.C. MAX., MIN. (2) ANCHOR BOLTS REQUIRED PER SILL PLATE SECTION.
7. ANCHOR BOLTS TO BE NOT MORE THAN 12" AND NOT LESS THAN 4" FROM CORNERS OF UNIT
8. MINIMUM OF (2) ANCHOR BOLTS PER SILL PLATE SECTION. - AN ANCHOR BOLT MUST BE LOCATED 3 1/2" MIN - 12" MAX. FROM EACH END OF EACH SILL PLATE SECTION.
9. CONNECTIONS FROM THE MODULAR TO THE FOUNDATION MUST BE PROVIDED 0N-SITE FOR LISTED UPLIFT LOADS.
10. FOUNDATION SHALL BE DESIGNED TO CONFORM TO IRC CHAPTER 4 OR CHAPTER 45(HIGH WIND) SPECIFICATIONS OR BY A LOCAL DESIGN PROFESSIONAL WITH KNOWLEDGE OF THE LOCAL SOIL CONDITIONS. THIS PLAN IS MEANT ONLY TO COMMUNICATE THE DIMENSIONAL AND LOADING INFORMATION TO THE DESIGN PROFESSIONAL SO THE FOUNDATION IS COORDINATED WITH THE REQUIREMENTS OF THE MODULAR BUILDING.
11. CRAWL SPACE ACCESS REQUIREMENTS TO BE DETERMINED, PROVIDED AND INSTALLED BY OTHERS ON SITE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING JURISDICTION

OFF-FRAME LIFTING POINTS:
1. If lifting points are more than 32' apart (typical of unit lengths greater than 64'), a third and fourth lifting point is required. third and fourth lifting point is to be between outer lifting points and meet the requirements of note 2.
2. pick up point must not be located under a wall opening. If it can't be avoided a temporary wall must be installed

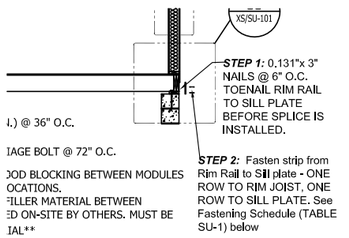


SEE FD-01.01 & FD-02.04 FOR MINIMUM TYPICAL FOUNDATION DETAILS. FOUNDATION SHOULD BE BUILT AND DESIGNED PER IRC CHAPER 4 REQUIREMENTS AND SUBJECT TO LOCAL JURISDICATION.

IF THE SITE CONDITIONS DO NOT FOLLOW PRESCRIPTIVE REQUIREMENTS THEN A FOUNDATION SHOULD BE DESIGNED BY AN ARCHITECT OR ENGINEER USING SITE CONDITIONS.

NOTES:
1. SPLICES IN MATE LINE GIRDERS MUST FALL ON A SUPPORT PIER.
2. PIERS OR POSTS TO BE SPACED PER CHART AND LOCATED UNDER OPENING COLUMN SUPPORTS WHEN OPENING WIDTH IS 4' OR GREATER.
3. 1" ADDED TO OVERALL WIDTH TO ACCOMMODATE LIFT STRAPS

RECOMMENDED FOUNDATION PARAMETERS:
12. 2500 PSI MIN. CONCRETE
13. MIN. SOIL BEARING CAPACITY OF 2,000 PSI
14. MORTAR TO BY TYPE M OR S



SILL TO UNIT CONNECTION

CALCULATIONS BELOW USED FOR POINT LOADS. PIERS ADDED 6' o.c. FOR SPLICE BEARING

Foundation Loading Calculation - V3.0 (01/20/2021)

Roof Live Load =	23.1 psf	Ground Snow Load =	30 psf	Box Width =	182 in	Truss Number =	MHT-1		Perimeter Reaction =	1323	lbs - Truss Drawing Max. Grav @ Sidewall
Cape Floor Load =	20 psf	Truss Dead Load =	15 psf	Sidewall Height =	108 in	Truss Spacing =	24	in o.c.	Mate Line Reaction =	819	lbs - Truss Drawing Max. Grav @ Matewall
Size Factor, Cf =	1.10	Floor Live Load =	40 psf	Mate Wall Height =	108 in	Truss Type =	Cape		Live Load Truss Reaction =	608	lbs
Repetitive Factor, Cr =	1.00	Floor Dead Load =	10 psf						Truss Pitch =	7	:12
		Wall Dead Load =	5 psf	Perimeter Foundation Loading =	1,086 plf				Plies =	2	
									Material =	SPF#2	
Mate Wall Foundation Loading w/ Roof =	1257.83 plf	Roof Load Only (Openings) =	409.50 plf	Floor Load Only (Openings) =	758.33 plf				Material Size =	9.25	
									Fb =	875	psi
									Fv =	135	psi
									E =	1,400,000	ksi

Max. Span, No Marriage Wall Openings: **7'-3"**

Max. Span in Marriage Wall Openings: **8'-6"**

Start From Left of Home and work your way Right to the end. (Distance is always to right)

Full Length LVL Rim Joist = No — Rim Joist Splices occur over a Pier = Yes

	Left Side Fnd:	1st Support:	2nd Support:	3rd Support:	4th Support:	5th Support:	6th Support:	7th Support:	8th Support:	9th Support:	10th Support:	11th Support:	12th Support:	13th Support:	Right Side Fnd:
Roof Load =	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Opening =	No	No	No	No	No	No	Start	In	End	No	No	No	No	No	No
Opening Size (Pier/Pier), ft. =							11.08								
Dist. to Next Support, ft. =	6.00	6.00	6.00	6.00	6.00	6.00	6.00	4.67	1.33	6.00	6.00	6.00	6.00	4.00	0.00
Load, lbs =	3,774	7,547	7,547	7,547	7,547	7,547	8,317	4,046	4,876	4,610	7,547	7,547	7,547	6,289	2,516

PFS CORPORATION
Approval Limited to Factory Built Portion Only
State:
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

CHAMPION
MANUFACTURED BEAUTIFULLY™
4055 Hwy. 401 South Lillington, NC 27546

CHAMPION
MANUFACTURED BEAUTIFULLY™
755 W. BIG BEAVER ROAD, SUITE 1000 TROY, MI 48084
PHONE: 248-614-8200

BUILDER: GIG HOUSING

CUSTOMER/PROJECT: CARROLL

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

MODIFICATIONS

PROJECT: 23-3276-07 062322 30'-4" x 76' 4 BD 2 BTH

TITLE: FOUNDATION LOADING PF-101

DRAWN BY: Staff
DATE: 05-20-21
SCALE:
23-3276-07 062322 NC NEW

SHEET:

GENERAL NOTES: (PER IRC 2015)

1. ALL DESIGN NOTES AND DETAILS IN THIS SECTION ARE AN IRC BASED SET OF GUIDELINES FOR PROPER FOUNDATION CONSTRUCTION. THE ACTUAL FOUNDATION IS DEPENDENT UPON UNIQUE SITE CONDITIONS WHICH MAY REQUIRE DESIGN BY A PROFESSIONAL ENGINEER AND APPROVAL FROM THE LOCAL AUTHORITY HAVING JURISDICTION.
2. FOUNDATION DESIGN IS BASED ON AN ASSUMED NON-EXPANSIVE SOIL WITH CAPACITY OF 2000 PSF. SOIL TYPE AND BEARING CAPACITY VARIATION MAY SIGNIFICANTLY ALTER DESIGN REQUIREMENTS. CONSULT LOCAL AHJ OR ENGINEERING PROFESSIONAL FOR ADDITIONAL INFORMATION.
3. ALL ASPECTS OF FOUNDATION CONSTRUCTION ARE TO BE PERFORMED ON SITE BY OTHERS, AND IS SUBJECT TO LOCAL BUILDING CODE REQUIREMENTS AND APPROVAL.
4. VERIFY ALL DIMENSIONS AND SUPPORT LOCATIONS OF THE HOME PRIOR TO CONSTRUCTION.
5. FOOTINGS SHALL BE CENTERED UNDER ALL SUPPORTS ALONG THE MARRIAGE WALL.
6. MINIMUM FOOTING DEPTH TO BE 12" OR BELOW SITE FROST LINE PER LOCAL CODE REQUIREMENTS.
7. CONCRETE FOUNDATIONS SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS WITH 5 TO 7% AIR ENTRAINMENT BY VOLUME IN MODERATE TO SEVERE WEATHER AREAS. PROVIDE MINIMUM 3" CONCRETE COVER FOR ALL REINFORCEMENT STEEL UNLESS OTHERWISE DIMENSIONED.
8. FOUNDATION DESIGN DOES NOT INCLUDE PROVISIONS FOR FLOODING. CONSULT WITH LOCAL AHJ OR ENGINEERING PROFESSIONAL FOR SITE SPECIFIC PROVISIONS ON FLOOD RESISTANT CONSTRUCTION.
9. FINISH GRADE TO BE A MINIMUM 8" BELOW TOP OF FOUNDATION WALL.
10. MASONRY WEEP HOLES, FLASHING, AND TIE STRAPS ARE SUBJECT TO LOCAL CODE REQUIREMENTS.
11. ALL FOUNDATION WALLS LOCATED IN A HIGH WATER TABLE SHALL BE WATERPPROOFED PER IRC REQUIREMENTS. ALL OTHER FOUNDATIONS SHALL BE DAMP PROOFED PER IRC REQUIREMENTS.
12. BASEMENTS AND EVERY SLEEPING ROOM IN BASEMENTS SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING PER IRC R310.
13. TYPE "M" OR "S" MORTAR SHALL BE USED IN ALL MASONRY.

CRAWLSPACE:

1. PROVIDE CRAWL SPACE VENTILATION EQUAL TO 1/150 OF THE ACTUAL ENCLOSED CRAWL SPACE AREA. (144 SQ. IN. / 150 SQ. FT.)
2. PROVIDE POSITIVE UNDER DRAINAGE, SUGGEST MINIMUM 4" PEA GRAVEL WITH 6 MIL POLYETHYLENE VAPOR BARRIER.
3. 18"x24" CRAWL SPACE ACCESS TO BE PROVIDED (MINIMUM)
4. CRAWL SPACE CLEARANCE TO BE 18" MINIMUM BELOW BOTTOM OF FLOOR JOISTS TO GRADE.
5. PROVIDE GFCI RECEPTACLE AND SWITCHED LIGHT FIXTURE AT CRAWLSPACE ACCESS.
6. WHERE INTERIOR GROUND LEVEL IS BELOW OUTSIDE GRADE, MEASURES SHALL BE TAKEN TO ASSURE POSITIVE DRAINAGE.
7. GROUTED PIERS MAY BE DRY STACKED. UN-GROUTED PIERS MAY BE DRY STACKED AND SURFACE BONDED WITH CEMENT IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. UNBALANCED BACKFILL SHALL NOT EXCEED 4'-0" ON ALL CRAWLSPACES.

BASEMENT:

1. EXTERIOR FOOTINGS SHALL EXTEND BELOW THE LOCAL FROST LINE OR SHALL BE PLACED A MINIMUM OF 12" BELOW FINISHED GRADE.
1. THE FINISHED GRADE SHALL PROVIDE A MINIMUM SLOPE OF ONE-HALF UNIT VERTICAL IN 12 UNITS HORIZONTAL, FOR A MINIMUM OF 10 FEET FROM THE HOME.
2. FOUNDATION INSULATION, WHEN INSTALLED, SHALL BE PERFORMED ON SITE BY OTHERS AS REQUIRED BY LOCAL BUILDING CODES.
3. DRAINAGE AND WATERPROOFING AS REQUIRED BY SITE CONDITIONS, SHALL BE INSTALLED ON SITE BY OTHERS PER IRC SPECIFICATIONS.
4. THE REINFORCEMENT LOCATED AT TOP OF FOUNDATION WALL FOR ON-FRAME DESIGNS PROVIDES LATERAL RESISTANCE FOR SOIL PRESSURE PER IRC 2015.

DESIGN CRITERIA: (1 & 1½ STORY)

ROOF LIVE LOAD :	90 PSF (MAX.)
FLOOR LIVE LOAD:	40 PSF
TOTAL DEAD LOAD:	25 PSF
MAXIMUM EAVE LENGTH:	18"
MAXIMUM SIDE WALL HEIGHT:	108"
ROOF PITCH:	3:12 TO 12:12
WIND LOAD:	180 MPH, EXP. D*
MINIMUM SOIL BEARING CAPACITY:	2000 PSF
SEISMIC CATEGORY:	A, B, & C

* SEE SW SECTION FOR WIND LOADS OVER 140 MPH, EXP. C (RANCH ONLY)

DESIGN CRITERIA: (2-STORY)

ROOF LIVE LOAD :	90 PSF (MAX.)
FLOOR LIVE LOAD:	40 PSF
TOTAL DEAD LOAD:	50 PSF
MAXIMUM EAVE LENGTH:	12"
MAXIMUM SIDE WALL HEIGHT (LOWER LEVEL):	108"
MAXIMUM SIDE WALL HEIGHT (UPPER LEVEL):	108"
ROOF PITCH:	3:12 TO 7:12
WIND LOAD:	140 MPH, EXP. C*
MINIMUM SOIL BEARING CAPACITY:	2000 PSF
IRC SEISMIC CATEGORY:	A, B, & C

TABLE 1
UN-REINFORCED FOOTING SIZE CHART

FOOTING SIZE (IN)	MAX. LOAD (KIPS)
22x22x6	6.72
24x24x8	8.00
26x26x10	9.39
28x28x12	10.8
30x30x14	12.5
32x32x16	14.2
34x34x18	16.0

NOTES:

- CHART BASED ON SOIL CAPACITY OF 2000 PSF. GREATER SOIL CAPACITY MAY SIGNIFICANTLY REDUCE SPREAD FOOTING DIMENSION/ REINFORCEMENT REQUIREMENTS. CONSULT LOCAL AHJ OR ENGINEERING PROFESSIONAL FOR VERIFICATION.
- PIERS OUTSIDE THIS SCOPE MUST BE DESIGNED BY A PROFESSIONAL ENGINEER, PER LOCAL CODES AND SOIL BEARING CAPACITY GIVEN BY LAHJ.

MAXIMUM SPACING OF PIERS IN MATE WALL WITH NO OPENINGS. (RANCH ONLY)

	6" FOOTING DEPTH			8" FOOTING DEPTH			10" FOOTING DEPTH			12" FOOTING DEPTH			14" FOOTING DEPTH			16" FOOTING DEPTH			18" FOOTING DEPTH		
	MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH		
ROOF LIVE LOAD	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"
20	6'-9"	5'-11"	5'-2"	8'-0"	7'-0"	6'-2"	9'-5"	8'-3"	7'-3"	10'-11"	9'-7"	8'-5"	12'-7"	11'-0"	9'-8"	14'-4"	12'-6"	11'-0"	16'-2"	14'-2"	12'-5"
30	6'-0"	5'-3"	4'-7"	7'-2"	6'-3"	5'-6"	8'-5"	7'-4"	6'-6"	9'-9"	8'-7"	7'-6"	11'-3"	9'-10"	8'-8"	12'-9"	11'-2"	9'-10"	14'-5"	12'-8"	11'-1"
40	5'-5"	4'-9"	4'-2"	6'-6"	5'-8"	5'-0"	7'-7"	6'-8"	5'-10"	8'-10"	7'-9"	6'-10"	10'-2"	8'-11"	7'-10"	11'-7"	10'-1"	8'-11"	13'-1"	11'-5"	10'-0"
60	4'-7"	4'-0"	- -	5'-5"	4'-9"	4'-2"	6'-5"	5'-7"	4'-11"	7'-5"	6'-6"	5'-8"	8'-6"	7'-6"	6'-7"	9'-9"	8'-6"	7'-6"	11'-0"	9'-7"	8'-5"
90	- -	- -	- -	4'-4"	- -	- -	5'-2"	4'-6"	- -	6'-0"	5'-3"	4'-7"	6'-10"	6'-0"	5'-3"	7'-10"	6'-10"	6'-0"	8'-10"	7'-9"	6'-9"

NOTES:
1. OPENINGS IN MATE WALL 48" OR LESS MAY BE IGNORED FOR PIER SPACING.
2. USE CHART AT TOP OF THIS SHEET FOR FOOTING OVERALL SIZE.
3. PIERS OUTSIDE THIS SCOPE MUST BE DESIGNED BY A PROFESSIONAL ENGINEER, PER LOCAL CODES AND SOIL BEARING CAPACITY GIVEN BY LAHJ.

MAXIMUM OPENING SIZE FOR MATE WALL BASED ON PIER CAPACITY (RANCH ONLY)

	6" FOOTING DEPTH			8" FOOTING DEPTH			10" FOOTING DEPTH			12" FOOTING DEPTH			14" FOOTING DEPTH			16" FOOTING DEPTH			18" FOOTING DEPTH		
	MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH			MODULE WIDTH		
ROOF LIVE LOAD	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"	140"	160"	182"
20	9'-7"	8'-4"	7'-4"	11'-5"	10'-0"	8'-9"	13'-4"	11'-8"	10'-3"	15'-6"	13'-7"	11'-11"	17'-10"	15'-7"	13'-8"	20'-3"	17'-9"	15'-7"	22'-11"	20'-0"	17'-7"
30	8'-2"	7'-2"	6'-3"	9'-9"	8'-6"	7'-6"	11'-5"	10'-0"	8'-10"	13'-4"	11'-7"	10'-3"	15'-3"	13'-4"	11'-9"	17'-4"	15'-2"	13'-4"	19'-7"	17'-2"	15'-1"
40	7'-2"	6'-3"	5'-6"	8'-6"	7'-5"	6'-7"	10'-0"	8'-9"	7'-8"	11'-8"	10'-2"	8'-11"	13'-4"	11'-8"	10'-3"	15'-2"	13'-3"	11'-8"	17'-2"	15'-0"	13'-2"
60	5'-9"	5'-0"	- -	6'-10"	6'-0"	5'-3"	8'-0"	7'-0"	6'-2"	9'-4"	8'-1"	7'-2"	10'-8"	9'-4"	8'-2"	12'-2"	10'-7"	9'-4"	13'-9"	12'-0"	10'-7"
90	- -	- -	- -	- -	- -	- -	6'-2"	5'-4	- -	7'-2"	6'-3"	5'-6"	8'-2"	7'-2"	6'-4"	9'-4"	8'-2"	7'-2"	10'-7"	9'-3"	8'-1"

NOTES:
1. CHART ABOVE ASSUMES (1) PIER SUPPORT AT MID-SPAN OF OPENING (OVER 48" IN WIDTH) FOR FLOOR LOAD SUPPORT ONLY.
2. OPENINGS IN MATE WALL 48" OR LESS MAY BE IGNORED FOR PIER SPACING.
3. USE CHART AT TOP OF THIS SHEET FOR OVERALL FOOTING SIZE.
4. PIERS OUTSIDE THIS SCOPE MUST BE DESIGNED BY A PROFESSIONAL ENGINEER, PER LOCAL CODES AND SOIL BEARING CAPACITY GIVEN BY LAHJ.

PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

CHAMPION
MANUFACTURED BEAUTIFULLY™
755 W. BIG BEAVER ROAD, SUITE 1000 TROY, MI 48084
PHONE: 248-614-8200

ENGINEER'S / ARCHITECT'S SEAL

APPROVER'S SEAL

PFS Corporation
Northeast Region
APPROVED
H Raup – 3
11/5/19
Approval limited to Factory Built Portion

MODIFICATIONS

TITLE: GENERAL NOTES
FOUNDATION

MODEL:

DATE: 09/20/2019	SCALE:
DRAWN BY: CORP.	CHECKED BY:

BLDG CODE: IRC 2015
CALCS: MD-100

FILENAME: 8-FOUNDATION SECTION 023
SHEET NO.: FD-01.01
PAGE: 1 OF 1

2 STORY DESIGN LOADING (PLF)

MAXIMUM HOME WIDTH	ROOF LIVE LOAD									
	20 PSF		30 PSF		40 PSF		60 PSF		90 PSF	
	CENTER BEAM	PERIMETER WALL	CENTER BEAM	PERIMETER WALL	CENTER BEAM	PERIMETER WALL	CENTER BEAM	PERIMETER WALL	CENTER BEAM	PERIMETER WALL
24' WIDE	1,913	1,009	2,030	1,083	2,147	1,156	2,380	1,303	2,730	1,523
28' WIDE	2,147	1,126	2,280	1,208	2,413	1,289	2,680	1,453	3,080	1,698
32' WIDE	2,403	1,231	2,555	1,315	2,707	1,400	3,010	1,568	3,465	1,820

A. FOUNDATION LOADING PROVIDED FOR ON SITE FOUNDATION EVALUATION AS REQUIRED BY LAHJ PER SPECIFIC SITE CONDITIONS UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.

NOTES:

1. ALL MULTIPLE MEMBER CENTER BEAM CONFIGURATIONS SHALL BE MECHANICALLY FASTENED TOGETHER WITH, RIM TO RIM REQUIREMENTS ON SHEET FA-01.02
2. ALL CENTER BEAM END (BUTT) JOINTS & MARRIAGE WALL OPENING COLUMNS SHALL BE LOCATED DIRECTLY ABOVE SUPPORT LOCATIONS.
3. MAXIMUM MARRIAGE WALL TRIBUTARY SPANS:
   (MAX. CLEAR SPANS IN OPENINGS PER FD-02.03)

   -FOR ALIGNED OPENINGS IN 1ST AND 2ND LEVELS:
   FOR 20, 30 & 40 PSF ROOF LL = 24 FT.
   FOR 60 & 90 PSF ROOF LL = 16 FT

   -FOR UNALIGNED OPENINGS IN 1ST AND 2ND LEVELS:
   AT 2ND LEVEL:
   FOR 20, 30 & 40 PSF ROOF LL = 16 FT.
   FOR 60 & 90 PSF ROOF LL = 12 FT.
   AT 1ST LEVEL:
   FOR 20, 30 & 40 PSF ROOF LL = 24 FT.
   FOR 60 & 90 PSF ROOF LL = 16 FT.
4. USE MAX PIER LOADING TO DETERMINE SPREAD FOOTING SIZE ON SHEET FD-01.01

2 STORY PIER SPACING & MAXIMUM LOADING CHART

ROOF LIVE LOAD (PSF)	NUMBER OF SPF #2, 2x10'S	MAXIMUM FLOOR WIDTH								
		140"			160"			182"		
		WITH NO MARRIAGE WALL OPENINGS		AT MARRIAGE WALL OPENINGS (SEE NOTE 3)	WITH NO MARRIAGE WALL OPENINGS		AT MARRIAGE WALL OPENINGS (SEE NOTE 3)	WITH NO MARRIAGE WALL OPENINGS		AT MARRIAGE WALL OPENINGS (SEE NOTE 3)
		MAX. CLEAR SPAN	MAX. PIER LOAD (KIPS)	MAX. PIER LOAD (KIPS)	MAX. CLEAR SPAN	MAX. PIER LOAD (KIPS)	MAX. PIER LOAD (KIPS)	MAX. CLEAR SPAN	MAX. PIER LOAD (KIPS)	MAX. PIER LOAD (KIPS)
20	2	5'-4"	11.3	23.1	5'-0"	12.0	25.8	4'-9"	12.6	28.7
	3	7'-0"	14.8	24.7	6'-7"	15.7	27.5	6'-3"	16.6	30.5
30	2	5'-2"	11.6	25.3	4'-11"	12.3	28.3	4'-7"	13.0	31.6
	3	6'-10"	15.2	26.8	6'-5"	16.2	29.9	6'-1"	17.1	33.3
40	2	5'-0"	12.0	27.5	4'-9"	12.7	30.8	4'-6"	13.4	34.5
	3	6'-7"	15.7	29.0	6'-3"	16.6	32.4	5'-11"	17.6	36.1
60	2	4'-9"	12.6	31.9	4'-6"	13.4	35.9	4'-3"	14.2	40.2
	3	6'-3"	16.5	33.3	5'-11"	17.5	37.4	5'-7"	18.6	41.8
90	2	4'-5"	13.5	38.6	4'-2"	14.3	43.6	- -	- -	- -
	3	5'-10"	17.7	39.9	5'-6"	18.8	45.0	5'-2"	19.9	50.5

CAPE & 2 STORY STEEL CENTER BEAMS

MAXIMUM WIDTH OF HOME (PER SECTION)	DESIGN ROOF LIVE LOAD				
	20 PSF	30 PSF	40 PSF	60 PSF	90 PSF
140"	W10x27 / W12x26	W10x30 / W12x26	W10x30 / W12x26	W10x30/ W12x26	W10x33/ W12x30
160"	W10x30 / W12x26	W10x30 / W12x26	W12x30	W10x30 / W12x26	W12x35 / W14x30
182"	W10x33 / W12x26	W12x30	W12x35 / W14x30	W12x30	W12x35 / W14x34

CENTER BEAM FOUNDATION COLUMN LOADS (KIPS) / MAX. COLUMN SPACING (FT)

(SPACING BASED ON TWO CONTINUOUS SPANS MINIMUM)

MAXIMUM WIDTH OF HOME (PER SECTION)	DESIGN ROOF LIVE LOAD				
	20 PSF	30 PSF	40 PSF	60 PSF	90 PSF
140"	35.5K / 12'-0"	38.0K / 12'-0"	41.0K / 12'-0"	44.5K / 10'-0"	52.5K / 10'-0"
160"	40.0K / 12'-0"	43.0K / 12'-0"	46.5K / 12'-0"	50.0K / 10'-0"	60.0K / 10'-0"
182"	45.0K / 12'-0"	48.5K / 12'-0"	52.5K / 12'-0"	56.5K / 10'-0"	67.5K / 10'-0"

GENERAL NOTES:

1. MAXIMUM MARRIAGE WALL TRIBUTARY SPANS FOR ALL OPENINGS IN 1ST & 2ND LEVELS ANY STACKED ARRANGEMENT FOR ALL ROOF LOADS:
   2ND FLOOR OPENING: 16 FT.
   1ST FLOOR OPENING: 24 FT.
2. RECOMMEND 4" DEEP BEAM POCKETS FOR 3" MINIMUM BEAM BEARING AT ALL FOUNDATION SUPPORT LOCATIONS.
3. USE LOADING INFORMATION ON THIS SHEET TO DETERMINE SPREAD FOOTING REQUIREMENTS PER FOUNDATION CHART ON FD-01.01

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State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

CHAMPION
MANUFACTURED BEAUTIFULLY™
755 W. BIG BEAVER ROAD, SUITE 1000 TROY, MI 48084
PHONE: 248-614-8200

ENGINEER'S / ARCHITECT'S SEAL

APPROVER'S SEAL

PFS Corporation
Northeast Region
APPROVED
H Raup – 3
11/5/19
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MODIFICATIONS

TITLE:
CAPE & 2 STORY MATELINE DESIGN
OFF-FRAME FOUNDATION

MODEL:

DATE: 09/20/2019	SCALE:
DRAWN BY: CORP.	CHECKED BY:
BLDG CODE: IRC 2015	
CALCS: MD-110	

FILENAME: 8-FOUNDATION SECTION 023
SHEET NO.: FD-02.04
PAGE: 1 OF 1

Job	Truss	Truss Type	Qty	Ply	
MH83077R2	MHT-1	FAN	100	1	I40520729

Job Reference (optional)

8.320 s Feb 24 2020 MiTek Industries, Inc. Fri Mar 6 10:27:18 2020 Page 1
ID:kLtw9ItbRcFn1b8SOJbHe3yVAI4-sfjGhQiKPbX6VdsbeebT8LLDGLUy0PsezVNiKHzdgEN

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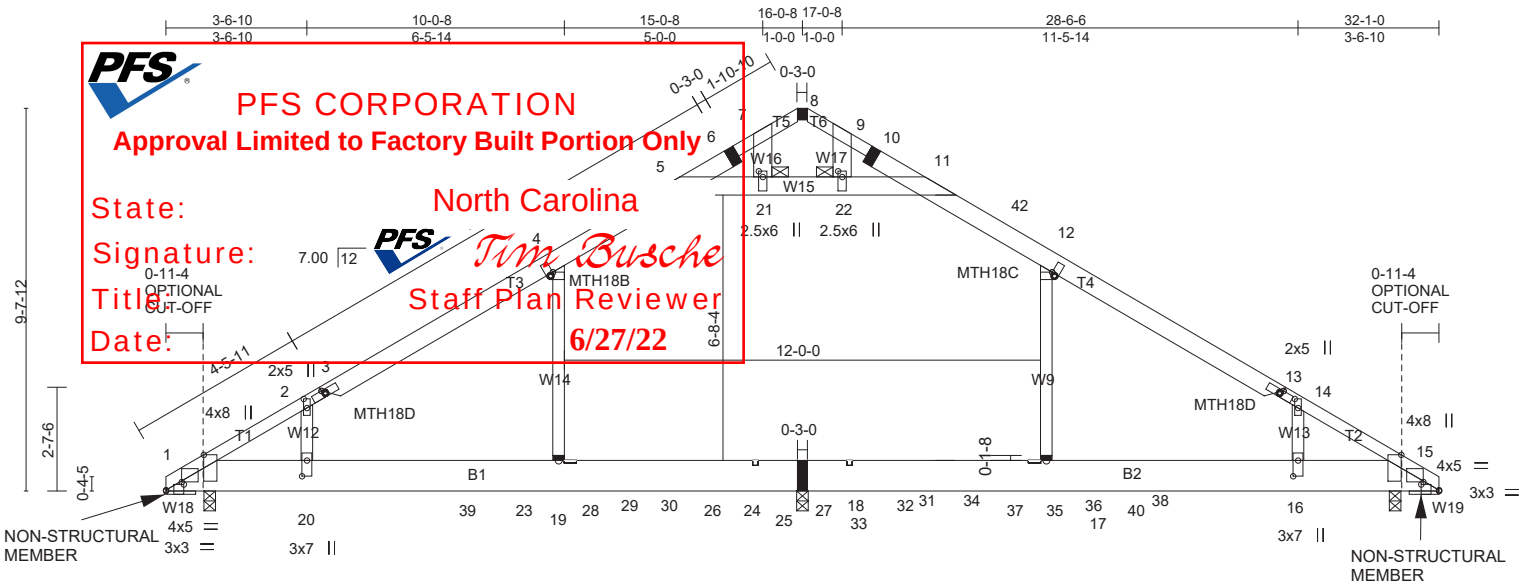

Plate Offsets (X,Y)-- [1:Edge,0-11-7], [1:0-5-6,0-2-0], [1:0-4-12,0-2-8], [2:0-2-12,0-1-0], [3:0-0-11,0-1-2], [4:0-0-11,0-1-2], [12:0-0-11,0-1-2], [13:0-0-11,0-1-2], [14:0-2-12,0-1-0], [15:0-5-6,0-2-0], [15:Edge,0-11-7], [15:0-4-12,0-2-8], [16:0-4-12,0-1-8], [20:0-4-12,0-1-8], [21:0-1-12,0-1-4], [22:0-1-12,0-1-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	23.1	Plate Grip DOL	1.15	TC	0.68	Vert(LL)	0.55	19-20	>348	240	MT20	197/144
(Ground Snow=30.0)		Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.58	19-20	>326	180	MT18HS	197/144
TCDL	7.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.02	15	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-R		Attic	-0.40	17-18	368	360	Weight: 246 lb	FT = 20%
BCDL	7.0											

LUMBER-
TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2 *Except* T3,T4: 2x6 SP No.2 or 2x6 SPF No.2
BOT CHORD 2x10 SP No.1
WEBS 2x4 SP No.2 or 2x4 SPF No.2 *Except* W15,W16,W17: 2x6 SP No.2 or 2x6 SPF No.2 W19,W18: 1-8/16x1 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-5-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
JOINTS 1 Brace at Jt(s): 21, 22

REACTIONS. (lb/size) 1=1071/0-3-8 (min. 0-1-8), 18=446/0-3-8 (min. 0-1-8), 15=1071/0-3-8 (min. 0-1-8)
Max Horz 1=-422(LC 10)
Max Uplift 1=-685(LC 14), 18=-248(LC 14), 15=-687(LC 15)
Max Grav 1=1321(LC 24), 18=819(LC 24), 15=1323(LC 25)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1501/589, 2-4=-1516/738, 4-5=-1249/763, 5-7=-655/372, 7-8=-435/266, 8-9=-437/269, 9-11=-647/365, 11-12=-1245/759, 12-14=-1511/734, 14-15=-1497/585
BOT CHORD 1-20=-464/1273, 19-20=-464/1273, 18-19=-464/1273, 17-18=-464/1273, 16-17=-464/1273, 15-16=-464/1273
WEBS 12-17=-177/253, 2-20=-458/496, 14-16=-458/496, 4-19=-178/254, 5-21=-765/597, 21-22=-765/597, 11-22=-765/597, 7-21=-310/466, 9-22=-313/475

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Maximum Tension (lb)/ Maximum Shear (lb)/ Maximum Moment (lb-in)
5=765/597/290/0, 6=645/369/267/0, 7=310/466/46/0, 8=370/248/254/0, 9=313/475/47/0, 10=638/362/271/0, 11=765/597/291/0, 17=177/253/0/0, 18=464/1273/518/0, 19=178/254/0/0

NOTES-
1) Dado: 0-1-8 length x 0-1-8 deep dado, 1-0-0 to right edge from joint 18 on the top face.
2) Dado: 0-3-10 length x 0-0-12 deep dado, 4-6-14 to right edge from joint 18 on the top face.
3) Dado: 0-3-10 length x 0-0-12 deep dado, 5-6-14 to right edge from joint 18 on the top face.
4) Dado: 0-1-8 length x 0-1-8 deep dado, 1-0-0 to left edge from joint 18 on the top face.
5) Dado: 0-3-10 length x 0-0-12 deep dado, 4-6-14 to left edge from joint 18 on the top face.
6) Dado: 0-3-10 length x 0-0-12 deep dado, 5-6-14 to left edge from joint 18 on the top face.
7) Wind: ASCE 7-16; Vult=150mph (3-second gust) Vasd=119mph; TCDL=2.8psf; BCDL=2.8psf; h=30ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
8) TCLL: ASCE 7-16; Pg=30.0 psf; Ps=23.1 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
9) Roof design snow load has been reduced to account for slope.
10) Unbalanced snow loads have been considered for this design.
11) All plates are MT20 plates unless otherwise indicated.
12) See HINGE PLATE DETAILS for plate placement.

COMMONWEALTH OF VIRGINIA
XUEGANG LIU
Lic. No. 037973
PROFESSIONAL ENGINEER

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 22333
XUEGANG LIU

NORTH CAROLINA PROFESSIONAL SEAL 28228 ENGINEER XUEGANG LIU

March 6,2020

Continued on page 2

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Edenton, NC 27932

NOTES-

13) Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
14) All additional member connections shall be provided by others for forces as indicated.
15) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
16) * 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, with BCDL = 7.0psf.
17) Ceiling dead load (5.0 psf) on member(s). 4-5, 11-12, 5-21, 21-22, 11-22
18) Bottom chord live load (30.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 18-19, 17-18
19) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 685 lb uplift at joint 1, 248 lb uplift at joint 18 and 687 lb uplift at joint 15.
20) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
21) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 180 lb down and 86 lb up at 16-0-2 on top chord. The design/selection of such connection device(s) is the responsibility of others.
22) Attic room checked for L/360 deflection.

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Title: Staff Plan Reviewer
Date: 6/27/22

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

BUILDER MUST FINISH APPENDIX, FACTORY DONE MARKED IN RED

APPENDIX E

(E-1 THROUGH E-4)
RESIDENTIAL REQUIREMENTS FOR ENERGY CONSERVATION

This appendix is a North Carolina addition and not part of the 2015 *International Residential Code*.
There will be no underlining in this appendix.
(The provisions contained in this appendix are adopted as part of this code.)

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State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

APPENDIX E-1 Energy Efficiency Certificate (Section N1101.14)

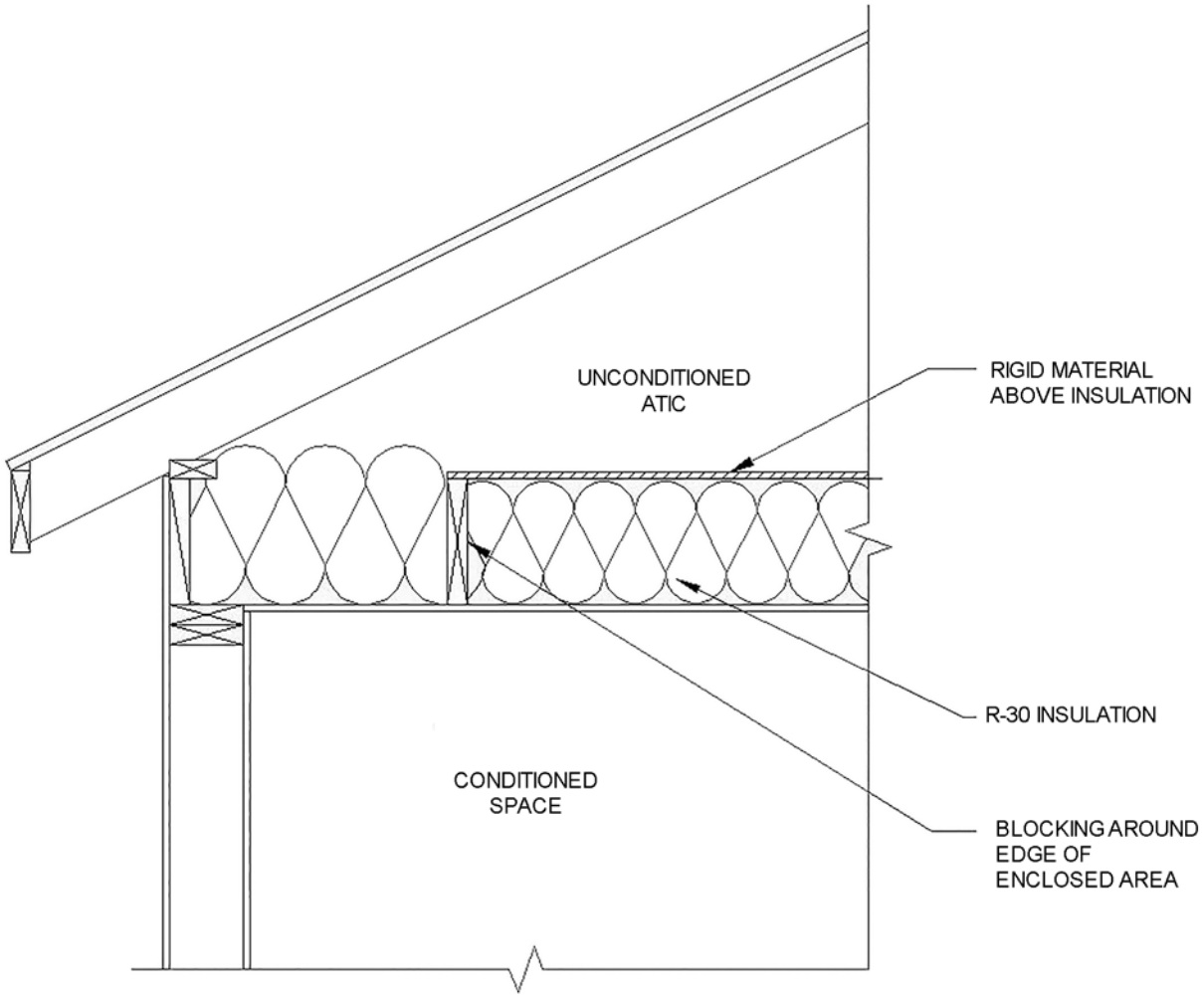
ENERGY EFFICIENCY CERTIFICATE (N1101.14)

Builder, Permit Holder or Registered Design Professional Print Name: Signature:	
Property Address:	
Date:	
Insulation Rating – List the value covering largest area to all that apply	***R*-Value**
Ceiling/roof:	R- 30
Wall:	R- 18
Floor: Omitted floor insulation - To be provided and install onsite by others.	R- 19 MIN.
Closed crawl space wall:	R-
Closed crawl space floor:	R-
Slab:	R-
Basement wall:	R-
Fenestration:	
U-Factor	0.34
Solar Heat Gain Coefficient (SHGC)	0.29
Building Air Leakage	
❑ Visually inspected according to N1102.4.2.1 OR	
❑ Building air leakage test results (Sec. N1102.4.2.2) ACH50 [Target: 5.0] or CFM50/SFSA [Target: 0.30]	
Name of Tester/Company: Date: Phone:	
Ducts:	
Insulation	R-
Total duct leakage test result (Sect. N1103.3.3) Circle one: Total duct leakage test (CFM25 Total/100SF) [Target: 5] or Duct leakage to the outside test (CFM25 Total/100SF) [Target: 4]	
Name of Tester or Company: Date: Phone:	
Certificate to be displayed permanently	

APPENDIX E-2
INSULATION AND AIR SEALING DETAILS

APPENDIX E-2.1

N1102.2.1 Ceilings with attic spaces: Exception for fully enclosed attic floor systems



SECTION VIEW OF CEILING WITH ATTIC SPACE

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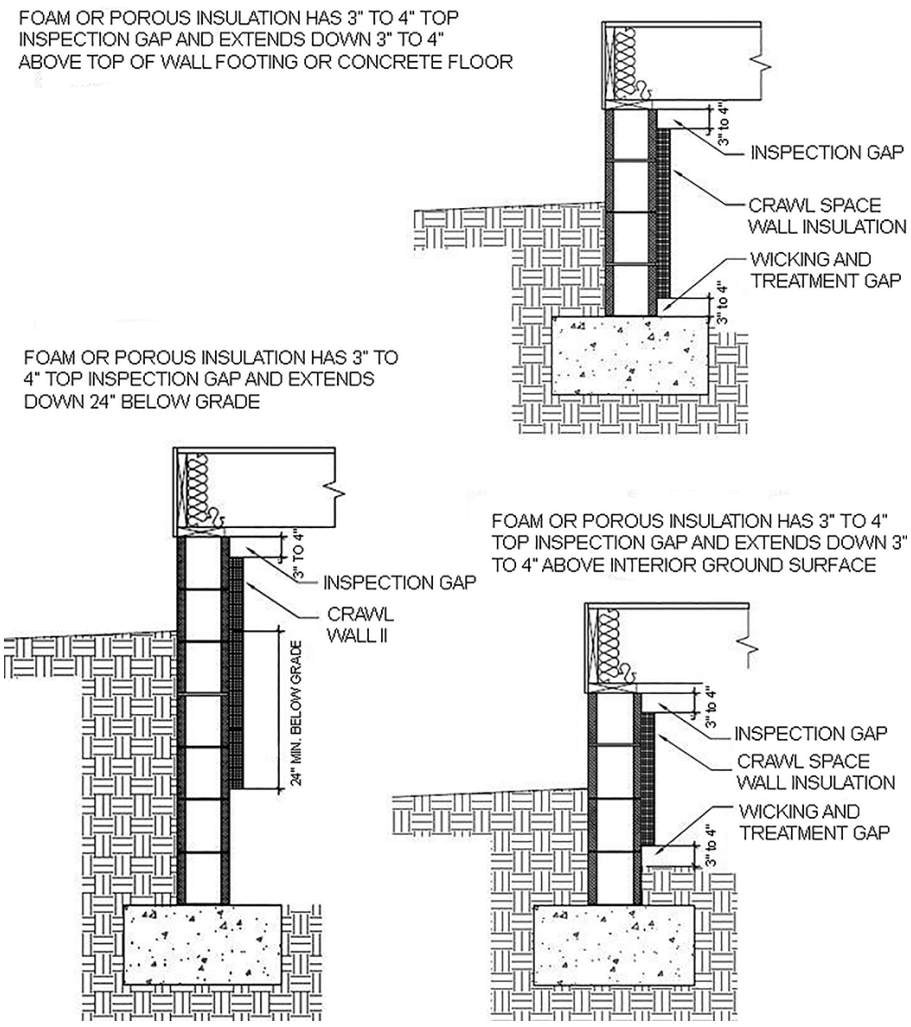
Title: Staff Plan Reviewer
Date: 6/27/22

APPENDIX E-2.2

N1102.2.11 Closed crawl space walls. Insulation illustrations



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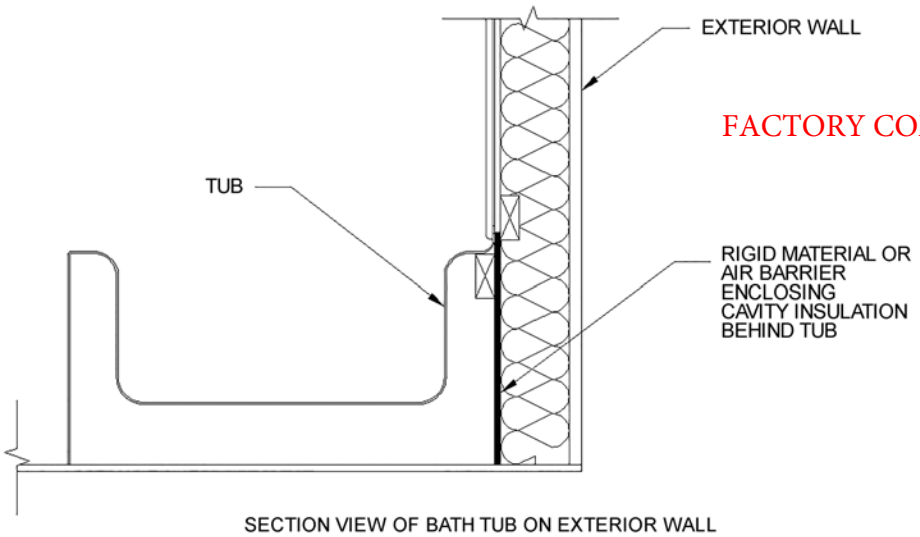
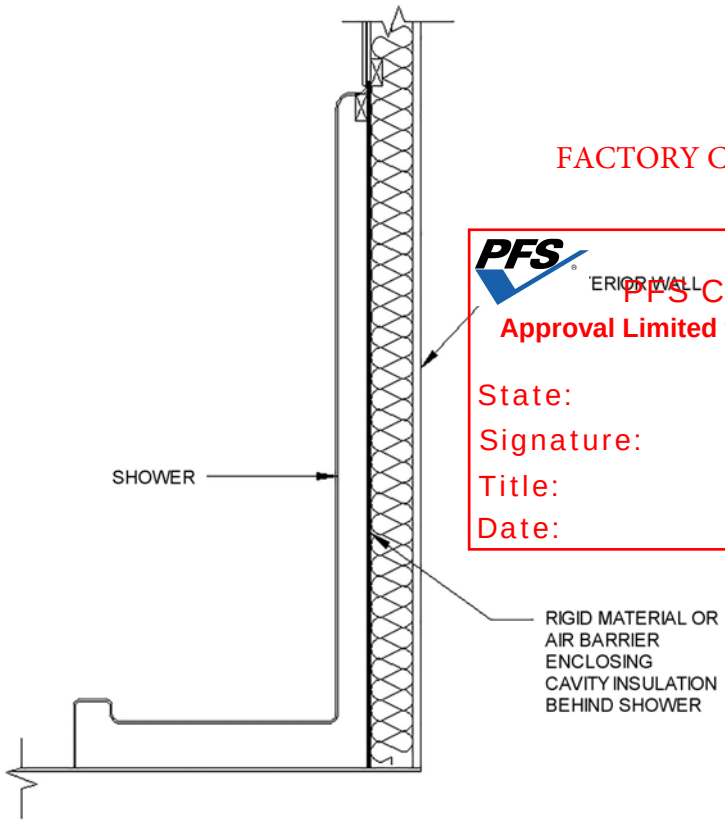
APPENDIX E-2.3

N1102.2.14 Framed cavity walls. Insulation enclosure—1. Tubs



SECTION VIEW OF BATH TUB ON EXTERIOR WALL

N1102.2.14 Framed cavity walls. Insulation enclosure—2. Showers



SECTION VIEW OF SHOWER ON EXTERIOR WALL

FACTORY COMPLETED

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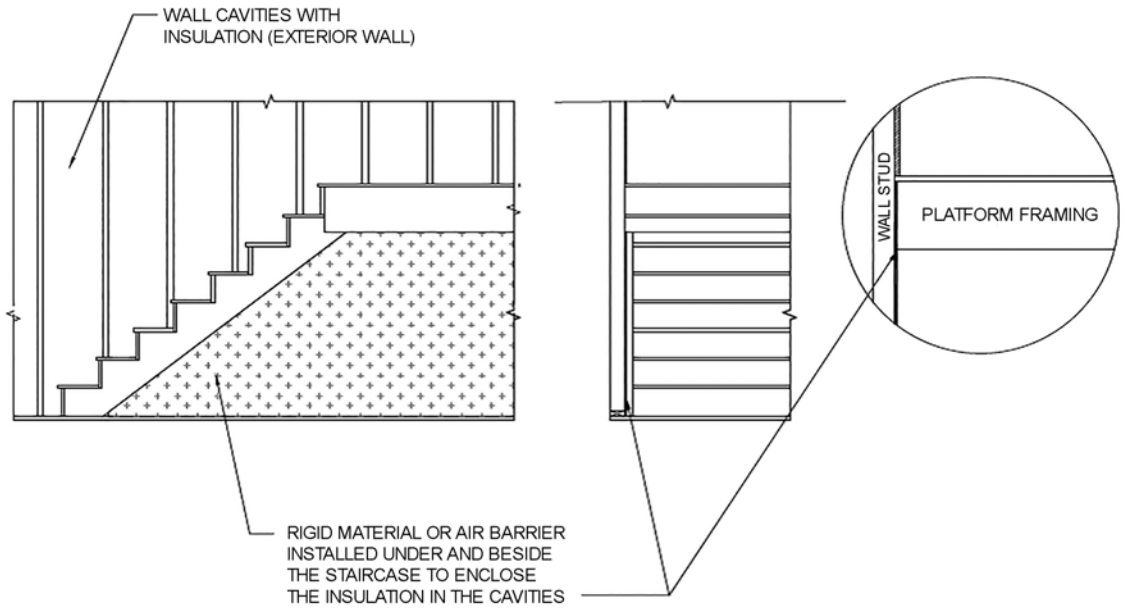
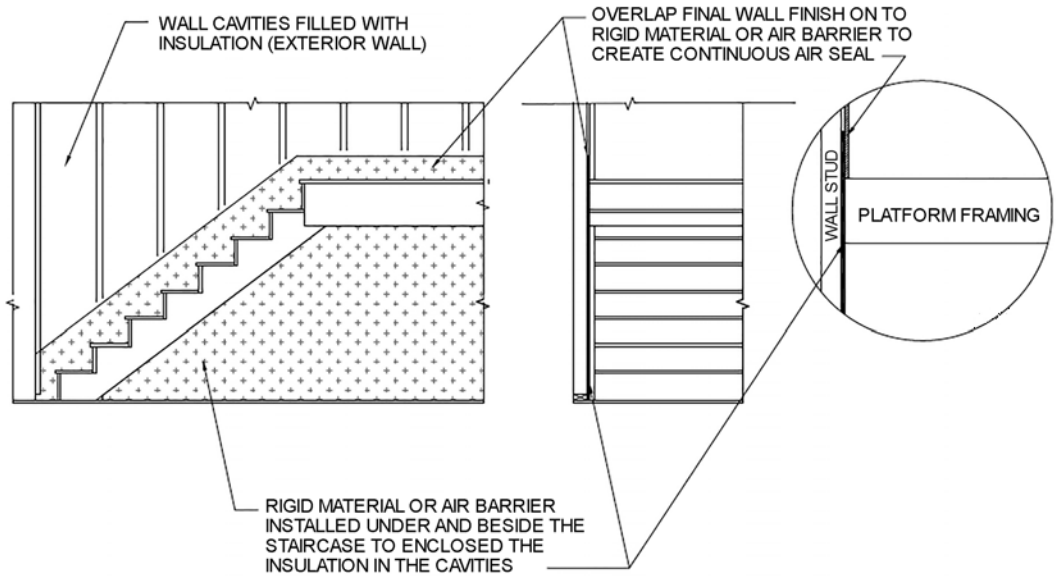
N1102.2.14 Framed cavity walls. Insulation enclosure—3. Stairs

FACTORY COMPLETED, IF APPLICABLE



SECTION VIEW OF INTERIOR STAIRCASE ON EXTERIOR WALL (OPTION 1)

N1102.2.14 Framed cavity walls. Insulation enclosure—3. Stairs



SECTION VIEW OF INTERIOR STAIRCASE ON EXTERIOR WALL (OPTION 2)

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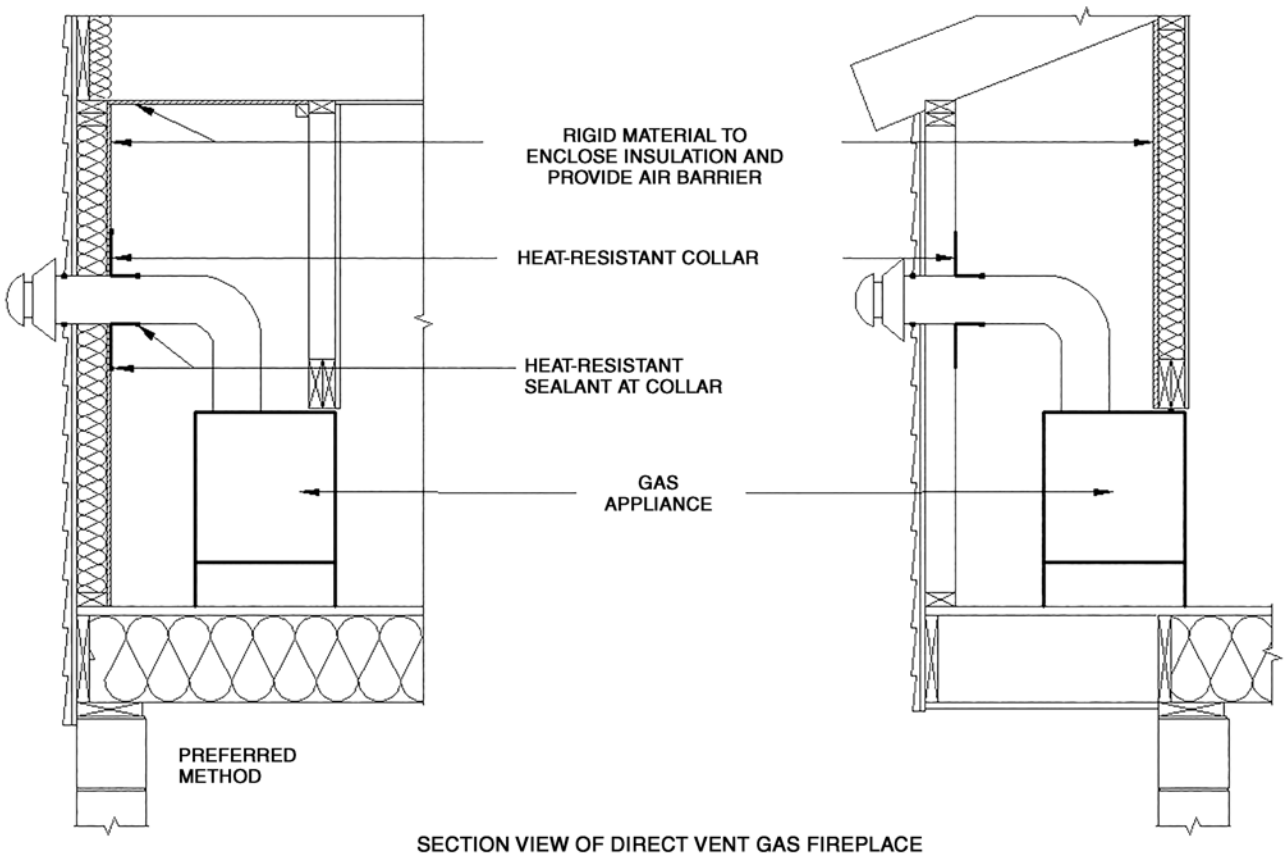
Date: 6/27/22

N1102.2.14 Framed cavity wall. Insulation enclosure—4. Direct vent gas fireplace

N/A BY FACTORY



SECTION VIEW OF DIRECT VENT GAS FIREPLACE

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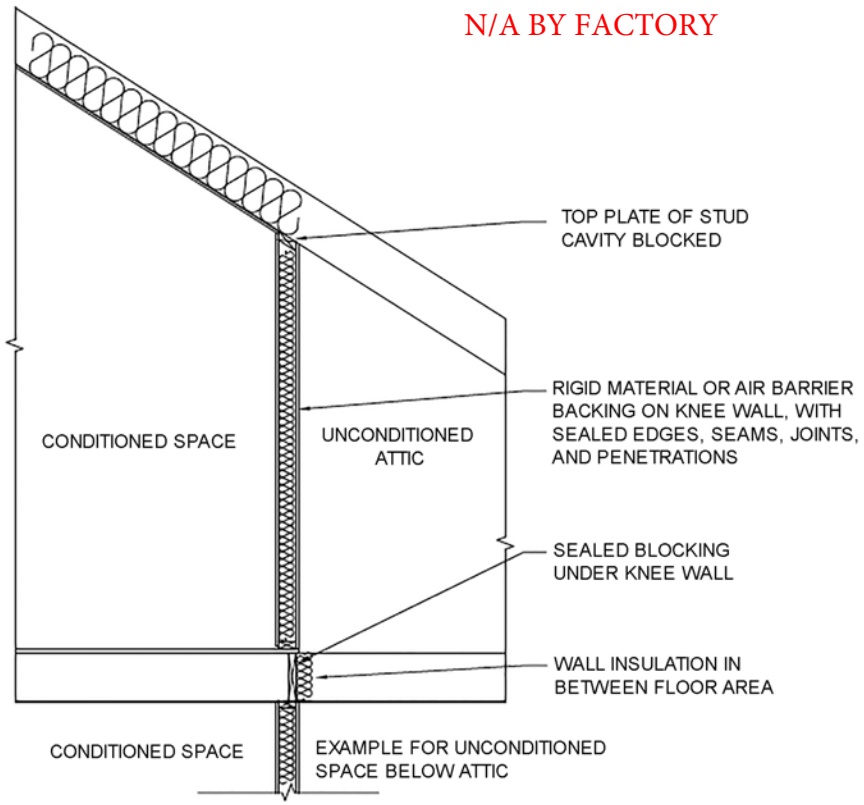
Date: 6/27/22

N1102.2.15 Framed cavity walls. Insulation enclosure—5. Walls that adjoin attic spaces

N/A BY FACTORY



SECTION VIEW OF WALL ADJOINING ATTIC SPACE WITH STICK FRAMED ROOF

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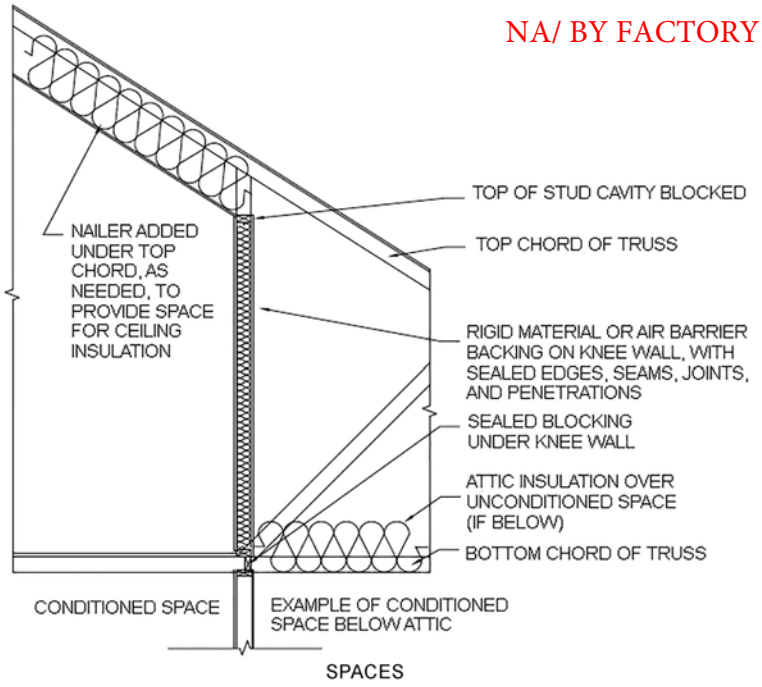
Date: **6/27/22**

N1102.2.15 Framed cavity walls. Insulation enclosure—5. Walls that adjoin attic spaces

NA/ BY FACTORY

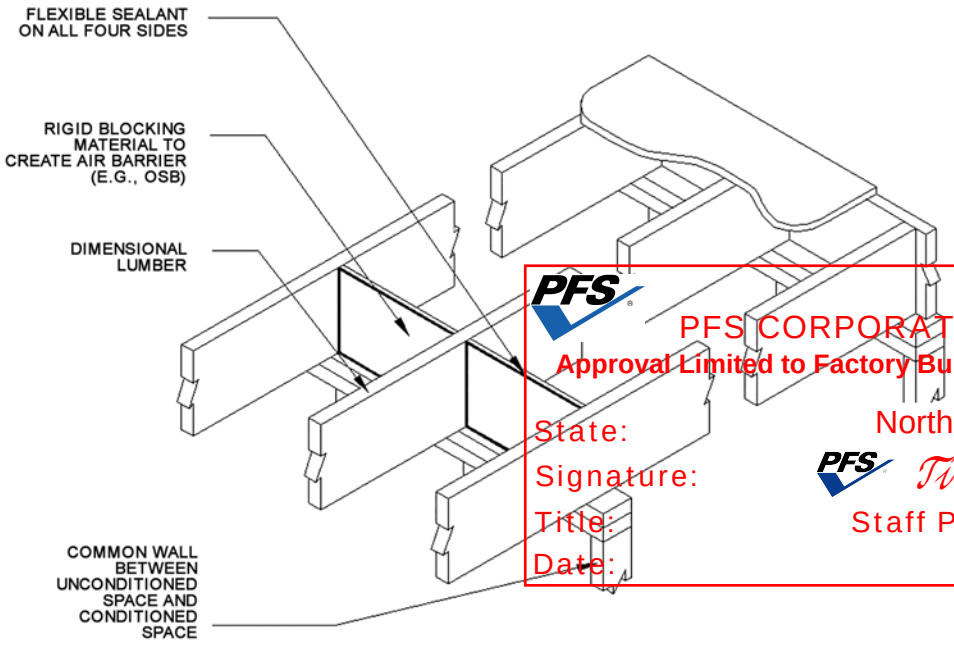


SECTION VIEW OF WALL ADJOINING ATTIC SPACE WITH TRUSS ROOF

APPENDIX E-2.4

N1102.4.1 Building thermal envelope.—1. Block and seal floor/ceiling systems

N/A BY FACTORY



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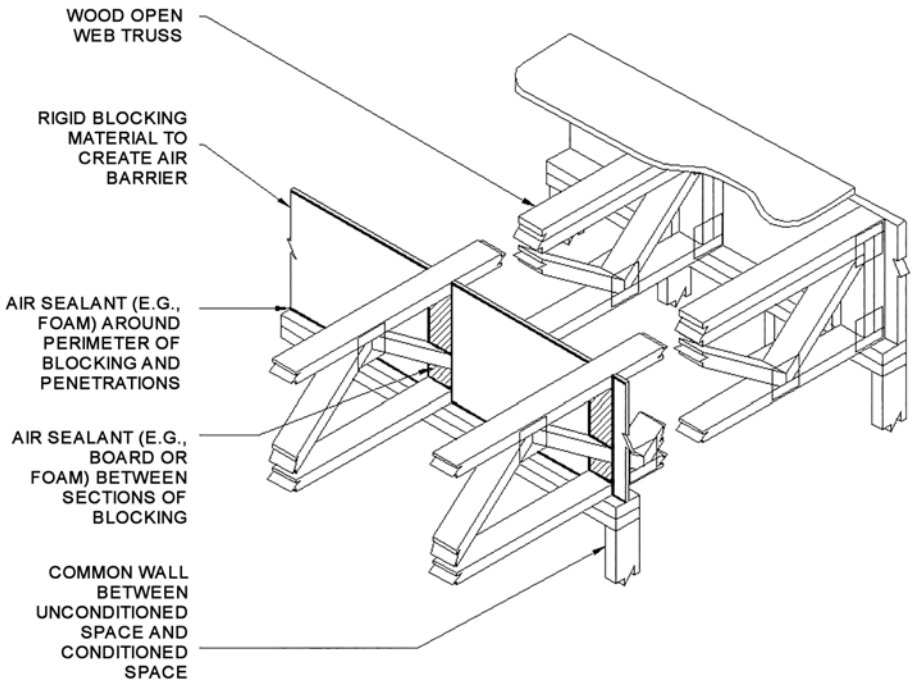
ISOMETRIC VIEW OF DIMENSIONAL LUMBER FLOOR/CEILING SYSTEM ABOVE COMMON WALL BETWEEN UNCONDITIONED AND CONDITIONED SPACE

N1102.4.1 Building thermal envelope.—1. Block and seal floor/ceiling systems

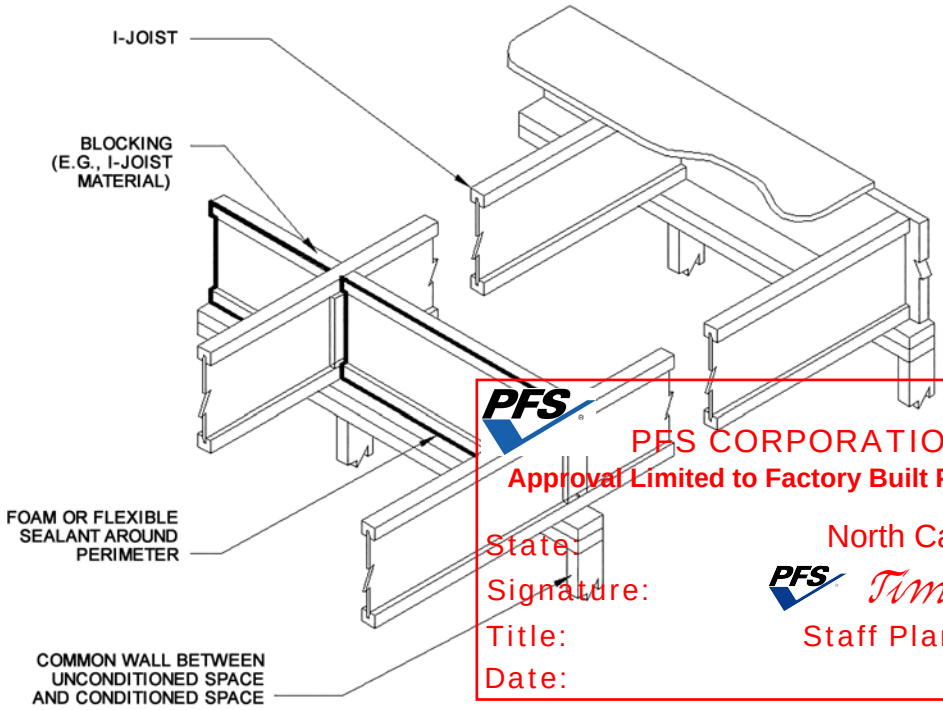
N/A BY FACTORY



ISOMETRIC VIEW OF WOOD TRUSS FLOOR/CEILING SYSTEM ABOVE COMMON WALL BETWEEN UNCONDITIONED AND CONDITIONED SPACE

N1102.4.1 Building thermal envelope. —1. Block and seal floor/ceiling systems

N/A BY FACTORY



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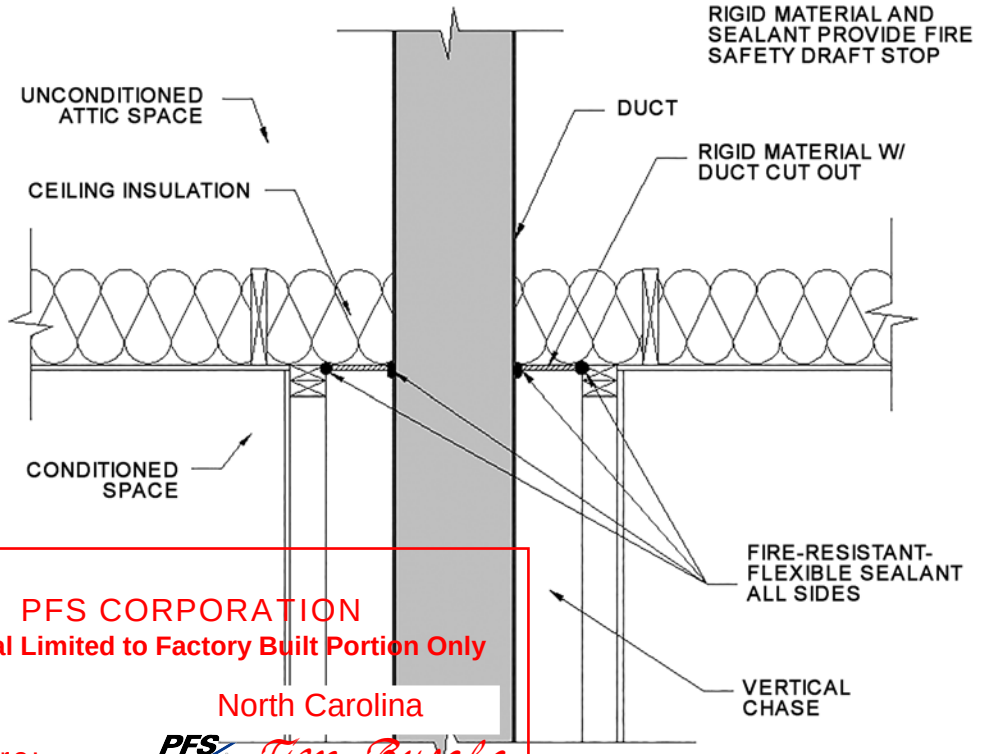
ISOMETRIC VIEW OF I-JOIST FLOOR/CEILING SYSTEM ABOVE COMMON WALL BETWEEN UNCONDITIONED AND CONDITIONED SPACE

N1102.4.1 Building thermal envelope—2. Cap and seal shafts and chases BY OTHERS IF APPLICABLE



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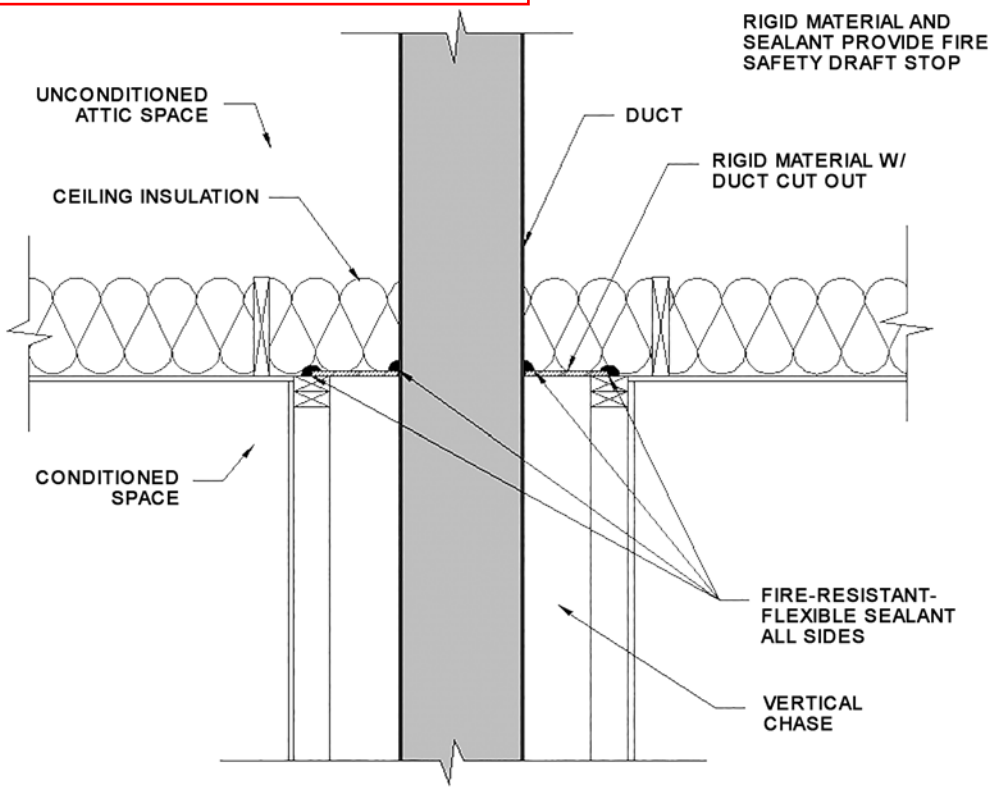
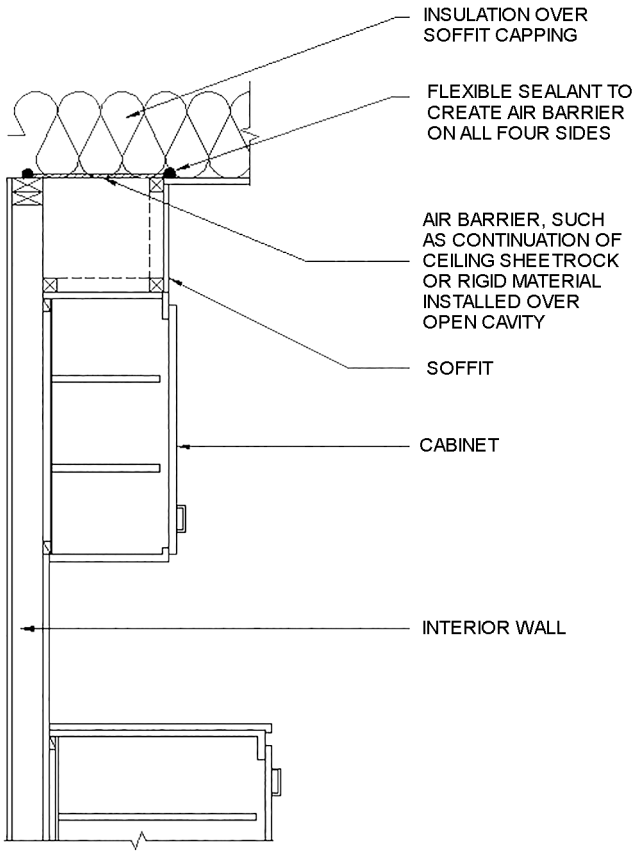


SECTION VIEWS OF DUCT PENETRATING INTO ATTIC

N1102.4.1 Building thermal envelope. —3. Cap and seal soffit or dropped ceiling N/A



SECTION VIEW OF SOFFIT OVER CABINET

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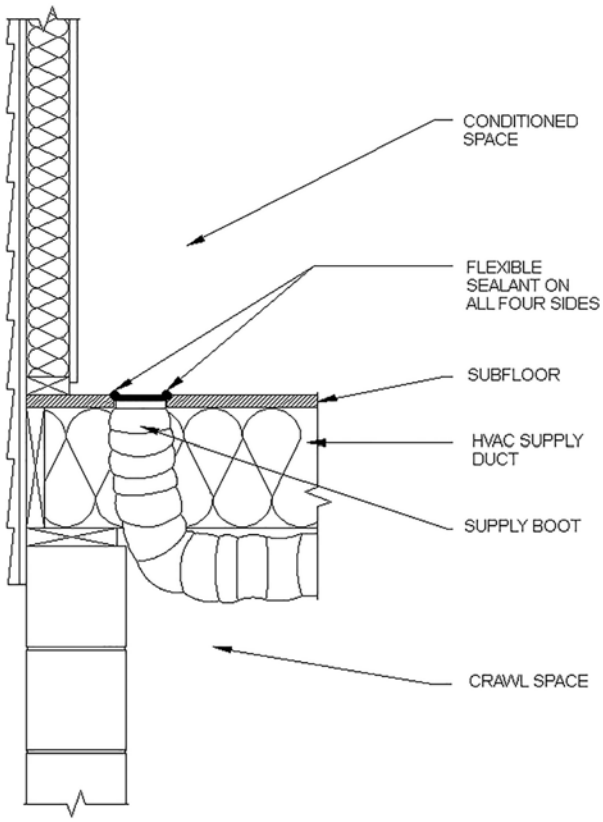
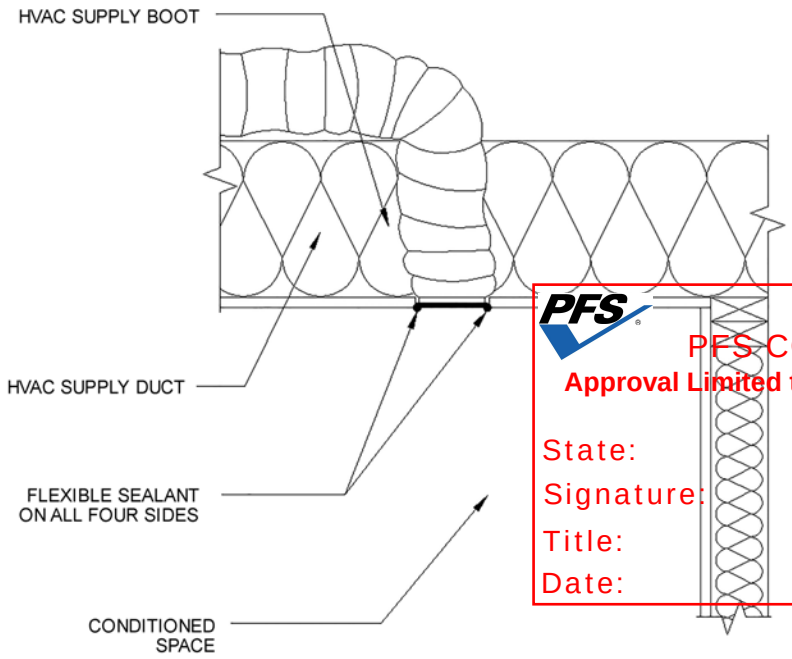
Title: Staff Plan Reviewer
Date: 6/27/22

N1102.4.1 Building thermal envelope.—4. Seal HVAC boot penetration—floor FACTORY COMPLETED



SECTION VIEW OF FLOOR HVAC BOOT PENETRATION

N1102.4.1 Building thermal envelope.—4. Seal HVAC boot penetration—ceiling



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Signature: Tim Busche
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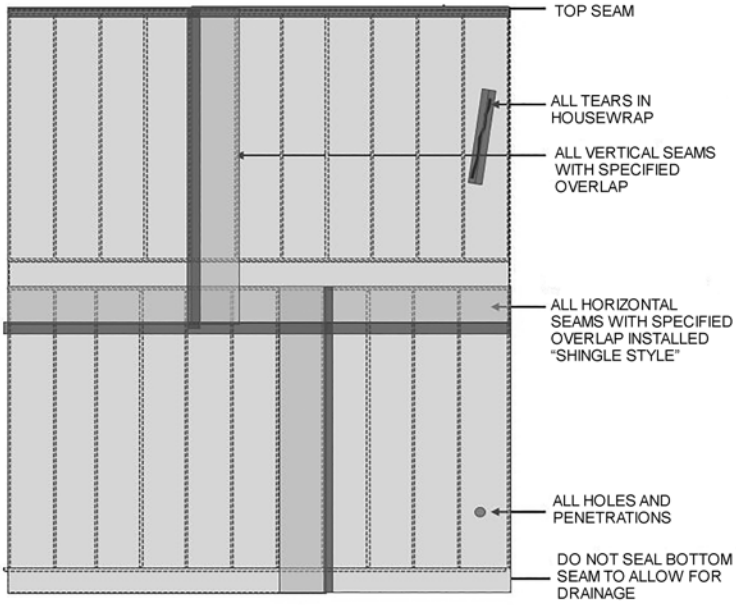
SECTION VIEW OF CEILING HVAC BOOT PENETRATION

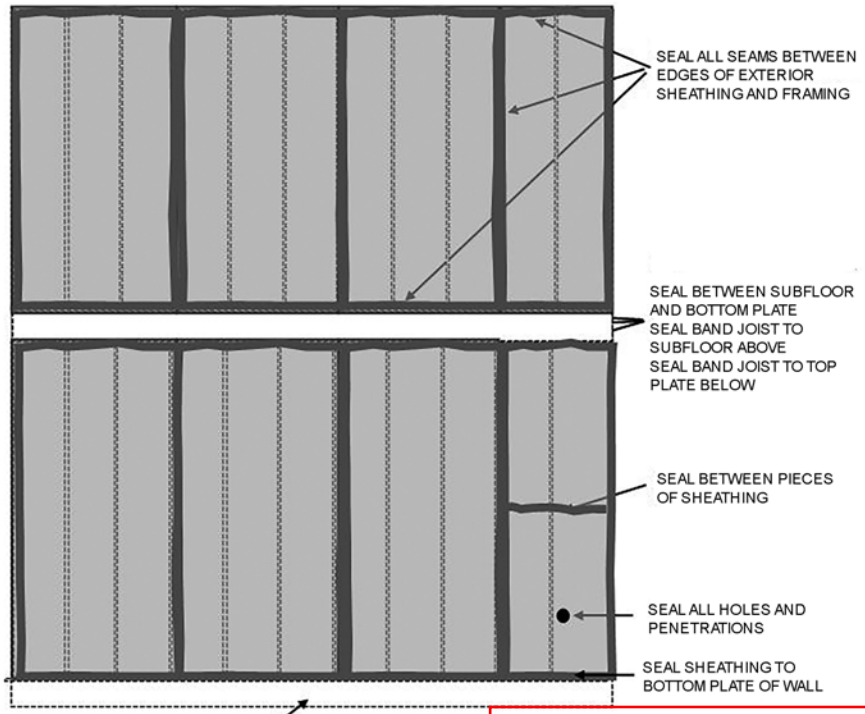
MUST BE INSPECTED ON SITE BY OTHERS FOR TEARS

N1102.4.1 Building thermal envelope.—5. Sealed exterior air barrier with housewrap

Follow manufacturer's instructions for sealing air barrier-rated housewrap, including choice of materials, to provide an exterior air barrier at the following locations:



N1102.4.1 Building thermal envelope.—5. Sealed exterior air barrier with sheathing



1) IF FIRST FLOOR IS SLAB-ON-GRADE, INSTALL SEAL SEALER UNDER BOTTOM PLATE OF EXTERIOR WALL.
2) IF FIRST FLOOR IS OVER UNCONDITIONED CRAWL SPACE OR BASEMENT, INSTALL SEAL SEALER UNDER BOTTOM PLATE AND SEAL SUBFLOOR TO BAND JOIST.
3) IF FIRST FLOOR IS OVER CONDITIONED BASEMENT OR CLOSED CRAWL SPACE WITH CRAWL SPACE WALL INSULATION BELOW, SEAL BETWEEN SUBFLOOR AND BOTTOM PLATE, SEAL BAND JOIST TO SUBFLOOR ABOVE, AND SEAL BAND JOIST TO TOP PLATE BELOW.

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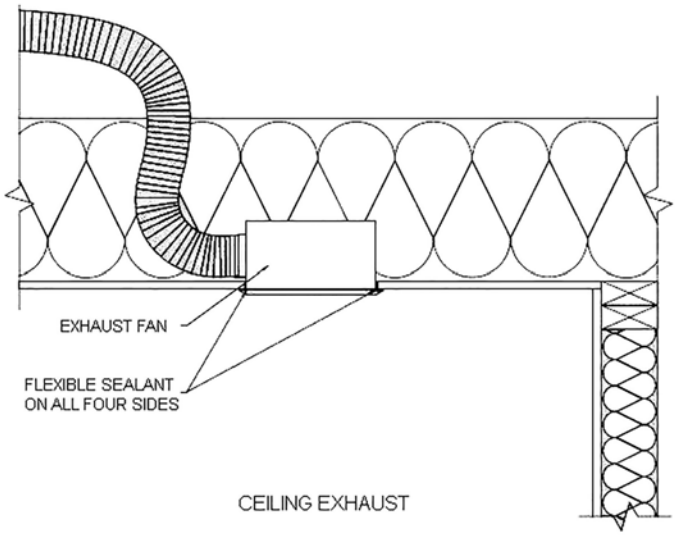
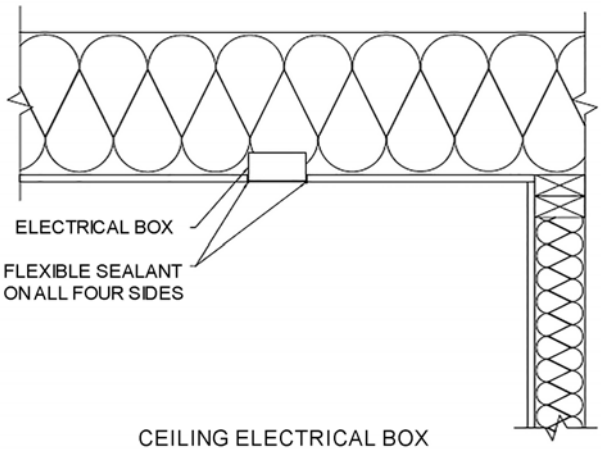
Date: 6/27/22

N1102.4.2.1 Visual inspection option. —Table N1102.4.2 Seal ceiling mechanical box penetrations

FACTORY COMPLETED



N1102.4.2.1 Visual inspection option. — Table N1102.4.2 Seal ceiling electrical box penetrations FACTORY COMPLETED



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Title: Staff Plan Reviewer
Date: **6/27/22**

APPENDIX E-3:
SAMPLE WORKSHEETS FOR RESIDENTIAL AIR AND DUCT LEAKAGE TESTING

APPENDIX E-3A
AIR SEALING: VISUAL INSPECTION OPTION (Section N1102.4.2.1)

SAMPLE WORKSHEET

N1102.4.2 Air sealing. Building envelope air tightness shall be demonstrated by Section N1102.4.2.1 or N1102.4.2.2.

N1102.4.2.1 Visual inspection option. Building envelope tightness shall be considered acceptable when items providing insulation enclosure in Section N1102.2.14 and enclosure and air sealing in Section N1102.2.15 and air sealing in Section N1102.4.1 are addressed and when the items listed in Table N1102.4.2, applicable to the method of construction, are certified by the builder, permit holder or *registered design professional* via the certificate in Appendix E-1.

TABLE N1102.4.2
AIR BARRIER INSPECTION

COMPONENT	CRITERIA
factory done Ceiling/attic	Sealants or gaskets provide a continuous air barrier system joining the top plate of framed walls with either the ceiling drywall or the top edge of wall drywall to prevent air leakage. Top plate penetrations are sealed. For ceiling finishes that are not air barrier systems such as tongue-and-groove planks, air barrier systems (for example, taped house wrap), shall be used above the finish. **Note:** It is acceptable that sealants or gaskets applied as part of the application of the drywall will not be observable by the code official.
Walls	Sill plate is gasketed or sealed to subfloor or slab. factory done
Windows and doors	Space between window and exterior door jambs and framing is sealed. factory done unless onsite provided
Floors (including above-garage and cantilevered floors)	Air barrier system is installed at any exposed edge of insulation. Onsite done
Penetrations	Utility penetrations through the building thermal envelope, including those for plumbing, electrical wiring, ductwork, security and fire alarm wiring, and control wiring, shall be sealed. Onsite done
Garage separation	Air sealing is provided between the garage and conditioned spaces. An air barrier system shall be installed between the ceiling system above the garage and the ceiling system of interior spaces. Onsite done
Ceiling penetrations	Ceiling electrical box penetrations and ceiling mechanical box penetrations shall be caulked, gasketed, or sealed at the penetration of the ceiling finish. See Appendix E-2.4. Factory started/Onsite Completed **Exception:** Ceiling electrical boxes and ceiling mechanical boxes not penetrating the building thermal envelope
Recessed lighting	Recessed light fixtures are air tight, IC rated, and sealed to drywall. factory done **Exception:** Fixtures in conditioned space.

Attic Access insulated and weatherstripped per N1102.2.2.4

Property Address:

_____

N1102.4.2.1 Visual Inspection Option. The inspection information including tester name, State: North Carolina included on the certificate described in Section N1101.14.

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_____

Signature Date

All factory done items have been inspected in factory, above signoff is for on site items only

MUST BE COMPLETED BY BUILDER ON SITE

APPENDIX E-3B
Air sealing: Testing option (Section N1102.4.2.2)

Sample Worksheet

N1102.4.2 Air sealing. Building envelope air tightness shall be demonstrated by Section N1102.4.2.1 or N1102.4.2.2:

N1102.4.2.2 Testing option. Building envelope tightness shall be considered acceptable when items providing insulation enclosure in Section N1102.2.14 and enclosure and air sealing in Section N1102.2.15 and air sealing in Section N1102.4.1 are addressed and when tested air leakage is less than or equal to one of the two following performance measurements:

1. 0.30 CFM50/Square Foot of Surface Area (SFSA) or
2. Five (5) air changes per hour (ACH50)

When tested with a blower door fan assembly, at a pressure of 33.5 psf (50 Pa). A single point depressurization, not temperature corrected, test is sufficient to comply with this provision, provided that the blower door fan assembly has been certified by the manufacturer to be capable of conducting tests in accordance with ASTM E779—03. Testing shall occur after rough in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. Testing shall be reported by the permit holder, a North Carolina licensed general contractor, a North Carolina licensed HVAC contractor, a North Carolina licensed Home Inspector, a *registered design professional*, a certified *BPI Envelope Professional* or a certified *HERS rater*.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed;
2. Dampers shall be closed, but not sealed, including exhaust, backdraft, and flue dampers;
3. Interior doors shall be open;
4. Exterior openings for continuous ventilation systems, air intake ducted to the return side of the conditioning system, and energy or heat recovery ventilators shall be closed and sealed;
5. Heating and cooling system(s) shall be turned off; and
6. Supply and return registers shall not be sealed.

The air leakage information, including building air leakage result, tester name, date, and contact information, shall be included on the certificate described in Section N1101.14.

For Test Criteria 1 in this section, the report shall be produced in the following manner: Perform the blower door test and record the *CFM50* _____. Calculate the total square feet of surface area for the building thermal envelope, all floors, ceilings, and walls (this includes windows and doors) and record the area_____. Divide *CFM50* by the total square feet and record the result below. If the result is less than or equal to **[0.30 CFM50/SFSA]** the envelope tightness is acceptable; or

For Test Criteria 2, the report shall be produced in the following manner: Perform a blower door test and record the *CFM50* _____. Multiply the *CFM50* by 60 minutes to create CFHour50 and record _____. Then calculate the total conditioned volume of the home and record_____. Divide the CFH50 by the total volume and record the result below. If the result is less than or equal to **[5 ACH50]** the envelope tightness is acceptable.

Property Address: _____

Fan attachment location _____ Company Name _____

Contact Information: _____

_____

Signature of Tester _____ Date _____

Permit Holder, NC Licensed General Contractor, N(HVAC Contractor,
NC Licensed Home Inspector, *Registered* ofessional*,
Certified *BPI Envelope Professional*, or Certified *HERS Rater*
(circle one).

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Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22

APPENDIX E-3C
Duct sealing. Duct air leakage test (Section N1103.2.2 & Section N1103.3.3)

Sample Worksheet

N1103.3.2 Sealing (Mandatory Requirements). Ducts, air handlers, filter boxes, and building cavities used as ducts shall be sealed. Joints and seams shall comply with either the *International Mechanical Code* or *International Residential Code*, as applicable.

N1103.3.3 Duct leakage (Prescriptive) and duct testing (Mandatory). Duct testing and duct leakage shall be verified by compliance with either Section N1103.3.3.1 or N1103.3.3.2. Duct testing shall be verified using one of the two following methods:

N1103.3.3.1 Total duct leakage. Total duct leakage shall be less than or equal to 5 CFM (12 L/min) per 100 ft^2 (9.29 m^2) of conditioned floor area served by that system when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure.

During testing:

1. Block, if present, ventilation air duct(s) connected to the conditioning system.
2. The duct air leakage testing equipment shall be attached to the largest return in the system or to the air handler.
3. The filter shall be removed and the air handler power shall be turned off.
4. Supply boots or registers and return boxes or grilles shall be taped, plugged, or otherwise sealed air tight.
5. The hose for measuring the 25 Pascals of pressure differential shall be inserted into the boot of the supply that is nominally closest to the air handler.
6. Specific instructions from the duct testing equipment manufacturer shall be followed to reach duct test pressure and measure duct air leakage.

N1103.3.3.2 Duct leakage to the outside. Conduct the test using fan pressurization of distribution system and building at a fixed reference pressure for combined supply and return leaks. Duct leakage to the outside shall be less than or equal to 4 CFM (12 L/min) per 100 ft^2 (9.29 m^2) of conditioned floor area served by that system when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, relative to the outside, including the manufacturer's air handler enclosure.

During testing:

1. Block, if present, the ventilation air duct(s) connected to the conditioning system.
2. The duct air leakage testing equipment shall be attached to the largest return in the system or to the air handler.
3. The filter shall be removed and the air handler power shall be turned off.
4. Supply boots or registers and return boxes or grilles shall be taped, plugged, or otherwise sealed air tight or as tight as possible.
5. The hose for measuring the 25 Pascals of pressure differential shall be inserted into the boot of the supply that is nominally closest to the air handler.
6. Open all interconnecting doors in the building, close dampers for fireplaces and other operable dampers.
7. Set up an envelope air moving/flow-regulating/flow measurement assembly, such as a blower door, following the manufacturer's prescribed procedure.
8. Specific instructions from the duct testing equipment manufacturer shall be followed to reach duct test pressure and measure duct air leakage used in combination with a blower door. Typical steps are as follows:
   a. Depressurize the ductwork system to 25 Pa using the measurement hose in Step 5 above.
   b. Depressurize the house to 25 Pa using an envelope air moving/flow-regulating/flow measurement assembly, such as a blower door.
   c. Correct the duct pressure to measure 0 Pa of pressure differential between the house and the ductwork system.
   d. M of duct leakage using the procedures for the specific equipment being used. (Note that most automatically calculating pressure gauges cannot compute the CFM25 automatically with a duct-to-house difference in pressure of 0 Pa, so the gauge setting should be set to read CFM instead of CFM25).

Testing shall be performed and reported by the permit holder, a North Carolina licensed general contractor, a North Carolina licensed HVAC contractor, a North Carolina licensed Home Inspector, a registered design professional, a certified BPI Envelope Professional or a certified HERS rater. A single point depressurization, not temperature corrected, test is sufficient to comply with this provision, provided that the duct testing fan assembly(s) has been certified by the manufacturer to be capable of conducting tests in accordance with ASTM E1554-07.

The duct leakage information, including duct leakage test selected and result, tester name, date, and contact information, shall be included on the certificate described in Section N1101.14.

For the Test Criteria, the report shall be produced in the following manner: perform the HVAC system air leakage test and record the CFM25. Calculate the total square feet of Conditioned Floor Area (CFA) served by that system. Multiply CFM25 by 100, divide the result by the CFA and

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record the result. If the result is less than or equal to 5 CFM25/100SF for the "Total duct leakage test" or less than or equal to 4 CFM25/100SF for the "Duct leakage to the outside" test, then the HVAC system air tightness is acceptable.

Complete one duct leakage report for each HVAC system serving the home:

Property Address: _____

Test Performed: Total duct leakage or Duct leakage to the outside (circle one)

HVAC System Number: _____ Describe area of home served: _____

CFM25 Total _____. Conditioned Floor Area (CFA) served by system: _____ s.f.

CFM25 × 100 divided by CFA = ____ CFM25/100SF (e.g. 100 CFM25 × 100/2,000 CFA = 5 CFM25/100SF)

Fan attachment location _____

Company Name _____

Contact Information: _____

_____

_____ _____

Signature of Tester Date

Permit Holder, NC Licensed General Contractor, NC Licensed HVAC Contractor,
NC Licensed Home Inspector, *Registered Design Professional*,
Certified *BPI Envelope Professional,* or Certified *HERS Rater*
(circle one)

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Signature: Tim Busche
Title: Staff Plan Reviewer
Date: **6/27/22**

MUST BE COMPLETED BY BUILDER ON SITE

E-4D:

SAMPLE WORKSHEETS FOR RESIDENTIAL AIR AND DUCT LEAKAGE TESTING

E-4D.1
AIR SEALING: TESTING
(Section N1102.4.2.2)
Sample Worksheet for Alternative Residential Energy Code for Higher Efficiency

Air sealing. Building envelope air tightness shall be demonstrated by Section N1102.4.2.2:

Air sealing: Testing option (Section N1102.4.2.2) Sample Worksheet for Alternative Residential Energy Code for Higher Efficiency

N1102.4.2.2 Testing. Building envelope tightness shall be considered acceptable when items providing insulation enclosure in Section N1102.2.14 and enclosure air sealing in Section N1102.2.15 and air sealing in Section N1102.4.1 are addressed and when tested air leakage is less than or equal to one of the two following performance measurements:

1. 0.24 CFM50 (6.8 L/min)/square foot of surface area (SFSA) or
2. Four (4) air changes per hour (ACH50)

When tested with a blower door fan assembly, at a pressure of 0.2 inches water gauge (50 Pa), a single point depressurization, not temperature corrected, test is sufficient to comply with this provision, provided that the blower door fan assembly has been certified by the manufacturer to be capable of conducting tests in accordance with ASTM E779—03. Testing shall occur after rough in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. Testing shall be reported by the permit holder, a North Carolina licensed general contractor, a North Carolina licensed HVAC contractor, a North Carolina licensed Home Inspector, a r*egistered design professional*, a certified *BPI Envelope Professional* or a certified *HERS rater*.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed;
2. Dampers shall be closed, but not sealed, including exhaust, backdraft, and flue dampers;
3. Interior doors shall be open;
4. Exterior openings for continuous ventilation systems, air intake ducted to the return side of the conditioning system, and energy or heat recovery ventilators shall be closed and sealed;
5. Heating and cooling system(s) shall be turned off; and
6. Supply and return registers shall not be sealed.

The air leakage information, including building air leakage result, tester name, date, and contact information, shall be included on the certificate described in Section N1101.14.

F**or Test Criteria 1** in this section, the report shall be produced in the following manner: Perform the blower door test and record the *CFM50*_____. Calculate the total square feet of surface area for the building thermal envelope, all floors, ceilings, and walls (this includes windows and doors) and record the area_____. Divide *CFM50* by the total square feet and record the result below. If the result is less than or equal to **[0.24 CFM50/SFSA]** the envelope tightness is acceptable; or

For Test Criteria 2, the report shall be produced in the following manner: Perform a blower door test and record the *CFM50* = _____. Multiply the *CFM50* by 60 minutes to create CF/Hour50 and record = _____. Then calculate the total conditioned volume of the home and record = _____cubic feet. Divide the CF/Hour50 by the total volume and record the result = _____ ACH50. If the result is less than or equal to **[4 ACH50]** the envelope tightness is acceptable.

Property Address: _____ _____

Fan attachment location _____ Company Name _____

Contact Information: _____

_____

_____ _____

Signature of Tester Date

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Title: Staff Plan Reviewer
Date: 6/27/22

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NC Licensed Home Inspector, *Registered Design Professional*,
Certified *BPI Envelope Professional,* or Certified *HERS Rater*
(circle one)

E-4D.2
DUCT SEALING. Duct air leakage test (Section N1103.3.3) Sample Worksheet for Alternative Residential Energy Code for Higher Efficiency

N1103.3.3 Duct leakage (Prescriptive) and duct testing (Mandatory). Duct testing and duct leakage shall be verified by compliance with either Section N1103.3.3.1 or N1103.3.3.2. Duct testing shall be performed and reported by the permit holder, a NC licensed general contractor, a NC licensed HVAC contractor, a NC licensed Home Inspector, a *registered design professional*, a certified *BPI Envelope Professional* or a certified *HERS rater*. A single point depressurization, not temperature corrected, test is sufficient to comply with this provision, provided that the duct testing fan assembly(s) has been certified by the manufacturer to be capable of conducting tests in accordance with ASTM E1554—07.

The duct leakage information, including duct leakage test selected and result, tester name, date, and contact information, shall be included on the certificate described in Section N1101.3.

For the Test Criteria, the report shall be produced in the following manner: perform the HVAC system air leakage test and record the CFM25. Calculate the total square feet of Conditioned Floor Area (CFA) served by that system. Multiply CFM25 by 100, divide the result by the CFA and record the result. If the result is less than or equal to 4 CFM25/100SF for the "Total duct leakage test or less than or equal to 3 CFM25/100SF for the Duct leakage to the outside" test, then the HVAC system air tightness is acceptable.

Exceptions to testing requirements:

1. Duct systems or portions thereof inside the building thermal envelope shall not be required to be leak tested.
2. Installation of a partial system as part of replacement, renovation or addition does not require a duct leakage test.

1103.3.3.1 Total duct leakage. Total duct leakage less than or equal to 4 CFM (113 L/min) per 100 ft^2 (9.29 m^2) of conditioned floor area served by that system when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. During testing:

1. Block, if present, ventilation air duct(s) connected to the conditioning system.
2. The duct air leakage testing equipment shall be attached to the largest return in the system or to the air handler.
3. The filter shall be removed and the air handler power shall be turned off.
4. Supply boots or registers and return boxes or grilles shall be taped, plugged, or otherwise sealed air tight
5. The hose for measuring the 25 Pascals of pressure differential shall be inserted into the boot of the supply that is nominally closest to the air handler.
6. Specific instructions from the duct testing equipment manufacturer shall be followed to reach duct test pressure and measure duct air leakage.

1103.3.3.2 Duct leakage to the outside. Conduct the test using fan pressurization of distribution system and building at a fixed reference pressure for combined supply and return leak. Duct leakage to the outside shall be less than or equal to 3 CFM (85 L/min) per 100 ft^2 (9.29 m^2) of conditioned floor area served by that system when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, relative to the outside, including the manufacturer's air handler enclosure.

During testing:

1. Block, if present, the ventilation air duct(s) connected to the conditioning system.
2. The duct air leakage testing equipment shall be attached to the largest return in the system or to the air handler.
3. The filter shall be removed and the air handler power shall be turned off.
4. Supply boots or registers and return boxes or grilles shall be taped, plugged, or otherwise sealed air tight or as tight as possible.
5. The hose for measuring the 25 Pascals of pressure differential shall be inserted into the boot of the supply that is nominally closest to the air handler.
6. Open all interconnecting doors in the building, close dampers for fireplaces and other operable dampers.
7. Set up an envelope air moving/flow-regulating/flow measurement assembly, such as a blower door, following the manufacturer's prescribed procedure.
8. Specific instructions from the duct testing equipment manufacturer shall be followed to reach duct test pressure and measure duct air leakage used in combination with a blower door. Typical steps are as follows:
    a. Depressurize the ductwork system to 25 Pa using the measurement hose in Step 5 above.
    b. Depressurize the house to 25 Pa using an envelope air moving/flow-regulating/flow measurement assembly, such as a blower door.
    c. Correct the duct pressure to measure 0 Pa of pressure differential between the house and the ductwork system.
    d. Read the CFM of duct leakage using the procedures for the specific equipment being used. (Note that most automatically calculating pressure gauges cannot compute the CFM25 automatically with a duct-to-house difference in pressure of 0 Pa, so the gauge setting should be set to read CFM instead of CFM25).

MUST BE COMPLETED BY BUILDER ON SITE

APPENDIX E

Complete one duct leakage report for each HVAC system serving the home:

Property Address: _____

HVAC System Number: _____ Describe area of home served: _____

CFM25 Total _____. Conditioned Floor Area (CFA) served by system: _____ s.f.

CFM25 × 100 divided by CFA = _____ CFM25/100 SF

(e.g. 50 CFM25 × 100/ 2,000 CFA = 2.5 CFM25/100SF)

Fan attachment location _____

Company Name _____

Contact Information: _____

_____

_____ _____

Signature of Tester Date

Permit Holder, NC Licensed General Contractor, NC Licensed HVAC Contractor,
NC Licensed Home Inspector, *Registered Design Professional*,
Certified *BPI Envelope Professional*, or Certified *HERS Rater*
(circle one)

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Signature: Tim Busche
Title: Staff Plan Reviewer
Date: **6/27/22**

	LVL		CAPE ROOF BEAM																							
			TRUSS REACTION (LBS) / TRUSS SPACING (IN O.C.)																							
	HEADER SIZE	HEADER CALL-OUT	700 LBS			750 LBS			800 LBS			850 LBS			900 LBS			1000 LBS			1100 LBS			1200 LBS		
			24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.
SINGLE PLY ROOF BEAM	1½x7¼"	ML-8	127 / 1	111 / 2	101 / 2	124 / 2	109 / 2	99 / 2	122 / 2	106 / 2	97 / 2	119 / 2	104 / 2	95 / 2	117 / 2	101 / 2	93 / 2	113 / 2	99 / 2	89 / 2	109 / 2	96 / 2	85 / 3	106 / 2	93 / 2	81 / 3
	1½x9¼"	ML-10	163 / 2	142 / 2	129 / 2	159 / 2	139 / 2	126 / 3	156 / 2	136 / 2	123 / 3	152 / 2	133 / 2	121 / 3	150 / 2	131 / 2	117 / 3	144 / 2	126 / 3	111 / 3	140 / 2	122 / 3	106 / 3	136 / 2	117 / 3	101 / 3
	1½x11¼"	ML-11	198 / 2	173 / 2	157 / 3	193 / 2	169 / 3	153 / 3	189 / 2	165 / 3	149 / 3	185 / 2	162 / 3	144 / 3	182 / 2	159 / 3	140 / 3	176 / 2	153 / 3	133 / 3	170 / 3	146 / 3	127 / 4	165 / 3	140 / 3	121 / 4
	1½x11⅞"	ML-12	209 / 2	182 / 3	166 / 3	204 / 2	178 / 3	161 / 3	200 / 2	174 / 3	156 / 3	196 / 2	171 / 3	152 / 3	192 / 2	168 / 3	147 / 3	185 / 3	161 / 3	140 / 4	180 / 3	154 / 3	133 / 4	174 / 3	147 / 3	128 / 4
	1½x14"	ML-14	246 / 2	215 / 3	194 / 3	241 / 2	210 / 3	188 / 4	236 / 3	206 / 3	182 / 4	231 / 3	202 / 3	176 / 4	227 / 3	198 / 3	171 /4	219 / 3	188 / 4	162 / 4	212 / 3	179 / 4	155 / 4	206 / 3	171 / 4	148 / 4
	1½x16"	ML-16	282 / 3	246 / 3	219 / 4	275 / 3	240 / 3	212 / 4	269 / 3	235 / 4	205 / 4	264 / 3	230 / 4	199 / 4	259 / 3	223 / 4	193 / 4	250 / 3	212 / 4	183 / 4	242 / 3	202 / 4	175 / 5	235 / 4	193 / 4	167 / 5
	1½x18"	ML-18	317 / 3	277 / 4	244 / 4	310 / 3	271 / 4	236 / 4	303 / 3	264 / 4	228 / 4	297 / 3	256 / 4	222 / 5	291 / 3	249 / 4	215 /5	281 / 4	236 / 4	204 / 5	273 / 4	225 / 5	195 / 5	264 / 4	215 / 5	186 / 5
	1½x20"	ML-20	352 / 3	308 / 4	269 / 5	344 / 3	300 / 4	260 / 5	337 / 3	290 / 4	251 / 5	330 / 4	282 / 4	24 / 5	324 / 4	274 / 5	237 / 5	313 / 4	260 / 5	225 / 5	303 / 4	248 / 5	214 / 6	290 / 4	237 / 5	3205 / 6
	1½x22"	ML-22	388 / 3	338 / 4	293 / 5	379 / 4	327 / 5	283 / 5	371 / 4	317 / 5	274 / 5	363 / 4	307 / 5	266 / 5	356 / 4	299 / 5	259 / 6	344 / 4	283 / 5	245 / 6	331 / 4	270 / 5	234 / 6	317 / 5	259 / 6	224 / 6
	1½x24"	ML-24	423 / 4	367 / 5	317 / 5	413 / 4	354 / 5	307 / 6	404 / 4	343 / 5	297 / 6	396 / 4	333 / 5	288 / 6	389 / 4	323 / 5	280 / 6	375 / 5	307 / 6	266 / 6	358 / 5	292 / 6	253 / 7	343 / 5	280 / 6	242 / 7
DOUBLE PLY ROOF BEAM	1½x7¼"	(2)ML-8	161 / 1	140 / 2	127 / 2	157 / 1	137 / 2	124 / 2	154 / 1	134 / 1	122 / 2	151 / 1	131 / 1	119 / 2	148 / 1	129 / 1	117 / 2	143 / 1	124 / 2	113 / 2	138 / 1	121 / 2	109 / 2	134 / 1	117 / 2	106 / 2
	1½x9¼"	(2)ML-10	205 / 2	179 / 2	163 / 2	200 / 1	175 / 2	157 / 2	196 / 1	171 / 2	156 / 2	192 / 1	168 / 2	152 / 2	189 / 1	165 / 2	150 / 2	182 / 1	159 / 2	144 / 2	176 / 2	154 / 2	140 / 2	171 / 2	150 / 2	136 / 2
	1½x11¼"	(2)ML-11	249 / 2	218 / 2	198 / 2	244 / 2	213 / 2	193 / 2	239 / 2	208 / 2	189 / 2	234 / 2	204 / 2	185 / 2	229 / 2	200 / 2	182 / 2	221 / 2	193 / 2	176 / 2	215 / 2	187 / 2	170 / 3	208 / 2	182 / 2	165 / 3
	1½x11⅞"	(2)ML-12	263 / 2	230 / 2	209 / 3	257 / 2	225 / 2	204 / 3	252 / 0	220 / 2	200 / 2	247 / 2	216 / 2	196 / 2	242 / 2	211 / 2	192 / 2	234 / 2	204 / 2	185 / 3	226 / 2	198 / 2	180 / 3	220 / 2	192 / 2	174 / 3
	1½x14"	(2)ML-14	311 / 2	271 / 2	246 / 3	304 / 2	265 / 2	241 / 3	297 / 2	259 / 2	236 / 3	291 / 2	254 / 2	231 / 3	286 / 2	249 / 2	227 / 3	276 / 2	241 / 2	219 / 3	267 / 2	233 / 3	212 / 3	259 / 2	227 / 3	206 / 3
	1½x16"	(2)ML-16	355 / 2	310 / 3	282 / 3	347 / 2	303 / 3	275 / 3	340 / 2	297 / 3	269 / 3	333 / 2	291 / 3	264 / 3	326 / 2	285 / 3	259 / 3	315 / 2	275 / 3	250 / 3	305 / 2	267 / 3	242 / 3	297 / 2	259 / 3	235 / 4
	1½x18"	(2)ML-18	399 / 2	349 / 3	317 / 4	390 / 2	341 / 3	310 / 4	382 / 2	334 / 3	303 / 3	374 / 2	327 / 3	297 / 3	367 / 2	321 / 3	291 / 3	355 / 2	310 / 3	281 / 4	344 / 3	300 / 3	273 / 4	334 / 3	291 / 3	264 / 4
	1½x20"	(2)ML-20	444 / 3	388 / 3	352 / 4	434 / 3	379 / 3	344 / 4	425 / 3	371 / 3	337 / 4	416 / 3	363 / 3	330 / 4	408 / 2	357 / 3	324 / 4	394 / 3	344 / 3	313 / 4	382 / 3	333 / 3	303 / 4	371 / 3	324 / 4	290 / 4
	1½x22"	(2)ML-22	488 / 3	427 / 4	388 / 4	477 / 3	417 / 4	379 / 4	467 / 3	408 / 4	371 / 4	458 / 3	400 / 3	363 / 4	449 / 3	392 / 3	356 / 4	434 / 3	379 / 4	344 / 4	420 / 3	367 / 4	331 / 4	408 / 3	356 / 4	317 / 5
	1½x24"	(2)ML-24	533 / 3	465 / 4	423 / 5	521 / 3	455 / 4	413 / 5	510 / 3	445 / 1	404 / 4	499 / 3	436 / 4	396 / 4	490 / 3	428 / 4	389 / 4	473 / 3	413 / 4	375 / 5	458 / 3	400 / 4	358 / 5	445 / 3	389 / 4	343 / 5

*NOTES: 1. NUMBER OF JACK STUDS IN CHART IS BASED ON WORST CASE OF BEARING AREA & UPLIFT STRAP REQUIREMENTS, EACH COLUMN PLY SHALL HAVE (1) 26 GA UPLIFT STRAP PER FA01.01
2. ACTUAL TRUSS REACTIONS MAY BE +15LBS FROM CHART AND STILL USE THE LOWER VALUE. (IE: 1,015 LBS REACTION MAY USE 1,000 LBS COLUMN)

LVL MINIMUM SPECIFICATIONS:
F_B = 2,900 PSI
F_V = 280 PSI
E = 2,000,000 PSI

	LUMBER (SPF#2 / SYP#2)		CAPE ROOF BEAM																							
			TRUSS REACTION (LBS) / TRUSS SPACING (IN O.C.)																							
	HEADER SIZE	HEADER CALL-OUT	700 LBS			750 LBS			800 LBS			850 LBS			900			1000			1100			1200		
			24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.	24" O.C.	16" O.C.	12" O.C.
SINGLE PLY	2x8	M2-8	81 / 1	66 / 1	57 / 1	78 / 1	64 / 1	55 / 1	76 / 1	62 / 1	54 / 1	74 / 1	60 / 1	52 / 1	72 / 1	58 / 1	50 / 1	68 / 1	55 / 1	46 / 2	65 / 1	53 / 1	42 / 2	62 / 1	50 / 1	39 / 2
	2x10	M2-10	96 / 1	79 / 1	68 / 2	93 / 1	76 / 1	66 / 2	90 / 1	74 / 1	64 / 2	87 / 1	71 / 1	62 / 2	85 / 1	69 / 2	60 / 2	81 / 1	66 / 2	57 / 2	77 / 1	63 / 2	54 / 2	74 / 1	60 / 2	49 / 2
	2x12	M2-12	114 / 1	93 / 2	80 / 2	110 / 1	90 / 2	77 / 2	106 / 1	87 / 2	75 / 2	103 / 1	84 / 2	73 / 2	100 / 1	82 / 2	71 / 2	95 / 2	77 / 2	67 / 2	91 / 2	74 / 2	64 / 2	87 / 2	71 / 2	60 / 2
DOUBLE PLY	2x8	(2)M2-8	115 / 1	94 / 2	81 / 2	111 / 1	91 / 2	78 / 2	108 / 1	88 / 2	76 / 2	104 / 1	85 / 2	74 / 2	101 / 1	83 / 2	72 / 2	96 / 2	78 / 2	68 / 2	92 / 2	75 / 2	65 / 2	88 / 2	72 / 2	62 / 2
	2x10	(2)M2-10	137 / 2	111 / 2	96 / 2	132 / 2	108 / 2	93 / 2	128 / 2	104 / 2	90 / 2	124 / 2	101 / 2	87 / 2	120 / 2	98 / 2	85 / 2	114 / 2	93 / 2	81 / 2	109 / 2	89 / 2	77 / 2	104 / 2	85 / 2	74 / 2
	2x12	(2)M2-12	161 / 2	131 / 2	114 / 2	155 / 2	127 / 2	110 / 2	150 / 2	123 / 2	106 / 2	146 / 2	119 / 2	103 / 2	142 / 2	116 / 2	100 / 2	135 / 2	110 / 2	95 / 3	128 / 2	105 / 2	91 / 3	123 / 2	100 / 2	87 / 3

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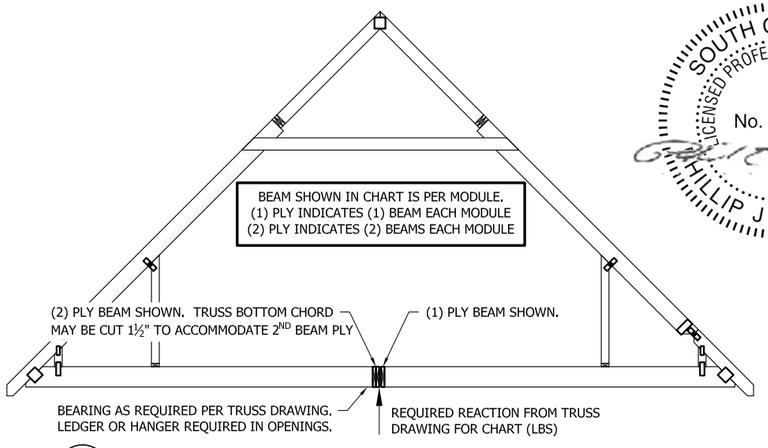
PFS CORPORATION
Approval Limited to Factory Built Portion Only

State: North Carolina
Signature: Tim Busche
Title: Staff Plan Reviewer
Date: 6/27/22



A / RF03.03 TYPICAL CAPE TRUSS - SPACING PER TRUSS DRAWING AND ROOF LOAD
SEE RF08 FOR INFORMATION NOT SHOWN

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 25954
PHILLIP J COPELAND
03/10/2021

CHAMPION HOME BUILDERS
755 W. BIG BEAVER ROAD, SUITE 1000 TROY, MI 48084
PHONE: 248-614-8200

ENGINEER'S / ARCHITECT'S SEAL
NORTH CAROLINA PROFESSIONAL SEAL 049435 ENGINEER STEVEN C. DAME
03/10/2021

APPROVER'S SEAL
COMMONWEALTH OF VIRGINIA
STEVEN C DAME
Lic. No. 0402059717
PROFESSIONAL ENGINEER
03/10/2021

MODIFICATIONS

TITLE:
CAPE ROOF BEAM SPAN CHARTS

MODEL:

DATE: 03/10/2021	SCALE:
DRAWN BY: CORP.	CHECKED BY:
BLDG CODE: ASCE7-16, NDS 2018	
CALCS: RF105	
FILENAME: 12-ROOF SECTION	
SHEET NO.: RF03.04	
PAGE: 1 OF 1	