NTA® ICC INTERNATIONAL CODE COUNCIL®

TESTING • INSPECTION • ENGINEERING

305 N. OAKLAND AVE. • P.O. BOX 490 • NAPPANEE, IN 46550 • P: 574.773.7975 • F: 574.773.2732 • ICC-NTA.ORG

January 24, 2025

Mr. Shane Phelps
NC Dept. of Insurance
Manufactured Building Division
1202 Mail Service Center
Raleigh, NC 27699-1202

Re: R-Anell Housing Group

Model Submittal
3R2202-R33-NC

Dear Mr. Phelps:

Attached please find one (1) copy of each of the above-mentioned projects for your review. This project has been reviewed by NTA and found to be in compliance with the North Carolina State requirements.

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

Sincerely,

Luke Lehman

Luke Lehman
Account Manager
ICC NTA, LLC

Adopted Codes: State of North Carolina

2018 North Carolina Residential Code
2017 North Carolina Electrical Code (2017 NEC)
2018 North Carolina Energy Code
2018 North Carolina Mechanical Code
2018 North Carolina Plumbing Code
2018 North Carolina Fuel Gas Code
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Project Location:

TBD Lucas Street
Harnett, NC 28339
HARNETT County

Occupancy:

Occupancy: .....IRC - Single Family Dwelling
Construction Type: .....5B (Wood Frame - Unprotected)
Number of Stories: .....One Story Cape

Design Load:

Floor Area: .....2771 Sq.Ft.
Ground Snow Load: .....20 psf
Top Chord Dead Load: .....10 psf
Ultimate Wind Speed: ..... 120 mph
Seismic Design Category: ...C
Floor Live Load: .....40 psf
Floor Dead Load: .....10 psf
Bottom Chord Live Load: See Truss Diagram
Wind Exposure Category: .....B
IECC Geographical Code: 4

Insulation

Reference RESCheck for Requirements.

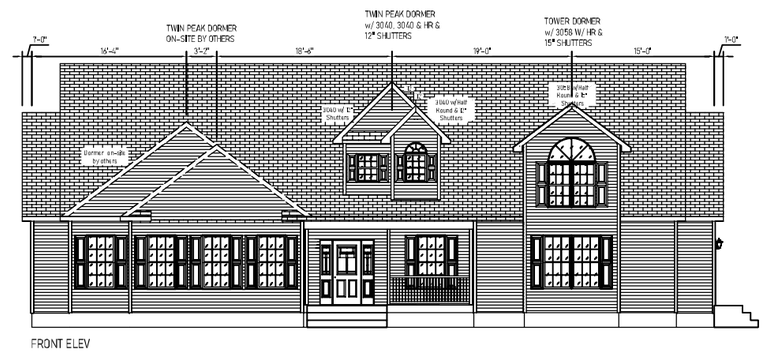
Attention Local Inspection Departments:

1. Set-up instructions for this modular unit are included by attachment to these plans. Any plans set that does not include an attachment entitled "MODULAR HOME INSTALLATION MANUAL" is incomplete.
2. The following items are not completed by the home manufacturer, are not inspected by in-factory third party inspectors, and are not certified by the modular compliance label: (A) Components or connections for heating or air conditioning systems which are NOT part of the factory installation. (B) Below floor ducts. (C) Electrical service disconnect. (D) Foundation designs and attachments. In order to verify that all required systems connections are complete, refer to the "Inspection Check Sheet" in the manufacturer's modular home installation manual. Regardless of factory or site installation, the furnace, water heater, and all elements of heating system must be per applicable codes, (refer to ResCheck if applicable). (E) The following items are omitted: furnace, heat ducts, and ceiling room to room return air jumpers.
3. Site installed furnace must meet IECC Energy Efficiency Certificate if applicable.
4. This unit must be connected to a public water supply and sewer system if these are available.
5. ***If this structure is in a thermal zone more stringent than that listed on these plans, is set on pilings, or is installed at a mountain region or coastal high hazard site such that wind or other design parameters are increased, the design must be determined to be adequate for actual site conditions. Alterations may be required to bring the home into compliance with the more stringent conditions.***
6. Soffit materials for this unit assume that the building face will be 10 feet or greater from the property line when installed on site. Where the building face is less than 10 feet from the property line, underlayment materials and ventilation in accordance with **Section R302.1.1, NC Residential Code**, must be provided and installed at the site and inspected by the local jurisdiction.
7. If after installation of this home, the lowest part of the clear opening of any window is more than 72" above the finished grade, guards will be required to be installed onsite in accordance with **Section R312**; subject to local inspection.
8. Partial plumbing installation (stubbed in) requires full DWV testing in field. Testing of factory portion of DWV is not required unless partial testing is mandated by code.
9. Smoke detectors required by code that are not shown on the plan will be site installed by others and are subject to inspection by the authority having jurisdiction.
10. Where required, window protection designed and provided on site by others to meet applicable local codes.

Model: 3R2202-R33
Customer: Strickland
Builder: HBV

Manufacturer:

R-Anell Housing Group, LLC
Commodore Homes, LLC
235 Anthony Grove Rd.
Crouse, NC 28033



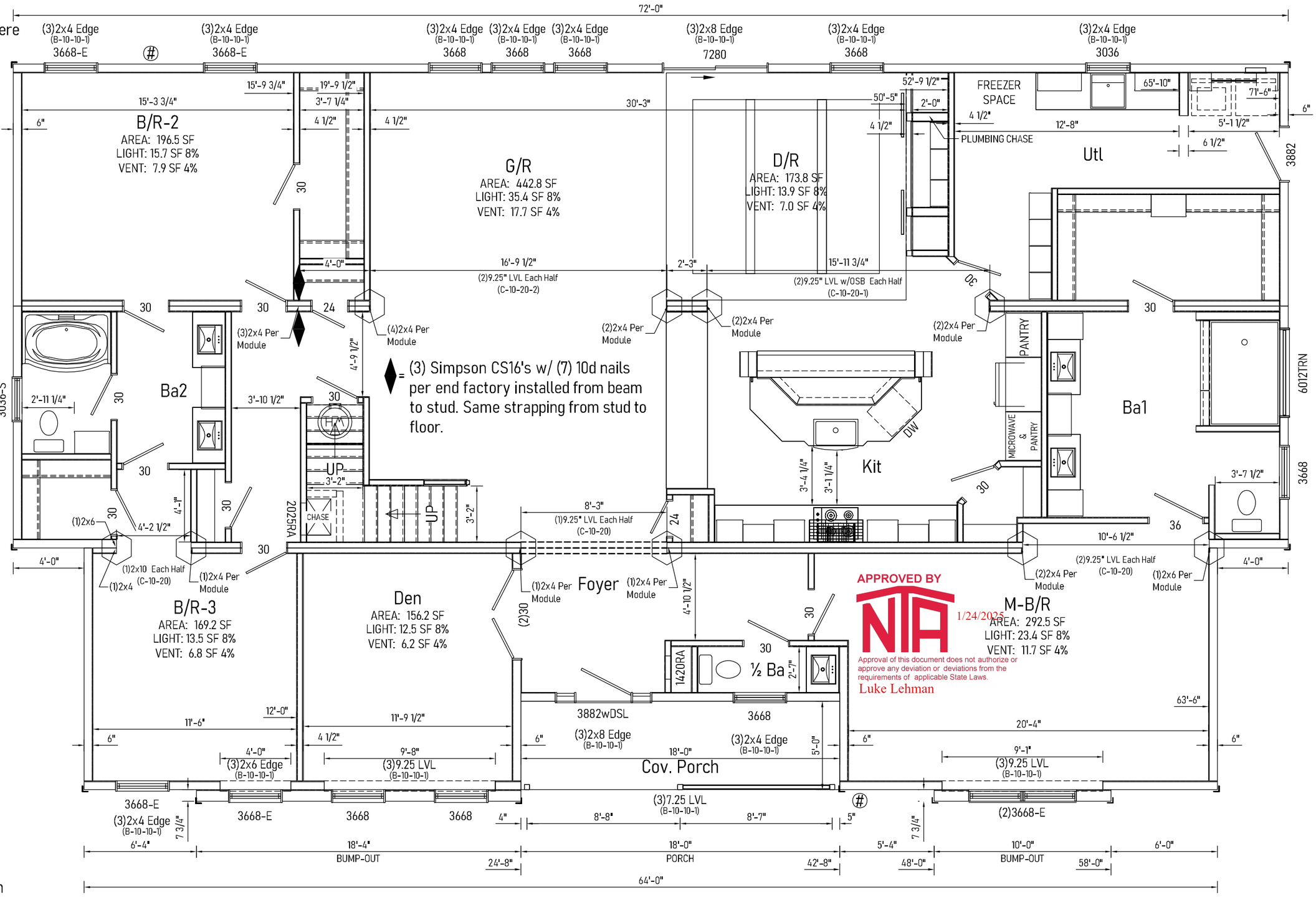
FRONT ELEV

Drawing Index

APPROVED BY
NTA
1/24/2025
Approval of this document does not authorize or approve any deviation or deviations from the requirements of applicable State Laws.
Luke Lehman

Note: Window fall protection must be provided on-site where required in accordance with applicable code.

Note:
* LVLs noted must extend past column on at least one end 24" minimum and be overlayed with OSB sheathing.



Notes:
1. Exterior opening headers and jack studs are SPF #2 unless otherwise noted.
2. Sidewall headers may use alternate construction per section B-10 of Systems Manual.
3. LVL's where specified to be minimum of 1 1/2" wide, M.O.E. = 2.0 and fb = 2900 PSI.
4. See C-10-45 for stair opening framing.
5. See C-10-105 for dormer opening framing.

See Schedules and General Notes Page

◇ = Column Support Location

AC = Attic Access

Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: 3/16" = 1'-0"	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33
Title: Floor Plan			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: FP

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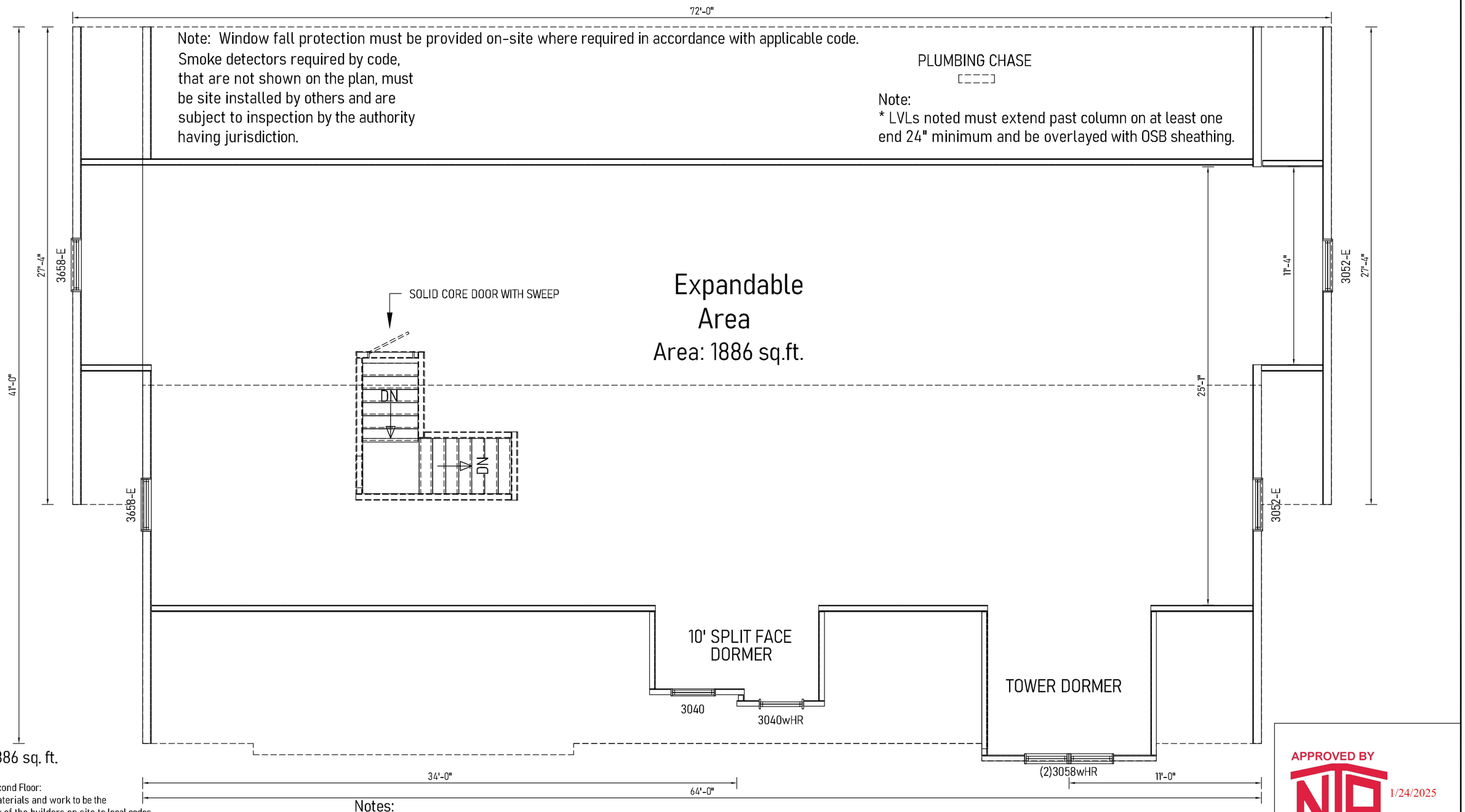

Note: Window fall protection must be provided on-site where required in accordance with applicable code.
Smoke detectors required by code, that are not shown on the plan, must be site installed by others and are subject to inspection by the authority having jurisdiction.

PLUMBING CHASE

Note:
* LVLs noted must extend past column on at least one end 24" minimum and be overlayed with OSB sheathing.

Area: 1886 sq. ft.

Proposed Second Floor:
All design materials and work to be the responsibility of the builders on site to local codes. Light, vent, egress, heating and plumbing are the responsibility of the builder.

See Schedules and General Notes Page

⬡ = Column Support Location

AC = Attic Access

Notes:
1. Exterior opening headers and jack studs are SPF #2 unless otherwise noted.
2. Sidewall headers may use alternate construction per section B-10 of Systems Manual.
3. LVL's where specified to be minimum of 1 1/2" wide, M.O.E. = 2.0 and fb = 2900 PSI.
4. See C-10-45 for stair opening framing.
5. See C-10-105 for dormer opening framing.

Engineer seal applies ONLY to FACTORY MANUFACTURED portions of the building. Seal does not apply to site installed elements or portions built on site such as, but not limited to; foundation, connections to foundation, exterior steps, smoke detectors, or other site works. Site work must be designed BY OTHERS for site conditions, under local jurisdiction. COMPLIANCE WITH ALL APPLICABLE CODES PER LOCAL AUTHORITY HAVING JURISDICTION, WHETHER DETAILED IN THIS SET OR NOT, MUST BE MET.

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NTA
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Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: 3/16" = 1'-0"	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33
Title: Proposed Cape Floor Plan			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: PCFP

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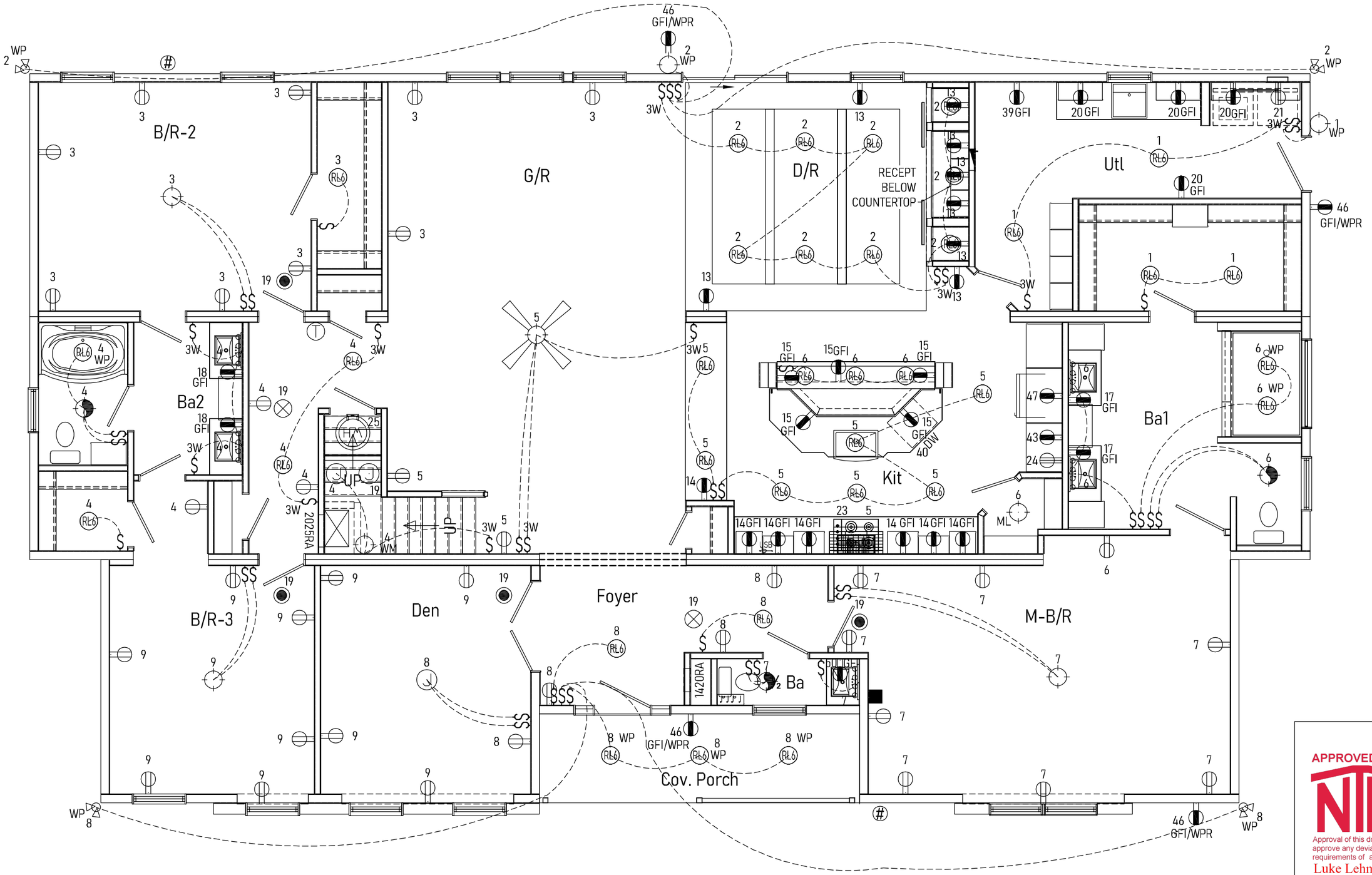

See Schedules and General Notes Page

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Title: Electrical Plan			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: EP

N:\R-ANELL\3R\24-3R2202-R33\

Optional Method Load Calculation for One-Family Dwellings

Model # 3R2202-R33

1 General Lighting and Receptacle Loads 220.82(B)(1) *Do not include open porches, garages, or unused or unfinished spaces not adaptable for future use.*	3 x 4657 = (ft² using outside dimensions)	1	13971
2 Small-Appliance Branch Circuits 220.82(B)(2) *At least two small-appliance branch circuits must be included. 210.11(C)(1)*	1500 x 3 = (minimum of two)	2	4500
3 Laundry Branch Circuits(s) 220.82(B)(2) *At least one laundry branch circuit must be included. 210.11(C)(2)*	1500 x 1 = (minimum of one)	3	1500
4 Appliances 220.82(B)(3) and (4) *Use the nameplate rating of all appliances (fastened in place, permanently connected, or connected to a specific circuit), ranges, ovens, cooktops, motors, and clothes dryers. Convert any nameplate rating given in amperes to volt-amperes by multiplying the amperes by the rated voltage.*	*Do NOT include any heating or A/C equipment in this section.* Total volt-amps of all app. LISTED BLEOW	4	32900

(1) Electric H_2O Heater 4.5 KVA; (1) Electric Dryer 5.4 KVA; (1) Electric Cooktop 7.4 KVA; (1) Electric Wal Oven (S) 3.6 KVA; (0) Electric Wal Oven (D) 0 KVA; (3) Bath Circ's 4.5 KVA; (5) Vent Fans 1.5 KVA; (1) Microwave 1.5 KVA; (1) Dishwashe 1.5 KVA; (1) Freezer 1.5 KVA; (1) Refrigerato 1.5 KVA; KVA

5 Apply 220.82(B) demand factor to the total of lines 1 through 4.
52871 - 10,000 = 42871 x 40 % = 17148 + 10,000 = **27148**
(total of lines 1-4)

6 Heating or Air-Conditioning System 220.82(C). *Use the nameplate ratings in volt-amperes for all applicable systems in lines a through e.*

a) Air-conditioning and cooling systems, including heat pumps without any supplemental electric heating:
6000 x 100 % = a) 6000

b) Electric thermal storage & other heating systems where the usual load is expected to be continuous at full nameplate value. *Systems qualifying under this selection shall not be figured under any other selection in 220.82(C).*
0 x 100 % = b) 0

c) Supplemental electric heating equipment for heat-pump systems. Include the heat-pump compressor(s) at 100%. *If the heat-pump compressor is prevented from operating with the supplemental heat, omit the compressor.*
0 x 65 % = c) 0

d) Electric space-heating equipment, if fewer than four seperately controlled units:
20000 x 65 % = d) 13000

e) Electric space-heating equipment, if four or more seperately controlled units:
0 x 40 % = e) 0

7 Total Volt-Ampere Demand Load:	13000 (Largest VA rating, 6a - 6e)	+	27148 (Line 5)	= 7	40148
8 Minimum Amperes *Divide the total volt-amperes by voltage.*	40148 (line 7)	÷ 240 (voltage)	= 168 (min. amperes)	9 Minimum Size Service or Feeder 240.6(A)	200 Amps Installed
10 Size the Service or Feeder Conductors. *Use 310.15(B)(6) to find the service conduct up to 400 amperes. Ratings in excess of 400 amperes shall comply w/ Table 310.16. 310.15(B)(6) also applies to feeder conductors serving as the main power feeder.*				10 Minimum Size Conductors	2/0 Copper OR 4/0 Aluminum

LEGEND

=15 AMP RECPT; =15 AMP FLOOR RECPT; =20 AMP RECPT; =20 AMP FLOOR RECPT
=SWITCHED RECPT; =220 VOLT RECPT; WPR = WEATHERPROOF ENCLOSURE WITH WEATHE RESISTANT RECPT
=STD LIGHT; (R) =RECESSED LIGHT; (RL4) =RECESSED 4" LED LIGHT; (RL6) =RECESSED 6" LED LIGHT
18" FLOURESCENT; 48" FLOURESCENT; 24" STRIPLIGHT; PC =PULL CHAIN LIGHT
=UNDER CABINET LIGHT / WALL LIGHT; =UNDER CABINET STEREO
S =SWITCH; S DM =DIMMER SWITCH; S 3W =3-WAY SWITCH; S 3DM =3-WAY DIMMER SWITCH
=STANDARD VENT; =WIRE; =DOORBELL; =CHIMES
=WHOLE HOUSE VENTILATION FAN; ML =MOTION LIGHT; =STANDARD FAN; =STANDARD FAN w/LIGHT
=PHONE JACK; =DATA JACK; =TV JACK; (J) =JUNCTION BOX; (#) =HOSE BIBB
GFI =GROUND FAULT CIRCUIT INTERRUPTER; =BULLET; =PANEL BOX
WP =WET LOCATION; =SPEAKER; =AV JACK; =MEDIA RECEPT
=IONIZATION SMOKE ALARM; (T) =THERMOSTAT; F = FIRE EXTINGUISHER
=SMOKE/CO ALARM; PE = PHOTOELECTRIC SMOKE/CO ALARM; = CO ALARM

CIRCUIT ID NO.	LOAD	AMPS	POLES REQ'D	WIRE SIZE
1-12	General Lighting/Receptacles	15	1	NM14-2/WG
13-16	Small Appliance	20	1	NM12-2/WG
17-18	Bath (GFCI)	20	1	NM12-2/WG
19	Smoke Alarms (AFCI)	15	1	NM14-2/WG
20	Laundry	20	1	NM12-2/WG
21	Electric Dryer	30	2	NM10-3/WG
22	Electric Range	50	2	NM6-3/WG
23	Electric Cooktop	40	2	NM8-3/WG
24	Electric Wall Oven	20	2	NM12-2/WG
	Electric Wall Oven	40	2	NM8-2/WG
25	Electric W/H	25	2	NM10-2/WG
25.1	Tankless W/H	20	1	NM12-2/WG
26	Gas Furnace	15	1	NM14-2/WG
27	Electric Furnace	60/30	4	NM4-2/WG
	Electric Furnace	60/60	4	NM4-2/WG
28-37	Electric BB Heat	20	2	NM12-2/WG
38	A/C	50	2	NM6-2/WG
39	Freezer	20	1	NM12-2/WG
40	Dishwasher	15	1	NM14-2/WG
41	Disposal (GFCI)	15	1	NM14-2/WG
42	Whirlpool Tub (GFCI)	20	1	NM12-2/WG
43	Microwave Oven	20	1	NM12-2/WG
44	Garage (GFCI)	20	1	NM12-2/WG
46	Exterior Receptacles	15 (Opt. 20)	1	NM14-2/WG (Opt. NM12-2/WG)
47	Refrigerator	20	1	NM12-2/WG
50	Bath (GFCI)	20	1	NM12-2/WG

DOOR SCHEDULE

Description	Label	R/O SF	Light	Vent	Design Load
3882 9 Lite Exterior Door	3882	21.70	5.12	20.76	+50/-50
7280 Sliding Patio Door	7280	40.00	32.88	16.06	+50/-50
3882 Hinged - Exterior - 1/2 Lite - 12in DSL	3882wDSL	37.64	9.35	20.76	+20/-20
24 Hinged Interior Door	24	14.90	0.00	0.00	NA
36 Hinged Interior Door	36	21.77	0.00	0.00	NA
(2) 30 Interior Doors	(2)30	35.74	0.00	0.00	NA
30 Hinged Interior Door	30	18.33	0.00	0.00	NA

STAIRWAYS
RISER HEIGHT - 8 1/4" MAX.
TREAD DEPTH - 9" MIN.
HEAD ROOM 80" MIN.
NOTE: THE STAIRWELL GEOMETRY IN THIS HOME HAS BEEN DESIGNED TO THE CRITERIA ABOVE. IF MORE STRINGENT STAIR GEOMETRY IS REQUIRED OR DESIRED, PLEASE CONTACT THE PLANT OF MANUFACTURE FOR PLAN ADJUSTMENTS.

If an attached garage is to be added to this home, the entrance door to the home from the garage must be a self-closing fire rated door per applicable code.
Clothes dryer vents may need to be completed to the exterior of the home on site. Refer to sections of applicable local codes and to Section 8 of the home installation manual for required completion of dryer ventilation as necessary.

FOR PERMANENTLY CONNECTED APPLIANCES RATED AT OVER 300 VOLT-AMPERES OR 1/8 HP,THE BRANCH CIRCUIT BREAKER SHALL BE PERMITTED TO SERVE AS THE DISCONNECTING MEANS WHERE THE CIRCUIT BREAKER IS WITHIN SIGHT FROM THE APPLIANCE OR IS CAPABLE OF BEING LOCKED IN THE OPEN POSITION. THE LOCKING MEANS SHALL REMAIN IN PLACE WITH OR WITHOUT THE LOCK INSTALLED.
MAIN DISCONNECT SHALL BE LOCATED ON THE EXTERIOR OF THE HOME.

ELECTRICAL PLAN NOTES BASED ON NEC 2017:
1. ALL KITCHEN AND BATHROOM COUNTER RECEPTS TO BE GFCI PROTECTED.
2. ALL CLOSET LIGHTS TO BE ENCLOSED SURFACE MOUNT FIXTURES, 12" MIN. FROM STORAGE SPACE.
3. ALL RECEPTS TO BE GROUNDING TYPE, PER 406.4/NEC.
4. SPECS, WIRING, INSTALLATIONS, ETC. TO COMPLY WITH NEC REGULATIONS.
5. SERVICE PANEL MAY BE LOCATED IN GARAGE.
6. ALL SMOKE ALARMS TO HAVE BATTERY BACK-UP AND TO BE INTERCONNECTED WITH A 14 GA. MIN. INTERCONNECTION WIRE, 14-3 CABLE, OR EQUIVALENT PER MFG.S RECOMMENDATIONS.
7. EXTERIOR LIGHT AT GARAGE SIDE MAY BE REPLACED.
8. GAS APPLIANCES MAY BE SUBSTITUTED FOR ELECTRIC APPLIANCES WHERE APPLICABLE. WHEN GAS APPLIANCES ARE INSTALLED, ALL GAS PIPING, CONNECTIONS, HOOK-UPS, ETC, TO BE INSTALLED ON SITE BY OTHERS. THE OPTIONAL GARBAGE DISPOSAL CONNECTED TO INDEPENDENT RECEPTACLE AND WALL SWITCH.
9. 200 AMP PANEL BOX INSTALLED
10. ALL 120v GENERAL USE RECEPTS ARE TAMPER RESISTANT UNLESS MOUNTED AT LEAST 66" ABOVE FLOOR, OR ARE PART OF A LISTED LIGHT FIXTURE OR APPLIANCE, OR WHERE CORD & PLUG APPLIANCE IN DEDICATED SPACE IS NOT EASILY MOVED FOR USE.
11. ALL EXTERIOR RECEPTACLES ARE GFI, TAMPER RESISTANT AND LISTED FOR WET LOCATIONS.
12. COMBINATION TYPE AFCI BREAKERS ARE REQUIRED FOR ALL 120 V CIRCUITS EXCEPT THOSE SERVING BATHROOMS, GARAGE, LAUNDRY AREAS, KITCHENS, UNFINISHED BASEMENTS AND OUTDOORS.
13. ALL ELECTRICAL BOXES SUPPORTING LIGHTING FIXTURES MUST BE RATED @ 50# AND IDENTIFIED ON THE BOX.
14. WHIRLPOOL RECEPTACLES MUST BE GFCI, TAMPER RESISTANT AND READILY ACCESSIBLE PER NEC 680.71
15. A CIRCUIT BREAKER LOCKING DEVICE SHALL BE PROVIDED TO LOCK THE APPLICABLE BREAKERS IN THEIR "OFF" POSITION. THIS APPLIES TO CIRCUIT BREAKERS WHICH SERVE AS THE DISCONNECT FOR ELECTRIC WATER HEATERS, ELECTRIC BASEBOARD HEATERS, AND ANY APPLIANCE RATED OVER 300 WATTS OR 1/8 HORSEPOWER, WHICH ARE NOT LOCATED WITHIN CLEAR SIGHT OF THEIR DISCONNECT
16. A RECEPTACLE OUTLET IS REQUIRED FOR PORCHES, BALCONIES OR DECKS WHICH ARE ACCESSIBLE FROM THE INSIDE OF THE DWELLING UNIT REGARDLESS OF THE SIZE OF THE PORCH, BALCONY OR DECK.
17. NON-SWITCHED CIRCUIT NEUTRAL CONDUCTOR MUST BE PRESENT AT EACH WALL SWITCH. RE-IDENTIFIED CONDUCTORS WITH WHITE, GREY OR THREE STRIPE INSULATION MAY ONLY BE USED AS SUPPLY TO SWITCH AND NOT FOR HOT RETURN TO FIXTURE.
18. 120v 15 OR 20 AMP RECEPTS LOCATED WITHIN 6' FROM ANY DWELLING UNIT SINK MUST BE GFCI PROTECTED.
19. IF THE PERIMETERS OF THE AREAS OF THE ON-SITE INSTALLED STOOPS, PORCHES OR DECKS ARE NOT UNDER THE EXTERIOR ELECTRICAL RECEPTACLES SHOWN IN THE ELECTRICAL FLOOR PLAN, THEN ADDITIONAL RECEPTACLES SHALL BE SITE INSTALLED WITHIN THESE AREAS BY THE CONTRACTOR.

REFER TO RESCHECK FOR DOOR AND WINDOW U-VALUES

WINDOW SCHEDULE

AT LEAST ONE EGRESS WINDOW IS REQUIRED FOR EACH SLEEPING AREA WHERE NO EXTERIOR EXIT DOOR EXISTS.
S SUFFIX DENOTES SAFETY GLAZING / E SUFFIX DENOTES EGRESS

Label	Width R/O	Height R/O	R/O SF	Light	Vent	Room SF	U Value	Egress	Design Load	SHGC w/o Grids
(2)3668-E	73	68.5	34.73	28.01	13.84	346.00	0.34	Yes	+50/-50	0.23
3036	30.5	36.5	7.73	5.50	2.64	66.00	0.34	No	+50/-50	0.23
3036-S	30.5	36.5	7.73	5.50	2.64	66.00	0.34	No	+50/-50	0.23
3668	36.5	68.5	17.36	14.00	6.92	173.00	0.34	Yes	+50/-50	0.23
3668-E	36.5	68.5	17.36	14.00	6.92	173.00	0.34	Yes	+50/-50	0.23
6012TRN	60.5	12.5	5.25	3.71	0.00	0.00	0.31	No	+50/-50	0.26

WINDOW SCHEDULE - PROPOSED CAPE

AT LEAST ONE EGRESS WINDOW IS REQUIRED FOR EACH SLEEPING AREA WHERE NO EXTERIOR EXIT DOOR EXISTS.
S SUFFIX DENOTES SAFETY GLAZING / E SUFFIX DENOTES EGRESS

Label	Width R/O	Height R/O	R/O SF	Light	Vent	Room SF	U Value	Egress	Design Load	SHGC w/o Grids
3040	30.5	40.5	8.58	6.28	3.02	75.50	0.34	No	+50/-50	0.23
3040wHR	30.5	55.5	11.06	8.06	3.02	75.50	0.34	No	+50/-50	0.35
3052-E	36.25	62	15.61	11.64	5.96	145.50	0.33	Yes	+45.11/-55.14	0.23
3658-E	36.5	58.5	14.83	11.76	5.76	144.00	0.34	Yes	+50/-50	0.23

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Luke Lehman

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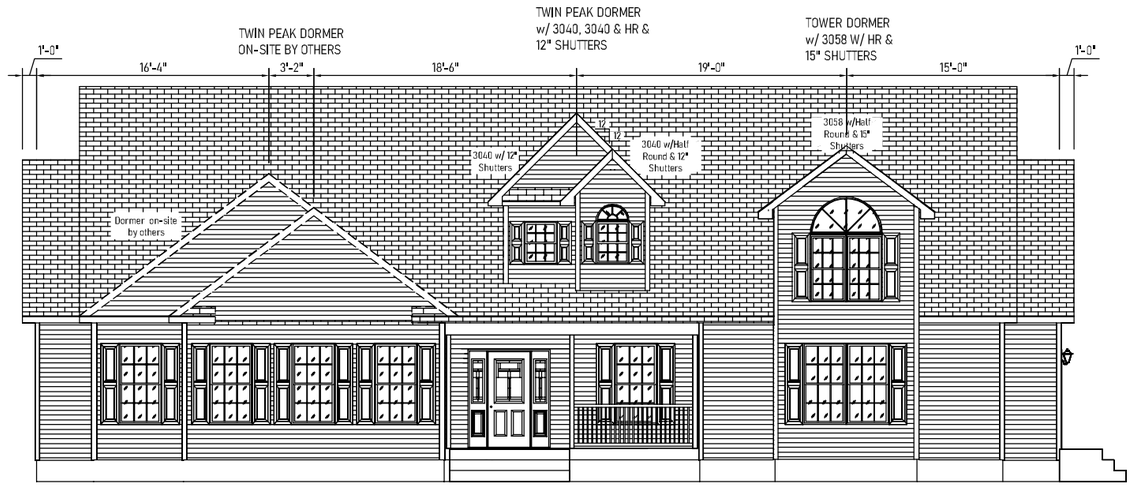
Address: 235 Anthony Grove Rd. Crouse, NC 28033
Callout: 4272/64
Revisions: . .
Drawn By: NE
Scale: N.T.S.
Date: 01/20/2025
Reference: NONE
Cust: Strickland
Dlr: HBV
S/N: 44698
Model/Eng. No.: 3R2202-R33
Pg.: NG
Title: Schedules and General Notes

ELEVATIONS SHOWN ON THIS PAGE REPRESENT BASIC COMPONENTS AND ARE NOT INTENDED TO BE ALL INCLUSIVE, NOR DO THESE ELEVATIONS DETAIL EVERY CODE REQUIRED ASPECT OF THIS BUILDING. SITE BUILT STOOPS, STEPS, DECKS, PORCHES, HANDRAILS AND/OR SIMILAR ITEMS MUST BE PROVIDED BY OTHERS ON SITE FOR COMPLIANCE WITH APPLICABLE CODES. COMPLIANCE WITH ALL APPLICABLE CODES PER LOCAL AUTHORITY HAVING JURISDICTION, WHETHER DETAILED IN THIS SET OR NOT, MUST BE MET.

Note: Window fall protection must be provided on-site where required in accordance with applicable code.



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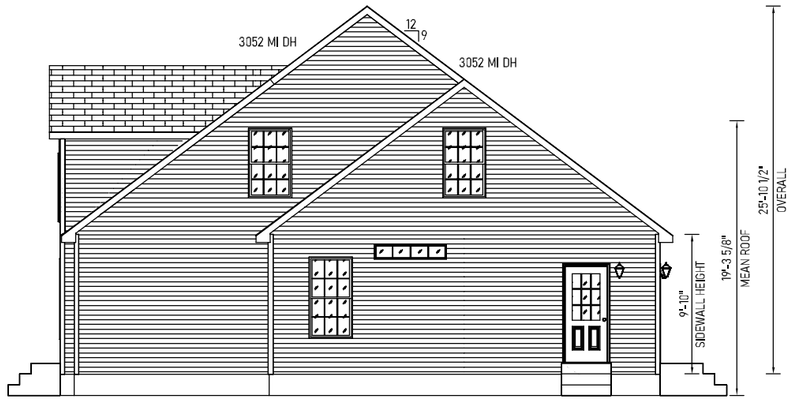
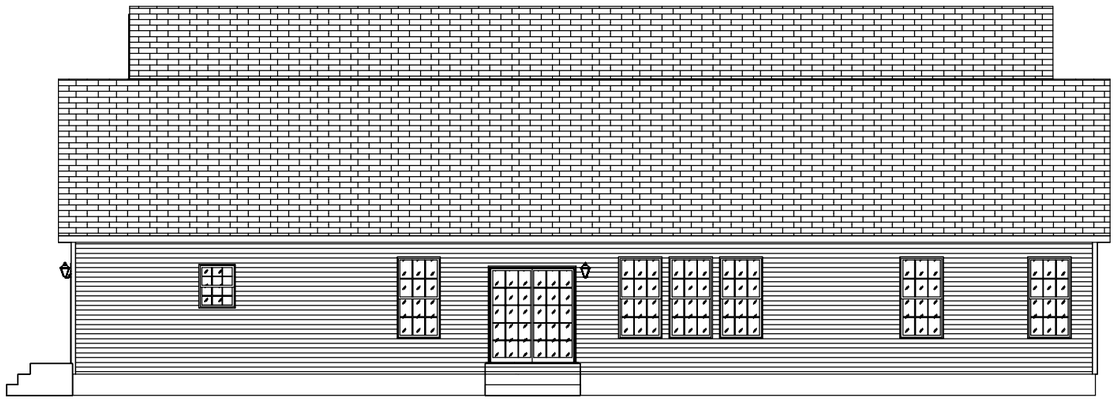
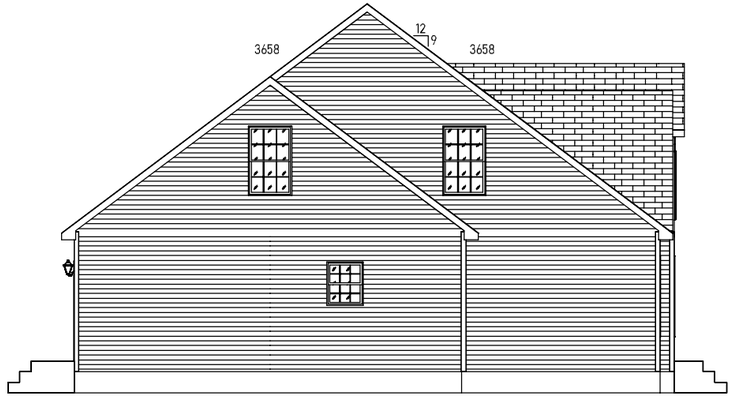


RIGHT ELEV



REAR ELEV



LEFT ELEV

-NOTES-

1. FOUNDATION SHALL BE DESIGNED AND CONSTRUCTED BY OTHERS WHERE "OTHERS" REFERS TO THE DEALER BUILDER.
2. GUTTERS AND LEADERS SHALL BE INSTALLED BY OTHERS.
3. TYPICAL 12" OR 15" VINYL SHUTTERS PROVIDED BY MANUFACTURERS.
4. ALL FOOTINGS, RAILINGS AND STEPS SHALL BE FIELD INSTALLED IN COMPLIANCE WITH APPLICABLE STATE AND LOCAL CODES.
5. SIDING SHALL BE VINYL SIDING WITH VINYL TRIM, AND MAY BE PARTIALLY INSTALLED ON SITE.
6. EXTERIOR LIGHTS MAY BE SHIPPED LOOSE FOR INSTALLATION ON SITE.
7. ROOFING SHINGLES MAY BE PARTIALLY SITE INSTALLED.
8. PORCH RAILINGS ARE PVC. TREATED LUMBER PORCH POSTS MAY BE COVERED WITH VINYL. PORCH DECKING SHALL BE TREATED.
9. ALL EXTERIOR COVERINGS SHALL BE WEATHER AND DECAY RESISTIVE TO PROVIDE PROPER PROTECTION FOR UNTREATED MATERIALS.

NOTE:

- HOMES WITH ATTIC SPACE QUALIFYING AS HABITABLE, MUST BE EQUIPPED WITH EMERGENCY ESCAPE AND RESCUE OPENINGS REGARDLESS OF WHETHER ATTIC AREA IS FINISHED OR UNFINISHED. OPENINGS MAY OCCUR AT END WALL OF ATTIC AND/OR AT ROOF DORMERS IN WHATEVER ARRANGEMENT NECESSARY TO INSURE THAT ANY SLEEPING ROOM HAS AT LEAST ONE EGRESS OPENING.

APPROVED BY
NTA
1/24/2025

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Luke Lehman

Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: N.T.S.	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33	
Title: Elevations			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: EL	

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LEGEND

1 JACK POST, PIER OR CONCRETE FILLED POST THAT MEETS OR EXCEEDS REQUIRED SUPPORT CAPACITY PER FOUNDATION DESIGN.

2 EXTERIOR WALL INSULATION (SEE INSULATION R-VALUES).

3 2X6 #3 SPF EXTERIOR WALL STUDS. (SEE STUD O.C. SPACING NOTE)

4 2X6 #3 SPF SIDEWALL BOTTOM PLATE.

5 7/16" RATED SHEATHING.

6 VINYL OR HARDBOARD SIDING (RAN VERT. OR HORZ.) INSTALLED PER MFGR.'S INSTRUCTIONS.

7 AIR INFILTRATION AND WATER RESISTANT BARRIER.

8 2X4 #3 SPF SINGLE OR DOUBLE TOP PLATE.

9 2X6 TREATED SILL PLATE. FASTENING OF SILL AND HOME TO FOUNDATION ON SITE PER CODES OR BY LOCAL ENGINEER WHEN APPLICABLE.

10 2X4 #3 SPF INTERIOR WALL STUDS. (SEE STUD O.C. SPACING NOTE)

11 2X4 #3 SPF BOTTOM PLATE INTERIOR WALLS, TYP.

12 ENGINEERED TRUSSES SPACED TO MEET DESIGNED GROUND LOAD SNOW LOAD.

13 VAPOR BARRIER.

14 CEILING BOARD 1/2" GYPSUM.

15 7/16" 24/16 RATED ROOF DECKING MIN. TYP.

16 2X4 #3 SPF MIN. VERT. RAIL CONT. ON BOTH SECTIONS OVER MATE WALL. USE APPLICABLE BEAM OVER OPEN SPANS (TYP.) PER PG'S C-10-10 OF SYSTEM DOCUMENT.

17 RIDGE VENT TYP. 50% VENTILATION OF ROOF CAVITY (UPPER PORTION), INSTALLED PER CODE REQUIREMENTS.

18 TYPICAL SHINGLES, INSTALLED PER MFGR'S INSTRUCTIONS.

19 SHINGLE UNDERLAYMENT TYP.

20 JOIST HANGERS AT MATELINE(S).

21 1" MIN. SPACE FOR ATTIC VENTILATION.

22 TYPICAL ICE BARRIER PER SECTION 905 OF APPLICABLE CODE.

23 CEILING INSULATION TYP. (SEE INSULATION R-VALUES).

24 23/32" (O.S.B.) BOARD DECKING.

25 ALUM., VINYL OR HARDIE BOARD FACIA AND DRIP EDGE.

26 FLOOR CAVITY OR PERIMETER WALL MUST BE INSULATED ON SITE OR AT THE FACTORY (SEE "INSULATION R-VALUES")

27 PERIMETER RIM JOIST MUST BE INSULATED TO R-VALUE LISTED FOR EXTERIOR WALLS

28 INSULATION INSTALLED ONSITE BY OTHERS PER THERMAL REQUIREMENTS AND/OR STATE AND LOCAL CODES

29 VENTED SOFFIT 50% OF LOWER ROOF VENTILATION.

30 BAFFLE REQUIRED

31 DRIFT BLOCKER

32 VAPOR RETARDER (AS REQUIRED PER CLIMATE ZONE).

33 FLOOR DECKING RATED FOR 19.2" O.C. JOIST SPACING MAX.

34 MIN. 2X10 #2 SPF FLOOR JOIST 16" O.C.

35 2X6 #3 SPF DOUBLE TOP PLATE.

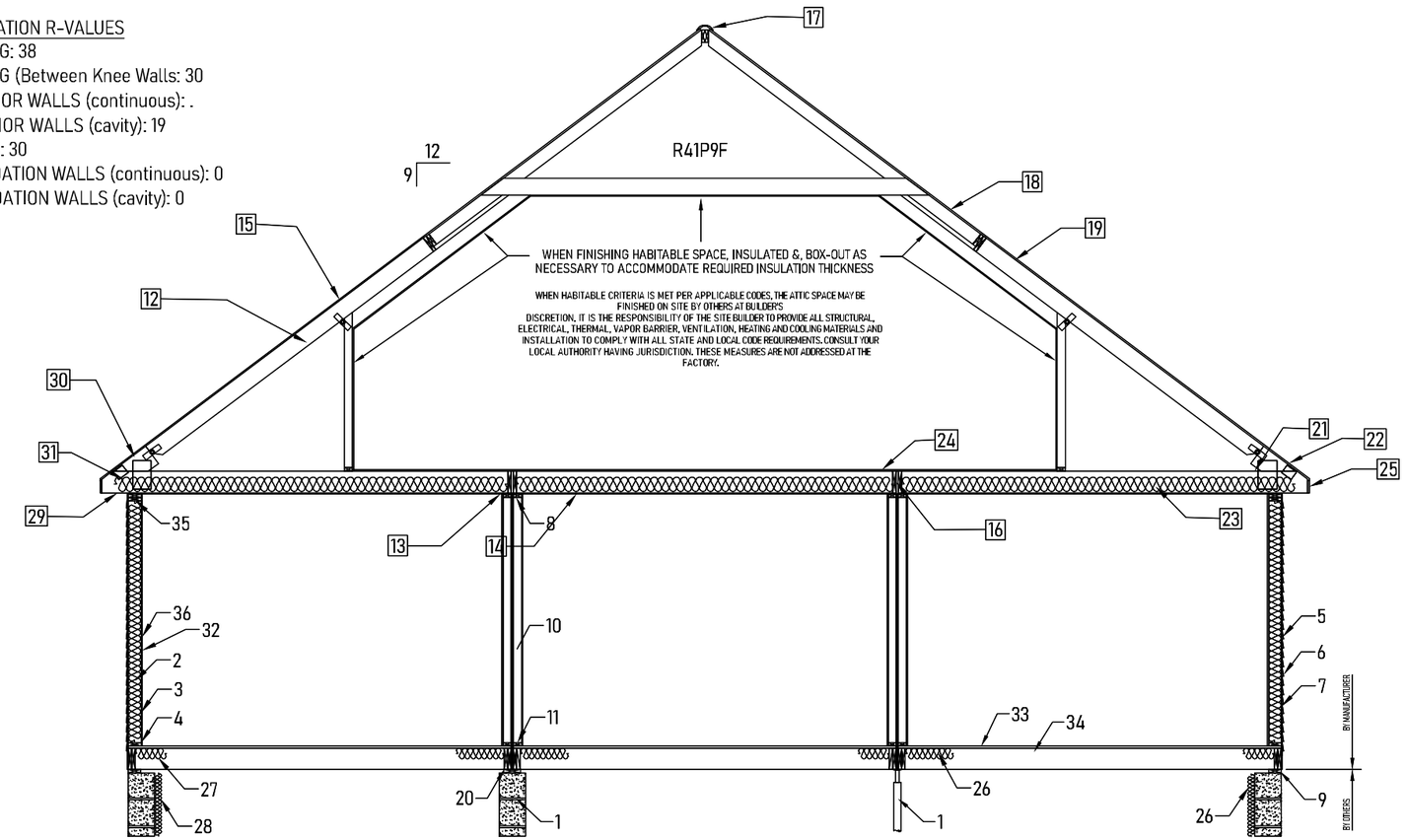
36 WALL COVERING (MIN. 1/2" GYPSUM).

Truss Data			
Truss #	Spacing	Sidewall	Centerline
R41P9F	24	1522	1329
R28P9F	24	1294	739
.	.	.	.
.	.	.	.

STUD O.C. SPACING
EXTERIOR WALL: 16"
INTERIOR WALL: 24"

INSULATION R-VALUES
CEILING: 38
CEILING (Between Knee Walls: 30
EXTERIOR WALLS (continuous): .
EXTERIOR WALLS (cavity): 19
FLOOR: 30
FOUNDATION WALLS (continuous): 0
FOUNDATION WALLS (cavity): 0

SYSTEMS MANUAL REFERENCES
FLOOR CONSTRUCTION: A-10-10 & 20
SIDEWALL CONSTRUCTION: B-10-10
CENTER WALL UPLIFT DETAIL: B-20-10
COLUMN REQUIREMENTS: B-20-20, 21 & 30
INTERIOR WALLS: B-30-10 & 11
BEAMS: C-10-10 THRU C-10-30



TRIMLINE RIDGE VENT: ALLOWS 13" OF NET FREE AIR PER LINEAL FOOT

FULL LENGTH OF HOUSE AIR FLO SOFFIT: FULL VENTED 5.89 SQ IN PER LINEAL FOOT

FULL LENGTH OF HOUSE 2771/300 = 9.24 VENT REQUIRED

IMPORTANT!
MAIN LEVEL FLOORS, OVER ENCLOSED FOUNDATIONS, CONSTRUCTED WITH OPTIONAL ENGINEERED WEB FLOOR JOISTS (OPEN JOISTS) OR WITH JOISTS OF NOMINAL LUMBER LESS THAN 2X10, MAY BE SUBJECT TO SPECIAL FIRE PROTECTIVE REQUIREMENTS TO BE PERFORMED BY OTHERS ON SITE. CONSULT ADOPTED LOCAL CODES FOR COMPLIANCE WITH FIRE PROTECTION OF FLOORS. REFERENCE THE APPROVED SYSTEMS PACKAGE FOR ADDITIONAL AND SPECIFIC CROSS SECTION INFORMATION

NOTES:
FOLLOW RECOMMENDED ATTACHMENTS FOR FASTENING OF HOME TO FOUNDATION.
FOUNDATIONS TO BE BUILT AND CONSTRUCTED BY OTHERS ON SITE.
FOUNDATIONS (BY OTHERS) MUST MEET ALL APPLICABLE CODES.
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CONSTRUCTION & SPECIFICATIONS MAY VARY PER PLAN.
REFER TO INSTALLATION MANUAL FOR MODULE CONNECTIONS.
REFER TO INSTALLATION MANUAL AND TRUSS MFG. DIAGRAM FOR ROOF TRUSS BRACING.

APPROVED BY NTA 1/24/2025
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Luke Lehman

Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: 3/16" = 1'-0"	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33
Title: Cross Section			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: XS

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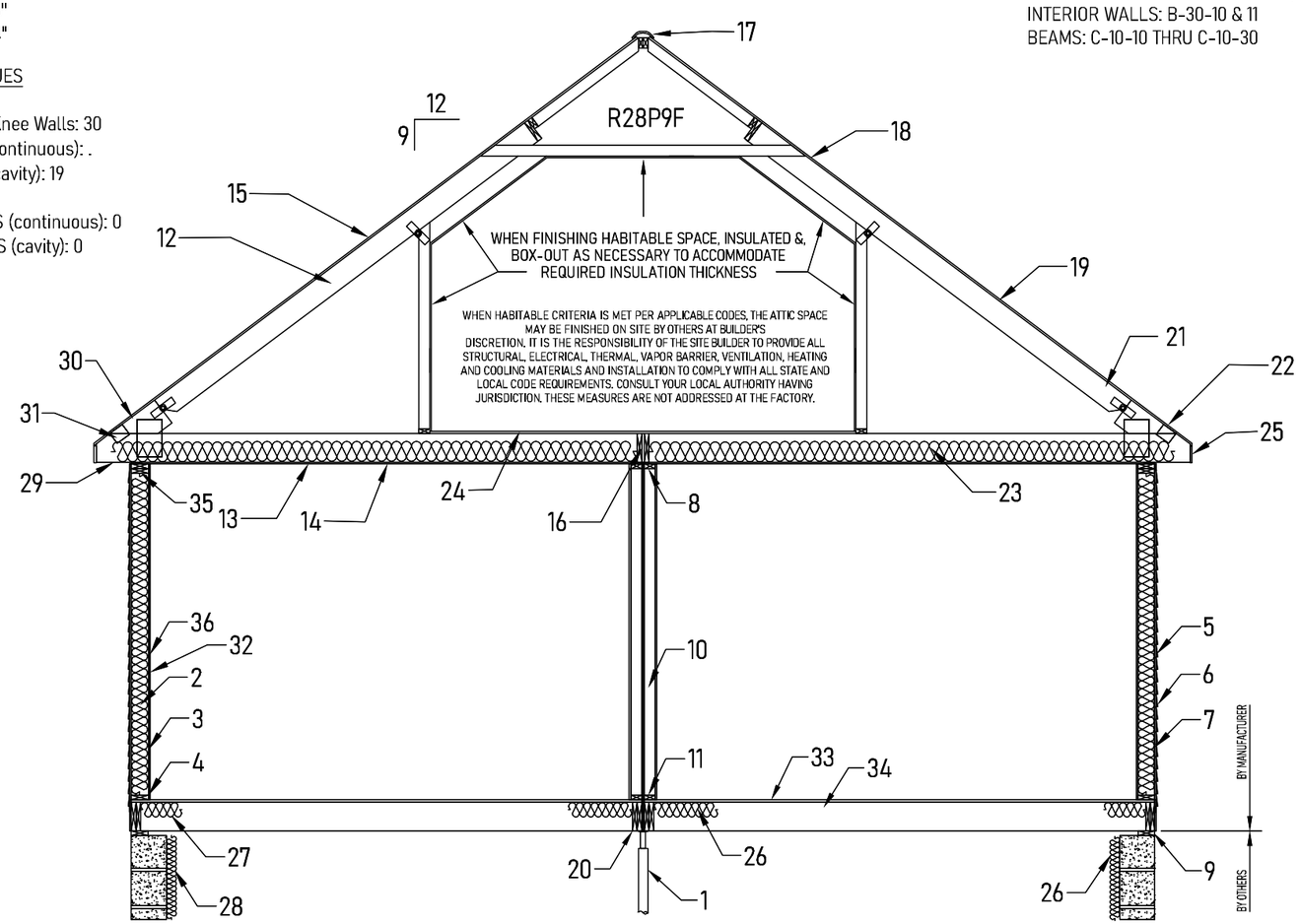

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Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: 1/4" = 1'-0"	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33	
Title: Cross Section 2			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: XS-2	

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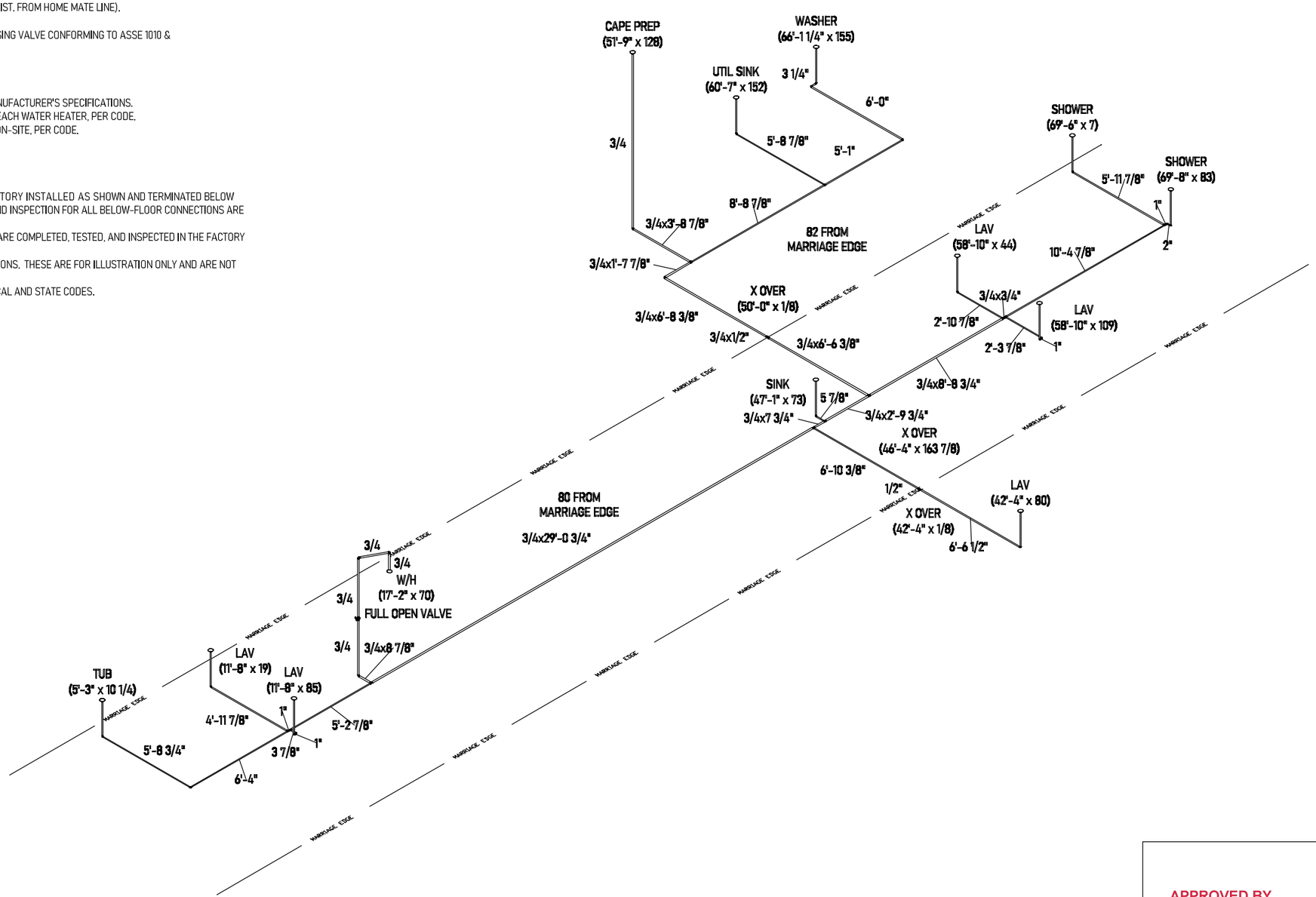
NOTE:
1. 3/4" GALVANIZED, OR COPPER RELIEF DRAIN (NOT SHOWN) THRU FLOOR w/VISIBLE AIR GAP
2. INLET WITH 1" CAP & CHAIN.
3. DIMENSIONS EXPRESSED IN PARENTHESIS (A x B) INDICATE: (DIST. FROM REAR END OF HOME FLOOR x DIST. FROM HOME MATE LINE).
4. ANTI-SCALD DEVICE ON ALL SHOWER, AND TUB/SHOWER COMBINATIONS.
5. WATER-HAMMER ARRESTORS AT BATTERY OF FIXTURES INSTALLED WHEREVER THERE IS A QUICK-CLOSING VALVE CONFORMING TO ASSE 1010 & MANUFACTURER'S INSTRUCTIONS.
6. SHUT-OFF VALVE IS REQUIRED AT EACH FIXTURE
7. BATHROOMS WITH DOUBLE LAVS ARE FED FROM THE SAME RISER.
8. ANY LINE NOT LABELED IS 1/2"
9. WATER HEATER TEMPERATURE & PRESSURE RELIEF VALVE AND RELIEF DRAIN PIPE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
10. SHUT-OFF VALVE AT WATER HEATER IS FULL OPEN VALVE INSTALLED ON COLD WATER SUPPLY PIPE AT EACH WATER HEATER, PER CODE.
11. FULLWAY SHUT-OFF VALVE WITH BLEED ORIFICE INSTALLED AT MAIN INLET SERVICE VALVE, INSTALLED ON-SITE, PER CODE.
12. SEE SYSTEMS PACKAGE PLUMBING SECTION PAGES FOR ADDITIOINAL PLUMBING NOTES AND DETAILS

SITE NOTES FOR DIAGRAM EXPLANATION:

A. WHEN VERTICAL FIXTURE WATER SUPPY RISERS ONLY ARE SHOWN ON THIS PLAN, RISERS ONLY ARE FACTORY INSTALLED AS SHOWN AND TERMINATED BELOW THE FLOOR AT THE INDICATED LOCATIONS. MATERIAL PROVISIONS, SYSTEM CONNECTIONS, TESTING, AND INSPECTION FOR ALL BELOW-FLOOR CONNECTIONS ARE ON SITE BY OTHERS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
B. WHEN BELOW-FLOOR SYSTEM CONNECTIONS TO RISERS ARE SHOWN ON PLAN BY SOLID LINES, THESE ARE COMPLETED, TESTED, AND INSPECTED IN THE FACTORY TO THE TERMINATION POINT SHOWN ON ILLUSTRATED PLAN.
C. DOTTED LINES ON PLAN,(IF PRESENT), ARE INTENDED ONLY TO ILLUSTRATE TYPICAL ON-SITE CONNECTIONS. THESE ARE FOR ILLUSTRATION ONLY AND ARE NOT PROVIDED, INSTALLED, TESTED, OR INSPECTED BY THE FACTORY.
D. ALL BELOW FLOOR WATER LINES MUST BE SIZED, INSTALLED, AND TESTED ON SITE PER APPLICABLE LOCAL AND STATE CODES.



LINE SIZED FOR
DISHWASHER

ELECTRIC WATER HEATER-RHEEM MODEL #82V40-2
ELECTRIC WATER HEATER-RHEEM MODEL #82V52-2
ELECTRIC WATER HEATER-RHEEM MODEL #83VR52-2
GAS WATER HEATER-RHEEM MODEL #22V40F1
GAS WATER HEATER-RHEEM MODEL #22V50F1

HANGER SPACING - PEX PIPE (SUPPLY)	
MAX HORIZONTAL SPACING (FT.)	MAX VERTICAL SPACING (FT.)
2'-8"	4'-0"

ALL DIMENSIONS FROM REAR
AND MARRIAGE EDGE

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Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: CUSTOM	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33
Title: Hot Water Lines			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: WH

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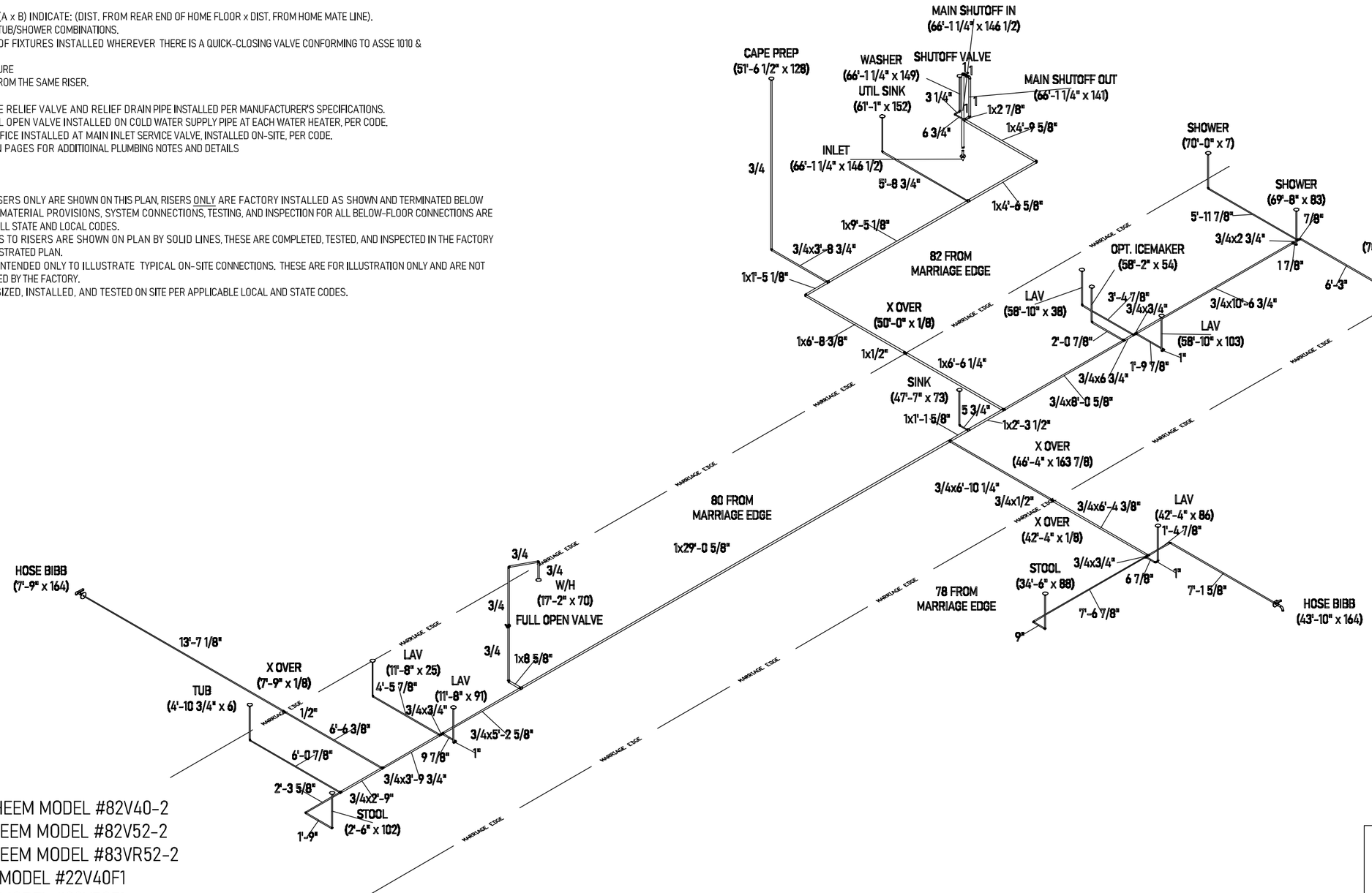
NOTE:
1. 3/4" GALVANIZED, OR COPPER RELIEF DRAIN (NOT SHOWN) THRU FLOOR w/VISIBLE AIR GAP
2. INLET WITH 1" CAP & CHAIN.
3. DIMENSIONS EXPRESSED IN PARENTHESIS (A x B) INDICATE: (DIST. FROM REAR END OF HOME FLOOR x DIST. FROM HOME MATE LINE).
4. ANTI-SCALD DEVICE ON ALL SHOWER, AND TUB/SHOWER COMBINATIONS.
5. WATER-HAMMER ARRESTORS AT BATTERY OF FIXTURES INSTALLED WHEREVER THERE IS A QUICK-CLOSING VALVE CONFORMING TO ASSE 1010 & MANUFACTURER'S INSTRUCTIONS.
6. SHUT-OFF VALVE IS REQUIRED AT EACH FIXTURE
7. BATHROOMS WITH DOUBLE LAVS ARE FED FROM THE SAME RISER.
8. ANY LINE NOT LABELED IS 1/2"
9. WATER HEATER TEMPERATURE & PRESSURE RELIEF VALVE AND RELIEF DRAIN PIPE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
10. SHUT-OFF VALVE AT WATER HEATER IS FULL OPEN VALVE INSTALLED ON COLD WATER SUPPLY PIPE AT EACH WATER HEATER, PER CODE.
11. FULLWAY SHUT-OFF VALVE WITH BLEED ORIFICE INSTALLED AT MAIN INLET SERVICE VALVE, INSTALLED ON-SITE, PER CODE.
12. SEE SYSTEMS PACKAGE PLUMBING SECTION PAGES FOR ADDITIOINAL PLUMBING NOTES AND DETAILS

SITE NOTES FOR DIAGRAM EXPLANATION:

A. WHEN VERTICAL FIXTURE WATER SUPPY RISERS ONLY ARE SHOWN ON THIS PLAN, RISERS ONLY ARE FACTORY INSTALLED AS SHOWN AND TERMINATED BELOW THE FLOOR AT THE INDICATED LOCATIONS. MATERIAL PROVISIONS, SYSTEM CONNECTIONS, TESTING, AND INSPECTION FOR ALL BELOW-FLOOR CONNECTIONS ARE ON SITE BY OTHERS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
B. WHEN BELOW-FLOOR SYSTEM CONNECTIONS TO RISERS ARE SHOWN ON PLAN BY SOLID LINES, THESE ARE COMPLETED, TESTED, AND INSPECTED IN THE FACTORY TO THE TERMINATION POINT SHOWN ON ILLUSTRATED PLAN.
C. DOTTED LINES ON PLAN,(IF PRESENT), ARE INTENDED ONLY TO ILLUSTRATE TYPICAL ON-SITE CONNECTIONS. THESE ARE FOR ILLUSTRATION ONLY AND ARE NOT PROVIDED, INSTALLED, TESTED, OR INSPECTED BY THE FACTORY.
D. ALL BELOW FLOOR WATER LINES MUST BE SIZED, INSTALLED, AND TESTED ON SITE PER APPLICABLE LOCAL AND STATE CODES.



ELECTRIC WATER HEATER-RHEEM MODEL #82V40-2
ELECTRIC WATER HEATER-RHEEM MODEL #82V52-2
ELECTRIC WATER HEATER-RHEEM MODEL #83VR52-2
GAS WATER HEATER-RHEEM MODEL #22V40F1
GAS WATER HEATER-RHEEM MODEL #22V50F1

HANGER SPACING - PEX PIPE (SUPPLY)	
MAX HORIZONTAL SPACING (FT.)	MAX VERTICAL SPACING (FT.)
2'-8"	4'-0"

ALL DIMENSIONS FROM REAR AND MARRIAGE EDGE

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Title: Cold Water Lines			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: WC

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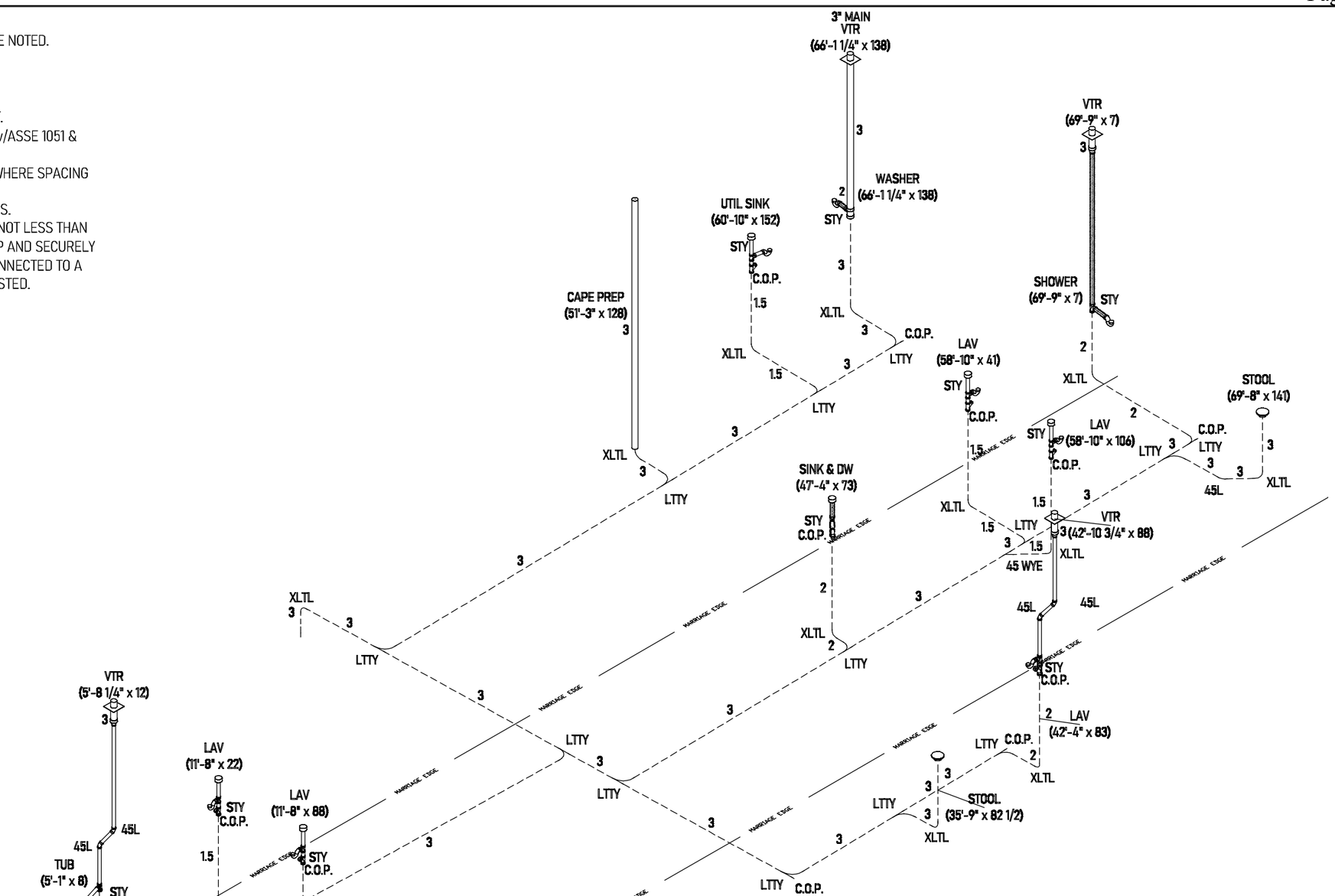
NOTE:

1. ALL LINES 1/4" SLOPE/FOOT MINIMUM UNLESS OTHERWISE NOTED.
2. ←o— DENOTES 1/8" SLOPE/FOOT.
3. ALL 2" DIA. LINES SHOWN FILLED (BOLD)
4. ALL LINES 1-1/2" DIA. MINIMUM OTHERWISE NOTED.
5. LINES SERVING STOOL ARE 3" DIA.CONTINUOUS TO OUTLET.
6. AIR ADMITTANCE VALVES SHOWN ARE IN ACCORDANCE w/ASSE 1051 & MANUFACTURER'S INSTRUCTIONS.
7. CONTINUOUS WASTE APPL. ON SINKS AND LAVATORIES WHERE SPACING DOES NOT EXCEED 30".
8. STACKS CLEANED THROUGH REMOVABLE FIXTURE P-TRAPS.
9. THE DISCHARGE LINE FROM THE DISHWASHER SHALL BE NOT LESS THAN 1/2 INCH NOMINAL SIZE AND SHALL EITHER BE LOOPED UP AND SECURELY FASTENED TO THE UNDERSIDE OF THE COUNTER OR BE CONNECTED TO A DECK-MOUNTED DISHWASHER AIR GAP FITTING THAT IS LISTED.



ALL DIMENSIONS FROM REAR AND MARRIAGE EDGE

HANGER SPACING - DRAIN PIPE (DWV)	
MAX HORIZONTAL SPACING (FT.)	VERTICAL SPACING
4'-0"	Vertical piping shall be supported at each story or floor level.

PLUMBING ABOVE THE FLOOR IS FACTORY INSTALLED. PLUMBING BELOW THE FLOOR INCLUDING CONNECTIONS SHALL BE INSTALLED ON SITE BY OTHERS ACCORDING TO SITE CONDITIONS, SUBJECT TO APPROVAL OF LOCAL INSPECTION. ON SITE PLUMBING SHOWN IS SUGGESTIVE ONLY.

DWV FITTING IDENTIFICATION			
XLTL	LONG TURN 90° ELBOW	4X3CB	90° CLOSET ELBOW
XLSL	LONG TURN 90° STREET ELBOW	3-WAY-L	DOUBLE 90° ELBOW
45L	45° ELBOW	STY	SANITARY TEE
45SL	45° STREET ELBOW	LTTY	LONG RADIUS TY
22.5L	22 1/2° ELBOW	45 WYE	45° WYE
22.5SL	22 1/2° STREET ELBOW		

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Title: DWV System			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: DL

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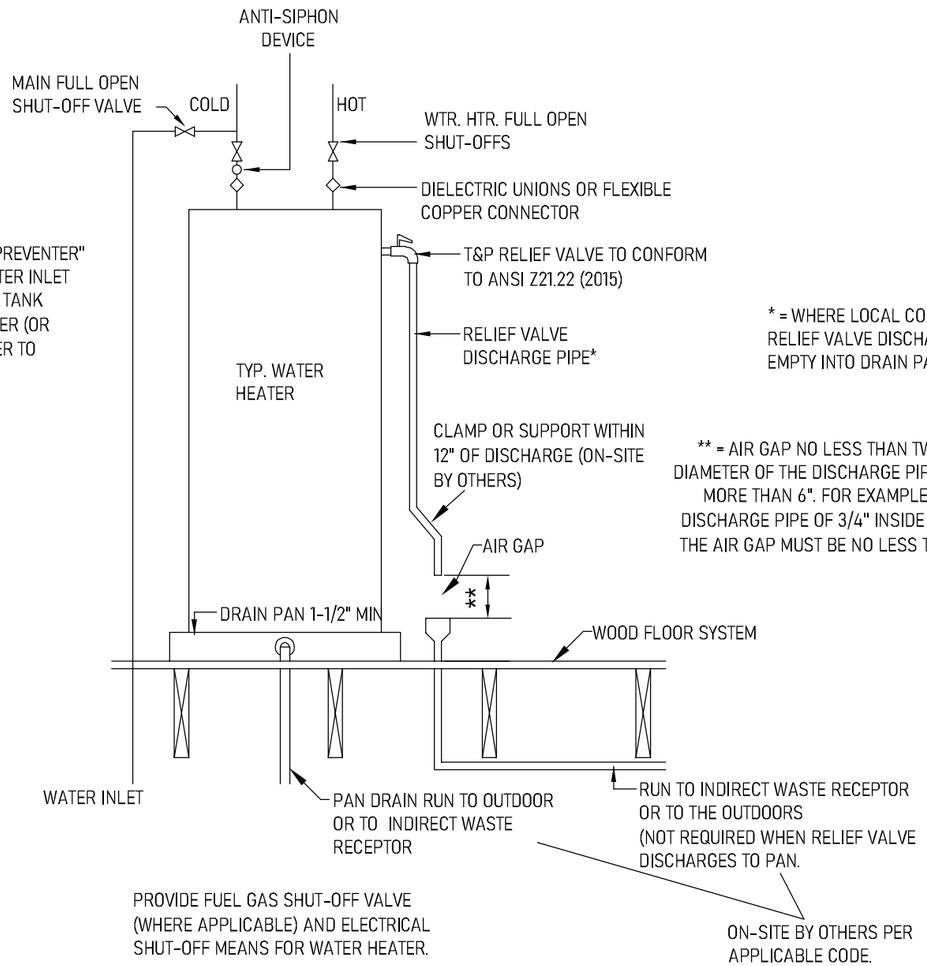
PIPE SUPPORT:

VERTICAL PIPING:
SUPPORTS AT 10' O.C. MAX. OR BETWEEN FLOOR LEVELS.

HORIZONTAL PIPING:
SUPPORTS AT 4' O.C. MAX. ENDS OF BRANCHES, AND AT CHANGES IN ELEVATION AND/OR DIRECTION.

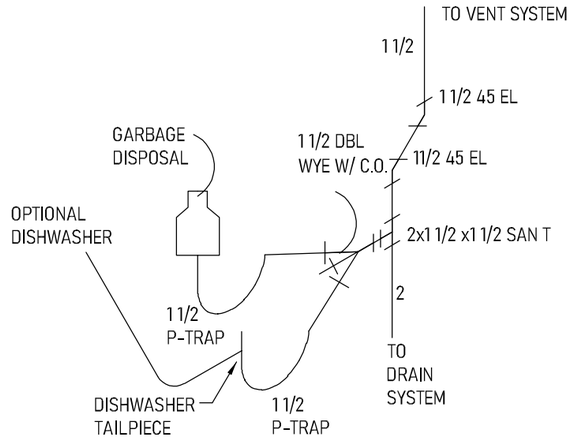
TRAP ARMS:
SUPPORT LOCATED AS CLOSE TO TRAP AS POSSIBLE WHEN TRAP TO VENT EXCEEDS 3'.

WATER HEATERS, WHICH HAVE A "BACK-FLOW PREVENTER" OR A "CHECK VALVE" LOCATED IN THE COLD WATER INLET LINE, ARE TO BE EQUIPPED WITH AN EXPANSION TANK INSTALLED BETWEEN THE BACK-FLOW PREVENTER (OR CHECK VALVE) AND THE WATER HEATER IN ORDER TO ALIEVIATE THERMAL EXPANSION.



* = WHERE LOCAL CODE ALLOWS, RELIEF VALVE DISCHARGE PIPE MAY EMPTY INTO DRAIN PAN.

** = AIR GAP NO LESS THAN TWICE THE DIAMETER OF THE DISCHARGE PIPE, BUT NOT MORE THAN 6". FOR EXAMPLE, FOR A DISCHARGE PIPE OF 3/4" INSIDE DIAMETER THE AIR GAP MUST BE NO LESS THAN 1 1/2".



OPTIONAL GARBAGE DISPOSAL PLUMBING ILLINOIS MODELS ONLY - USE DETAIL ABOVE FOR OPTIONAL GARBAGE DISPOSAL.

NOTES:
ALL BELOW FLOOR PLUMBING BY OTHERS. ALL FITTINGS BELOW BOTTOM CAN BE SHIPPED LOOSE.
ALL BELOW FLOOR PLUMBING ILLUSTRATIONS ARE RECOMMENDATIONS ONLY. ON-SITE CONDITIONS AND/OR RESTRICTIONS MAY REQUIRE SOME MODIFICATIONS.
OPT. GARBAGE DISPOSAL TO BE LOCATED ON KITCHEN SINK WASTE ASSEMBLY. ALL VENTS THRU ROOF TO BE 3", 12" MIN. ABOVE AND BELOW ROOF PENETRATION.
ALL P-TRAPS TO BE 1 1/2" UNLESS NOTED.
HORIZONTAL VENT SLOPE : 1/8" PER FOOT
HORIZONTAL DRAIN SLOPE: 1/4" PER FOOT
DRAIN, WASTE, AND VENT PLUMBING TO BE PVC PLASTIC OR EQUAL, APPROVED FOR DWV APPLICATIONS.
DRAIN AND DISCHARGE PIPES SERVING WATER HEATERS TO BE CPVC OR OTHER CODE APPROVED MATERIAL.
ANY TRANSITIONS TO MATERIALS, OTHER THAN THE SPECIFIED MATERIAL, MUST INCORPORATE AN APPROVED FITTING FOR CONNECTION.
ALL TUBS WITH WHIRLPOOL MUST BE PROVIDED WITH ACCESS TO MOTOR. ALL PLUMBING TO MEET OR EXCEED CURRENT ADOPTED PLUMBING CODES.
IN CONCEALED SPACES WHERE PIPING IS INSTALLED THRU HOLES OR NOTCHES IN STUDS, JOISTS, TRUSSES, OR SIMILAR MEMBERS LESS THAN 1 1/2" FROM NEAREST EDGE OF THE MEMBER, THE PIPE SHALL BE PROTECTED BY SHIELD PLATES.
PROTECTIVE SHIELD PLATES SHALL BE A MINIMUM OF 16 GA. STEEL. PLATES SHALL COVER AREA OF THE PIPE WHERE THE MEMBERS ARE NOTCHED OR BORED, AND SHALL EXTEND A MINIMUM OF 2" ABOVE SOLE PLATES AND BELOW TOP PLATES.
AIR ADMITTANCE VALVES MAY SUBSTITUTE ROOF VENTS AT VARIOUS LOCATIONS PER APPLICABLE STATE AND LOCAL PLUMBING CODES. THE 3" MAIN VENT MUST BE VENTED THRU THE ROOF AND CANNOT BE MECHANICALLY VENTED.
IN SEISMIC CATEGORIES D0, D1, D2 OR E STRAP UPPER THIRD AND LOWER THIRD OF WATER HEATER TO RESIST A HORIZONTAL FORCE OF 1/3 THE OPERATING WEIGHT OF THE WATER HEATER.

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Approval of this document does not authorize or approve any deviation or deviations from the requirements of applicable State Laws.
Luke Lehman

Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: N.T.S.	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33	
Title: DWV Notes			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: DN	

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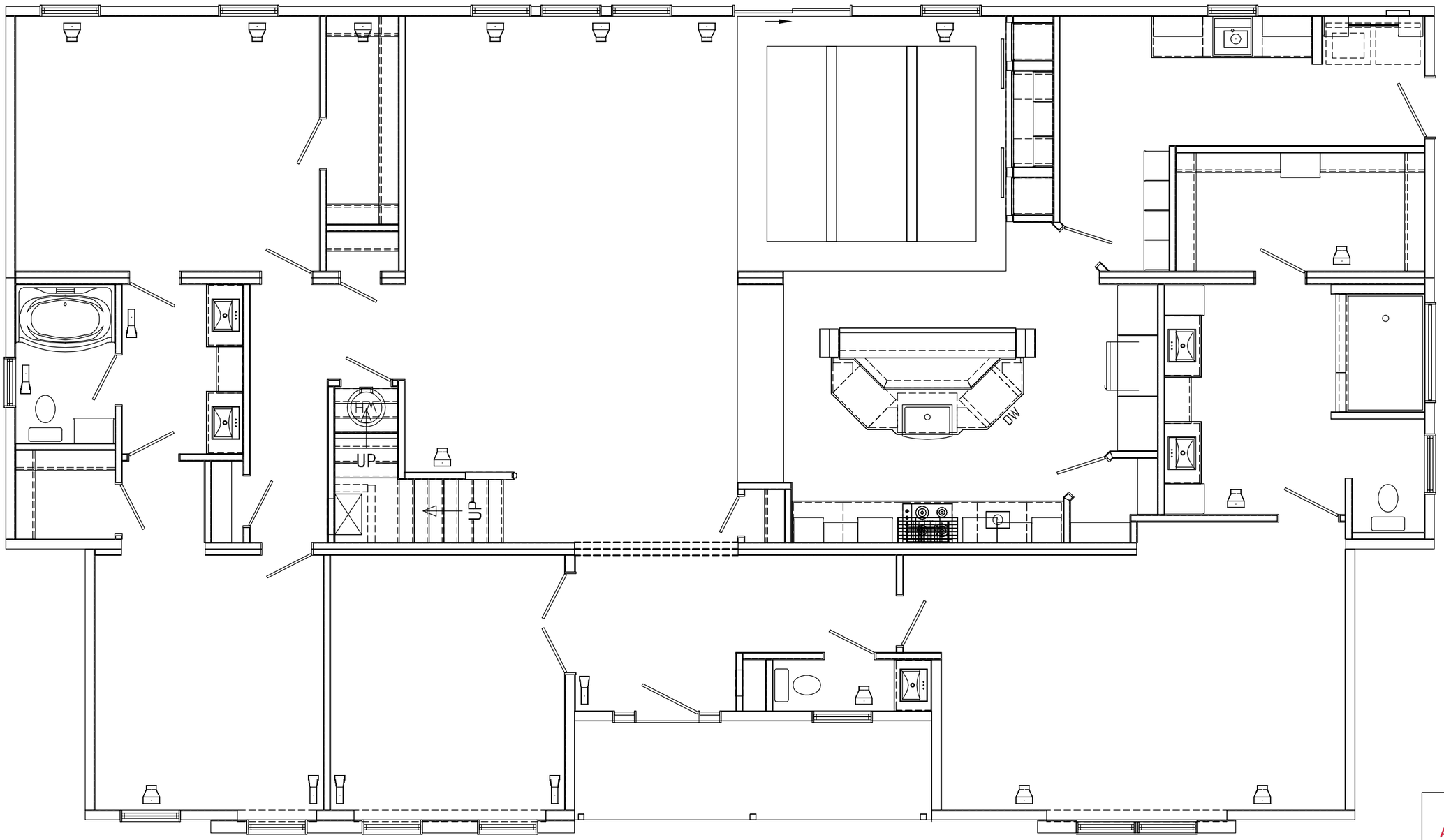

FURNACE AND HEAT DUCTS ARE OMITTED AND WILL BE INSTALLED ON-SITE BY OTHERS

HVAC MUST BE INSTALLED BY A LICENSED HVAC TECHNICIAN - PER CODE REQUIREMENTS

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Luke Lehman

Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: 3/16" = 1'-0"	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33
Title: Supply Air Ducts - Perimeter Registers			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: SP

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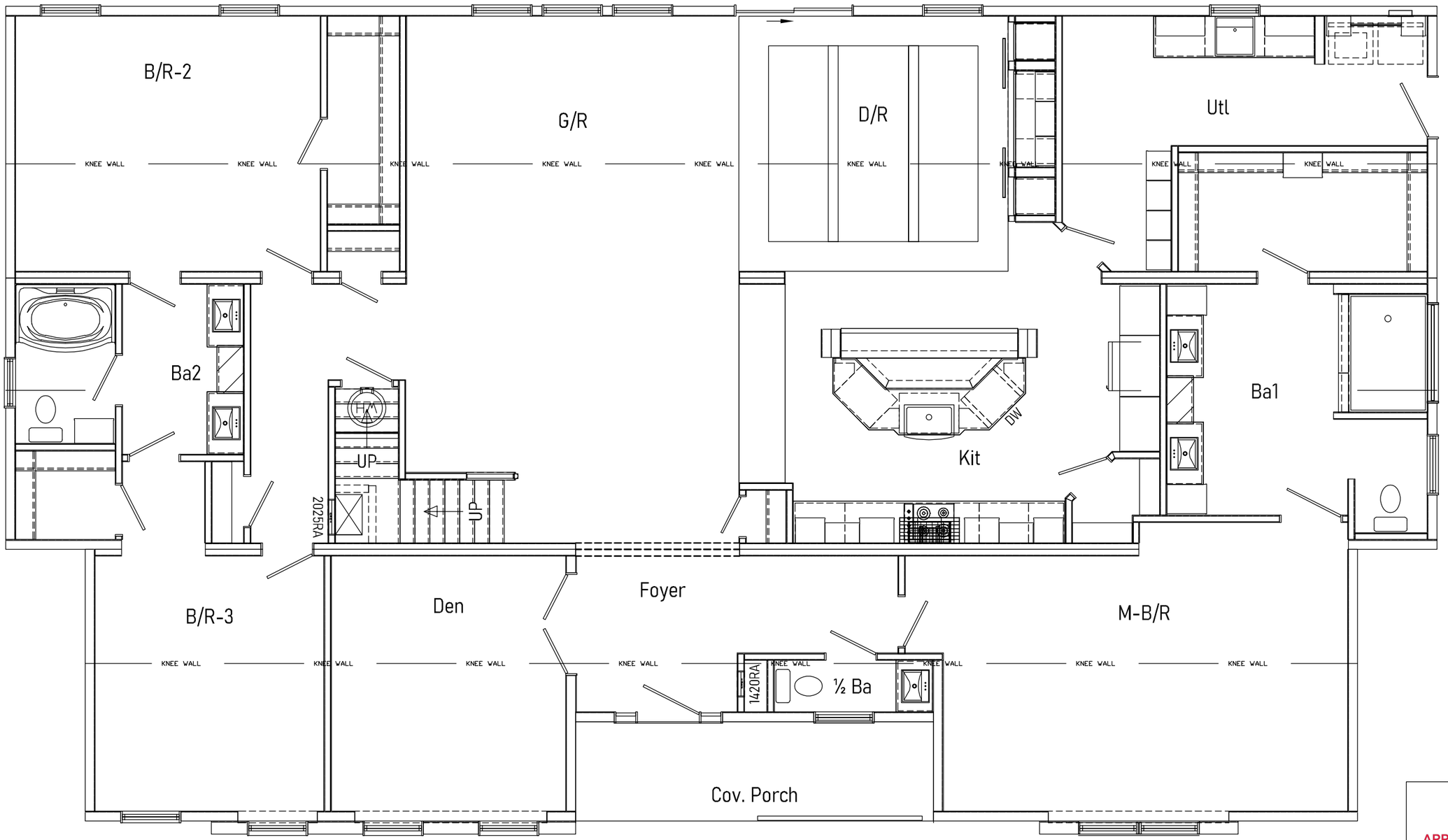

CEILING ROOM TO ROOM RETURN AIR JUMPERS ARE OMITTED
BUILDER RESPONSIBILITY ON-SITE

RETURNS IN CEILING IN ADDITION TO AIR THRU GRILLES/OPENINGS

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Luke Lehman

Builder: R-Anell Housing Group, LLC - Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: 3/16" = 1'-0"	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33	
Title: Ceiling Return Air System			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: HR	

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Braced Wall										
Unit	Method	Wind Load	Wind Load Method	Width	Length	Exposure	Roof Pitch	Sidewall Height	Seismic	Max. Mean Roof Height
MAIN	218 NCRC	120 mph	Ultimate	41'-0"	72'-0"	B	9/12	9'-0"	C	IRC

◆ = Factory Installed Hold-Down Device with a Minimum Uplift Design Value of 800 LB.

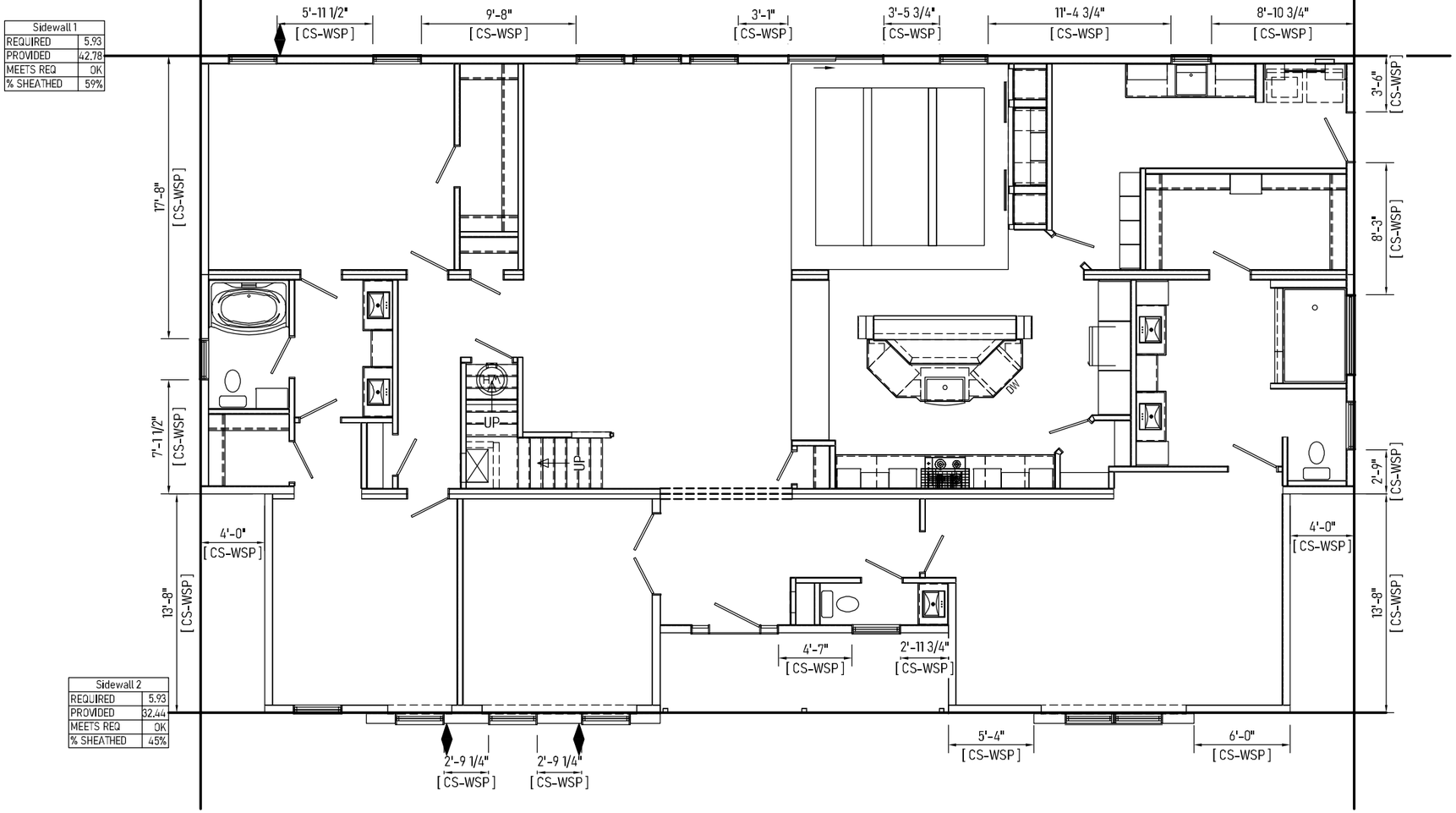
NCRC BRACED WALL CONSTRUCTION DETAILS	
WALL TYPE	CONSTRUCTION
EXTERIOR	7/16" SHEATHING ONE SIDE WITH 0.131 PD NAILS AT 6" O/C EDGE SPACING AND 12" O/C FIELD SPACING.

Endwall 1	
REQUIRED	10.07
PROVIDED	38.46
MEETS REQ	OK
% SHEATHED	94%

Endwall 2	
REQUIRED	10.07
PROVIDED	28.17
MEETS REQ	OK
% SHEATHED	69%

Sidewall 1	
REQUIRED	5.93
PROVIDED	42.78
MEETS REQ	OK
% SHEATHED	59%

Sidewall 2	
REQUIRED	5.93
PROVIDED	32.44
MEETS REQ	OK
% SHEATHED	45%



Bracing per prescriptive North Carolina 2018 Residential code.

In conjuction with the wall bracing requirements of Section 602.10, all exterior walls are sheathed with wood structural sheathing panels in accordance with 4506.2 for 140 to 150 MPH structural bracing.

FOUNDATION TIE-DOWN MUST BE CONNECTED ON-SITE BY POINT LOAD LOCATIONS AS NOTED (BY OTHERS). ALTERNATIVE TIE DOWN CONNECTION METHODS APPROVED BY A LOCAL ENGINEER MAY BE USED. REFER TO THE IRC FOR FOUNDATION TIE DOWN REQUIREMENTS FOR 130 MPH OR LESS WIND ZONES

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Title: Braced Walls-Prescriptive			Drawn By: NE	Reference: NONE		Dlr: HBV	Pg.: BWP
						S/N: 44698	

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Footing size (in.)	Footing max. load (lbs.) for 8" x16" pier		
	1500 PSF	2000 PSF	2500 PSF
*16x16x6	2.5K	3.4K	4.3K
*20x20x6	4.0K	5.3K	6.7K
24x24x8	5.6K	7.6K	9.6K
30x30x10	8.5K	11.7K	14.8K
36x36x12	12.4K	16.7K	20.7K
42x42x14	16.5K	22.4K	28.2K
48x48x14	21.2K	N/A	N/A

* = A 4" thick pre-cast footer of equivalent width and length may be used in place of a 6" thick cast in place footer.

Footer size must be designed by others to site conditions if noted kip load exceeds capacities listed above

COLUMNS & FOOTINGS MUST BE RATED TO MEET THE CENTER LINE LOADS LISTED

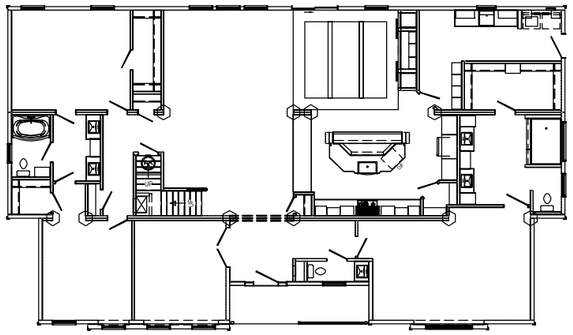
GROUND SNOW LOAD **20 PSF**

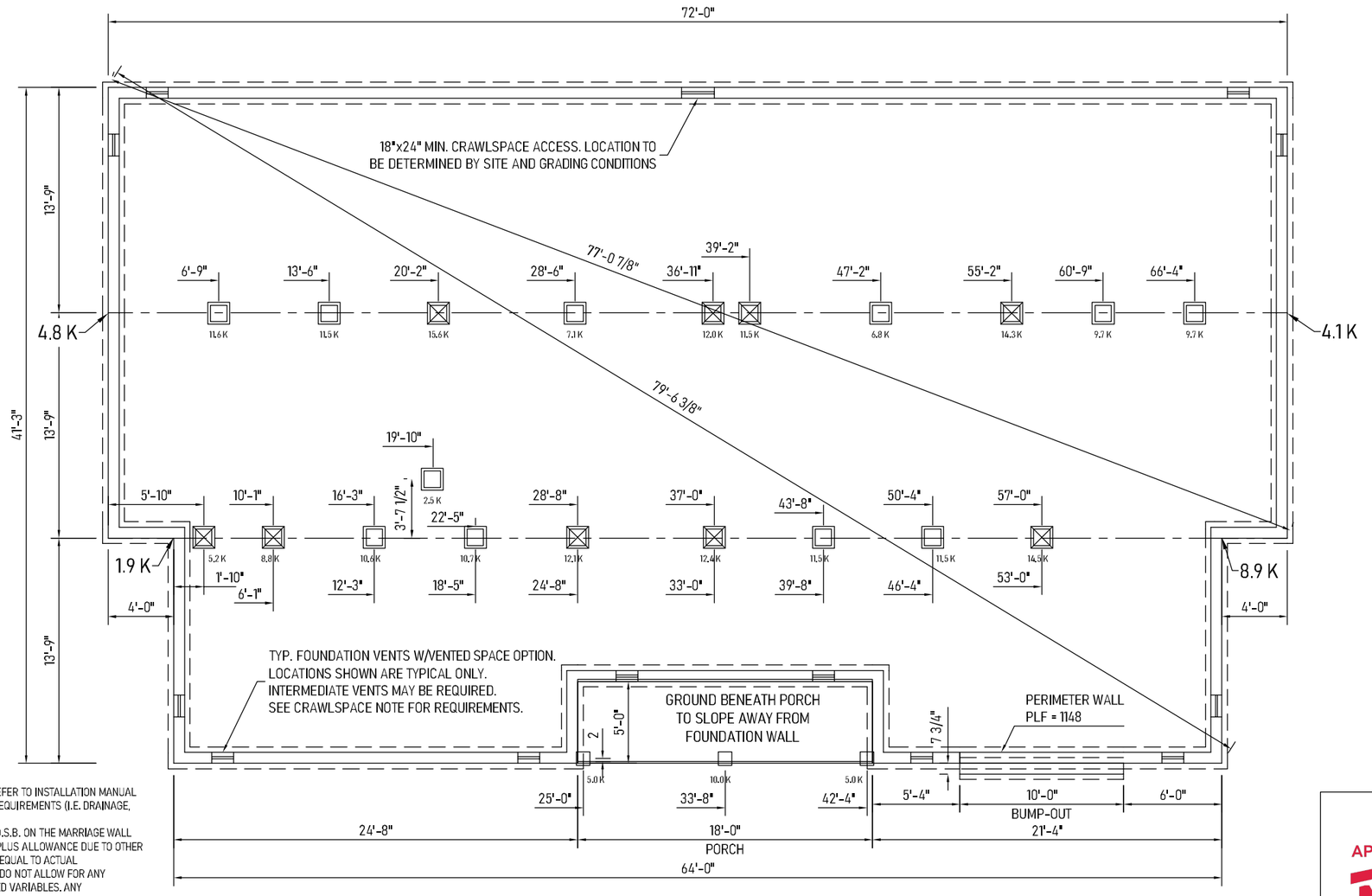
Kip loads noted are based on allowable stress design (ASD).
Capacity of supports (columns, footings, etc.) must exceed noted Kip loads.
Any changes to this plan that effect the foundation in any way will be the sole responsibility of the builder/dealer.

SELF-WEIGHT ON FOOTERS NOT INCLUDED IN LOADS SHOWN.
♦- IF APPLICABLE, REPRESENTS TIE DOWN LOADS FROM BRACE WALLS TO FOUNDATION. TO BE DESIGNED ON SITE BY OTHERS.

FOR CONNECTION OF THE HOME TO FOUNDATION AT BRACING WALLS, REFER TO "BRACED WALLS-CALCULATED" PAGE, IF APPLICABLE. WHEN THIS PAGE IS PRESENT, HORIZONTAL AND OVERTURNING (RACKING) LOADS AT BRACING WALL LOCATIONS ARE INDICATED FOR THESE FOUNDATION CONNECTIONS. THESE LOADS MAY BE RECALCULATED AND REDESIGNED PER LOCAL CODES TO CONFORM TO SITE CONDITIONS AS REQUIRED. REFER TO CHAPTER 3 (3.9 TIE DOWN TO FOUNDATION) OF THE "MODULAR HOME INSTALLATION MANUAL" FOR ADDITIONAL INFORMATION.
REFER TO APPLICABLE CODES FOR CONNECTION OF HOME TO FOUNDATION WHEN "BRACED WALLS-PRESCRIPTIVE" PAGE IS APPLICABLE.

FOUNDATION SHOWN MUST BE DESIGNED BY OTHERS TO THE SITE CONDITIONS. THIS INCLUDES SEISMIC DESIGN AND ATTACHING THE HOME TO THE FOUNDATION, ALONG WITH RESISTANCE TO LATERAL, LONGITUDINAL SHEAR, UPLIFT AND DOWNLIFT FORCES IN BOTH DIRECTIONS.





- 2X10 OR TRUSS FLOOR NOTES -

1. FOUNDATION LAYOUT IS APPLICABLE TO NOTED MAXIMUM SNOW LOADING AND MINIMUM SOIL BEARING PRESSURE. REFER TO INSTALLATION MANUAL FOR OTHER APPLICABLE INFORMATION. CONSULT LOCAL OFFICIALS AND THE APPLICABLE LOCAL CODES FOR OTHER REQUIREMENTS (I.E. DRAINAGE, DAMP-PROOFING, BACKFILL SUPPORT, ETC.).
2. WIDTH DIMENSIONS SHOWN INCLUDE A 3/4" ALLOWANCE PER HOME SECTION FOR HOMES WITH FACTORY-INSTALLED O.S.B. ON THE MARRIAGE WALL MATE LINE. THIS ALLOWANCE TAKES INTO ACCOUNT THE 7/16" O.S.B. MATERIAL INSTALLED ON EACH MARRIAGE WALL PLUS ALLOWANCE DUE TO OTHER FACTORS. IF HOME DOES NOT INCLUDE O.S.B. ON THE MARRIAGE WALL MATE LINE, FOUNDATION WIDTH IS TO BE SIZED EQUAL TO ACTUAL MANUFACTURED FLOOR WIDTH. LESSER DIMENSION, IF SHOWN, INDICATES ACTUAL FLOOR WIDTH. THESE DIMENSIONS DO NOT ALLOW FOR ANY VARIANCE THAT MAY OCCUR IN SITE INSTALLATION SUCH AS GAPPING, OFF CENTER SET OR OTHER FIELD-ENCOUNTERED VARIABLES. ANY ADJUSTMENTS NEEDED IN FOUNDATION WIDTH DUE TO SUCH VARIANCES ARE AT THE DISCRETIONOF THE INSTALLER.
3. FOR DEVIATIONS &/OR OTHER FOUNDATION DESIGNS CONSULT A LOCAL PROFESSIONAL ENGINEER & YOUR LOCAL BUILDING OFFICIAL.
4. SILL PLATE FASTENING TO BE PER INSTALLATION MANUAL AND/OR LOCAL CODES. SILL FASTENING REQUIREMENT IS PER APPLICABLE WIND SPEED AND SEISMIC ZONES. SEE YOUR HOME DATA PLATE FOR APPLICABLE ZONES.
5. CONCRETE COMPRESSIVE STRENGTH (FC'): 2500 PSI MINIMUM.
6. CENTERLINE LINE SUPPORTS AND SPACING ARE BASED ON (2) 2X10's SPF#2 ON EACH HALF (4-2X10'S TOTAL).
7. CRAWLSPACE VENTILATION IS NOT REQUIRED WHEN INSULATION IS APPLIED TO CRAWLSPACE WALLS AS REQUIRED BY RESCHECK (CONDITIONED AIR). INSTALLATION OF VENTS IN CRAWLSPACE WALLS WOULD MANDATE INSULATING THE FLOOR SYSTEM PER APPLICABLE THERMAL CALCULATIONS. REFER TO APPLICABLE PRESCRIPTIVE CODES & GUIDELINES. WHEN REQUIRED, ONE VENT SHALL BE PROVIDED WITHIN 3 FEET OF EACH CORNER.
8. FOUNDATION CONSTRUCTION AND TIE DOWN REQUIREMENTS FOR HOMES LOCATED IN 90 MPH OR LESS WIND ZONES MAY USE APPLICABLE PRESCRIPTIVE CODES & GUIDELINES UNLESS NOTED OTHERWISE.

APPROVED BY NTA 1/24/2025

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Builder: R-Anell Housing Group, LLC – Subsidiary of The Commodore Corp.	Address: 235 Anthony Grove Rd. Crouse, NC 28033	Callout: 4272/64	Revisions . .	Scale: 1/8" = 1'-0"	Date: 01/20/2025	Cust: Strickland	Model/Eng. No.: 3R2202-R33
Title: Foundation 2x10 Marriage Line without Stair			Drawn By: NE	Reference: NONE		Dlr: HBV S/N: 44698	Pg.: FD20#

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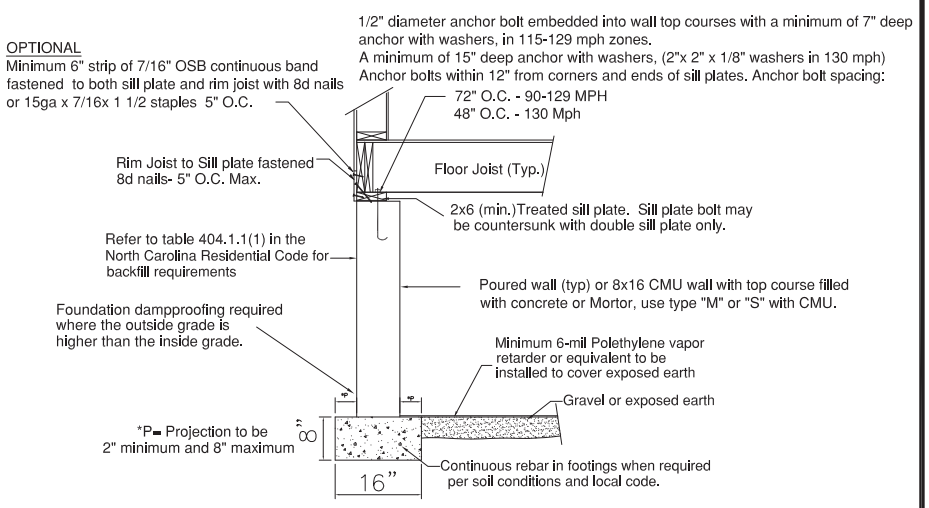
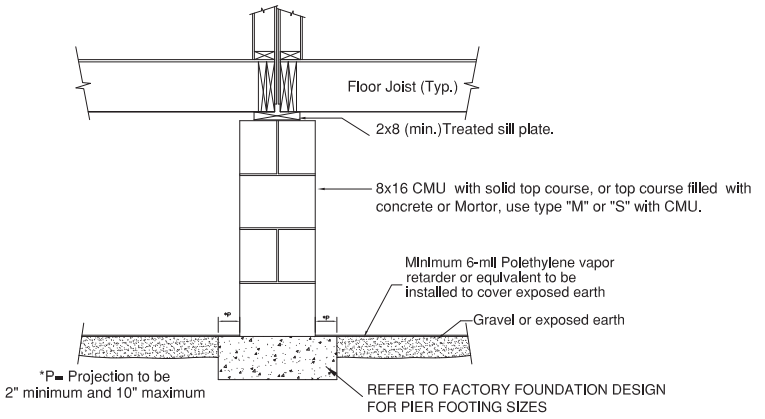
N.C. Foundation Cross Section- 90 to 130 Mph 1-1/2, 2, OR 2-1/2 STORY



BOTTOM OF FOOTINGS TO BE A MIN. OF 12" BELOW GRADE

Applicable to Seismic Zone C with minimum soil bearing capacity of 1500 PSF. Concrete 2500-PSI. min. Wind speed up to 130 Mph Exp. C. Refer to Chapter 4 in the North Carolina Residential Code for specific foundation application or CMU Construction. Refer to the wind bracing pages for additional tie down and braced wall requirements.

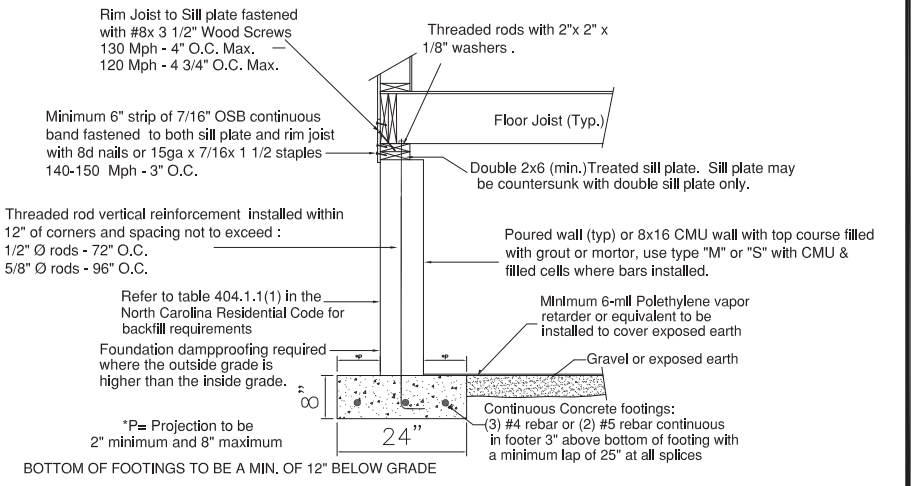
N.C. Pier Cross Section- All Zones- UP TO 3 STORIES



BOTTOM OF FOOTINGS TO BE A MIN. OF 12" BELOW GRADE

R404.1.5.4Piers.
The unsupported height of masonry piers shal lnot exceed 10 times their least dimension.
When structural clay tile or hollow concrete masonry units are used for isolated piers to support beams and girders, the cellular spaces shall be filled solidly with concrete or Type M or S mortar, except that unfilled hollow piers may be used if their unsupported height is not more than four times their least dimension. When hollow masonry units are solidly filled with concrete or Type M or S mortar, the allowable compressive stress may be increased as provided in Table 606.9.

N.C. High Wind Foundation Cross Section- 140 to 150 Mph 1-1/2, 2, OR 2-1/2 STORY

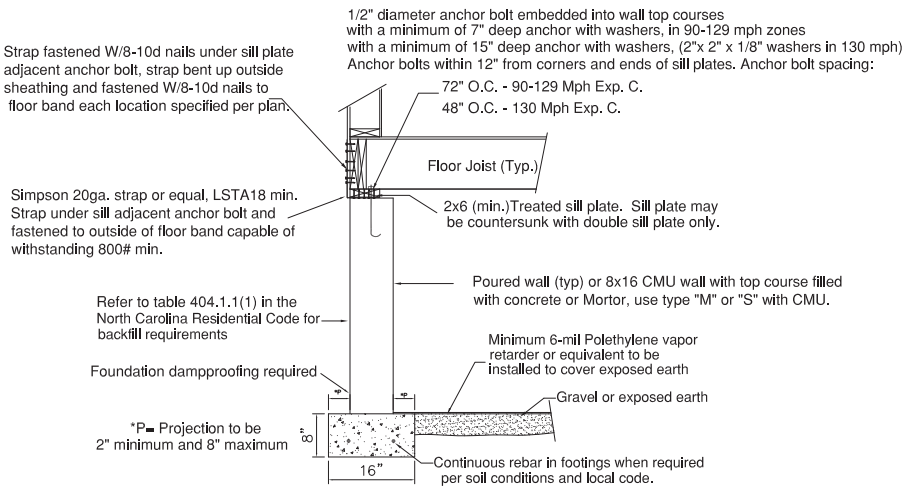


BOTTOM OF FOOTINGS TO BE A MIN. OF 12" BELOW GRADE

Applicable to Seismic Zone C, D0, D1 with minimum soil bearing capacity of 2500 PSF. Concrete-2500 PSI.min. Wind speed up to 130 Mph maximum. Refer to wind bracing pages for additional tie down requirements at braced wall locations. Refer to Chapters 4 & 45 in the North Carolina Residential Code for specific foundation application or CMU Construction.

REFER TO FIGURE R4504.2(B) FOUNDATION WALL WITH UPLIFT ANCHOR BOLTS FROM FOOTING TO SILL PLATE

N.C. 800# HOLD DOWN STRAP DEVICE



Applicable to Seismic Zone C with minimum soil bearing capacity of 2500 PSF. Concrete 2500-PSI. min. Wind speed up to 110 Mph Exp. C. Refer to Chapter 4 In the North Carolina Residential Code for specific foundation application or CMU Construction. Refer to the wind bracing pages for additional tie down and braced wall requirements.

CUSTOMER | ALL HOMES | COUNTY: ALL | STATE: NC | CITY | WIND SPEED: 110 – 150 | WIND LOAD | SNOW LOAD: 20 | CUST. NO. | DRAWING NAME

TYP FOUNDATION DETAILS

DATE:	REVISION:	BY:	NOTE:
11/18/18			
1/30/19	2018 CODE UPDATES		

T:\NC_WALL_PIER_DETAILS_2021.DWG

HOMES BY VANDERBUILT
3300 JEFFERSON DAVIS HWY
SANFORD, NC 27332
PHONE: (919) 718-2760
FAX: (919) 718-2799

wrightsoft®

Load Short Form
Entire House
AMS of Indiana, Inc.

Job: 3R2202-R33
Date: 1/20/25
By: AMS of Indiana, Inc.

3933 E. Jackson Blvd., Elkhart, IN 46516 Phone: 574-293-5526 Fax: 574-294-1366 Email: eng-ams@comcast.net

Project Information

For: The Commodore Corporation
3R2202-R33

Design Information

	Htg	Clg
Outside db (°F)	15	100
Inside db (°F)	70	75
Design TD (°F)	55	25
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	46	53

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

HEATING EQUIPMENT

Make	Generic		
Trade			
Model	AFUE 96		
AHRI ref			
Efficiency		96 AFUE	
Heating input		49904	Btuh
Heating output		47908	Btuh
Temperature rise		29	°F
Actual air flow		1502	cfm
Air flow factor		0.036	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		36842	Btuh
Latent cooling		15789	Btuh
Total cooling		52631	Btuh
Actual air flow		1502	cfm
Air flow factor		0.047	cfm/Btuh
Static pressure		0.50	in H2O
Load sensible heat ratio		0.77	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
BR 3	215	3826	3431	138	161
DEN	220	3148	3139	114	147
FOY	149	1958	1184	71	56
BA 3	32	893	404	32	19
BR 1	380	5716	4375	206	205
BA 1	240	2913	2291	105	107
WIC	107	985	567	36	27
UTL	216	3770	2216	136	104
STAIR	65	0	0	0	0
KIT DR GR	1307	10723	8970	387	420
BR 2	343	4991	3486	180	163
BA 2	213	2690	1982	97	93

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

Entire House	d	3486	41611	32046	1502	1502
Other equip loads			6285	2903		
Equip. @ 1.05 RSM				36835		
Latent cooling				10325		
TOTALS		3486	47896	47160	1502	1502

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1/24/2025
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Luke Lehman

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

Component Constructions
Entire House
AMS of Indiana, Inc.

Job: 3R2202-R33
Date: 1/20/25
By: AMS of Indiana, Inc.

3933 E. Jackson Blvd., Elkhart, IN 46516 Phone: 574-293-5526 Fax: 574-294-1366 Email: eng-ams@comcast.net

Project Information

For: The Commodore Corporation
3R2202-R33

Design Conditions

Location:
Fayetteville, NC, US
Elevation: 186 ft
Latitude: 35°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	15	100
Daily range (°F)	-	19 (M)
Wet bulb (°F)	-	79
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	55	25
Relative humidity (%)	50	50
Moisture difference (gr/lb)	45.6	52.8

Infiltration:

Method	Simplified
Construction quality	Average
Fireplaces	0

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12E-0sw: Frm wall, vnl ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	ne	551	0.068	19.0	3.74	2060	1.93	1065
	se	436	0.068	19.0	3.74	1631	1.93	844
	sw	586	0.068	19.0	3.74	2190	1.93	1133
	nw	465	0.068	19.0	3.74	1739	1.93	900
	all	2038	0.068	19.0	3.74	7620	1.93	3942
Partitions								
(none)								
Windows								
2 glazing, clr outr, air gas, wd frm mat, clr innr, 1/4" gap, 1/8" thk: 2 glazing, clr outr, air gas, wd frm mat, clr innr, 1/4" gap, 1/8" thk; 6.67 ft head ht	ne	131	0.320	0	17.6	2306	26.0	3412
	se	24	0.320	0	17.6	429	29.2	710
	sw	119	0.320	0	17.6	2093	29.2	3468
	nw	16	0.320	0	17.6	289	26.0	428
	all	291	0.320	0	17.6	5116	27.6	8019
Doors								
11D0: Door, wd sc type	ne	47	0.390	0	21.4	1014	14.6	692
	se	21	0.390	0	21.4	450	14.6	308
	sw	25	0.390	0	21.4	526	14.6	359
	all	93	0.390	0	21.4	1989	14.6	1358
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins		1863	0.032	30.0	1.76	3279	1.95	3640
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins		1623	0.026	38.0	1.43	2321	1.59	2576
Floors								
19A-30cstp: Flr floor, frm flr, 10" thkns, r-30 cav ins, tight crwl ovr		3486	0.034	30.0	1.57	5471	0.72	2527

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1/24/2025
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Project Summary
Entire House
AMS of Indiana, Inc.

Job: 3R2202-R33
Date: 1/20/25
By: AMS of Indiana, Inc.

3933 E. Jackson Blvd., Elkhart, IN 46516 Phone: 574-293-5526 Fax: 574-294-1366 Email: eng-ams@comcast.net

Project Information

For: The Commodore Corporation
3R2202-R33

Notes:

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1/24/2025
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Design Information

Weather: Fayetteville, NC, US

Winter Design Conditions

Outside db	15	°F
Inside db	70	°F
Design TD	55	°F
Ventilation Method	MJ8	

Summer Design Conditions

Outside db	100	°F
Inside db	75	°F
Design TD	25	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	53	gr/lb

Heating Summary

Structure	34597	Btuh
Ducts (R-8.0)	7014	Btuh
Central vent (105 cfm)	6285	Btuh
Outside air		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	47896	Btuh

Sensible Cooling Equipment Load Sizing

Structure	24239	Btuh
Ducts (R-8.0)	7807	Btuh
Central vent (105 cfm)	2903	Btuh
Outside air		
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	1.05	
Equipment sensible load	36835	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	3486	3486
Volume (ft³)	31376	31376
Air changes/hour	0.28	0.15
Equiv. AVF (cfm)	146	78

Latent Cooling Equipment Load Sizing

Structure	2800	Btuh
Ducts	3792	Btuh
Central vent (105 cfm)	3733	Btuh
Outside air		
Equipment latent load	10325	Btuh
Equipment Total Load (Sen+Lat)	47160	Btuh
Req. total capacity at 0.70 SHR	4.4	ton

Heating Equipment Summary

Make	Generic
Trade	
Model	AFUE 96
AHRI ref	

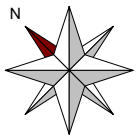
Efficiency	96	AFUE
Heating input	49904	Btuh
Heating output	47908	Btuh
Temperature rise	29	°F
Actual air flow	1502	cfm
Air flow factor	0.036	cfm/Btuh
Static pressure	0.50	in H2O
Space thermostat		

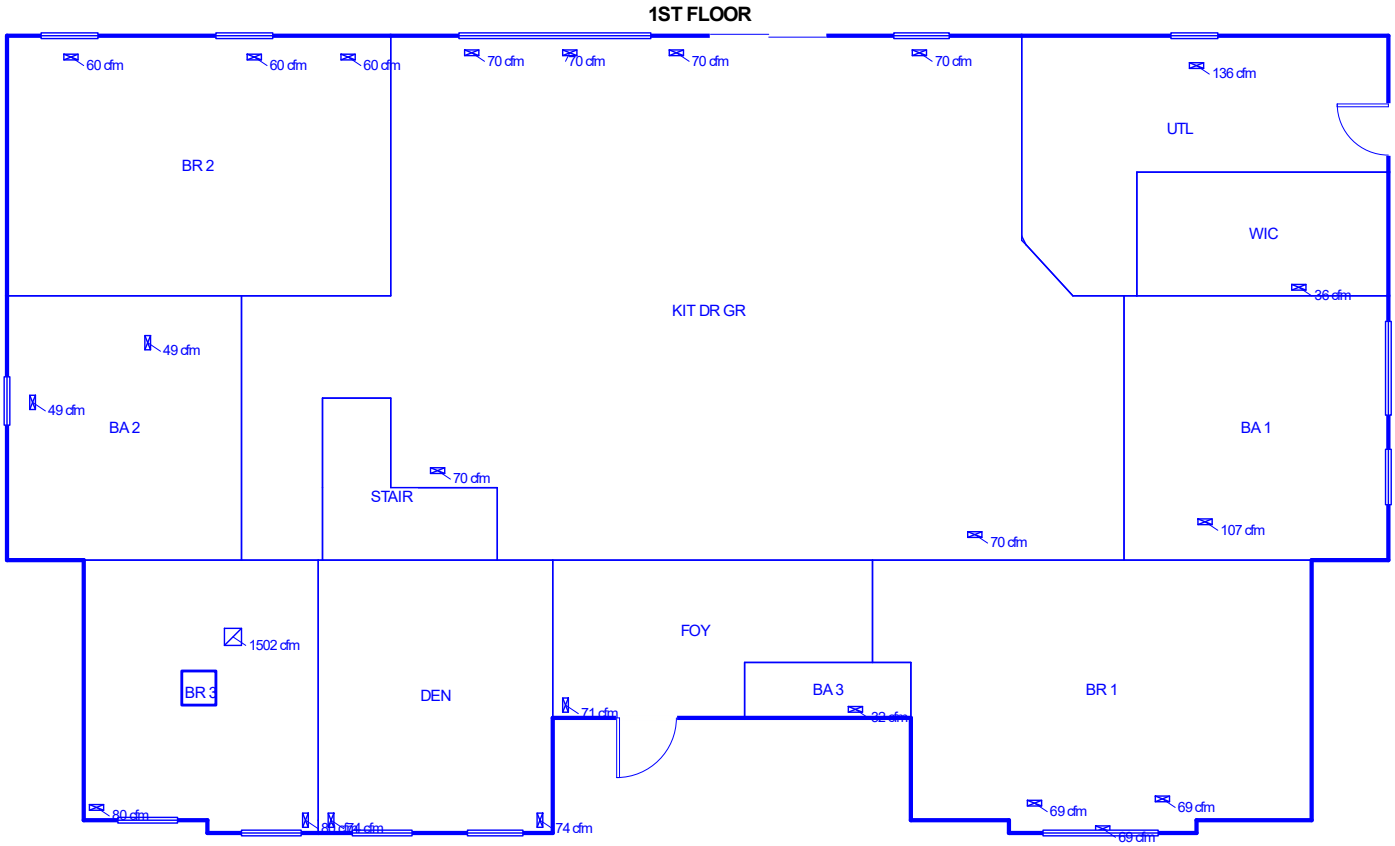
Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 14.0
Coil	
AHRI ref	

Efficiency	12.2 EER, 14 SEER	
Sensible cooling	36842	Btuh
Latent cooling	15789	Btuh
Total cooling	52631	Btuh
Actual air flow	1502	cfm
Air flow factor	0.047	cfm/Btuh
Static pressure	0.50	in H2O
Load sensible heat ratio	0.77	

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





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Job #: 3R2202-R33
Performed by AMS of Indiana, Inc. for:
The Commodore Corporation
3R2202-R33

AMS of Indiana, Inc.
3933 E. Jackson Blvd.
Elkhart, IN 46516
Phone: 574-293-5526 Fax: 574-294-1366
eng-ams@comcast.net

Scale: 1 : 135

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Manual S Compliance Report
Entire House
AMS of Indiana, Inc.

Job: 3R2202-R33
Date: 1/20/25
By: AMS of Indiana, Inc.

3933 E. Jackson Blvd., Elkhart, IN 46516 Phone: 574-293-5526 Fax: 574-294-1366 Email: eng-ams@comcast.net

Project Information

For: The Commodore Corporation
3R2202-R33

Cooling Equipment

Design Conditions

Outdoor design DB:	100 °F	Sensible gain:	34948	Btuh	Entering coil DB:	80.9°F
Outdoor design WB:	79.2 °F	Latent gain:	10325	Btuh	Entering coil WB:	65.8°F
Indoor design DB:	75.0 °F	Total gain:	45273	Btuh		
Indoor RH:	50 %	Estimated airflow:	1502	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split AC				
Manufacturer:	Generic		Model:	SEER 14.0	
Actual airflow:	1502	cfm			
Sensible capacity:	36842	Btuh	105% of load		
Latent capacity:	15789	Btuh	153% of load		
Total capacity:	52631	Btuh	116% of load	SHR:	70%

Heating Equipment

Design Conditions

Outdoor design DB:	15.0 °F	Heat loss:	47896	Btuh	Entering coil DB:	63.2°F
Indoor design DB:	70.0 °F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Gas furnace					
Manufacturer:	Generic		Model:	AFUE 96		
Actual airflow:	1502	cfm				
Output capacity:	47908	Btuh	100% of load		Temp. rise:	0 °F

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Meets all requirements of ACCA Manual S.

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Duct System Summary
Entire House
AMS of Indiana, Inc.

Job: 3R2202-R33
Date: 1/20/25
By: AMS of Indiana, Inc.

3933 E. Jackson Blvd., Elkhart, IN 46516 Phone: 574-293-5526 Fax: 574-294-1366 Email: eng-ams@comcast.net

Project Information

For: The Commodore Corporation
3R2202-R33

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0.41 in H2O	0.41 in H2O
Available static pressure	0.09 in H2O	0.09 in H2O
Supply / return available pressure	0.045 / 0.045 in H2O	0.045 / 0.045 in H2O
Lowest friction rate	0 in/100ft	0 in/100ft
Actual air flow	1502 cfm	1502 cfm
Total effective length (TEL)	0 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
BA 1	c 2291	105	107	0	0	0x 0	VlFx	0	0	
BA 2	h 991	49	46	0	0	0x 0	VlFx	0	0	
BA 2-A	h 991	49	46	0	0	0x 0	VlFx	0	0	
BA 3	h 404	32	19	0	0	0x 0	VlFx	0	0	
BR 1	h 1458	69	68	0	0	0x 0	VlFx	0	0	
BR 1 -A	h 1458	69	68	0	0	0x 0	VlFx	0	0	
BR 1 -B	h 1458	69	68	0	0	0x 0	VlFx	0	0	
BR 2	h 1162	60	54	0	0	0x 0	VlFx	0	0	
BR 2-A	h 1162	60	54	0	0	0x 0	VlFx	0	0	
BR 2-B	h 1162	60	54	0	0	0x 0	VlFx	0	0	
BR 3	c 1716	69	80	0	0	0x 0	VlFx	0	0	
BR 3-A	c 1716	69	80	0	0	0x 0	VlFx	0	0	
DEN	c 1569	57	74	0	0	0x 0	VlFx	0	0	
DEN-A	c 1569	57	74	0	0	0x 0	VlFx	0	0	
FOY	h 1184	71	56	0	0	0x 0	VlFx	0	0	
KIT DR GR-A	c 1495	65	70	0	0	0x 0	VlFx	0	0	
KIT DR GR-B	c 1495	65	70	0	0	0x 0	VlFx	0	0	
KIT DR GR-C	c 1495	65	70	0	0	0x 0	VlFx	0	0	
KIT DR GR-D	c 1495	65	70	0	0	0x 0	VlFx	0	0	
KIT DR GR-E	c 1495	65	70	0	0	0x 0	VlFx	0	0	
KIT DR GR-F	c 1495	65	70	0	0	0x 0	VlFx	0	0	
UTL-A	h 2216	136	104	0	0	0x 0	VlFx	0	0	
WIC-A	h 567	36	27	0	0	0x 0	VlFx	0	0	

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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	1502	1502	0	0	0	0	0x 0		ShMt	

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Generated by RES*check-Web* Software

Compliance Certificate

Project 3R2202-R33

Energy Code:	**2018 IECC**
Location:	**Harnett County, North Carolina**
Construction Type:	**Single-family**
Project Type:	**New Construction**
Project SubType:	**None**
Orientation:	**Unspecified**
Conditioned Floor Area:	**2,765 ft2**
Glazing Area	**10%**
Climate Zone:	**4 (3499 HDD)**
Permit Date:	
Permit Number:	
All Electric	**false**
Is Renewable	**false**
Has Charger	**false**
Has Battery:	**false**
Has Heat Pump:	**false**

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Construction Site:
Tbd Lucas Street
Harnett, North Carolina 28339

Owner/Agent:
Strickland
HBV

Designer/Contractor:
R-Anell Housing Group, LLC
Commodore Homes, LLC
235 Anthony Grove Rd.
Crouse, NC 28033

Compliance: Passes using UA trade-off

Compliance: **2.6% Better Than Code** Maximum UA: **454** Your UA: **442** Maximum SHGC: **0.40** Your SHGC: **0.23**

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

Slab-on-grade tradeoffs are no longer considered in the UA or performance compliance path in REScheck. Each slab-on-grade assembly in the specified climate zone must meet the minimum energy code insulation R-value and depth requirements.

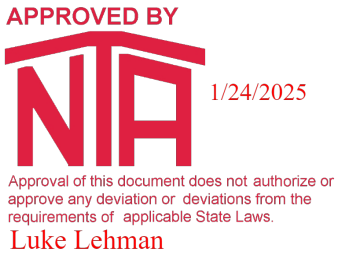
Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Prop. U-Factor	Req. U-Factor	Prop. UA	Req. UA
Ceiling 1: Flat Ceiling or Scissor Truss	879	38.0	0.0	0.030	0.026	26	23
Ceiling 2 [Between knee walls]: Flat Ceiling or Scissor Truss	1,886	30.0	0.0	0.035	0.026	66	49
Wall [1walls]: Wood Frame, 16" o.c. Orientation: Right side	456	19.0	0.0	0.060	0.060	25	25
Door - Hinged - Exterior - 9 Lite {Qty 1}: null Orientation: Right side	22			0.290	0.320	6	7
Window - Kinro SH 3668 {Qty 1}: Vinyl Frame:Double Pane with Low-E SHGC: 0.23 Orientation: Right side	17			0.340	0.320	6	5

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Prop. U-Factor	Req. U-Factor	Prop. UA	Req. UA
Window - Kinro 6012 Transom {Qty 1}: Vinyl Frame:Double Pane with Low-E SHGC: 0.26 Orientation: Right side	5			0.310	0.320	2	2
Wall [1walls]: Wood Frame, 16" o.c. Orientation: Left side	456	19.0	0.0	0.060	0.060	27	27
Window - Kinro SH 3036 {Qty 1}: Vinyl Frame:Double Pane with Low-E SHGC: 0.23 Orientation: Left side	8			0.340	0.320	3	3
Wall [1walls]: Wood Frame, 16" o.c. Orientation: Back	704	19.0	0.0	0.060	0.060	33	33
Door - Sliding Patio {Qty 1}: null Orientation: Back	40			0.230	0.320	9	13
Window - Kinro SH 3668 {Qty 6}: Vinyl Frame:Double Pane with Low-E SHGC: 0.23 Orientation: Back	104			0.340	0.320	35	33
Window - Kinro SH 3036 {Qty 1}: Vinyl Frame:Double Pane with Low-E SHGC: 0.23 Orientation: Back	8			0.340	0.320	3	3
Wall [1walls]: Wood Frame, 16" o.c. Orientation: Front	704	19.0	0.0	0.060	0.060	33	33
Door - Hinged - Exterior - Half Lite - 12DSL {Qty 1}: null Orientation: Front	38			0.280	0.320	11	12
Window - (2) Kinro SH 3668 {Qty 1}: Vinyl Frame:Double Pane with Low-E SHGC: 0.23 Orientation: Front	35			0.340	0.320	12	11
Window - Kinro SH 3668 {Qty 5}: Vinyl Frame:Double Pane with Low-E SHGC: 0.23 Orientation: Front	87			0.340	0.320	30	28
Wall [Cape Close Off Kit]: Wood Frame, 24" o.c. Orientation: Unspecified	200	11.0	0.0	0.087	0.060	16	11
Attic Door: Solid Orientation: Unspecified	18			0.460	0.320	8	6
Floor 1: All-Wood Joist/Truss:Over Outside Air	2,765	30.0	0.0	0.033	0.047	91	130

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2018 IECC requirements in RES*check* Version : REScheck-Web and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

N. Edwards - drafter	N. Edwards	1/20/2025
Name - Title	Signature	Date



RES*check* Software Version : REScheck-Web

Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the RES*check* software

Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
103.1, 103.2 [PR1][1]	Construction drawings and documentation demonstrate energy code compliance for the building envelope. Thermal envelope represented on construction documents.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
103.1, 103.2, 403.7 [PR3][1]	Construction drawings and documentation demonstrate energy code compliance for lighting and mechanical systems. Systems serving multiple dwelling units must demonstrate compliance with the IECC Commercial Provisions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
302.1, 403.7 [PR2][2]	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J or other methods approved by the code official.	Heating: Btu/hr____ Cooling: Btu/hr____	Heating: Btu/hr____ Cooling: Btu/hr____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Foundation Inspection	Complies?	Comments/Assumptions
303.2.1 [FO11]2	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.9 [FO12]2	Snow- and ice-melting system controls installed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4 [FR1][1]	Door U-factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1, 402.3.1, 402.3.3, 402.5 [FR2][1]	Glazing U-factor (area-weighted average).	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.3 [FR4][1]	U-factors of fenestration products are determined in accordance with the NFRC test procedure or taken from the default table.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.1.1 [FR23][1]	Air barrier and thermal barrier installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.3 [FR20][1]	Fenestration that is not site built is listed and labeled as meeting AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.5 [FR16][2]	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.1 [FR12][1]	Supply and return ducts in attics insulated >= R-8 where duct is >= 3 inches in diameter and >= R-6 where < 3 inches. Supply and return ducts in other portions of the building insulated >= R-6 for diameter >= 3 inches and R-4.2 for < 3 inches in diameter.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.2 [FR13][1]	Ducts, air handlers and filter boxes are sealed with joints/seams compliant with International Mechanical Code or International Residential Code, as applicable.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.5 [FR15][3]	Building cavities are not used as ducts or plenums.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.4 [FR17][2]	HVAC piping conveying fluids above 105 ºF or chilled fluids below 55 ºF are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.4.1 [FR24][1]	Protection of insulation on HVAC piping.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.3 [FR18][2]	Hot water pipes are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.6 [FR19][2]	Automatic or gravity dampers are installed on all outdoor air intakes and exhausts.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.1 [IN13][2]	All installed insulation is labeled or the installed R-values provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.1.1, 402.2.6 [IN1][1]	Floor insulation R-value.	R-____ ☐ Wood ☐ Steel	R-____ ☐ Wood ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2, 402.2.8 [IN2][1]	Floor insulation installed per manufacturer's instructions and in substantial contact with the underside of the subfloor, or floor framing cavity insulation is in contact with the top side of sheathing, or continuous insulation is installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.1.1, 402.2.5, 402.2.6 [IN3][1]	Wall insulation R-value. If this is a mass wall with at least ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R-____ ☐ Wood ☐ Mass ☐ Steel	R-____ ☐ Wood ☐ Mass ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2 [IN4][1]	Wall insulation is installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1][1]	Ceiling insulation R-value.	R-____ ☐ Wood ☐ Steel	R-____ ☐ Wood ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.1.1, 303.2 [FI2][1]	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft².			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.2.3 [FI22][2]	Vented attics with air permeable insulation include baffle adjacent to soffit and eave vents that extends over insulation.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.2.4 [FI3][1]	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.1.2 [FI17][1]	Blower door test @ 50 Pa. <=5 ach in Climate Zones 1-2, and <=3 ach in Climate Zones 3-8.	ACH 50 =____	ACH 50 =____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.3 [FI27][1]	Ducts are pressure tested to determine air leakage with either: Rough-in test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the system including the manufacturer's air handler enclosure if installed at time of test. Postconstruction test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the entire system including the manufacturer's air handler enclosure.	____ cfm/100 ft²	____ cfm/100 ft²	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.4 [FI4][1]	Duct tightness test result of <=4 cfm/100 ft2 across the system or <=3 cfm/100 ft2 without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	____ cfm/100 ft²	____ cfm/100 ft²	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.2.1 [FI24][1]	Air handler leakage designated by manufacturer at <=2% of design air flow.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.1.1 [FI9][2]	Programmable thermostats installed for control of primary heating and cooling systems and initially set by manufacturer to code specifications.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.1.2 [FI10][2]	Heat pump thermostat installed on heat pumps.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.1 [FI11][2]	Circulating service hot water systems have automatic or accessible manual controls.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.6.1 [FI25]2	All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits per Table R403.6.1.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.2 [FI26]2	Hot water boilers supplying heat through one- or two-pipe heating systems have outdoor setback control to lower boiler water temperature based on outdoor temperature.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.1.1 [FI28]2	Heated water circulation systems have a circulation pump. The system return pipe is a dedicated return pipe or a cold water supply pipe. Gravity and thermos-syphon circulation systems are not present. Controls for circulating hot water system pumps start the pump with signal for hot water demand within the occupancy. Controls automatically turn off the pump when water is in circulation loop is at set-point temperature and no demand for hot water exists.	APPROVED BY NTA 1/24/2025 Approval of this document does not authorize or approve any deviation or deviations from the requirements of applicable State Laws. Luke Lehman		☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.1.2 [FI29]2	Electric heat trace systems comply with IEEE 515.1 or UL 515. Controls automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.2 [FI30]2	Demand recirculation water systems have controls that manage operation of the pump and limit the temperature of the water entering the cold water piping to <= 104ºF.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.4 [FI31]2	Drain water heat recovery units tested in accordance with CSA B55.1. Potable water-side pressure loss of drain water heat recovery units < 3 psi for individual units connected to one or two showers. Potable water-side pressure loss of drain water heat recovery units < 2 psi for individual units connected to three or more showers.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
404.1 [FI6]1	90% or more of permanent fixtures have high efficacy lamps.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
404.1.1 [FI23]3	Fuel gas lighting systems have no continuous pilot light.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
401.3 [FI7]2	Compliance certificate posted.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.3 [FI18][3]	Manufacturer manuals for mechanical and water heating systems have been provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

2018 IECC Energy Efficiency Certificate

Insulation Rating	R-Value
Above-Grade Wall	19.00
Below-Grade Wall	0.00
Floor	30.00
Ceiling / Roof	30.00
Ductwork (unconditioned spaces):	_____

Glass & Door Rating	U-Factor	SHGC
Window	0.34	0.23
Door	0.23	

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

Name: _____ **Date:**_____

Comments

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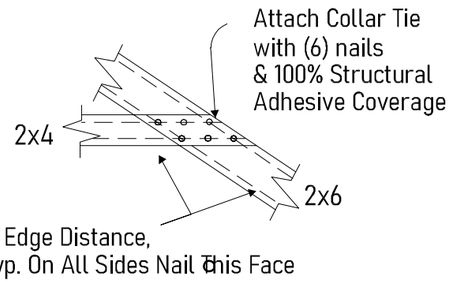
Job	Truss	Truss Type	Qty	Ply	
32802	A098601	RIGID COLLAR TIE CONNECTION DETAILS 1		1	UFP ENGINEERING Bulletin 05-02 REF # 2001092

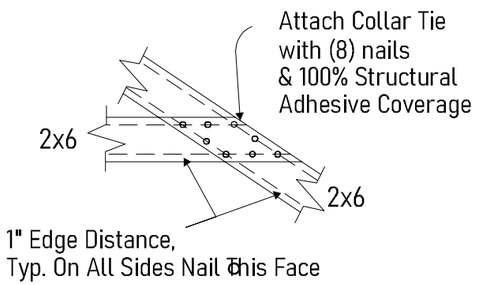
Universal Forest Products Inc., Grand Rapids, MI 49525,

2x4 Collar Tie Nailed to 2x6 Chord



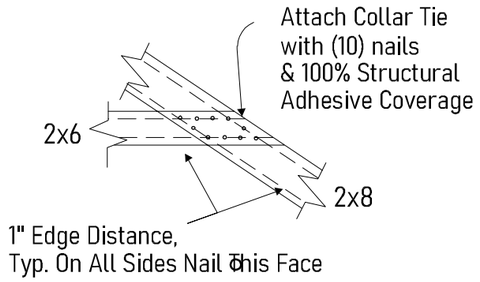
Detail (A)

2x6 Collar Tie Nailed to 2x6 Chord



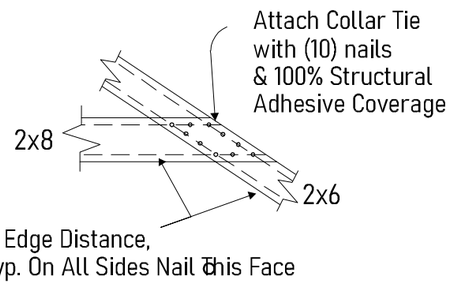
Detail (B)

2x6 Collar Tie Nailed to 2x8 Chord



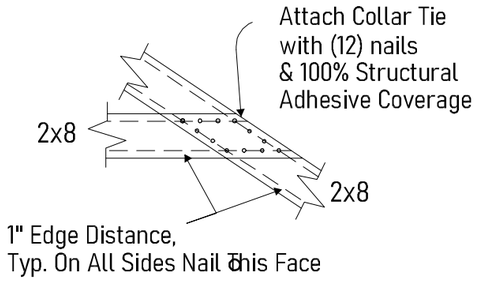
Detail (C)

2x8 Collar Tie Nailed to 2x6 Chord



Detail (D)

2x8 Collar Tie Nailed to 2x8 Chord

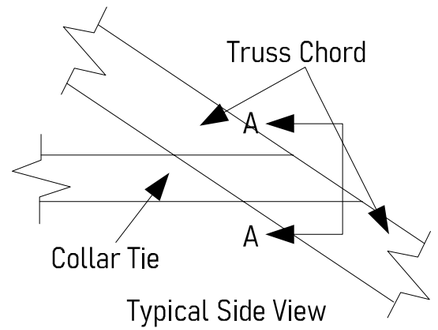


Detail (E)

Power Driven Nails Rigid Collar Tie Connection Details

A) Side member shall be fastened with structural adhesive that meets the requirements of ASTM-2559. Maximum wood to wood gap = 1/16".
B) Bostitch .131" Dia. x 3" nails (or equal)

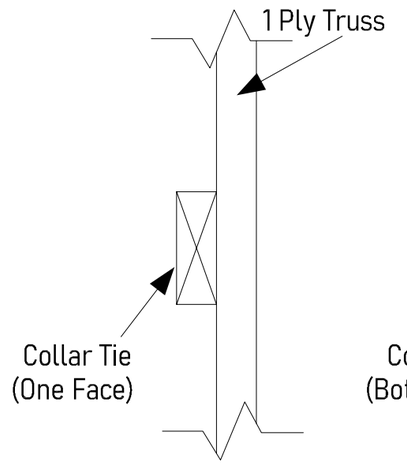
This Bulletin to be used only in conjunction with UFPI truss designs which specifically refer to this Bulletin by number for collar tie field fastening.



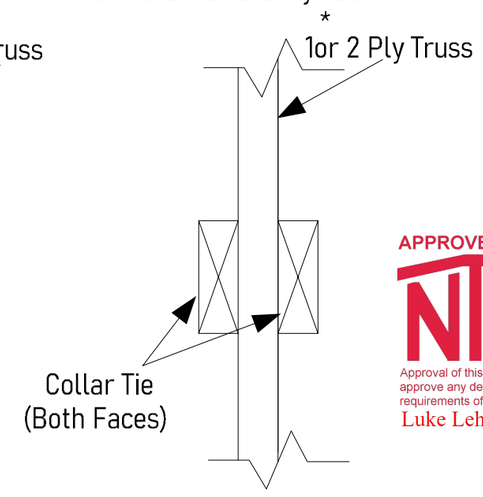
Typical Side View

Acceptable Alternate Applications

See truss print for which detail is actually used



Section A-A



Section A-A

* FOR 1 PLY, OFFSET NAILS WITH RESPECT TO EACH FACE.

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Luke Lehman

WARNING - Verify design parameters and READ NOTES

Universal Forest Products, Inc.
PHONE (616)-364-6161 FAX (616)-365-0060
2801 EAST BELTLINE RD, NE
GRAND RAPIDS, MI 49505

This design is based only upon parameters shown, and is for an individual building component to be installed and loaded vertically. Applicability of design parameters and proper incorporation of component is responsibility of building designer - not truss designer. Bracing shown is for lateral support of individual web members only. Additional temporary bracing to insure stability during construction is the responsibility of the erector. Additional permanent bracing of the overall structure is the responsibility of the building designer. For general guidance regarding fabrication,quality control, storage, delivery, erection and bracing, consult QST-88 Quality Standard, DSB-89 Bracing Specification, and HIB-91 Handling Installing and Bracing Recommendation avaliable from Truss Plate Institute, 583 D'Onofrio Drive, Madison, WI 53719

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Job	Truss	Truss Type	Qty	Ply	COMMODORE (R4LP9E)
112276	CCB37744	HINGED ATTIC	1	1	41' tri-wide 9/12 cape Designed by ATM 274

UFP Industries Inc., Grand Rapids, MI 49525, Andrew Muisiner — 8.620 e Sep 22 2022 MiTek Industries, Inc. Tue Jan 31 08:57:51 2023 Page 1 of 1

-0-11-4 | 20-6-14 | 41-1-12 | 42-1-0
0-11-4 | 20-6-14 | 20-6-14 | 0-11-4

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Luke Lehman

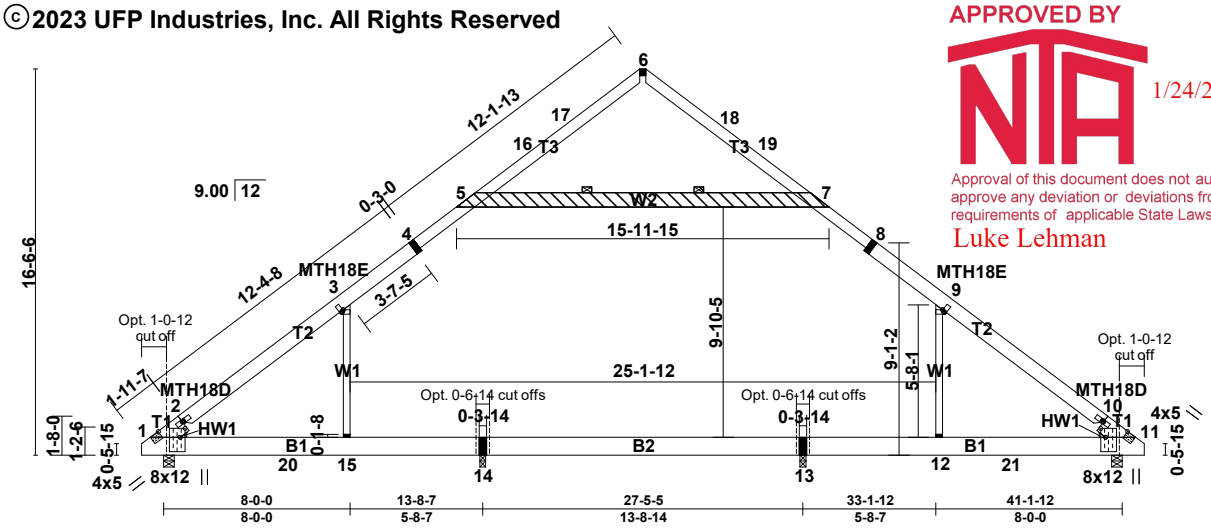


Plate Offsets (X,Y)-- [1:0-7-5,0-9-0], [1:0-4-8,0-2-8], [2:0-0-11,0-0-0], [3:0-0-11,0-1-2], [9:0-0-11,0-1-2], [10:0-0-11,0-0-0], [11:0-4-8,0-2-8], [11:0-7-4,0-9-1]

SPACING-: 2-0-0	SPACING-: 1-4-0	SPACING- 2-0-0	CSI.	DEFL. in (loc) l/defl L/d	PLATES GRIP
LOADING (psf)	LOADING (psf)	Plate Grip DOL 1.15	TC 0.80	Vert(LL) 0.43 1-15 >373 240	MT20 197/144
TCLL 23.1	TCLL 34.7	Lumber DOL 1.15	BC 0.93	Vert(CT) -0.44 1-15 >369 180	MT18HS 197/144
(Ground Snow=30.0)	(Ground Snow=45.0)	Rep Stress Incr YES	WB 0.69	Horz(CT) 0.02 11 n/a n/a	
TCDL 10.0	TCDL 15.0	Code IBC2021/TPI2014	Matrix-R	Attic -0.34 13-14 484 360	Weight: 220 lb
BCLL 0.0 *	BCLL 0.0 *				FT = 0%
BCDL 10.0	BCDL 15.0				

LUMBER-
TOP CHORD 2x10 SP No.2 or 2x10 SPF No.2 *Except*
T2: 2x8 SP No.2 or 2x8 SPF No.2, T3: 2x6 SP No.2 or 2x6 SPF No.2
BOT CHORD 2x10 SP DSS or 2x10 SP No.1 *Except* B2: 2x10 SP DSS
WEBS 2x4 SPF Stud *Except* W2: 2x8 SP No.2 or 2x8 SPF No.2
WEDGE Left: 2x3 SPF Stud , Right: 2x3 SPF Stud

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-11-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 2 Rows at 1/3 pts 5-7

REACTIONS. (lb/size) 14=439/0-3-0 (min. 0-1-8), 13=439/0-3-0 (min. 0-1-8), 1=1445/0-5-8 (min. 0-2-5), 11=1445/0-5-8 (min. 0-2-5)
Max Horz 1=735(LC 9)
Max Uplift14=-325(LC 12), 13=-323(LC 13), 1=-666(LC 13), 11=-662(LC 12)
Max Grav 14=1329(LC 22), 13=1327(LC 23), 1=1522(LC 23), 11=1518(LC 22)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1634/816, 2-3=-1564/852, 3-4=-1486/902, 4-5=-1258/934, 5-16=-505/260, 16-17=-378/270, 6-17=-348/288, 6-18=-345/286, 18-19=-374/269, 7-19=-503/259, 7-8=-1253/929, 8-9=-1486/897, 9-10=-1553/846, 10-11=-1628/810
BOT CHORD 1-20=-496/1344, 15-20=-496/1344, 14-15=-492/1341, 13-14=-492/1341, 12-13=-492/1341, 12-21=-492/1340, 11-21=-492/1340
WEBS 9-12=-633/744, 3-15=-637/747, 5-7=-1140/892

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Maximum Tension (lb)/ Maximum Shear (lb)/ Maximum Moment (lb-in)
4=1349/919/266/0, 5=1151/900/78/0, 6=287/291/271/0, 7=1153/902/78/0, 8=1349/914/264/0, 12=633/744/0/0, 13=492/1341/777/0, 14=492/1341/779/0, 15=637/747/0/0

NOTES-
1) Wind: ASCE 7-16; Vult=150mph (3-second gust) Vasd=119mph @24in o.c.; TCDL=4.0psf; BCDL=4.0psf; (Alt. 180mph @16in o.c.; TCDL=6.0psf; BCDL=6.0psf); h=30ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-2-7 to 3-2-7, Interior(1) 3-2-7 to 17-6-5, Exterior(2R) 17-6-5 to 23-6-5, Interior(1) 23-6-5 to 37-11-5, Exterior(2E) 37-11-5 to 40-11-5 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; 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
3) Roof design snow load has been reduced to account for slope.
4) Unbalanced snow loads have been considered for this design.
5) All plates are MT20 plates unless otherwise indicated.
6) See HINGE PLATE DETAILS for plate placement.
7) Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
8) All additional member connections shall be provided by others for forces as indicated.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit b the bottom chord and any other members, with BCDL = 10.0psf.
11) Ceiling dead load (5.0 psf) on member(s). 3-5, 7-9, 5-7
12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 14-15, 13-14, 12-13
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 325 lb uplift at joint 14, 323 lb uplift at joint 13, 666 lb uplift at joint 1 and 662 lb uplift at joint 11.
14) Attic room checked for L/360 deflection.
15) This truss is designed in accordance with the 2021 IBC Sec 2306.1 and referenced standard ANSI/TPI 1
16) This truss is designed in accordance with the 2018 IBC Sec 2306.1 and referenced standard ANSI/TPI 1
17) This truss is designed in accordance with the 2015 IBC Sec 2306.1 and referenced standard ANSI/TPI 1
18) Take precaution to keep the chords in plane, any bending or twisting of the hinge plate must be repaired before the building is put into se
19) The field-installed members are an integral part of the truss design. Retain a design professional to specify final field connections and ten supports. All field-installed members must be properly fastened prior to applying any loading to the truss. This design anticipates the fina position.
20) Based on: CCB37726. Changes: IBC 2021, 150mph wind.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
STUART LEE WALTER
PE071668
1/31/2023

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

WARNING - *Verify design parameters and READ NOTES*

UFP Industries, Inc.
PHONE (616)-364-6161

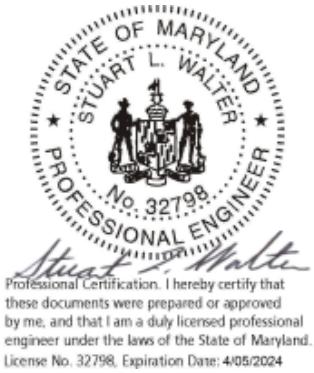
2801 EAST BELTLINE RD, NE
GRAND RAPIDS, MI 49525

Truss shall not be cut or modified without approval of the truss design engineer.
This component has only been designed for the loads noted on this drawing. Construction and lifting forces have not been considered. The builder is responsible for lifting methods and system design. Builder responsibilities are defined under TPI1. This design is based only upon parameters shown, and is for an individual building component to be installed and loaded vertically. Applicability of design parameters and proper incorporation of component is responsibility of building designer - not truss designer. Bracing shown is for lateral support of individual web members only. Additional temporary bracing to insure stability during construction is the responsibility of the erector. Additional permanent bracing of the overall structure is the responsibility of the building designer. For general guidance regarding fabrication, quality control, storage, delivery, erection and bracing, consult BCSI 1-06 from the Wood Truss Council of America and Truss Plate Institute Recommendation available from WTCA, 6300 Enterprise LN, Madison, WI 53719 J:\support\MitekSupp\templates\ufp.tpe

UFP INDUSTRIES

Job	Truss	MFG	Customer
112276	CCB37744	315	COMMODORE

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



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 32798, Expiration Date: 4/05/2024

APPROVED BY
NTA
1/24/2025

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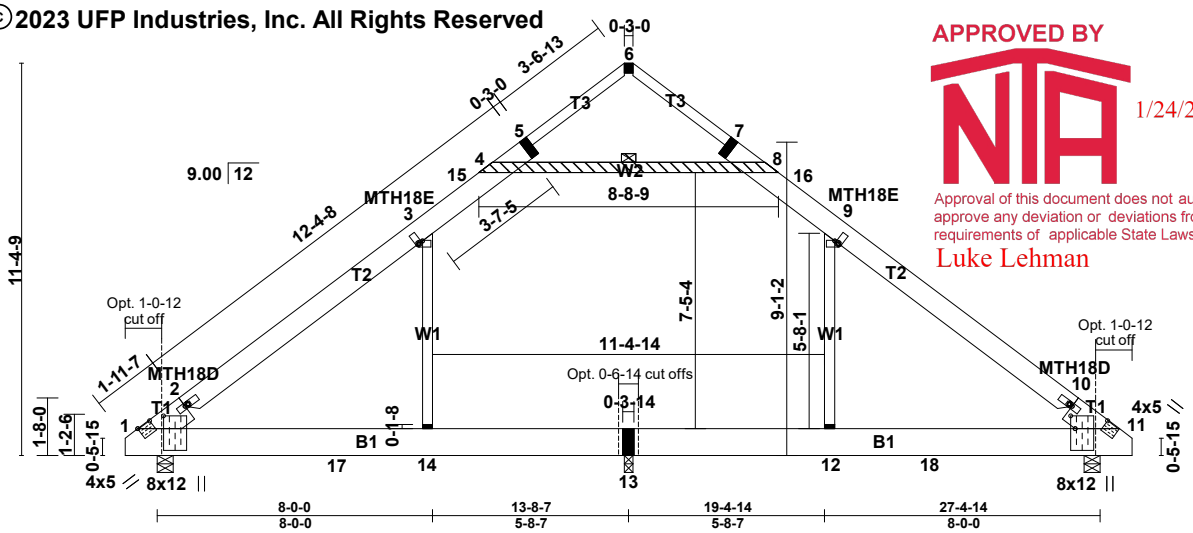
Luke Lehman

Job	Truss	Truss Type	Qty	Ply	COMMODORE (R28P9E)
112276	CCB41614	HINGED ATTIC	1	1	27' 4"w 9/12 cape (match tri-wide KW)

Designed by ATM 274

UFP Industries Inc., Grand Rapids, MI 49525, Andrew Muisiner — 8.620 e Sep 22 2022 MiTek Industries, Inc. Wed Jan 18 15:11:05 2023 Page 1 of 1

-0-11-4 / 0-11-4 — 13-8-7 / 13-8-7 — 27-4-14 / 13-8-7 — 28-4-2 / 0-11-4



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Luke Lehman

Plate Offsets (X,Y)-- [1:0-4-8,0-8-15], [1:0-5-0,0-0-4], [2:0-1-4,0-0-0], [3:0-1-4,0-1-0], [9:0-1-4,0-1-0], [10:0-1-4,0-0-0], [11:0-7-5,0-9-0], [11:0-4-8,0-1-9]

SPACING-: 2-0-0		SPACING-: 1-4-0		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
LOADING (psf)		LOADING (psf)		Plate Grip DOL	1.15	TC	0.47	Vert(LL)	0.27	1-14	>596	240	MT20	197/144
TCLL	23.1	TCLL	34.7	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.30	1-14	>541	180	MT18HS	197/144
(Ground Snow=30.0)		(Ground Snow=45.0)		Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.01	11	n/a	n/a		
TCDL	10.0	TCDL	15.0	Code	IBC2021/TPI2014	Matrix-R		Attic	-0.19	13-14	738	360	Weight: 218 lb	
BCLL	0.0 *	BCLL	0.0 *										FT = 0%	
BCDL	10.0	BCDL	15.0											

LUMBER-
TOP CHORD 2x10 SP No.2 or 2x10 SPF No.2 *Except*
T2: 2x8 SP No.2 or 2x8 SPF No.2, T3: 2x4 SP No.2 or 2x4 SPF No.2
BOT CHORD 2x10 SP No.2 or 2x10 SPF No.2
WEBS 2x4 SPF Stud *Except* W2: 2x4 SP No.2 or 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-7-14 oc bracing.
WEBS 1 Row at midpt 4-8

REACTIONS. (lb/size) 1=1061/0-5-8 (min. 0-1-15), 11=1061/0-5-8 (min. 0-1-15), 13=323/0-3-0 (min. 0-1-8)
Max Horz 1=-502(LC 8)
Max Uplift1=-501(LC 12), 11=-504(LC 13), 13=-119(LC 12)
Max Grav 1=1290(LC 22), 11=1294(LC 23), 13=739(LC 18)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1346/559, 2-3=-1221/559, 3-15=-971/573, 4-15=-916/587, 4-5=-320/125, 5-6=-169/145, 6-7=-167/143, 7-8=-324/125, 8-16=-907/587, 9-16=-970/573, 9-10=-1210/554, 10-11=-1340/554
BOT CHORD 1-17=-261/1055, 14-17=-261/1055, 13-14=-259/1054, 12-13=-259/1054, 12-18=-259/1052, 11-18=-259/1052
WEBS 9-12=-310/408, 3-14=-313/410, 4-8=-790/591

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Maximum Tension (lb)/ Maximum Shear (lb)/ Maximum Moment (lb-in)
4=790/591/38/0, 5=266/132/133/0, 6=139/147/128/0, 7=268/131/135/0, 8=790/591/38/0, 12=310/408/0/0, 13=259/1054/504/0, 14=313/410/0/0

NOTES-
1) Wind: ASCE 7-16; Vult=150mph (3-second gust) Vasd=119mph @24in o.c.; TCDL=4.0psf; BCDL=4.0psf; (Alt. 180mph @16in o.c.; TCDL=6.0psf; BCDL=6.0psf); h=30ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-2-7 to 3-2-7, Interior(1) 3-2-7 to 10-7-14, Exterior(2R) 10-7-14 to 16-7-14, Interior(1) 16-7-14 to 24-2-7, Exterior(2E) 24-2-7 to 27-2-7 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; 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
3) Roof design snow load has been reduced to account for slope.
4) Unbalanced snow loads have been considered for this design.
5) All plates are MT20 plates unless otherwise indicated.
6) See HINGE PLATE DETAILS for plate placement.
7) Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
8) All additional member connections shall be provided by others for forces as indicated.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit b the bottom chord and any other members, with BCDL = 10.0psf.
11) Ceiling dead load (5.0 psf) on member(s). 3-4, 8-9, 4-8
12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 13-14, 12-13
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 501 lb uplift at joint 1, 504 lb uplift at joint 11 and 119 lb uplift at joint 13.
14) Attic room checked for L/360 deflection.
15) This truss is designed in accordance with the 2021 IBC Sec 2306.1 and referenced standard ANSI/TPI 1
16) This truss is designed in accordance with the 2018 IBC Sec 2306.1 and referenced standard ANSI/TPI 1
17) This truss is designed in accordance with the 2015 IBC Sec 2306.1 and referenced standard ANSI/TPI 1
18) Take precaution to keep the chords in plane, any bending or twisting of the hinge plate must be repaired before the building is put into ser
19) The field-installed members are an integral part of the truss design. Retain a design professional to specify final field connections and ten supports. All field-installed members must be properly fastened prior to applying any loading to the truss. This design anticipates the fina position.
20) Based on: CCB41611. Changes: IBC 2021, 150mph wind.

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STUART LEE WALTER — ENGINEER — PE071668

1/31/2023

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

WARNING - *Verify design parameters and READ NOTES*

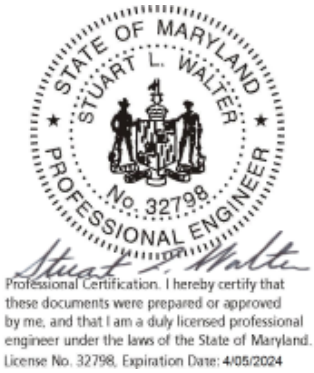
UFP Industries, Inc.
PHONE (616)-364-6161
2801 EAST BELTLINE RD, NE
GRAND RAPIDS, MI 49525

Truss shall not be cut or modified without approval of the truss design engineer.
This component has only been designed for the loads noted on this drawing. Construction and lifting forces have not been considered. The builder is responsible for lifting methods and system design. Builder responsibilities are defined under TPI1. This design is based only upon parameters shown, and is for an individual building component to be installed and loaded vertically. Applicability of design parameters and proper incorporation of component is responsibility of building designer - not truss designer. Bracing shown is for lateral support of individual web members only. Additional temporary bracing to insure stability during construction is the responsibility of the erector. Additional permanent bracing of the overall structure is the responsibility of the building designer. For general guidance regarding fabrication, quality control, storage, delivery, erection and bracing, consult BCSI 1-06 from the Wood Truss Council of America and Truss Plate Institute Recommendation available from WTCA, 6300 Enterprise LN, Madison, WI 53719 J:\support\MitekSupp\templates\ufp.tpe

UFP INDUSTRIES

Job	Truss	MFG	Customer
112276	CCB41614	315	COMMODORE

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



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 32798, Expiration Date: 4/05/2024

APPROVED BY
NTA
1/24/2025

Approval of this document does not authorize or approve any deviation or deviations from the requirements of applicable State Laws.
Luke Lehman

NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST

		PAGE 1 of 3 revised June 2018
Manufacturer		R-Anell Housing Group
Model number/name		3R2202-R33
3rd Party		NTA
Review Date		1/24/25
Reviewer		Luke Lehman
		Plan Sheet Page # and NOTES
	QC MANUAL (current and complete)	
	APPENDIX B (required and attached)	N/A - Does Not Apply to Residential Modulars
	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	Cover sheet
	Statement regarding connection to public utilities	Cover sheet
	Statement regarding bathrooms if not included	NA
	Construction type	Cover sheet - 5B (Wood Frame - Unprotected)
	Occupancy classification	Cover sheet - Single Family Residential
	Fire resistance ratings (if required)	NA
	Floor live load	Cover sheet
	Roof live load	Cover sheet
	Design wind velocity	Cover sheet
	Seismic information (commercial projects)	NA
	Thermal zones	Cover sheet
	Notice to inspections department regarding items to be site inspected	Cover sheet
	FLOOR PLANS	
	Interior and exterior wall layouts	Page FP
	Door and window schedule	Schedules and General Notes Page
	Light and Ventilation requirements	Schedules and General Notes Page
	Attic access (size and location)	Page FP
	Non-prescriptive headers	N/A
	Safety glazing requirements	Shown on floor plan with "S" symbol
	Fire rating of Exterior walls (if applicable)	NA
	EXTERIOR ELEVATIONS	
	Exterior materials	Page EL
	Attic ventilation requirements	Page XS
	PLUMBING	
	Plan	Pages WH, WC, DL, DN, & GA
	All fixtures furnished by mfg. shown on plans	Pages WH, WC, DL, DN, GA (references design manual
	Materials (water supply & distribution, DWV, storm drainage)	Pages WH, WC, DL, DN, & GA
	Supply and waste risers, including DWV system (generic) beneath the building.	Pages WH, WC, DL, DN, & GA
	Water heater (type and capacity)	Electric 50 gal

NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST

		Plan Sheet Page # and NOTES
	MECHANICAL	
	Design calculations	N/A
	Installed unit capacity	ResCheck
	Supply and returns (locations and sizes)	Pages HS & HR
	Duct sizes	Page HS
	Specifications (units, ducts)	Page HS (reference design manual)
	All appliances furnished by mfg. shown on plans	Page HS (reference design manual)
	ELECTRICAL	
	Plan	Page EP
	Location of all electrical boxes	Page EP
	Electrical panel location	Page EP
	Note regarding main disconnect (if applicable)	Page NG
	Exterior lighting and receptacles	Page EP
	Ground level receptacles (if applicable)	Page EP
	Smoke detector location(s)	Page EP
	Electrical load calculations	Page NG
	Electrical panel layout (breaker and wire sizes, circuit schedule)	Page NG
	Panel and service entrance sizes	Page NG
	All fixtures furnished by mfg. shown on plans	Page EP
	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	Page XS
	Materials species and grade	Page XS
	Sheathing, decking, and concrete as applicable	Page XS
	Fastening instructions	Page XS
	Insulation	ResCheck
	Details as required for clarification	N/A
	WALL X-SECTION	
	Stud and column sizes and spacing	Page XS
	Materials species and grade	Page XS
	Sheathing and bracing	Page XS
	Headers and lintels	Page XS
	Finishes	Page XS
	Fastening instructions	Cover Sheet (references Installation Manual)
	Insulation	ResCheck
	Details as required for clarification	ResCheck

NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST

 revised June 2018

		Plan Sheet Page # and NOTES
	CEILING / ROOF X-SECTION	
	Truss, rafter, and beam spacing	Page XS, Cover Sheet, truss dwgs.
	Lumber species and grade	Design Manual
	Sheathing and decking	Page XS
	Finishes	Page XS
	Fastening instructions	Installation Manual
	Insulation	ResCheck
	Details including NC sealed truss designs or manual reference	Design Manual
	FOUNDATION PLAN	
	Footings, pier, and curtain wall locations and specifications	Page FD20# & Installation Manual
	X-sections with dimensions	Page FD20# & Installation Manual
	Anchorage - sill plate to piers and curtain wall	Page FD20# & Installation Manual
	Anchorage - building to sill plate	Page FD20# & Installation Manual
	Anchorage - tie downs (lateral and longitudinal)	Page FD20# & Installation Manual
	Soil bearing capacity	Page FD20# & Installation Manual
	Minimum concrete compressive strength	Page FD20# & Installation Manual
	Mortar type	Page FD20# & Installation Manual
	Ventilation requirements (with and without vapor barrier)	Page FD20# & Installation Manual
	Crawl space access requirements	Page FD20# & Installation Manual
	ENERGY COMPLIANCE	
	Demonstrated compliance	ResCheck
	SET-UP INSTRUCTIONS	
	Floor and ceiling connections	Page 32 of Installation Manual
	Marriage wall connections	Page 32 of Installation Manual
	Roof set-up and connection	Page 32 of Installation Manual
	Plumbing connections	Pages 48-50 of Installation Manual
	Mechanical connections	Page 50 of Installation Manual
	Electrical connections	Page 46-48 of Installation Manual
	Fire stopping	not specifically addressed in installation manual (inherent in de
	Air infiltration elimination	not specifically addressed in installation manual (part of IRC re
	Notice to inspections department attachment if set-up instructions are by attachment	Cover Sheet
	ITEMS NOT INSPECTED IN PLANT	
	List of items not inspected by 3rd. Party	Cover Sheet
	Notice to inspections department	Code page