1	NOTICE OF RULE MAKING PROCEEDINGS AND PUBLIC HEARING
2	
3	NORTH CAROLINA BUILDING CODE COUNCIL
4	
5	Notice of Rule-making Proceedings is hereby given by NC Building Code Council in accordance with
6	G.S. 150B-21.5(d).
7	
8	Citation to Existing Rule Affected by this Rule-Making: North Carolina Building, Mechanical,
9	Residential, and Fire Code amendments.
10	
11	Authority for Rule-making: G.S. 143-136; 143-138.
12	
13	Reason for Proposed Action: To incorporate changes in the NC State Building Codes as a result of
14	rulemaking petitions filed with the NC Building Code Council and to incorporate changes proposed by the
15	Council.
16	
17	Public Hearing: Because of extenuating circumstances related to NC State of Emergency orders the public
18	hearing for the items listed below is moved from Tuesday June 9, 2020 to Tuesday, July 14, 2020, 9:00AM,
19	Albemarle Building, 325 North Salisbury Street, Raleigh, NC 27603, 2 nd Floor Training Room 240.
20	Comments on both the proposed rule and any fiscal impact will be accepted.
21	
22	Comment Procedures: Written comments may be sent to Cliff Isaac, Secretary, NC Building Code
23	Council, NC Department of Insurance, 1202 Mail Service Center, Raleigh, NC 27699-1202. Comments on
24	both the proposed rule and any fiscal impact will be accepted. Comment period expires on August 14,
25	2020.
26	
27	Link to Agency Notice:
28	http://www.ncdoi.com/OSFM/Engineering_and_Codes/Default.aspx?field1=BCC
29	_Hearing_Notice&user=Building_Code_Council⊂=BCC_Meeting
30	
31	Statement of Subject Matter:
32	
33	
34	1. Request by Wayne Hamilton representing NC Building Code Council to amend the 2018 NC Fire
35	Code, Sections 202, 304.4, 304.4.3 and 304.4.4.
36	
37	Section 202

1	Valet Trash Collection Service. A scheduled trash removal service that collects occupant-generated
2	rubbish, trash, or recyclable materials from dwelling units, where the trash is placed outside of the dwelling
3	units for a limited time and in an approved container.
4	
5	304.4 Valet Trash Collection Services for R-2 Apartment Occupancies
6	
7	304.4.3 Policies and procedures. Apartment management shall have written policies and procedures in
8	place, enforce compliance, and upon request provide a copy of such policies and procedures to the
9	authority having jurisdiction.
10	
11	304.4.4 Revocation. The use of doorstep refuse and recycling collection containers in apartment
12	occupancies is revocable by the fire code official for violations of this section.
13	
14	Motion/Second/Approved – The request was granted. The proposed effective date of this rule is October
15	1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021).
16	Reason Given – The purpose of this amendment is to improve the explanation of the services expected
17	from the trash valet service providers and the fire code officials.
18	Fiscal Statement – This rule is anticipated to provide equivalent compliance with no net decrease/increase
19	in cost. This rule is not expected to either have a substantial economic impact or increase local and state
20	funds. A fiscal note has not been prepared.
21	
22	
23	2. Request by Colin Triming representing the NC Fire Code Revision Committee to amend the 2018
24	NC Fire Code, Sections 609.2 and 202.
25	
26	[M] 609.2 Where required. A Type 1 hood shall be installed at or above all commercial cooking
27	appliances and domestic cooking appliances used for commercial purposes that produce grease or smoke.
28	
29	Exceptions:
30	1. A Type 1 hood shall not be required for an electric cooking appliance where an approved testing agency
31	provides documentation that the appliance effluent contains 5mg/m³ or less of grease when tested at an
32	exhaust flow rate of 500 cfm (0.236m ³ /s) in accordance with UL 710B.
33	
34	2. Domestic cooking appliances used for commercial purposes in accordance with Section 507.1.2 of the
35	International Mechanical Code.
36	

- 3. Factory-built commercial exhaust hoods that are *listed* and *labeled* in accordance with UL 710, and
- 2 installed in accordance with Section 304.1 of the *International Mechanical Code*, shall not be required to
- 3 comply with Sections 507.1.5, 507.2.3, 507.2.5, 507.2.8, 507.3.1, 507.3.3, 507.4 and 507.5 of the
- 4 <u>International Mechanical Code.</u>

- 6 4. Factory-built commercial cooking recirculating systems that are *listed* and *labeled* in accordance with
- 7 UL 710B, and installed in accordance with Section 304.1 of the International Mechanical Code, shall not
- 8 <u>be required to comply with Sections 507.1.5, 507.2.3, 507.2.5, 507.2.8, 507.3.1, 507.3.3, 507.4 and 507.5</u>
- 9 of the International Mechanical Code. Spaces in which such systems are located shall be considered to be
- 10 kitchens and shall be ventilated in accordance with Table 403.3.1.1 of the International Mechanical Code.
- For the purpose of determining the floor area required to be ventilated, each individual appliance shall be
- considered as occupying not less than 100 square feet (9.3m2).

13

- 14 <u>5. Where cooking appliances are equipped with integral down-draft exhaust systems and such appliances</u>
- and exhaust systems are *listed* and *labeled* for the application in accordance with NFPA 96, a hood shall
- 16 <u>not be required at or above them.</u>

17

- 18 Chapter 80 Referenced Standards
- 19 <u>UL 710-2012</u>
- 20 Exhaust Hoods for Commercial Cooking Equipment

21

- 22 Motion/Second/Approved The request was granted. The proposed effective date of this rule is October
- 23 1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021).
- 24 **Reason Given** The purpose of this amendment is to correlate language between the 2018 NC Mechanical
- code and the 2018 NC Fire Code.
- 26 **Fiscal Statement** This rule is anticipated to provide equivalent compliance with no net decrease/increase
- 27 in cost. This rule is not expected to either have a substantial economic impact or increase local and state
- 28 funds. A fiscal note has not been prepared.

2930

- 31 3. Request from Colin Triming representing the NC Fire Code Revision Committee to amend the
- 32 **2018** NC Fire Code, Section 3103.3.1.

33

- 34 3103.3.1 Special amusement building. Tents and other membrane structures erected as a special
- 35 amusement building shall be equipped with an automatic sprinkler system in accordance with Section 411.4
- of the *International Building Code*.

- 1 Motion/Second/Approved – The request was granted. The proposed effective date of this rule is October 2 1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021). 3 Reason Given – The purpose of this amendment is to reference NC Building Code requirements for these 4 structures. 5 Fiscal Statement – This rule is anticipated to provide equivalent compliance with no net decrease/increase 6 in cost. This rule is not expected to either have a substantial economic impact or increase local and state 7 funds. A fiscal note has not been prepared. 8 9 10 4. Request from Colin Triming representing the NC Fire Code Revision Committee to amend the 11 2018 NC Fire Code, Section 3103.6. 12 13 **3103.6 Construction documents.** A detailed site and floor plan for tents or membrane structures with an 14 occupant load of 50 or more shall be provided with each application for approval. The tent or membrane 15 structure floor plan shall indicate details of the means of egress facilities, seating capacity, arrangement of 16 the seating and location and type of heating and electrical equipment. The construction documents shall 17 include an analysis of structural stability. 18 19 Motion/Second/Approved – The request was granted. The proposed effective date of this rule is October 20 1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021). 21 Reason Given - The purpose of this amendment is to ensure such structures are structurally safe. 22 **Fiscal Statement** – This rule is anticipated to provide equivalent compliance with no net decrease/increase 23 in cost. This rule is not expected to either have a substantial economic impact or increase local and state 24 funds. A fiscal note has not been prepared. 25 26 27 5. Request from James Anthony representing the Anthony Property Group to amend the 2018 NC 28 Residential Code, Section R202 Definitions. 29 30 Section R202 Definitions 31 **Family.** Family is an individual, two or more persons related by blood, marriage or law, or a group of not 32 more than any five eight persons living together in a dwelling unit. Servants having common housekeeping 33 facilities with a family consisting of an individual, or more persons related by blood, marriage or law, are a 34 part of the family for this code. 35
- Motion/Second/Approved The request was granted. The proposed effective date of this rule is October
 1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021).

1 Reason Given - The purpose of this amendment is to reflect the changing demographic and economic 2 characteristic of the composition of today's household. 3 Fiscal Statement – This rule is anticipated to provide equivalent compliance with no net decrease/increase 4 in cost. This rule is not expected to either have a substantial economic impact or increase local and state 5 funds. A fiscal note has not been prepared. 6 7 8 6. Request from Carl Martin representing the NC Department of Insurance to amend the 2018 NC 9 **Building Code, Section 705.12.** 10 11 **705.12 Soffit in Group R.** In Group R buildings of combustible construction, the soffit material shall be 12 securely attached to framing members and shall be constructed using one of the following methods: 13 14 1. Non-combustible soffit material, 15 2. Fire retardant treated soffit material, 16 3. Vinyl soffit installed over 3/4-inch wood sheathing, 17 4. Vinyl soffit installed over 5/8-inch gypsum board, 18 5. Aluminum soffit installed over 3/4-inch wood sheathing, or 19 6. Aluminum soffit installed over 5/8-inch gypsum board. 20 21 Venting requirements shall apply to both soffit and underlayment and shall be per Section 1203.2. Vent 22 openings shall not be located within 5 feet horizontally of any unprotected wall opening located within 3 23 feet vertically below the soffit. 24 25 **Exceptions:** 26 1. Vinyl and aluminum soffit material may be installed without wood sheathing or gypsum backing board if 27 the exterior wall finish is noncombustible for a minimum distance of 10 feet above finished grade or the 28 building is equipped throughout with an automatic sprinkler system in accordance with 903.3.1.1. 29 30 2. Location of vent openings in soffits shall not be limited in buildings equipped throughout with an 31 automatic sprinkler system complying with Section 903.3.1.1. Detached one- and two- family dwellings 32 and townhouses. 33 34 35 Motion/Second/Approved – The request was granted. The proposed effective date of this rule is October

1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021).

- 1 **Reason Given** The purpose of this amendment is to reduce fire protection requirement in soffits based on
- 2 lack of fire exposure and fire control by sprinklers systems.
- 3 **Fiscal Statement** This rule is anticipated to provide equivalent compliance with a net decrease in cost.
- 4 This rule is not expected to either have a substantial economic impact or increase local and state funds. A
- 5 fiscal note has not been prepared.

- 8 7. Request from David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC
- 9 Residential Code, Section R302.1.1 Soffit Protection.

10

- 11 **R302.1.1 Soffit protection.** In construction using vinyl or aluminum soffit material, the following
- application shall apply. Soffit assemblies located on buildings with less than a **40** 5 feet (3048 mm) fire
- 13 separation distance shall be securely attached to framing members and applied over fire-retardant-treated
- wood, 23/32-inch (18.3 mm) wood sheathing or 5/8-inch (15.9 mm) exterior grade or moisture resistant
- 15 gypsum board. Venting requirements shall be provided in both soffit and underlayments. Vents shall be
- 16 either nominal 2-inch (51 mm) continuous or equivalent intermittent and shall not exceed the minimum net
- 17 free air requirements established in Section R806.2 by more than 50 percent. Townhouse construction shall
- meet the additional requirements of Sections R302.2.5 and R302.2.6.

19

20 **Exceptions:**

21

22 1. Any portion of soffits having **10** 5 feet (3048 mm) or more *fire separation distance*.

23

- 24 2. Roof rake lines where the soffit does not communicate to the attic are not required to be protected per
- 25 this section.

26

3. Soffits with less than 3 feet (914 mm) *fire separation distance* shall meet the projection fire rating requirements of Table R302.1.

29

4. Soffits between buildings located on the same lot.

- 32 **Motion/Second/Approved** The request was granted. The proposed effective date of this rule is October
- 1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021).
- 34 **Reason Given** The purpose of this amendment is to align requirements for projections with requirements
- 35 for exterior walls.

- 1 **Fiscal Statement** This rule is anticipated to provide equivalent compliance with no net decrease/increase
- 2 in cost. This rule is not expected to either have a substantial economic impact or increase local and state
- funds. A fiscal note has not been prepared.

- 8. Request by David Smith representing the Residential Ad-hoc Committee to amend the 2018 NC
- 7 Residential Building Code, Tables R602.3(3), R602.10.1 and R602.10.3.

8

- 9 **Table R602.10.3**
- 10 REQUIRED LENGTH OF BRACING ALONG EACH SIDE OF A CIRCUMSCRIBED
- 11 **RECTANGLE**^{a,b,c,d,e,f,g,h}
- 12 7/16-inch Wood Structural Panel Sheathing with ½-inch gypsum on inside wall
- 13 Panels are blocked
- Nails to be 8d common or galvanized box (2-1/2 inches long X 0.113-inch diameter)
- 15 6-inch nail spacing on edges and 6-inch nail spacing in field
- 16 Each story is 10 feet maximum
- 17 <u>Maximum stud spacing of 24 inches</u>
- 18 Maximum roof slope 12:12
- 19 <u>Building length to width ratio is 2</u>

WIND SPEED	EAVE TO RIDGE	STORIES SUPPORTED	WALL PERPENDICULAR TO WIND (Wall Wind Loads) Building Width in Feet														
	HEIGHT		10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
	(feet)						Leng	gth (ft) o	of Brace	d Panel	in Each	Exterio	or Wall				
		Roof Only	2.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
		D C 1	1.6	4.0	3.2		4.8	0.0	6.4	11.0	8.0	10.5	9.6	1.50	11.2	10.0	12.8
	10	Roof +1 story	3.0 2.9	4.0	5.5 5.9	6.5	8.0 8.8	9.0	10.0 11.8	11.0	12.5 14.7	13.5	14.5 17.7	16.0	17.0 20.6	18.0	19.0 23.6
		Roof +2	4.5	6.5	8.5	10.5	12.0	14.0	11.8 16.0	17.5	14.7 19.5	21.0	23.0	24.5	26.5	28.5	30.0
		stories	4.4	0.5	8.8	10.5	13.2	14.0	17.7	17.3	22.1	21.0	26.5	24.3	30.9	∠0.3	35.3
		Roof Only	2.0	2.0	3.0	3.5	4.0	4.5	5.5	6.0	6.5	7.0	8.0	8.5	9.0	9.5	10.0
		Roof Only	2.0	∠.0	4.0	3.3	6.1	4.3	8.1	6.0	10.1	7.0	12.1	8.3	9.0 14.2	9.3	16.2
		Roof +1 story	3.5	4.5	6.0	7.0	8.5	9.5	11.0	12.0	13.5	15.0	16.0	17.5	18.5	20.0	21.0
115	15	Roof +1 story	3.3	7.5	6.6	7.0	10.0	7.5	13.3	12.0	16.6	15.0	19.9	17.5	23.3	20.0	26.6
		Roof +2	5.0	7.0	9.0	11.0	13.0	15.0	16.5	18.5	20.5	22.5	24.5	26.0	28.0	30.0	32.0
		stories	4.8		9.6		14.5		19.3		24.1		28.9		33.8		38.6
		Roof Only	2.0	2.5	3.5	4.0	4.5	5.5	6.0	7.0	7.5	8.5	9.0	10.0	10.5	11.5	12.0
		, , ,	2.4		4.7		7.1		9.4		11.8		14.2		16.5		18.9
	20	Roof +1 story	3.5	5.0	6.5	8.0	9.0	10.5	12.0	13.5	14.5	16.0	17.5	18.5	20.0	21.5	23.0
	20	-	3.7		7.4		11.1		14.8		18.5		22.2		<u>25.9</u>		29.6
		Roof +2	5.0	7.5	9.5	11.5	13.5	15.5	17.5	19.5	21.5	23.5	25.5	27.5	29.5	31.5	33.5
		stories	<u>5.2</u>		10.5		<u>15.7</u>		20.9		<u>26.2</u>		31.4		<u>36.6</u>		41.9
		Roof Only	2.0	2.0	2.5	3.0	3.5	4.0	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
			1.8		<u>3.7</u>		<u>5.5</u>		<u>7.4</u>		<u>9.2</u>		11.0		12.9		14.7
	10	Roof +1 story	3.5	4.5	6.0	7.0	8.5	9.5	11.0	12.0	13.5	14.5	16.0	17.0	18.5	19.5	21.0
	10		3.2		6.4		<u>9.7</u>		12.9		16.1		19.3		22.6		<u>25.8</u>
		Roof +2	5.0	7.0	9.5	11.5	13.0	15.0	17.0	19.0	21.0	23.0	25.0	27.0	29.0	31.0	32.5
		stories	<u>4.8</u>		<u>9.6</u>		<u>14.4</u>		<u>19.3</u>		<u>24.1</u>		<u>28.9</u>		33.7		38.5
120		Roof Only	2.0	2.5	3.0	3.5	4.5	5.0	6.0	6.5	7.0	8.0	8.5	9.0	10.0	10.5	11.0
		D C 1 1	2.2	5.0	4.4	0.0	6.6	10.5	8.8	12.5	11.0	16.0	13.2	10.0	15.4	21.5	17.6
	15	Roof +1 story	3.5	5.0	6.5	8.0	9.0	10.5	12.0	13.5	14.5	16.0	17.5	19.0	20.0	21.5	23.0
		D 6 + 2	3.6	7.5	7.3	12.0	10.9	16.0	14.5	20.0	18.2	24.5	21.8	20.5	25.4	22.5	29.1
		Roof +2 stories	5.5 5.3	7.5	10.0 10.5	12.0	14.0 15.8	16.0	18.0 21.0	20.0	22.5 26.3	24.5	26.5 31.6	28.5	30.5 36.8	32.5	34.5 42.1
	20			2.0	ı	1.5	_	6.0		7.5	_	9.0	Į	10.5		12.5	
	20	Roof Only	2.0	3.0	3.5	4.5	5.0	6.0	6.5	7.5	8.5	9.0	10.0	10.5	11.5	12.5	13.0

			2.6		5.1		7.7		10.3		12.8		15.4		18.0		20.5
		Roof +1 story	4.0	5.5	7.0 8.1	8.5	10.0	11.5	13.0	14.5	16.0	17.5	19.0	20.5	22.0	23.5	25.0
		Roof +2 stories	5.5 5.7	8.0	10.5 11.4	12.5	12.1 14.5 17.1	17.0	16.2 19.0 22.8	21.5	20.2 23.5 28.5	25.5	24.3 28.0 34.2	30.0	28.3 32.0 39.9	34.5	32.4 36.0 45.6
		Roof Only	2.0 2.2	2.5	3.0 4.3	3.5	4.5 6.5	5.0	5.5 8.6	6.5	7.0 10.8	7.5	8.0 12.9	9.0	9.5 15.1	10.0	11.0 17.3
	10	Roof +1 story	4.0 3.8	5.5	7.0 7.6	8.5	10.0 11.4	11.5	13.0 15.1	14.5	16.0 18.9	17.5	22.7 26.5	21.5 26.5	23.0	24.5 30.3	
		Roof +2 stories	6.0 5.7	8.5	11.0 11.4	13.0	15.5 17.0	18.0	20.0 22.7	22.5	24.5 28.4	27.0	29.5 34.1	31.5	34.0 39.8	36.0	38.5 45.5
	15	Roof Only	2.0 2.6	3.0	3.5 5.2	4.5	5.0 7.7	6.0	7.0 10.3	7.5	8.5 12.9	9.0	10.0 15.5	10.5	11.5 18.1	12.5	13.0 20.7
130		Roof +1 story	4.0 4.3	6.0	7.5 8.5	9.0	11.0 12.8	12.5	14.0 17.1	15.5	17.0 21.3	19.0	20.5 25.6	22.0	23.5 29.9	25.5	27.0 34.1
		Roof +2 stories	6.0 6.2	9.0	11.5 12.4	14.0	16.5 18.6	19.0	21.5 24.8	23.5	26.0 31.0	28.5	31.0 37.2	33.5	36.0 43.4	38.0	40.5 49.7
		Roof Only	2.5 3.0	3.5	4.5 6.0	5.0	6.0 9.0	7.0	8.0 12.0	9.0	10.0 15.1	10.5	11.5 18.1	12.5	13.5 21.1	14.5	15.5 24.1
	20	Roof +1 story	4.5 4.7	6.5	8.0 9.5	10.0	11.5 14.2	13.5	15.0 19.0	17.0	18.5 23.7	20.5	22.0 28.5	24.0	25.5 33.2	27.5	29.0 38.0
		Roof +2 stories	6.5 6.7	9.5	12.0 13.5	14.5	17.5 20.2	20.0	22.5 26.9	25.0	27.5 33.7	30.0	32.5 40.4	35.5	38.0 47.1	40.5	43.0 53.8

- a. If the stud spacing is reduced to 16 inches, table values for 7/16-inch sheathing may be multiplied by
- 2 0.93.

- b. If the stud spacing is reduced to 16 inches or the sheathing thickness is greater than 7/16-inch, the
- 4 interior field nail spacing may be increased to 12 inches.
- 5 c. If the ½-inch gypsum is not applied to the inside of the wall, the table lengths are to be multiplied by
- 6 1.22.
- 7 d. Table values shall be multiplied by the following values for different wall heights:
- 8 8ft. walls 0.87
- 9 9ft. walls 0.92
- 10 11ft. walls 1.08
- 11 <u>12ft. walls 1.15</u>
- 12 e. If 3/8-inch wood structural sheathing is used instead of 7/16-inch wood structural sheathing, table lengths
- are to be multiplied by 1.07.
- 14 f. If ½-inch structural fiberboard is used instead of 7/16-inch wood structural sheathing, table lengths are to
- be multiplied by 1.31.
- 16 g. Interpolation is permitted, extrapolation is prohibited.
- 17 h. For Exposure Category C or D, multiply the required length of bracing by a factor of 1.5 or 1.8
- 18 <u>respectively.</u>

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24

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20 21 22 23







Roof Only

Roof + 1 Story

Roof + 2 Stories

a. Interpolation shall be permitted; extrapolation shall be prohibited.

- b. For Exposure Category C or D, multiply the required length of bracing by a factor of 1.3 or 1.6,
- 2 respectively.
- 3 c. For wall heights other than 10 feet (3048 mm), multiply the required length of bracing by the following
- 4 factors; 0.90 for 8 feet (2438mm), 0.95 for 9 feet (2743 mm), 1.05 for 11 feet (3353) and 1.10 for 12 feet
- 5 (3658 mm).
- 6 d. Where minimum ½ inch gypsum wall board interior finish is not provided, the required bracing amount
- 7 for the affected rectangle side shall be multiplied by 1.40.
- 8 e. A floor, habitable or otherwise, contained wholly within the roof rafters or roof trusses need not be
- 9 considered a story for purposes of determining wall bracing provided the eave to ridge height does not
- 10 exceed 20 feet (6096 mm) and the openings in the roof do not exceed 48 inches (1219 mm) in width.
- 11 f. Perpendicular sides to the front and rear sides are the left and right sides. Perpendicular sides to the left
- 12 and right sides are the front and rear sides.

TABLE R602.3(3)
REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES^{a b c}

MINIMUM N	AIL	MINIMUM WOOD STRUCTURAL	MINIMUM NOMINAL	MAXIMUM WALL	PANEL NAI	L SPACING		ATE DE SPEED (mph)	
	Penetration	PANEL SPAN	PANEL THICKNESS	STUD SPACING (inches)	Edges	Field	Wind exposure category		
Size	(inches)	RATING	(inches)	(menes)	(inches o.c.)	(inches o.c.)	В	С	D
6d Common (2.0" X 0.113")	1.5	24/0	3/8	16	6	12	140	115	110
8d Common	1.75	24/16	7/46	16	6	12	170	140	135
(2.5" x o.131")	1./5	24/16	7/16	24	6	12	140	115	110

For SI: I inch = 25.4 mm, I mile per hour = 0.447 m/s.

- a. Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.
- b. Table is based on wind pressures acting toward and away from building surfaces in accordance with Section R301.2. Lateral bracing requirements shall be in accordance with Section R602.10.
- c. Wood structural panels with span ratings of Wall-16 or Wall-24 shall be permitted as an alternate to panels with a 24/0 span rating. Plywood siding rated 16 o.c. or 24 o.c. shall be permitted as an alternate to panels with a 24/16 span rating. Wall-16 and Plywood siding 16 o.c. shall be used with studs spaced not more than 16 inches on center.

14

15 TABLE R602.10.1

16 BRACING METHODS^{a,b}

	MINIMUM BRACE	MINIMUM BRACE	CONNECTIO	FIGURE OF BRACING METHOD,			
METHOD	MATERIAL THICKNESS	PANEL LENGTH OR BRACE ANGLE	Fasteners	Spacing	NOT NECESSARILY LOCATION		
LIB Let-in-bracing	1 x 4 wood brace (or approved metal brace installed per manufacturer instructions)	45° angle for maximum 16" o.c. stud spacing	2-8d common nails or 3-8d (2 ¹ / ₂ " long x 0.113 " dia.) nails	Per stud and top and bottom plates			

DWB Diagonal wood boards	¾" (I" nominal)	48"	2-8d (2 ¹ / ₂ " long x 0.113" diameter) or 2 - 1 ³ / ₄ "-long-staples	Per stud and top and bottom plates	
WSP Wood Structural panel	<u>3/8"</u>	48" ^d	6d common nail or 8d (2 ¹ / ₂ " long x0.113" diameter) nail [See Table R602.3(3)]	6" edges 12" field	
SFB Structural fiberboard sheathing	1/2"	48" ^d	1 ¹ / ₂ " long x 0.120" diameter galvanized roofing nails	3 " edges 6" field	1
GB Gypsum board installed on both sides of wall	1/2"	96" for use with R602.10.2 48 " for use with R602.10.3	Minimum 5d cooler nails or #6 screws	7" edges 7" field	
PCP Portland cement plaster	3/4" (maximum 16" o.c. stud spacing)	48"	1 ¹ / ₂ " long. 11 gage, ⁷ / ₁₆ " diameter head nails or 7/8" long 6 gage staples	6" o.c. on all framing members	
CS-WSP ^{e,i} Continuously Sheathed SFB	3/8"	24" adjacent to window not more than 67% of wall height:	Same as WSP	Same as WSP	
CS-SFBe,i Continuously sheathed SFB	1/2"	30" adjacent to door or window greater than 67% and less than 85% of wall height. 48" for taller openings.	Same as. SFB	Same as SFB	4+ 4+
PF Portal Frame ^{f,g,h}	7/16"	See Figure R602.10.1	See Figure R602.10.1	See Figure R602.10.1	• • •

1 Notes:

- 2 a. Alternative bracing materials and methods shall comply with Section 105 of the North Carolina
- 3 Administrative Code and Policies and shall be permitted to be used as a substitute for any of the bracing
- 4 materials listed in Table R602.10. 1 provided at least equivalent performance is demonstrated, Where the
- 5 tested bracing strength or stiffness differs from tabulated materials, the bracing amount required for the
- 6 alternative material shall be permitted to be factored to achieve equivalence.
- 5. All edges of panel-type wall bracing required from <u>Tables Section</u> R602.10.2 <u>and or Section</u> R602.10.3
- 8 shall be attached to framing or blocking, except GB bracing horizontal joints shall not be required to be
- 9 blocked when joints are finished.
- 10 c. Two LIB braces installed at a 60° angle shall be permitted to be substituted for each 45° angle LIB brace.
- d. For 8-foot (2483 mm) or 9-foot (2743 mm) wall height. brace panel minimum length shall be permitted
- to be reduced to 36-inch (914 mm) or 42-inch length (1067 mm), respectively, where not located adjacent
- to a door opening. A braced wall panel shall be permitted to be reduced to a 32-inch (813 mm.) length
- when studs at each end of the braced wall panel are anchored to foundation or framing below using hold-
- down device with minimum 2,800 pounds design tension capacity, For detached single story garages and

- 1 attached garages supporting roof only, a minimum 24-inch (610 mm) brace panel length shall be permitted
- 2 on one wall containing one or more garage door openings.
- 3 e. Bracing methods designated CS-WSP and CS-SFB shall have sheathing installed on all sheathable
- 4 surfaces above. below, and between wall openings.
- 5 f. For purposes of bracing in accordance with Section R602.10.2. two portal frame brace panels with wood
- 6 structural panel sheathing applied to the exterior face of each brace panel as shown in Figure R602.10.1
- 7 shall be considered equivalent to. one braced wall panel:
- 8 g. Structural fiberboard (SFB) shall not be used in portal frame construction.
- 9 h. No more than three portal frames shall be used in a single building elevation.
- i. CS-WSP and CS-SFB cannot be mixed on the same story. Gable ends shall match the panel type of the
- 11 wall below.

- 13 Motion/Second/Approved The request was granted. The proposed effective date of this rule is October
- 14 1, 2020 (earliest through RRC), unless the BCC assigns a delayed effective date (January 1, 2021).
- 15 **Reason Given** The purpose of this amendment is to establish wall bracing requirements that are supported
- 16 by engineering.
- 17 **Fiscal Statement** This rule is anticipated to provide equivalent compliance with a net decrease/increase
- 18 in cost. This rule is not expected to either have a substantial economic impact or increase local and state
- 19 funds. A fiscal note has not been prepared.

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- 22 **NOTICE:**
- 23 Appeals and Interpretations of the North Carolina State Building Codes are published online at the
- 24 following link.
- 25 http://www.ncdoi.com/OSFM/Engineering and Codes/Default.aspx?field1=Code Interpretations&user=C
- 26 ode Enforcement Resources

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- 29 **NOTICE:**
- 30 **Objections and Legislative Review** requests may be made to the NC Office of Administrative Hearings in
- 31 accordance with G.S. 150B-21.3(b2) after Rules are adopted by the Building Code Council.
- 32 http://www.ncoah.com/rules/