



ADVISORY COMMITTEE COMMENT FORM FOR PROPOSED CODE CHANGES

(This form must be submitted electronically)

IRC-94, MR 1309.0301

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Proposed Code Change - Language

Please provide your proposed code change in ~~strikeout~~/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

Subp. 2. **Table R301.2(1)**. IRC Table R301.2(1) is amended to read as follows:

~~Table R301.2(1)~~

~~Climatic and Geographic Design Criteria~~

Roof Snow Load^d	Wind Speed^e (mph)	Weathering^a	Subject to Damage From	
Load^d	Speed	Category	Frost Line Depth^b	Flood Hazards
$p_f = 0.7 \times p_g$	90	Severe	See M.R. chapter 1303	See M.R. chapter 1335

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 1.609 km/h

a. ~~Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirement of this code. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216, or C 652.~~

b. ~~The frost line depth may require deeper footings than indicated in Figure R403.1(1)~~

c. ~~Wind exposure category shall be determined on a site specific basis in accordance with Section R301.2.1.4.~~

d. ~~The ground snow loads to be used in determining the design snow loads for buildings and other structures are given in Minnesota Rules, chapter 1303.~~

Subp. 2. **Table R301.2(1)**. IRC Table R301.2(1) is amended to read as follows:

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

Ground ROOF SNOW LOAD ^f	WIND DESIGN		SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	Speed ^d (mph)	Topographic effects ^k	Weathering ^a	Frost line depth ^b	Termite ^c					
$P_r = 0.7 \times P_g$	90	NO	Severe	See MR 1303.1600	See Footnote “c”	See MR 1323	Yes	See MR 1335	See Table R403.3(2)	41°

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. ~~The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.~~ **See Minnesota Rules Section 1303.1600 – Footing Depth for Frost Protection to verify whether the county requires Zone I or Zone II frost protection.**

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. ~~The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A].~~ Wind exposure category shall be determined on a site-specific basis in accordance with [Section R301.2.1.4](#).

e. ~~The outdoor design dry bulb temperature shall be selected from the columns of 97⁺/₂-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.~~ **See Minnesota Rules Section 1323.0642 – Load Calculations, Table 6.4.2.1 Outdoor Design Conditions to verify by county.**

f. ~~The jurisdiction shall fill in this part of the table with the seismic design category determined from [Section R301.2.2.1](#).~~ **The ground snow loads to be used in determining the design snow loads for buildings and other structures are given in Minnesota Rules, chapter 1303.1700 – Ground Snow Load to verify by county.**

g. ~~The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction’s entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.~~ **See Minnesota Rules, Chapter 1335 – Flood Proofing Regulations.**

h. In accordance with [Sections R905.2.7.1](#), [R905.4.3.1](#), [R905.5.3.1](#), [R905.6.3.1](#), [R905.7.3.1](#) and [R905.8.3.1](#), where there has been a history of local damage from the effects of ice damming, ~~the jurisdiction shall fill in this part of the table with "YES."~~ Otherwise, the jurisdiction shall fill in this part of the table with "NO."

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html. **The mean annual temperature shown at:**

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this change and why this proposed code change is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The proposal offers to amend Table R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA in its entirety and utilize the 2012 IRC table information in lieu of the current text provided in the 2007 MSBC.

During the adoption of the 2006 IRC this table information was abbreviated in size and failed to include the column titled “Ice Barrier Underlayment Required”. This omission created a disconnect in the code tracking regarding ice barrier installation being required. Most code enforcement individuals clearly understood that Minnesota has historically had the potential for ice damming issues and enforced accordingly. Some industry individuals had tried to ignore the requirements for ice barriers based on the lack of code tracking.

The decision to utilize the full 2012 IRC table information is intended to offer more clarity to the code enforcement personnel and other stake holders when using the code document. Not all of the column headings will be applicable throughout the entire State. Some Minnesota jurisdictions will need to specifically address column headings for Flood Hazards and Termites as applicable.

Proposed Code Change – Cost/Benefit Analysis

Please consider whether this proposed code change will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

There will be additional costs related to the approval of the proposed amendment.

Other Factors to Consider Related to Proposed Code Change

1. Is this proposed code change meant to:

change language contained in a published code book? If so, list section(s).

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s). **MR 1309.0301**

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this proposed code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.
NO.
3. Will this proposed code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.
NO.
4. Will this proposed code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.
NO.
5. Who are the parties affected or segments of industry affected by this proposed code change?
Parties affected are, building officials, contractors and designers.
6. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.
NO.
7. Are you aware of any federal requirement or regulation related to this proposed code change? If so, please list the regulation or requirement.
NO

Average Mean Temperature Index by month
 Climatology by state based on climate division data: 1971-2000

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Alabama	44.29	48.04	55.47	61.99	69.89	76.75	79.87	79.04	73.88	63.08	54.10	46.85	62.77
Arizona	42.27	46.24	51.03	57.63	66.01	75.51	80.19	78.50	72.52	61.61	49.64	42.51	60.31
Arkansas	38.48	43.76	51.96	60.36	68.62	76.40	80.57	79.26	72.26	61.47	50.32	41.59	60.42
California	45.14	48.51	51.76	56.50	63.11	70.18	75.32	74.62	69.97	61.56	51.17	44.98	59.40
Colorado	23.71	28.34	35.57	43.06	52.50	62.15	67.60	65.75	57.72	46.64	33.51	25.20	45.15
Connecticut	25.96	28.43	36.94	47.07	57.77	66.29	71.52	69.77	61.68	50.60	41.43	31.13	49.05
Delaware	33.95	35.93	44.04	53.02	62.80	71.59	76.45	74.70	68.08	56.95	47.33	38.44	55.27
Florida	58.09	59.99	64.90	69.29	75.36	79.98	81.60	81.44	79.42	72.66	66.01	59.99	70.73
Georgia	45.77	49.22	56.29	62.73	70.38	76.96	80.08	78.99	74.09	64.00	55.57	48.06	63.51
Idaho	23.60	28.36	35.87	43.49	51.56	59.35	66.24	65.37	56.16	45.51	32.81	24.32	44.39
Illinois	24.58	30.06	40.72	51.68	62.36	71.55	75.43	73.22	65.79	54.20	41.51	29.75	51.74
Indiana	26.03	30.55	40.76	51.11	61.50	70.57	74.37	72.31	65.23	53.68	42.36	31.17	51.64
Iowa	17.84	24.15	35.98	48.53	60.23	69.74	73.76	71.33	62.92	50.95	35.61	22.62	47.81
Kansas	28.77	34.54	43.82	53.59	63.28	73.40	78.79	76.91	67.99	56.22	41.81	31.93	54.25
Kentucky	32.93	37.23	46.21	55.15	63.96	72.28	76.31	74.78	68.06	56.64	46.37	37.18	55.59
Louisiana	48.71	52.63	59.49	65.99	73.56	79.62	82.08	81.61	76.91	67.03	58.16	50.95	66.39
Maine	13.58	16.68	27.02	39.10	51.26	60.79	66.08	64.19	55.13	43.99	33.48	20.36	40.97
Maryland	32.24	34.87	43.26	52.69	62.35	70.80	75.44	73.77	67.01	55.70	45.72	36.76	54.22
Massachusetts	24.87	27.21	35.51	45.43	56.16	64.95	70.37	68.63	60.54	49.69	40.71	30.24	47.86
Michigan	18.87	21.37	30.73	42.57	54.48	63.56	68.32	66.52	58.61	47.58	35.72	24.57	44.41
Minnesota	7.94	15.27	27.55	42.45	55.75	64.67	69.08	66.82	57.15	45.19	28.27	13.77	41.16
Mississippi	44.21	48.46	55.94	62.90	70.86	77.73	80.73	79.86	74.47	63.70	54.40	46.90	63.35
Missouri	28.83	34.58	44.50	54.70	63.93	72.74	77.54	75.72	67.55	56.33	43.98	33.01	54.45
Montana	18.37	24.44	32.86	42.53	52.18	60.58	66.43	65.64	55.09	44.26	29.67	20.86	42.74
Nebraska	22.73	28.54	37.59	48.14	58.73	68.87	74.26	72.20	62.64	50.49	35.38	25.64	48.77
Nevada	30.43	35.46	41.18	47.26	55.66	64.88	71.94	70.21	61.61	50.55	38.41	30.90	49.87
New Hampshire	18.17	21.06	30.79	42.15	54.10	62.98	67.83	65.67	57.05	45.90	35.85	24.12	43.80
New Jersey	30.62	32.90	40.99	50.44	60.49	69.30	74.47	72.68	65.48	54.13	44.91	35.38	52.65
New Mexico	34.39	38.92	44.87	51.79	60.66	69.68	73.21	71.30	64.76	54.31	42.44	34.94	53.44
New York	20.65	22.72	31.93	43.51	55.33	63.95	68.66	66.75	58.85	47.76	37.59	26.48	45.35
North Carolina	39.97	42.95	50.30	58.26	66.14	73.50	77.49	75.96	70.24	59.47	50.88	42.91	59.01
North Dakota	7.90	15.40	26.87	41.71	54.80	63.73	68.70	67.23	56.14	43.62	26.08	13.02	40.43
Ohio	26.50	29.92	39.55	49.67	59.99	68.79	72.78	70.92	63.99	52.54	41.90	31.61	50.68
Oklahoma	36.11	41.71	50.21	59.07	67.85	76.53	81.62	80.45	72.37	61.30	48.28	38.96	59.54
Oregon	32.63	36.68	41.47	46.35	52.95	59.66	66.03	65.55	58.56	49.24	38.96	32.78	48.41
Pennsylvania	25.78	28.29	37.02	47.48	57.74	66.17	70.58	68.92	61.62	50.34	40.65	30.70	48.77
Rhode Island	29.10	30.80	37.91	46.71	56.50	65.27	71.09	70.04	62.81	52.56	43.83	34.21	50.07
South Carolina	44.12	47.35	54.54	61.80	69.59	76.45	80.08	78.58	73.19	62.70	54.20	46.45	62.42
South Dakota	16.11	22.53	32.60	45.02	56.79	66.47	72.47	70.75	60.35	47.57	31.15	19.84	45.14
Tennessee	36.32	40.58	49.02	57.23	65.53	73.44	77.29	75.87	69.45	58.10	48.29	39.76	57.57
Texas	45.63	50.28	57.71	64.84	72.61	79.34	82.30	81.41	75.47	66.01	55.11	47.28	64.83
Utah	25.93	31.48	39.67	46.89	55.93	65.68	72.51	70.67	61.53	49.61	36.38	27.34	48.64
Vermont	16.41	18.87	29.10	41.40	54.04	62.69	67.38	65.12	56.56	45.31	34.97	22.71	42.88
Virginia	34.48	37.55	45.40	54.30	62.74	70.81	75.10	73.50	67.04	55.76	46.61	38.09	55.11
Washington	31.47	35.75	41.51	47.40	54.15	60.09	65.73	65.81	58.76	48.50	38.27	31.74	48.26
West Virginia	30.21	33.36	41.82	50.92	59.85	67.83	71.95	70.55	63.92	52.70	43.13	34.36	51.72
Wisconsin	13.18	18.97	30.09	43.17	55.46	64.47	69.11	66.86	58.11	46.63	32.35	18.98	43.12
Wyoming	19.18	23.72	32.06	40.42	50.01	59.62	66.25	64.71	54.64	43.39	29.18	20.64	41.98

Calculated at NOAA-CIRES CDC based on data obtained from NCDC