



STATE OF WASHINGTON  
**STATE BUILDING CODE COUNCIL**

May 2018  
Log No. \_\_\_\_\_

**1. State Building Code to be Amended:**

International Building Code  
ICC ANSI A117.1 Accessibility Code  
International Existing Building Code  
International Residential Code  
International Fire Code  
Uniform Plumbing Code

International Mechanical Code  
International Fuel Gas Code  
NFPA 54 National Fuel Gas Code  
NFPA 58 Liquefied Petroleum Gas Code  
Wildland Urban Interface Code  
For the Washington State Energy Code, please see  
specialized [energy code forms](#)

**Section(s):** **IBC 3103.6**  
(e.g.: Section: R403.2)

**Title:** **Temporary Structure Loading**  
(e.g: Footings for wood foundations)

**2. Proponent Name (Specific local government, organization or individual):**

**Proponent:** **Washington Association of Building Officials Technical Code Development Committee**  
**(Micah Chappell, chair; Jonathan Siu, technical consultant)**

**Title:**

**Date:** **9/10/2024**

**3. Designated Contact Person:**

**Name:** **Jonathan Siu**  
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**4. Proposed Code Amendment.** Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert new sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code, additional pages may be attached.

Clearly state if the proposal modifies an existing amendment or if a new amendment is needed. If the proposal modifies an **existing amendment**, show the modifications to the existing amendment by underlining all added language and striking through all deleted language. If a new amendment is needed, show the modifications to the **model code** by underlining all added language and striking through all deleted language.

Code(s) IBC Section(s) 3103.6

Enforceable code language must be used.

Amend section to read as follows:

**3103.6 Structural requirements.** ~~Temporary structures shall comply with the structural requirements of this code. Public-occupancy temporary structures~~ shall be designed and erected to comply with the structural requirements of this code and Sections 3103.6.1 through 3103.6.4.

**Exception:** Where *approved*, *live loads* less than those prescribed by Table 1607.1 shall be permitted provided that a *registered design professional* demonstrates that a rational approach has been used and that such reductions are warranted.

Temporary non-building structures ancillary to public assemblies or special event structures whose structural failure or collapse would endanger assembled public shall be assigned a *risk category* corresponding to the *risk category* of the public assembly. For the purposes of establishing an *occupant load* for the assembled public endangered by structural failure or collapse, the applicable *occupant load* determination in Section 1004.5 or 1004.6 shall be applied over the assembly area within a radius equal to 1.5 times the height of the temporary non-building structure.

**3103.6.1 Structural loads.** ~~Public-occupancy temporary~~ Temporary structures shall be designed in accordance with Chapter 16, except as modified by Sections 3103.6.1.1 through 3103.6.1.6.

**3103.6.1.1 Snow loads.** Snow loads on ~~public-occupancy~~ temporary structures shall be determined in accordance with Section 1608. The ground snow loads,  $p_g$ , in Section 1608 shall be permitted to be modified according to Table 3103.6.1.1.

**Exception:** Ground snow loads,  $p_g$ , for *public-occupancy temporary structures* that employ controlled-occupancy procedures per Section 3103.8 shall be permitted to be modified using a ground snow load reduction factor of 0.65 instead of the ground snow load reduction factors in Table 3103.6.1.1.

Where ~~the~~ a *public-occupancy temporary structure* is not subject to snow loads or not constructed and occupied during times when snow is to be expected, snow loads need not be considered, provided that where the period of time when the *public occupancy temporary structure* is in service shifts to include times when snow is to be expected, one of the following conditions is met:

1. The design is reviewed and modified, as appropriate, to account for snow loads.
2. Controlled occupancy procedures in accordance with Section 3103.8 are implemented.

<b>Table 3103.6.1.1—Reduction Factors for Ground Snow Loads for <del>Public-Occupancy</del> Temporary Structures</b>
[unchanged]

**3103.6.1.2 Wind loads.** The design wind load on ~~public-occupancy~~ temporary structures shall be permitted to be modified in accordance with the wind load reduction factors in Table 3103.6.1.2.

**Exceptions:**

1. Design wind loads for *public-occupancy temporary structures* that implement controlled occupancy procedures per Section 3103.8 shall be permitted to be modified using a wind load reduction factor of 0.65.
2. For *public-occupancy temporary structures* erected in a *hurricane-prone region* outside of hurricane season, the *basic wind speed, V*, shall be permitted to be set as follows, depending on *risk category*:
  - 2.1. *Risk Category II*: 115 mph.
  - 2.2. *Risk Category III*: 120 mph.
  - 2.3. *Risk Category IV*: 125 mph.

<b>Table 3103.6.1.2—Reduction Factors for Wind Loads for <del>Public-Occupancy</del> Temporary Structures</b>
[unchanged]

**3103.6.1.3 Flood loads.** ~~Public-occupancy temporary~~ Temporary structures need not be designed for flood loads specified in Section 1612. Controlled occupancy procedures in accordance with Section 3103.8 shall be implemented for public occupancy temporary structures located in areas prone to flooding as defined on a flood hazard map.

**3103.6.1.4 Seismic loads.** Seismic loads on ~~public-occupancy~~ temporary structures assigned to *Seismic Design Categories C through F* shall be permitted to be taken as 75 percent of those determined by Section 1613. ~~Public-occupancy temporary~~ Temporary structures assigned to *Seismic Design Categories A and B* are not required to be designed for seismic loads.

**3103.6.1.5 Ice loads.** Ice loads on ~~public-occupancy~~ temporary structures shall be permitted to be determined with a maximum nominal thickness of 0.5 inch (13 mm), for all risk categories.

Where ~~the~~ a *public-occupancy temporary structure* is not subject to ice loads or not constructed and occupied during times when ice is to be expected, ice loads need not be considered, provided that where the period of time when the *public-occupancy temporary structure* is in service shifts to include times when ice is to be expected, one of the following conditions is met:

1. The design is reviewed and modified, as appropriate, to account for ice loads.
2. Controlled occupancy procedures in accordance with Section 3103.8 are implemented.

**3103.6.1.6 Tsunami loads.** ~~Public-occupancy temporary~~ Temporary structures in a *tsunami design zone* are not required to be designed for tsunami loads specified in Section 1615.

Controlled occupancy procedures in accordance with Section 3103.8 shall be implemented for public-occupancy temporary structures located in a tsunami design zone.

**3103.6.2 Foundations.** ~~Public-occupancy temporary~~ Temporary structures shall be permitted to be supported on the ground with temporary foundations where *approved* by the *building official*. Consideration shall be given for the impacts of differential settlement where foundations do not extend below the ground or where foundations are supported on compressible materials. The presumptive load-bearing value for ~~public-occupancy temporary structures~~ supported on a pavement, slab on grade or on other collapsible or controlled low-strength substrate soils such as beach sand or grass shall be assumed not to exceed 1,000 pounds per square foot (47.88 kPa) unless determined through testing and evaluation by a *registered design professional*. The presumptive load-bearing values listed in Table 1806.2 shall be permitted to be used for other supporting soil conditions.

**3103.6.3 Installation and maintenance inspections.** A qualified *person* shall inspect *public-occupancy temporary structures* that are assembled using transportable and reusable materials. Components shall be inspected when purchased or acquired and at least once per year. The inspection shall evaluate individual components, and the fully assembled *structure*, to determine suitability for use based on the requirements in ESTA ANSI E1.21. Inspection records shall be kept and shall be made available for verification by the *building official*. Additionally, *public-occupancy temporary structures* shall be inspected at regular intervals when in service to ensure that the structure continues to perform as designed and initially erected.

**3103.6.4 Durability.** Reusable components used in the erection and the installation of ~~public-occupancy temporary structures~~ shall be manufactured of durable materials necessary to withstand environmental conditions at the service location. Components damaged during transportation or installation or due to the effects of weathering shall be replaced or repaired.

**3103.7 Serviceability.** The effects of structural loads or conditions shall not adversely affect the serviceability or performance of ~~the public-occupancy temporary structure~~ structures.

**3103.8 Controlled occupancy procedures.** Where controlled occupancy procedures are required to be implemented for *public occupancy temporary structures* in Section 3103.6.1, the procedures shall comply with this section and ANSI E1.7. An operations management plan in accordance with ANSI E1.21 shall be submitted to the *building official* for approval as a part of the *permit* documents. In addition, the operations management plan shall include an emergency action plan that documents the following information, where applicable:

1. Surfaces on which snow or ice accumulates shall be monitored before and during occupancy of the *public-occupancy temporary structure*. Any loads in excess of the design snow or ice load shall be removed prior to its occupancy, or the *public-occupancy temporary structure* shall be vacated in the event that either the design snow or ice load is exceeded during its occupancy.
2. Wind speeds associated with the design wind loads shall be monitored before and during occupancy of the *public-occupancy temporary structure*. The *public-occupancy temporary structure* shall be vacated in the event that the design wind speed is expected to be exceeded during its occupancy.
3. Criteria for initiating occupant evacuation procedures for *flood* and tsunami events.

4. Occupant evacuation procedures shall be specified for each environmental hazard where the occupant management plan specifies the *public-occupancy temporary structure* is to be evacuated.
5. Procedures for anchoring or removal of the *public-occupancy temporary structure*, or other additional measures or procedures to be implemented to mitigate hazards in snow, wind, *flood*, ice or tsunami events.

**5. Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.**

Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

This amendment expands the allowances for reduced design loading for public occupancy temporary structures to all temporary structures. It also cleans up some errors that were made in the development of the 2024 IBC provisions.

1. As written, the 2024 IBC allows reduced loading for public occupancy temporary structures but requires all other temporary structures to be designed for full loads. This seems to be counter-intuitive, since one would think that public assembly spaces should be better-protected than, for example, temporary weather protection for storage. This amendment allows other temporary structures to enjoy the same benefits of reduced loading as the public occupancy temporary structures. However, the further benefits and additional requirements associated with controlled occupancy procedures remain limited to public occupancy temporary structures, since controlled occupancy procedures are more difficult to implement and enforce for general temporary structures.
2. This amendment also addresses errors in the flood and tsunami sections (3103.6.1.3 and 3103.6.1.6), where controlled occupancy procedures were required for all public occupancy temporary structures, whether or not they were located in a flood or tsunami hazard area . With the amendment, controlled occupancy procedures will only be required where the public occupancy temporary structure is located within the appropriate hazard area.
3. Addressing another technical error, this amendment revises the snow load section (3103.6.1..1) such that using the reduced loads is optional, rather than required. This makes application of the snow load reductions parallel with all the other environmental load reductions.

**6. Specify what criteria this proposal meets. You may select more than one.**

The amendment is needed to address a critical life/safety need.

The amendment clarifies the intent or application of the code.

The amendment is needed to address a specific state policy or statute.

The amendment is needed for consistency with state or federal regulations.

The amendment is needed to address a unique character of the state.

The amendment corrects errors and omissions.

**7. Is there an economic impact: Yes**

If no, state reason:

If yes, provide economic impact, costs and benefits as noted below in items a – f.

- a. **Life Cycle Cost.** Use the OFM Life Cycle Cost [Analysis tool](#) to estimate the life cycle cost of the proposal using one or more typical examples. Reference these [Instructions](#); use these [Inputs](#). Webinars on the tool can be found [Here](#) and [Here](#)). If the tool is used, submit a copy of the excel file with your proposal submission. If preferred, you may submit an alternate life cycle cost analysis.
- b. **Construction Cost.** Provide your best estimate of the construction cost (or cost savings) of your code change proposal.

Given that these load reductions are new in the 2024 IBC, they will not have been used yet. Relative to the 2021 model code provisions, these amendments should result in decreased cost of unknown magnitude for a number of temporary structures that would ordinarily have to have been designed for full loads.

\$Click here to enter text./square foot

(For residential projects, also provide \$Click here to enter text./ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages

- c. **Code Enforcement.** List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application: **Code enforcement time should not change from current practice.**
- d. **Small Business Impact.** Describe economic impacts to small businesses: **Costs should decrease relative to the 2024 IBC requirements for small businesses who utilize temporary structures for uses other than public assemblies.**
- e. **Housing Affordability.** Describe economic impacts on housing affordability: **N/A**
- f. **Other.** Describe other qualitative cost and benefits to owners, to occupants, to the public, to the environment, and to other stakeholders that have not yet been discussed:

Please send your completed proposal to: [sbcc@des.wa.gov](mailto:sbcc@des.wa.gov)

**All questions must be answered to be considered complete. Incomplete proposals will not be accepted.**