Code Amendment Proposal Form
For public amendments proposed to the 2018 editions of the International Codes

Instructions: Upload this form and all accompanying documentation at www.denvergov.org/BuildingCode. If you are submitting your proposal on a separate sheet, make sure it includes all information requested below.

All proposals must be received by April 26, 2019.

CONTACT INFORMATION
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Organization: Structural Engineers Association of Colorado - Denver Building Department Liaison Committee

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Signature: Rodger Young, P.E.

AMENDMENT PROPOSAL

Please use a separate form for each proposal.

1) Code(s) associated with this proposal. Please use acronym: DBC-IBC
If you submitted a separate coordination change to another code, please indicate which code: 

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Code Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBC-xxxx</td>
<td>Denver Building Code–xxxx (code) amendments (e.g., DBC-IBC, DBC-IEBC)</td>
</tr>
<tr>
<td>IBC</td>
<td>International Building Code</td>
</tr>
<tr>
<td>IEBC</td>
<td>International Existing Building Code</td>
</tr>
<tr>
<td>IECC</td>
<td>International Energy Conservation Code</td>
</tr>
</tbody>
</table>

2) Please check here if a separate graphic file is provided: □

Graphics may also be embedded within your proposal below.

3) Use this template to submit your proposal or attach a separate file, but please include all items requested below in your proposal. The only formatting needed is BOLDING, STRIKEOUT AND UNDERLINING. Please do not provide additional formatting such as tabs, columns, etc., as this will be done by CPD.

Code Sections/Tables/ Figures Proposed for Revision:

DBC-IBC 1609.3- Basic design wind speed.
Proposal:

Revise and add new text as follows

Section 1609.3 Ultimate Basic design wind speed is replaced with the following, subordinate section to remain:

1609.3 Ultimate Basic design wind speed. The ultimate design wind speed, \( V \), shall be as follows:

Risk Category II buildings and structures: 115 miles per hour for all areas in the City and County of Denver located east of a line defined as the centerline of Federal Boulevard. For areas located west of the centerline of Federal Boulevard, the wind speed shall be interpolated between the contours as defined in the report titled “Colorado Front Range Gust Map – ASCE 7-10 Compatible” dated November 18, 2013, in which the 115 mph contour is located along the centerline of Federal Boulevard, the 125 mph contour is located along the centerline of Sheridan Boulevard, and the 140 mph contour is located along the centerline of Kipling Boulevard.

Risk Category III and IV buildings and structures: 120 miles per hour for all areas in the City and County of Denver located east of a line defined as the centerline of Federal Boulevard. For areas located west of the centerline of Federal Boulevard, the wind speed shall be interpolated between the contours as defined in the report titled “Colorado Front Range Gust Map – ASCE 7-10 Compatible” dated November 18, 2013, in which the 120 mph contour is located along the centerline of Federal Boulevard, the 135 mph contour is located along the centerline of Sheridan Boulevard, and the 150 mph contour is located along the centerline of Kipling Boulevard.

Risk Category IV buildings and structures: 125 miles per hour for all areas in the City and County of Denver located east of a line defined as the centerline of Federal Boulevard. For areas located west of the centerline of Federal Boulevard, the wind speed shall be interpolated between the following wind speed contours: 125 mph contour is located along the centerline of Federal Boulevard, the 140 mph contour is located along the centerline of Sheridan Boulevard, and the 155 mph contour is located along the centerline of Kipling Boulevard.

Risk Category I buildings and structures: 105 miles per hour for all areas in the City and County of Denver located east of a line defined as the centerline of Federal Boulevard. For areas located west of the centerline of Federal Boulevard, the wind speed shall be interpolated between the contours as defined in the report titled “Colorado Front Range Gust Map – ASCE 7-10 Compatible” dated November 18, 2013, in which the 105 mph contour is located along the centerline of Federal Boulevard, the 120 mph contour is located along the centerline of Sheridan Boulevard, and the 130 mph contour is located along the centerline of Kipling Boulevard.

The centerlines of Federal Boulevard, Sheridan Boulevard, and Kipling Boulevard, are assumed to be projected to the north and south boundaries of the City and County of Denver.
### Supporting Information:

- **Purpose**: To coordinate the current amendments to Section 1609.3 with new language in the reference standard.
- **Reasons**: The Code references the design standard ASCE-7-16 for use in evaluating wind loads on buildings and other structures. Previous editions used a series of maps to define basic wind speeds. The Structural Engineer’s Association of Colorado undertook a project to recognize the effect of the mountain front range on wind speeds. The result of this project was the report referenced in the amendment, “Colorado Front Range Gust Map- ASCE 7-10 Compatible” dated November 18, 2013. These maps were based on actual climate data and were evaluated and accepted by the general membership of the Structural Engineers Association of Colorado.

The standard separated requirements for Risk category III buildings from Risk Catagoty IV buildings which had previously been combined. The proposed amendment separates the amendment to the Denver building and Fire Code to align with the standard.

The amendment also removes reference to the variable, “Vuln” which no longer appears in the standard.

**Substantiation**: The standard, ASCE 7-16 has revised basic wind speeds generally lowering the design values. As this new data has not been evaluated by SEAC, the committee is recommending that no change to the current amendment be made. There is also concern with the inaccuracy of the Special Wind Region map as currently shown in the Standard and the Code. Graphical errors in the maps have been recognized and will be corrected in future editions of the Code.

**Bibliography**: ASCE-7-16 as published by the American Society of Civil Engineers/ Structural Engineering Institute. Colorado Front Range Gust Map- ASCE 7-10 Compatible, dated November 18, 2013.

### Referenced Standards:

None

### Impact:

Impact is minimal in the City and County of Denver. The current basic wind design speeds will remain as is until further data evaluation substantiates a need to alter them. The basic wind speed for Risk Category IV buildings (buildings designated as essential structures, as defined in the International Building Code) will increase the cost of the structural systems of those buildings slightly, but with a resulting lowering of risk of failure during a design event for these buildings that must maintain operations in emergency situations.

**Note**: Discuss the impact of this proposal in this section AND indicate the impact of this amendment proposal for each of the following:

- The effect of the proposal on the cost of construction: ☐ Increase ☐ Reduce ☒ No Effect
- The effect of the proposal on the cost of design: ☐ Increase ☐ Reduce ☒ No Effect
- Is the proposal more or less restrictive than the I-codes: ☐ More ☐ Less ☒ Same

### Departmental Impact: (To be filled out by CPD staff)

**Note**: CITY STAFF ONLY. Discuss the impact of this proposal in this section AND indicate the impact of this amendment proposal for each of the following:

- The effect of the proposal on the cost of review: ☐ Increase ☐ Reduce ☐ No Effect
- The effect of the proposal on the cost of enforcement/inspection: ☐ Increase ☐ Reduce ☐ No Effect