

1 **STATE CONSTRUCTION CODE AMENDMENTS**

2 2012 GENERAL SESSION

3 STATE OF UTAH

4 **Chief Sponsor: John L. Valentine**

5 House Sponsor: Kenneth W. Sumsion

7 **LONG TITLE**

8 **General Description:**

9 This bill modifies the State Construction Code.

10 **Highlighted Provisions:**

11 This bill:

- 12 ▶ updates the edition of the National Electrical Code, adopted by reference, to the
- 13 2011 edition;
- 14 ▶ modifies an adopted amendment to the National Electrical Code;
- 15 ▶ enacts a new exception to and deletes and replaces a provision of the International
- 16 Building Code relating to concrete durability requirements;
- 17 ▶ enacts new provisions of the International Building Code related to standards
- 18 applicable to concrete elements and minimum clear floor space; and
- 19 ▶ adopts local amendments to the International Plumbing Code.

20 **Money Appropriated in this Bill:**

21 None

22 **Other Special Clauses:**

23 This bill takes effect on July 1, 2012.

24 **Utah Code Sections Affected:**

25 AMENDS:

26 **15A-2-103**, as enacted by Laws of Utah 2011, Chapter 14

27 **15A-3-108**, as enacted by Laws of Utah 2011, Chapter 14

28 **15A-3-113**, as enacted by Laws of Utah 2011, Chapter 14

29 **15A-3-601**, as enacted by Laws of Utah 2011, Chapter 14

30 ENACTS:

31 **15A-4-304**, Utah Code Annotated 1953

32 **15A-4-305**, Utah Code Annotated 1953

33 **15A-4-306**, Utah Code Annotated 1953

34 **15A-4-307**, Utah Code Annotated 1953



36 *Be it enacted by the Legislature of the state of Utah:*

37 Section 1. Section **15A-2-103** is amended to read:

38 **15A-2-103. Specific editions adopted of construction code of a nationally**
39 **recognized code authority.**

40 (1) Subject to the other provisions of this part, the following construction codes are
41 incorporated by reference, and together with the amendments specified in [~~Chapters 3 and 4~~]
42 Chapter 3, Statewide Amendments to International Plumbing Code, and Chapter 4, Local
43 Amendments Incorporated as Part of State Construction Code, are the construction standards to
44 be applied to building construction, alteration, remodeling, and repair, and in the regulation of
45 building construction, alteration, remodeling, and repair in the state:

46 (a) the 2009 edition of the International Building Code, including Appendix J, issued
47 by the International Code Council;

48 (b) the 2009 edition of the International Residential Code, issued by the International
49 Code Council;

50 (c) the 2009 edition of the International Plumbing Code, issued by the International
51 Code Council;

52 (d) the 2009 edition of the International Mechanical Code, issued by the International
53 Code Council;

54 (e) the 2009 edition of the International Fuel Gas Code, issued by the International
55 Code Council;

56 (f) the [~~2008~~] 2011 edition of the National Electrical Code, issued by the National Fire
57 Protection Association;

58 (g) the 2009 edition of the International Energy Conservation Code, issued by the
 59 International Code Council;

60 (h) subject to Subsection 15A-2-104(2), the HUD Code;

61 (i) subject to Subsection 15A-2-104(1), Appendix E of the 2009 edition of the
 62 International Residential Code, issued by the International Code Council; and

63 (j) subject to Subsection 15A-2-104(1), the 2005 edition of the NFPA 225 Model
 64 Manufactured Home Installation Standard, issued by the National Fire Protection Association.

65 (2) Consistent with Title 65A, Chapter 8, Management of Forest Lands and Fire
 66 Control, the Legislature adopts the 2006 edition of the Utah Wildland Urban Interface Code,
 67 issued by the International Code Council, with the alternatives or amendments approved by the
 68 Utah Division of Forestry, as a construction code that may be adopted by a local compliance
 69 agency by local ordinance or other similar action as a local amendment to the codes listed in
 70 this section.

71 Section 2. Section **15A-3-108** is amended to read:

72 **15A-3-108. Amendments to Chapters 17 through 19 of IBC.**

73 (1) A new IBC, Section 1807.1.6.4, is added as follows: "1807.1.6.4 Empirical
 74 concrete foundation design. Group R, Division 3 Occupancies three stories or less in height,
 75 and Group U Occupancies, which are constructed in accordance with Section 2308, or with
 76 other methods employing repetitive wood-frame construction or repetitive cold-formed steel
 77 structural member construction, shall be permitted to have concrete foundations constructed in
 78 accordance with Table 1807.1.6.4."

79 (2) A new IBC, Table 1807.1.6.4 is added as follows:

80 "TABLE 1807.1.6.4

81 **EMPIRICAL FOUNDATION WALLS (1,7,8)**

82 Max. Height	Top Edge Support	Min. Thickness	Vertical Steel (2)	Horizontal Steel (3)	Steel at Openings (4)	Max. Lintel Length	Min. Lintel Length
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83	2'(610 mm)	None	6"	(5)	2- #4 Bars	2- #4 Bars above 1- #4 Bar each side 1- #4 Bar below	2'(610 mm)	2" for each foot of opening width; min. 6"
84	3'(914 mm)	None	6"	#4@32"	3- #4 Bars	2- #4 Bars above 1- #4 Bar each side 1- #4 Bar below	2'(610 mm)	2" for each foot of opening width; min. 6"
85	4'(1,219 mm)	None	6"	#4@32"	4- #4 Bars	2- #4 Bars above 1- #4 Bar each side 1- #4 Bar below	3'(914 mm)	2" for each foot of opening width; min. 6"
86	6'(1,829 mm)	Floor or roof Diaphragm (6)	8"	#4@24"	5- #4 Bars	2- #4 Bars above 1- #4 Bar each side 1- #4 Bar below	6'(1,829 mm)	2" for each foot of opening width; min. 6"
87	8'(2,438 mm)	Floor or roof Diaphragm (6)	8"	#4@24"	6- #4 Bars	2- #4 Bars above 1- #4 Bar each side 1- #4 Bar below	6'(1,829 mm)	2" for each foot of opening width; min. 6"
88	9'(2,743 mm)	Floor or roof Diaphragm (6)	8"	#4@16"	7- #4 Bars	2- #4 Bars above 1- #4 Bar each side 1- #4 Bar below	6'(1,829 mm)	2" for each foot of opening width; min. 6"
89	Over 9'(2,743 mm), Engineering required for each column							
90	Footnotes:							
91	(1) Based on 3,000 psi (20.6 Mpa) concrete and 60,000 psi (414 Mpa) reinforcing steel.							
92	(2) To be placed in the center of the wall, and extended from the footing to within three inches (76 mm) of the top of the wall; dowels of #4 bars to match vertical steel placement shall be provided in the footing, extending 24 inches (610 mm) into the foundation wall.							
93	(3) One bar shall be located in the top four inches (102 mm), one bar in the bottom four inches (102 mm) and the other bars equally spaced between. Such bar placement satisfies the requirements of Section 1805.9. Corner reinforcing shall be provided so as to lap 24 inches (610 mm).							

- 94 (4) Bars shall be placed within two inches (51 mm) of the openings and extend 24 inches
(610 mm) beyond the edge of the opening; vertical bars may terminate three inches (76 mm)
from the top of the concrete.
- 95 (5) Dowels of #4 bar at 32 inches on center shall be provided in the footing, extending 18
inches (457 mm) into the foundation wall.
- 96 (6) Diaphragm shall conform to the requirements of Section 2308.
- 97 (7) Footing shall be a minimum of nine inches thick by 20 inches wide.
- 98 (8) Soil backfill shall be soil classification types GW, GP, SW, or SP, per Table 1610.1. Soil
shall not be submerged or saturated in groundwater."

99 (3) In IBC, Section 1904.3, a new exception 1 is added as follows and the current
100 exception is modified to be number 2.

101 Exceptions:

102 "1. In ACI Table 4.3.1, for Exposure Class F1, change Maximum w/cm from 0.45 to
103 0.5 and Minimum f'c from 4,500 psi to 3,000 psi."

104 (4) IBC, Section 1904.4.1 is deleted and replaced with the following:

105 "1904.4.1 Air Entrainment. Concrete that extends above grade and is exposed to
106 freezing and thawing while moist shall be air entrained in accordance with ACI 318, Section
107 4.4.1."

108 Section 3. Section **15A-3-113** is amended to read:

109 **15A-3-113. Amendments to Chapters 32 through 35 of IBC.**

110 (1) A new section IBC, Section 3401.6, is added as follows: "3401.6 Parapet bracing,
111 wall anchors, and other appendages. Buildings constructed before 1975 shall have parapet
112 bracing, wall anchors, and appendages such as cornices, spires, towers, tanks, signs, statuary,
113 etc. evaluated by a licensed engineer when said building is undergoing reroofing, or alteration
114 of or repair to said feature. Such parapet bracing, wall anchors, and appendages shall be
115 evaluated in accordance with 75% of the seismic forces as specified in Section 1613. When
116 allowed by the local building official, alternate methods of equivalent strength as referenced in

117 an approved code under Utah Code, Subsection 15A-1-204(6)(a), will be considered when
118 accompanied by engineer-sealed drawings, details, and calculations. When found to be
119 deficient because of design or deteriorated condition, the engineer's recommendations to
120 anchor, brace, reinforce, or remove the deficient feature shall be implemented.

121 **EXCEPTIONS:**

122 1. Group R-3 and U occupancies.
123 2. Unreinforced masonry parapets need not be braced according to the above stated provisions
124 provided that the maximum height of an unreinforced masonry parapet above the level of the
125 diaphragm tension anchors or above the parapet braces shall not exceed one and one-half times
126 the thickness of the parapet wall. The parapet height may be a maximum of two and one-half
127 times its thickness in other than Seismic Design Categories D, E, or F."

128 (2) IBC, Section 3408.4, is deleted and replaced with the following: "3408.4 Change in
129 Occupancy. When a change in occupancy results in a structure being reclassified to a higher
130 Occupancy Category (as defined in Table 1604.5), or when such change of occupancy results in
131 a design occupant load increase of 100% or more, the structure shall conform to the seismic
132 requirements for a new structure.

133 **Exceptions:**

134 1. Specific seismic detailing requirements of this code or ASCE 7 for a new structure shall not
135 be required to be met where it can be shown that the level of performance and seismic safety is
136 equivalent to that of a new structure. Such analysis shall consider the regularity, overstrength,
137 redundancy, and ductility of the structure within the context of the existing and retrofit (if any)
138 detailing providing. Alternatively, the building official may allow the structure to be upgraded
139 in accordance with referenced sections as found in an approved code under Utah Code,
140 Subsection 15A-1-204(6)(a).

141 2. When a change of use results in a structure being reclassified from Occupancy Category I or
142 II to Occupancy Category III and the structure is located in a seismic map area where SDS is
143 less than 0.33, compliance with the seismic requirements of this code and ASCE 7 are not
144 required.

145 3. Where design occupant load increase is less than 25 occupants and the Occupancy Category
146 does not change."

147 (3) In IBC, Section 3411.1, the exception is deleted and replaced with the following:
148 "Exception: Type B dwelling or sleeping units required by Section 1107 of this code are not
149 required to be provided in existing buildings and facilities unless being altered or undergoing a
150 change of occupancy classification."

151 (4) In IBC, Chapter 35, the referenced standard ACI 318-08 is modified to change
152 Table 4.2.1 of ACI 318-08 as follows: In the portion of Table 4.2.1 designated as "Conditions",
153 the Exposure categories and classes are deleted and replaced with the following:

154 "F0: Concrete elements not exposed to freezing and thawing cycles to include footing
155 and foundation elements that are completely buried in soil.

156 F1: Concrete elements exposed to freezing and thawing cycles and are not likely to be
157 saturated or exposed to deicing chemicals.

158 F2: Concrete elements exposed to freezing and thawing cycles and are likely to be
159 saturated, but not exposed to deicing chemicals.

160 F3: Concrete elements exposed to freezing and thawing cycles and are likely to be
161 saturated and exposed to deicing chemicals."

162 (5) In IBC, Chapter 35, the referenced standard ICC/ANSI A117.1-03, Section 606.2,
163 Exception 1 is modified to include the following sentence at the end of the exception:

164 "The minimum clear floor space shall be centered on the sink assembly."

165 [~~4~~] (6) The following referenced standard is added under NFPA in IBC, Chapter 35:

"Number	Title	Referenced in code section number
720-09	Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment	907.9"

168 [~~5~~] (7) The following referenced standard is added under UL in IBC, Chapter 35:

169

"Number	Title	Referenced in code section number
2034-2008	Standard of Single- and Multiple-station Carbon Monoxide Alarms	907.9"

170

171 [~~(6)~~] (8) In IBC, Chapter 35, NFPA referenced standard 10-07 is deleted and replaced
 172 with the following:

173

"Number	Title	Referenced in code section number
10-10	Portable Fire Extinguishers	906.2, 906.3.2, 906.3.4, Table 906.3(1), Table 906.3(2)"

174

175 [~~(7)~~] (9) In IBC, Chapter 35, NFPA referenced standard 11-05 is deleted and replaced
 176 with the following:

177

"Number	Title	Referenced in code section number
11-10	Low Expansion Foam	904.7"

178

179 [~~(8)~~] (10) In IBC, Chapter 35, NFPA referenced standard 12-05 is deleted and replaced
 180 with the following:

181

"Number	Title	Referenced in code section number
12-08	Carbon Dioxide Extinguishing Systems	904.8, 904.11"

182

183 [~~(9)~~] (11) In IBC, Chapter 35, NFPA referenced standard 12A-04 is deleted and
 184 replaced with the following:

185

"Number	Title	Referenced in code section number
12A-09	Halon 1301 Fire Extinguishing Systems	904.9"

186

187 [~~(10)~~] (12) In IBC, Chapter 35, NFPA referenced standard 13-07 is deleted and
 188 replaced with the following:

189

"Number	Title	Referenced in code section number
13-10	Installation of Sprinkler Systems	708.2, 903.3.1.1, 903.3.2, 903.3.5.1.1, 903.3.5.3, 904.11, 905.3.4, 907.6.3, 1613.3"

190

191 ~~[(11)]~~ (13) In IBC, Chapter 35, NFPA referenced standard 13D-07 is deleted and
 192 replaced with the following:

193

"Number	Title	Referenced in code section number
13D-10	Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes	903.3.1.3, 903.3.5.1.1"

194

195 ~~[(12)]~~ (14) In IBC, Chapter 35, NFPA referenced standard 13R-07 is deleted and
 196 replaced with the following:

197

"Number	Title	Referenced in code section number
13R-10	Installation of Sprinkler Systems in Residential Occupancies Up to and Including Four Stories in Height	903.3.1.2, 903.3.5.1.1, 903.3.5.1.2, 903.4"

198

199 ~~[(13)]~~ (15) In IBC, Chapter 35, NFPA referenced standard 14-07 is deleted and
 200 replaced with the following:

201

"Number	Title	Referenced in code section number
14-10	Installation of Standpipe and Hose System	905.2, 905.3.4, 905.6.2, 905.8"

202

203 ~~[(14)]~~ (16) In IBC, Chapter 35, NFPA referenced standard 17-02 is deleted and
 204 replaced with the following:

205

"Number	Title	Referenced in code section number
17-09	Dry chemical Extinguishing Systems	904.5, 904.11"

206

207 ~~[(15)]~~ (17) In IBC, Chapter 35, NFPA referenced standard 17A-02 is deleted and

208 replaced with the following:

209	"Number	Title	Referenced in code section number
210	17A-09	Wet Chemical Extinguishing System	904.5, 904.11"

211 [~~(16)~~] (18) In IBC, Chapter 35, NFPA referenced standard 20-07 is deleted and
 212 replaced with the following:

213	"Number	Title	Referenced in code section number
214	20-10	Installation of Stationary Pumps for Fire Protection	913.1, 913.2.1, 913.5"

215 [~~(17)~~] (19) In IBC, Chapter 35, NFPA referenced standard 72-07 is deleted and
 216 replaced with the following:

217	"Number	Title	Referenced in code section number
218	72-10	National Fire Alarm Code	901.6, 903.4.1, 904.3.5, 907.2, 907.2.5, 907.2.11, 907.2.13.2, 907.3, 907.3.3, 907.3.4, 907.5.2.1.2, 907.5.3.3, 907.6, 907.6.1, 907.6.5, 907.7, 907.7.1, 907.7.2, 911.1.5, 3006.5, 3007.6"

219 [~~(18)~~] (20) In IBC, Chapter 35, NFPA referenced standard 92B-05 is deleted and
 220 replaced with the following:

221	"Number	Title	Referenced in code section number
222	92B-09	Smoke Management Systems in Malls, Atria and Large Spaces	909.8"

223 [~~(19)~~] (21) In IBC, Chapter 35, NFPA referenced standard 101-06 is deleted and
 224 replaced with the following:

225	"Number	Title	Referenced in code section number
226	101-09	Line Safety Code	1028.6.2"

227 [~~(20)~~] (22) In IBC, Chapter 35, NFPA referenced standard 110-05 is deleted and
 228 replaced with the following:

229	"Number	Title	Referenced in code section number
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230 110-10	Emergency and Standby Power Systems	2702.1"
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231 Section 4. Section **15A-3-601** is amended to read:

232 **15A-3-601. General provision.**

233 The following are adopted as amendments to the NEC to be applicable statewide:

234 (1) [~~During the period of time when the adopted IRC has not yet incorporated the latest~~
 235 ~~residential electrical provisions contained in the adopted NEC, the] The IRC provisions [shall
 236 ~~prevail as the] are adopted as the residential electrical standards applicable to installations~~
 237 applicable under the IRC. All other installations shall comply with the adopted NEC.~~

238 (2) In NEC, Section 310.15(B)[~~(6)~~](7), the second sentence is deleted and replaced
 239 with the following: "For application of this section, the main power feeder shall be the
 240 feeder(s) between the main disconnect and the panelboard(s)."

241 [~~(3) In NEC, Section 338.10(B)(4)(a), the following words are added at the end of the~~
 242 ~~first sentence after Section 334: "excluding Section 334.80."]~~

243 Section 5. Section **15A-4-304** is enacted to read:

244 **15A-4-304. Amendments to IPC applicable to Grand County.**

245 The following amendment is adopted as an amendment to the IPC for Grand County:
 246 IPC, Appendix C, as specified and amended in Subsection 15A-3-314(3).

247 Section 6. Section **15A-4-305** is enacted to read:

248 **15A-4-305. Amendments to IPC applicable to City of Moab.**

249 The following amendment is adopted as an amendment to the IPC for City of Moab:
 250 IPC, Appendix C, as specified and amended in Subsection 15A-3-314(3).

251 Section 7. Section **15A-4-306** is enacted to read:

252 **15A-4-306. Amendments to IPC applicable to Murray City.**

253 The following amendment is adopted as an amendment to the IPC for Murray City:
254 IPC, Appendix C, as specified and amended in Subsection 15A-3-314(3).

255 Section 8. Section **15A-4-307** is enacted to read:

256 **15A-4-307. Amendments to IPC applicable to Salt Lake County.**

257 The following amendment is adopted as an amendment to the IPC for Salt Lake
258 County, IPC, Appendix C, as specified and amended in Subsection 15A-3-314(3).

259 Section 9. **Effective date.**

260 This bill takes effect on July 1, 2012.