

Construction Code Communicator



State of New Jersey
Philip D. Murphy, Governor

Department of Community Affairs
Lt. Governor Sheila Y. Oliver, Commissioner

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Winter 2022

The Winter Communicator: A Reminder

The final (Winter) issue of the *Construction Code Communicator* each year now consists of a collection of Alerts, Hot Topics, Letters from the Director, guidance documents, and other information items that were posted on the Division's website during the calendar year. This year, we are including articles that were printed in earlier editions of the *Construction Code Communicator* on topics that continue to generate questions. Once this edition of the *Construction Code Communicator* has been posted, these individual Alerts, Hot Topics, Letters from the Director, guidance documents, and other information items will be removed from those sections of the Division's website. There is one exception: the materials related to Superstorm Sandy will remain in place. **Generally, there are no new articles in this issue. However, there are times when a short, new article finds its way into the Winter issue.**

Please note that, although the documents will be removed from the Alerts and Hot Topics, they will still be accessible through the Division's Document Library or through the "Topics A-Z" tab on the Division's website: www.nj.gov/dca/divisions/codes/.

Also, the indices for all issues of the *Construction Code Communicator* 2022 are included in this issue as a handy reference.

Prospectively, the *Construction Code Communicator* will follow this same format: three issues, Spring, Summer, and Fall, that contain new articles and a Winter issue that will provide in one place all the Alerts, Hot Topics, Letters from the Director, guidance documents, and other information items that were posted on the Division's website in that calendar year with previously printed articles where the topic continues to generate questions.

If you have any questions about the *Construction Code Communicator*, or if you have any recommendations for articles, please feel free to contact me at (609) 984-7609 or at ian.rayfield@dca.nj.gov.

Source: Ian Rayfield, Division of Codes and Standards



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2022 Proposals and Adoptions

The following is a list of the 2022 proposals and adoptions. This list, with previous years included, can be found at <http://www.nj.gov/dca/divisions/codes/codreg> by scrolling to "Division Related Rule Proposals and Adoptions."

Posted in NJ Register	Subject	Submit Comments by:	Adoption Date*
Nov 07, 2022	Carnival-Amusement Rides Proposed Amendment: N.J.A.C. 5:14A-11.4	Jan 06, 2023	
Oct 03, 2022	Maintenance of Hotels and Multiple Dwellings - Hotel Sanitization Proposed Amendment: N.J.A.C. 5:10-23.2 Proposed New Rule: N.J.A.C. 5:10-15.5	Dec 02, 2022	
Oct 03, 2022	Uniform Construction Code - Technical Assistant Certification Proposed Amendments: N.J.A.C. 5:23-5.3, 5.4, 5.20, 5.21, and 5.22 Proposed New Rule: N.J.A.C. 5:23-5.19H	Dec 02, 2022	
Sep 19, 2022	Uniform Construction Code - Elevator, Escalator, and Moving Walkway Mechanics Proposed Amendment: N.J.A.C. 5:23-2.15	Nov 18, 2022	
Sep 19, 2022	Residential Site Improvement Standards and Uniform Construction Code - EV Chargers Proposed Amendments: N.J.A.C. 5:21-3.1 and 4.14; and 5:23-1.4 and 3.14 Proposed New Rule: N.J.A.C. 5:23-2.36	Nov 18, 2022	
Sep 06, 2022	Uniform Construction Code - Rehab, etc. Proposed Amendments: N.J.A.C. 5:23-2.35, 3.2, 3.8, 5.3, 5.19G, 5.23B, 6.2, 6.3A, 6.6, 6.7, 6.8, 6.9, 6.31, and 6.32	Nov 05, 2022	
Aug 15, 2022	Adopted Emergency Amendments and Concurrent - Emergency Shelters for the Homeless Proposed Amendments: N.J.A.C. 5:15-1.5, 3.8, and 4.2	Sep 14, 2022	Nov 07, 2022
Aug 01, 2022	Notice of Administrative Corrections Uniform Construction Code N.J.A.C. 5:23-3.14 and 3.21	N/A	Aug 01, 2022
Jul 18, 2022	Lead-Based Paint Inspections in Rental Dwellings Proposed New Rules: N.J.A.C. 5:28A	Sep 16, 2022	
Jul 05, 2022	Maintenance of Hotels and Multiple Dwellings Proposed Amendments: N.J.A.C. 5:10-1.3, 1.4, 1.10, 1.11, 1.12, 1.15, 1A.4, 1B.1, 2.1, 2.2, 4.2, 5.2, 7.7, 14.1, 14.4, 14.7, 19.1, 19.2, 27.1, 27.4, and 28.1	Sep 02, 2022	

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(2022 Proposals and Adoptions)

Posted in NJ Register	Subject	Submit Comments by:	Adoption Date*
Jul 05, 2022	Uniform Construction Code - Responsibilities Proposed Amendment: N.J.A.C. 5:23-3.4	Sep 02, 2022	
Jun 20, 2022	Planned Real Estate Development Full Disclosure Act Regulations Proposed Amendments: N.J.A.C. 5:26-8.9, 8.11, 8.12, and 8.13	Aug 20, 2022	
Jun 06, 2022	Notice of Administrative Correction Uniform Construction Code N.J.A.C. 5:23-2.24, 3.14, 6.26, 6.27, and 8.5	N/A	Jun 06, 2022
May 02, 2022	Uniform Construction Code - Energy Subcode Proposed Amendment: N.J.A.C. 5:23-3.18 - Solar-Ready Warehouses	Jul 01, 2022	Nov 21, 2022 NSC
Apr 18, 2022	Uniform Construction Code - Building, Electrical, Fire Protection, Energy, Mechanical, One- and Two-Family Dwelling and Fuel Gas Subcodes Proposed Amendments: N.J.A.C. 5:23-3.14, 3.16, 3.17, 3.18, 3.20, 3.21, and 3.22	Jun 17, 2022	Sep 06, 2022 NSC
Apr 18, 2022	Uniform Construction Code - Plumbing Subcode Proposed Amendment: N.J.A.C. 5:23-3.15	Jun 17, 2022	Sep 19, 2022
Apr 04, 2022	Notice of Readoption Continuing Care Retirement Community Rules Readoption: N.J.A.C. 5:19	N/A	Apr 04, 2022
Mar 21, 2022	Notice of Readoption Carnival-Amusement Rides Readoption: N.J.A.C. 5:14A	N/A	Mar 21, 2022
Mar 21, 2022	Uniform Construction Code - Various Proposed Amendments: 5:23-2.18, 3.2, 4.5, 6.6, 6.8, 6.9, 6.31, and 12.2	May 20, 2022	Dec 19, 2022 NSC

(Continued on next page)

(2022 Proposals and Adoptions)

Posted in NJ Register	Subject	Submit Comments by:	Adoption Date*
Mar 07, 2022	Notice of Action on Petition for Rulemaking Planned Real Estate Development Full Disclosure Act Regulations – Elections N.J.A.C. 5:26-8 (see related at Dec 06, 2021 below)	N/A	N/A
Mar 07, 2022	Notice of Readoption Uniform Construction Code Readoption: N.J.A.C. 5:23	N/A	Mar 07, 2022
Jan 03, 2022	Notice of Administrative Correction Uniform Construction Code N.J.A.C. 5:23-4D.3	N/A	Jan 03, 2022

Source: Code Development Unit
(609) 984-7609

UCC Summary of Rule Changes - Winter 2022 Update

(Info found at <https://www.nj.gov/dca/divisions/codes/publications/updates.html>)

November 21, 2022, *New Jersey Register*

N.J.A.C. 5:23-3.18 – Solar-ready Warehouses – This adoption incorporates requirements for the design and construction of playgrounds for the public use with surface, inspection, and maintenance requirements that are in accordance with the appropriate accessibility standards.

→ for more information, please see “May 02, 2022” row at https://www.nj.gov/dca/divisions/codes/codreg/rule_proposals_adoptions.html

December 19, 2022, *New Jersey Register*

N.J.A.C. 5:23-2.18, 3.2, 4.5, 6.6, 6.8, 6.9, 6.31, and 12.2 – Various – This adoption revises multiple sections of the Uniform Construction Code, as follows:

1. N.J.A.C. 5:23-2.18 – Added fire “detection/alarm” systems as a mandatory inspection during the progress of work for structures other than one- and two-family dwellings.
2. N.J.A.C. 5:23-4.5 – Amended the conflict of interest provisions of the UCC, related to the reporting procedures.
3. N.J.A.C. 5:23-6 – Corrected a cross-reference within the alterations section; modified the materials and methods section relative to electrical installations; reorganized the new building elements section; and corrected references to height and area requirements within the change of use section.
4. N.J.A.C. 5:23-12.2 – Modified the applicability of the elevator subcode relative to maintenance control programs for elevator devices utilizing the referenced standard within the elevator safety subcode.

→ for more information, please see “Mar 21, 2022” row at https://www.nj.gov/dca/divisions/codes/codreg/rule_proposals_adoptions.html

NOTE: This summary lists only those changes to the regulations initiated by the Department of Community Affairs. There may be other replacement pages included in this transmittal as a result of formatting changes (changes to the arrangement of text on the page) made by the publisher, administrative corrections made by the Office Administrative Law, or recently decided court cases which are listed in the notes following each section.

Notices of Adoption: **New Jersey Register** – November 21, 2022; and December 19, 2022.

Source: Code Development Unit
(609) 984-7609

Significant Changes to the IBC

The purpose of this article is to familiarize code officials, design professionals, contractors, and homeowners with many of the important changes in the 2021 International Building Code. Only a portion of the code changes are discussed. When using the IBC, note the solid vertical lines in the margins indicate a technical change from the requirements of the 2018 edition. Deletion indicators in the form of an arrow are provided in the margin where an entire section, paragraph, exception, or table has been deleted or an item in a list of items or a row of a table has been deleted. A single asterisk [*] placed in the margin indicates that text or a table has been relocated within the code. A double asterisk [**] placed in the margin indicates that the text or table immediately following has been relocated there from elsewhere in the code.

IBC:

- **ATRIUM** – A vertical space that is closed at the top, connecting two or more *stories* in Group I-2 and I-3 occupancies or three or more *stories* in all other occupancies.

The revised definition of atrium is now limited to addressing only two conditions: 1) an atrium is a vertical space enclosed at the top, and 2) an atrium typically connects three or more stories.

- **PENTHOUSE** – An enclosed, unoccupied rooftop structure used for sheltering mechanical and electrical equipment, tanks, elevators and related machinery, *stairways*, and vertical *shaft* openings.

The definition of penthouse has been slightly revised to ensure that enclosures extended to the roof in order to house stairways are considered as penthouses.

- **503.1.4 Occupied roofs** – The proper approach to dealing with occupied roofs from the perspectives of building height, number of stories and installation of occupant notification features has been further clarified for a more consistent application of the code's intent.
- **Table 504.3 Allowable building height in feet above grade plane** – Height limits in feet above grade plane have now been established for the three new construction types addressing mass timber construction: Type IV-A, IV-B, and IV-C.
- **506.3.2 Minimum Frontage distance** – The methodology for establishing the permissible allowable area increase for frontage has been simplified through the use of a tabular format to make for a more efficient approach to allowable area determination using Tables 506.3.3 and 506.3.3.1.
- **508.4.4 Separation** – The clarity and functionality provided by a format change to Table 508.4.4 addressing separated occupancies is intended to eliminate any confusion as to the table's proper use. The format change, which is only editorial, will no longer result in a dashed line at the intersection of the two chosen uses.
- **510.2 Horizontal building separation allowance** – Where a combustible building (Type III, IV, or V) is located above the lower noncombustible (Type IA) building when applying the horizontal building separation allowance, interior exit stairways located within the Type IA building may be constructed of combustible materials where specified conditions are met.
- **Table 601 Fire-Resistance Rating Requirements for Building Elements** – The minimum fire-resistance for the building elements of those structures classified as one of the new construction types (Types IV-A, IV-B, and IV-C) have been established as set forth in Table 601 as well as Section 602.

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(Significant Changes to the IBC)

- **Table 602 Fire resistance requirements for exterior walls based on fire separation distance** – Relocated to Section 705.5.
- **903.2.4 Group F-1** – The sprinkler provisions for upholstered furniture and mattresses have been modified to clearly indicate the scope of the required protection.
- **903.2.10 Group S-2 parking garages** – An automatic sprinkler system must now be installed in an open parking garage where a specific fire area or height threshold is exceeded.
- **903.3.1.2 NFPA 13R sprinkler system** – The maximum building height where an NFPA 13R system is permitted has been reduced from 60-feet to 30-feet. In addition, where the podium provisions of Section 510 are applied, the story height measuring point has been changed to grade plane.
- **1006.3.1 Egress from stories or occupied roofs** – The means of egress provisions applicable to occupied roofs have been clarified to end the confusion, although an occupied roof does not meet the definition of a story.
- **1009.6.3 Size** – The minimum required size of the clear floor space for a wheelchair has been increased to 30 inches in width by 52 inches in length to coordinate with the 2017 edition of the ICC A117.1 Standard.
- **1015.8 Window openings** – There is no change in requirements, but this section now specifies that the dimension shall be measured from the clear opening rather than the sill.
- **1107.2 Electrical vehicle charging stations** – Scoping provisions have been provided to make electrical vehicle charging station accessible. Note, NJ has deleted the exception, therefore, R-2, R-3 and R-4 occupancies will have to comply with this section.
- **1608.2 Ground snow loads** – The ground snow load map has been updated to provide consistency with ASCE 7-16 snow map by adding a reference to ASCE 7 snow tables in states with large case study areas. Further, NJ added the ASCE tool, <http://asce7hazardtool.online>, to Bulletin 19-1. For more detailed information please see the article titled “Ground Snow Loads and Wind Loads” on page 6 of the 2022 Spring *Construction Code Communicator*.
https://nj.gov/dca/divisions/codes/publications/pdf_ccc/CCC_Spr_2022.pdf.
- **Section 3115 Intermodal shipping containers** – This new section and subsections establish requirements for intermodal shipping containers which creates a new definition and verification requirements along with references to other sections within the IBC.

Source: Adam Matthews
Code Assistance Unit
(609) 984-7609

Significant Changes to the IRC

The purpose of this article is to familiarize code officials, design professionals, contractors, and homeowners with many of the important changes in the 2021 International Residential Code. Only a portion of the code changes are discussed. When using the IRC, note the solid vertical lines in the margins indicate a technical change from the requirements of the 2018 edition. Deletion indicators in the form of an arrow are provided in the margin where an entire section, paragraph, exception, or table has been deleted or an item in a list of items or a row of a table has been deleted. A single asterisk [*] placed in the margin indicates that text or a table has been relocated within the code. A double asterisk [**] placed in the margin indicates that the text or table immediately following has been relocated there from elsewhere in the code.

IRC:

- **EMERGENCY ESCAPE AND RESCUE OPENING** – An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency. (See also “*Grade floor emergency escape and rescue opening.*”)

This definition has been updated for clarification that the 44-inch measurement shall be measured to the bottom of the clear opening and to be consistent with the IBC.

- **TOWNHOUSE** – *A building that contains three or more attached townhouse units.*
- **TOWNHOUSE UNIT** – *A single-family dwelling unit in a townhouse that extends from foundation to roof and that has a yard or public way on not less than two sides. A revised definition of townhouse (a building) and a new definition for townhouse unit (a dwelling unit) clarify the appropriate use of the terms.*
- **R301.1.4 Intermodal shipping containers** – Provisions for construction with intermodal shipping containers are added to the IRC. By referencing Section R3115 of the IBC, the IRC brings in requirements for inspection of the containers before use to ensure material quality. The IBC requires an engineered design for the use of the containers.
- **Table 301.2 Climatic and geographical design criteria** – Mercer County has moved to Climate zone 4A.
- **R301.2** – The maps that were in the IBC and IRC were revised to reflect ASCE-7-2016. To see specific wind speed for a town or individual building, go to <http://asce7hazardtool.online>, which was recently added to Bulletin 19-1. For more detailed information please see the article titled “Ground Snow Loads and Wind Loads” on page 6 of the 2022 Spring *Construction Code Communicator*.
https://nj.gov/dca/divisions/codes/publications/pdf_ccc/CCC_Spr_2022.pdf.
- **R302.2.2 Common walls** – Common walls separating townhouses are permitted to terminate at the inside of exterior walls where the prescribed fireblocking is provided.
- **R302.3 Two-family dwellings** – The prescribed fire-resistance-rated separation between two dwelling units in a single building is not affected by the presence of a lot line between the units.
- **R302.4 Through penetrations** – Water-filled fire sprinkler piping of any approved material joins the list of metal penetrating items that do not require a firestop system provided the annular space is filled with the prescribed materials.
- **R303.1 Habitable rooms** – The added exception clarifies that a local exhaust is an acceptable substitute for natural ventilations in kitchens when installed in accordance with Section M1505.

(Continued on next page)

(Significant Changes to the IRC)

- **R305.1 Minimum height** – The minimum ceiling height is reduced to 6 feet 6 inches under beams spaced at least 36 inches apart.
- **R308.4.5 Glazing and wet surfaces** – The language addressing glazing in walls, enclosures or fences near tubs, showers and swimming pools has replaced the word “facing” with the words “adjacent to” for those elements related to wet surfaces.
- **R310.1 Emergency escape and rescue opening required** – Emergency escape and rescue openings require a clear 36-inch-wide path to a public way. Operation requirements have been clarified.
- **R310.2 Emergency escape and rescue openings** – Emergency escape and rescue openings under decks, porches, and cantilevers require a path not less than 36 inches wide. Opening dimensions have been clarified.
- **R311.7 Stairways** – The provisions of Sections R311.7 and R311.8 apply only to stairways and ramps within or serving a building, porch, or deck. In the past, there has been concern that since the stair provisions were located in the means of egress section of the code, that only those stairs leading to or from the one required exterior egress door were being regulated. That has never been the intent and the scoping is now clear.
- **R311.7.7 Stairway walking surface.** – A new exception allows steeper slopes (5%) for exterior landings that also serve to drain surface water away from the building.
- **R312.2 Window fall protection** – The revised language clarifies that measurements for determining the need for fall protection are taken to the bottom of the clear opening of the window. This confirms my article, “IRC Window Fall Protection” on page 6 of the 2020 Fall *Construction Code Communicator*. The previous word, “sill,” was subjective and often misinterpreted.
- **R314.3 Location** – A new location for smoke alarms addressing high ceilings adjacent to hallways serving bedrooms. New condition #5 in the hallway and in the room open to the hallway in dwelling units where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches or more. As smoke develops in the higher section this will provide early notification for occupants to safely exit the building.
- **R324.6 Roof access and pathways** – Building-integrated photovoltaic (BIPV) systems meeting the specific criteria do not require firefighter access pathways and setbacks. Where listed and to the recognized standard that determines that the BIPV materials do not expose a firefighter to electrical shock hazards including during cutting operations, the requirements to provide for access and pathways has been deleted.
- **R506.2.3 Vapor retarder** – A thicker vapor retarder of 10-mil is now required opposed to 6-mil. The reason is that it has been found that thinner membranes on the ground can be torn during construction allowing moisture to migrate up into the house.
- **R507.3 Footings** – Clarifications are made for freestanding deck footings exceptions and a tributary area of 5 pounds per square foot (PSF) is added to the deck footing size table. Based on the new 5 PSF tributary area, the minimum footings size has decreased. The former limit of a 12-inch by 12-inch footing was significantly oversized for small areas such as stairs or landings. Please note, that a 14-inch diameter is no longer the minimum size footing required.

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(Significant Changes to IRC)

- **R507.4 Deck posts** – The deck post height table is expanded by adding the tributary area supported by a post and the wood species for determination of maximum post height.
- **R507.5 Deck beams** – The deck beam span table is split into multiple tables providing spans for given deck live or snow loads. Single and multi-ply spans as well as options for support of cantilevered deck joists are listed.
- **R507.6 Deck joist** – Options are added for decks with large ground snow loads. Cantilever spans are now specifically based on maximum joist spans.
- **R507.7 Decking** – The wood decking table is updated to show maximum on-center joist spacing for single- and multi-span configurations.
- **R507.10 Exterior guards** – Specific requirements for deck guards are added. The new provisions also reinforce the meet for a load path from the guard and rail into the deck joists, beams or blocking to which a guard is connected.
- **Table R602.3(1)** – Additional fastener options are added to the fastener table for roof and walls and roof sheathing.
- **R602.10.1.2 Location of braced wall lines and permitted offsets** – This section now specifies that at least one-third of all braced wall panels be either on a braced wall line or on the opposite side of the braced wall line from other braced wall panels.
- **R609.4.1 Garage door labeling** – All garage doors must have a permanent label identifying wind pressure ratings among other information.
- **R703.2 Water-resistive barrier** – Language for water-resistive barriers is clarified with wet or dry climates specifically considered.
- **Table R703.8.4(1) Veneer attachment** – Larger air gaps are allowed behind veneer to accommodate thicker continuous insulation.
- **R704 Soffits** – Requirements for soffit material and installation are expanded.
- **R802 Wood roof framing** – Revised provisions clarify ridge beam and ceiling joist requirements.
- **R905.4.4.1 Wind resistance of metal roof shingles** – Requirements for metal shingle wind resistance are added to Section R905.4.
- **Appendix AW 3D Printed buildings** – Appendix AW adds requirements for 3D printed homes.

Source: Adam Matthews
Code Assistance Unit
(609) 984-7609

Kiosks - Do They Comply? - Updated

(Updated reprint from Summer/Fall 2003)

The Department of Community Affairs has recently been made aware of several covered mall buildings that contain noncompliant kiosks. A covered mall is susceptible to specific hazards simply by the nature of its occupancy, and failure to require compliance with the code provisions for kiosks further compounds these hazards. Therefore, compliance with these code requirements is imperative. This article is intended to summarize such requirements.

Temporary or permanent kiosks are required to be constructed in accordance with the New Jersey edition of the International Building Code (IBC/2021), Section 402.6.2 (<https://www.nj.gov/dca/divisions/codes/codreg/>). The requirements contained in this section are the same as those set forth in Section 402.14 of the 1996 edition of the Building Officials and Code Administrators National Building Code.

Kiosks must be constructed of noncombustible materials or of fire-retardant-treated wood. Additionally, they are required to be provided with approved fire suppression and detection. This means at least one sprinkler head is required to be dropped from the ceiling to protect a covered kiosk.

Sizing and spacing requirements for kiosks are being violated most frequently. Please be advised, IBC/2021 contains very specific requirements. The maximum area of a kiosk is 300 square feet, and they must be placed so that they are a minimum of 20 feet from other structures within the mall, including other kiosks.

Concerning permits, permanent kiosks require UCC construction permits. Temporary kiosks require UFC Type 1 fire permits, in accordance with N.J.A.C. 5:70-2.7(a)3iv. It is important to note that “temporary” in this context means that the kiosk must be portable, erected in place for a period of less than 90 days, and not covered by a Type 2 permit.

If you have any questions, please contact the Code Assistance Unit at (609) 984-7609.

Source: Keith Makai
Code Assistance Unit
(609) 984-7609

New Jersey Code Adoptions – Elevator Safety Subcode

The following chart gives the adoption dates and the editions of the codes and standards used in connection with the Elevator Safety Subcode. The International Building Code/2021 has been adopted as of September 6, 2022, and the newest elevator, dumbwaiter, and conveyor standards may be used as shown in the table below. As previously mentioned in this communicator, the code adoption six-month grace period starts the day of the adoption, allowing the old codes to be used as long as a complete permit application is submitted before the grace period ends.

Note: The grace period is covered at N.J.A.C. 5:23-1.6(a). See Fall 2022 CCC article for “*Grace Period for 2021/2020 Model Codes.*”

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The Construction Code Communicator is an online publication of the New Jersey Department of Community Affairs' Division of Codes and Standards. It is typically published four times a year.

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Please direct any comments or suggestions to the NJDCA, Division of Codes and Standards, Attention: Code Development Unit, PO Box 802, Trenton, NJ 08625-0802 or codeassist@dca.nj.gov.

(New Jersey Code Adoptions - Elevator Safety Subcode)

Edition Date for Building Subcode	Effective Date for Model Codes	BOCA/IBC Number for Elevators, Dumbwaiters, and Conveyor Equipment	ANSI A17 Safety Standard for Elevators and Escalators	ANSI A90.1 Safety Standard for Belt Manlifts	ASME A18.1 and A18.1a Safety Standard for Platform Lifts and Stairway Chairlifts
1975	01/01/77	16	A17.1 - 1971; A17.1a - 1972; A17.1b - 1973	A90.1-1969	
1976/S	12/01/77	16	A17.1 - 1971; A17.1a - 1972; A17.1b - 1973; A17.1c - 1974; A17.1d, e, f - 1975	A90.1 - 1969; A90.1a - 1972	
1978	10/01/78	16	A17.1 - 1971; A17.1a - 1972; A17.1b - 1973; A17.1c - 1974; A17.1d, e, f - 1975	A90.1 - 1969; A90.1a - 1972	
1981	05/07/81	21	A17.1 - 1978	A90.1 - 1976	
1983/AS	02/22/83*	21	A17.1 - 1981	A90.1 - 1976	
1984	08/06/84	21	A17.1 - 1981; A17.1a - 1982	A90.1 - 1976	
1985/S	04/01/85	21	A17.1 - 1984	A90.1 - 1976	
1986/AS	09/22/86	21	A17.1 - 1984	A90.1 - 1976	
1987	04/01/87	26	A17.1 - 1984 and 1985 Supplement	A90.1 - 1985	
1988/S	06/20/88	26	A17.1 - 1984 and 1985 Supplement	A90.1 - 1985	
1989/AS	11/01/89	26	A17.1 - 1987	A90.1 - 1985	
1990	07/01/90	26	A17.1 - 1987	A90.1 - 1985	
1991/S	03/04/91	26	A17.1 - 1987		
1993	05/01/93	Chapter 30	A17.1 - 1990	A90.1 - 1985	
1996	07/06/98	Chapter 30	A17.1 - 1993 and 1994, 1995 Supplements	A90.1 - 1992	
IBC-2000 NJ Edition	05/05/03	Chapter 30	A17.1 - 1996 and 1997, 1998 Supplements	A90.1 - 1997	A18.1 - 1999 and A18.1a - 2001
IBC-2006 NJ Edition	02/20/07	Chapter 30	A17.1- (2004-2005), including A17.1.S-2005	A90.1-2003	A18.1-2003
IBC-2009 NJ Edition	09/07/10	Chapter 30	A17.1-2007	A90.1-2003	A18.1-2005
IBC-2015 NJ Edition	09/21/15	Chapter 30	A17.1-2013	A90.1-2009	A18.1-2008
IBC-2018 NJ Edition	09/03/19	Chapter 30	A17.1-2016	A90.1-2015	A18.1-2014
IBC-2021 NJ Edition	09/06/22	Chapter 30	A17.1-2019	A90.1-2020	A18.1-2020

S = Supplement

AS = Accumulative Supplement

* = Operative date

Source: Code Development Unit
(609) 984-7609

Foundation Drains - 2021

As old Construction Code Communicator articles age (...like us), we tend to forget about them. In fact, my current age is, if I don't write it down within three seconds, I'll forget it. Don't worry, this article isn't based on bad dad jokes, however, it's based on the confusion on how to apply the requirements for foundation drains using the 2021 International Residential Code (IRC).

As you'll notice, NJ deletes Section R405, Foundation Drainage, and replaces it with Section R406.4.2, which is extracted from the International Building Code, Section 1805.4.2, and has been this way since the adoption of the I-Codes on May 5th, 2003.

Permit applicants have been asking whether the requirements for foundation drains apply to all foundations of one- or two-family homes, or to only certain foundations such as basements and not crawl spaces. Additionally, if required, where should the drainage discharge?

To apply the Sections R406.4.2 and R406.4.3, one would have to first read the charging text at Section R406.1, General, which states, "Walls or portions thereof that retain earth and enclose interior spaces and floors below grade shall be waterproofed and dampproofed in accordance with this section, with the exception of those spaces groups other than residential and institutional where such omission is not detrimental to the building or occupancy." Both crawl spaces and basements retain earth and enclose interior spaces. Therefore, as per Section R406.4, a drain is to be installed around the foundation perimeter. Slabs on grade typically do not retain earth. So, for example, no drain is required for a porch slab or garage slab.

IRC/2021 Section R406.4.3, Drainage discharge, states, "the floor base and foundation perimeter drain shall discharge by gravity or mechanical means into an approved drainage system that complies with the plumbing subcode (N.J.A.C. 5:23-3.15)." Section 13.1.5 of the 2021 National Standard Plumbing Code, Foundation Drains, states the requirements for drainage discharge. One method would be if the dwelling was equipped with a storm drainage pit in which the drainpipe could maintain a pitch from the foundation drain to such approved drainage system or location per the authority having jurisdiction. The other, more common method, would be to install the foundation drainpipe into the sump pump pit, then the drainage would be pumped through a minimum 1-1/4-inch pipe and terminate over a 24-inch splash block per Figure 13.1.5-B. However, there is an exception which states: Where a site is located in well-drained gravel or sand/gravel mixture soils, a dedicated drainage system is not required. The classification of soils would be in accordance with Table R406.1. This exception is strictly for the discharge and not if a foundation drain is required or not.

So, if you want to hear a joke about construction... I'm still working on it!

Source: Adam Matthews
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Errata to the 2021 Energy Subcodes

The Code Development Unit has been given a gift in the form of a correction to the recently adopted model codes and in turn a recent *Construction Code Communicator* article. In the spirit of the season, we have a gift for you... another article!

The ICC recently published an erratum that corrects errors within Table R402.1.3, Insulation and Fenestration Requirements by Component, in the International Energy Conservation Code (IECC). This updated table was part of an article in the [Fall 2022 Construction Code Communicator](#), titled, *Energy Subcode Updates for the 2021 Codes*. In order to clarify these changes, we have provided the chart with the corrections highlighted in **RED** below.

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(Errata to the 2021 Energy Subcodes)

INSULATION & FENESTRATION REQUIREMENTS BY COMPONENT ^a		
Component / Climate Zone	4A	5A
Fenestration U-Factor ^b	0.30	0.30
Skylight U-Factor ^b	0.55	0.55
Glazed Fenestration SHGC ^b	0.40	0.40
Ceiling R-Value	60	60
Wood Frame Wall R-Value ^g	30 or 20 & 5ci ^h or 13 & 10ci ^h or 0 & 20ci ^h	30 or 20 & 5ci ^h or 13 & 10ci ^h or 0 & 20ci ^h
Mass Wall R-Value ^h	8/13	13/17
Floor R-Value	19	30
Basement Wall R-Value ^{c, g}	10ci or 13	15ci or 19 or 13 & 5ci
Slab R-Value & Depth ^d	10ci, 4 ft	10ci, 4 ft
Crawl Space Wall R-Value ^{c, g}	10ci or 13	15ci or 19 or 13 & 5ci
a. R-values are minimums. U-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall be not less than the R-value specified in the table.		
b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestrations.		
c. "5ci or 13" means R-5 continuous insulation (ci) on the interior or exterior surface of the wall or R-13 cavity insulation on the interior side of the wall. "10ci or 13" means R-10 continuous insulation (ci) on the interior or exterior surface of the wall or R-13 cavity insulation on the interior side of the wall. "15ci or 19 or 13 + 5ci" means R-15 continuous insulation (ci) on the interior or exterior surface of the wall; or R-19 cavity insulation on the interior side of the wall; or R-13 cavity insulation on the interior of the wall in addition to R-5 continuous insulation on the interior or exterior surface of the wall.		
d. R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs, as indicated in the table. The slab-edge insulation for heated slabs shall not be required to extend below the slab.		
g. The first value is cavity insulation; the second value is continuous insulation. Therefore, as an example, "13 + 5" means R-13 cavity insulation plus R-5 continuous insulation.		
h. Mass walls shall be in accordance with Section N1102.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.		

Source: Code Development Unit
(609) 984-7609

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Source: Code Development Unit
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