**File #:** 220638, **Version:** 1

Amending Title 4 of The Philadelphia Code, entitled “The Philadelphia Building Construction and Occupancy Code,” by adopting the 2018 edition of the “International Residential Code” as published by the International Code Council, including maintenance of previously adopted amendments to the 2015 International Residential Code, as adopted under the Pennsylvania Uniform Construction Code Act, all under certain terms and conditions.

*THE COUNCIL OF THE CITY OF PHILADELPHIA HEREBY ORDAINS:*

SECTION 1. Subcode “R” of Title 4 of The Philadelphia Code, entitled “The Philadelphia Residential Code,” is hereby repealed in its entirety and replaced with a new Subcode “R” to read as follows:

*SUBCODE "R" (THE PHILADELPHIA RESIDENTIAL CODE)*

***Article R-1.0*** *Pursuant to the Pennsylvania Uniform Construction Code Act, adoption of the "2018 International Residential Code" with state amendments, and local amendments which legally existed prior to the Act or were approved pursuant to Section 503 of the Act.*

***§ R-1.1*** *The "2018 International Residential Code" as published by the International Code Council is hereby adopted as the Philadelphia Residential Code, with amendments as set forth in § R-1.2.*

***§ R-1.2*** *The "2018 International Residential Code", copies of which are on file with the Department of Licenses and Inspections, is incorporated as if fully set forth herein, subject to the following local and state amendments.*

***§ R-1.2.1*** *The numbers of all state and local amendments shall be preceded with the prefix "R-".*

***§ R-1.2.2*** *Throughout the code, references to "International" codes or "ICC" codes shall be deemed to refer to the "Philadelphia" codes of the same name.*

* * *

**PART 1 - ADMINISTRATIVE**
**CHAPTER 1**
**SCOPE AND ADMINISTRATION**

***Delete the text of Chapter 1 and substitute the following.***

*SECTION R-R101 TITLE, SCOPE AND PURPOSE*

***R-R101.1 Title.*** *These provisions shall be known as the Philadelphia Amendments to the International*

*Residential Code, and will be referred to herein as the "Philadelphia Residential Code" or "this code."*

***R-R101.2 Scope.*** *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height.*

***Exception:*** *The following shall be permitted to be constructed in accordance with this code where provided with a residential fire sprinkler system complying with Section P2904:*

1. *Live/work units located in townhouses and complying with the requirements of Section 419 of the International Building Code.*
2. *Owner-occupied lodging houses with five or fewer guestrooms.*
3. *A care facility with five or fewer persons receiving custodial care within a dwelling unit.*
4. *A care facility with five or fewer persons receiving medical care within a dwelling unit.*
5. *A care facility for five or fewer persons receiving care that are within a single-family dwelling.*

***R-R101.3 Purpose.*** *The purpose of this code is to provide minimum requirements to safeguard the public safety, health and general welfare through affordability, structural strength, means of egress, facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment, and to provide safety to fire fighters and first responders during emergency operations.*

***R-R101.4 Administrative provisions.*** *This Chapter contains those provisions that are unique to the administration of this code. All other administrative provisions applicable to this code are as set forth in the Administrative Code (Subcode A).*

***R-R101.5 Appendices.*** *The following appendices are adopted:*

*1. Sections AE501 through AE503 and AE601 through AE605 of Appendix E ("Manufactured Housing Used as Dwellings");*

***R-R101.6 Construction safeguards.*** *The provisions of Chapter 33 of the International Building Code with amendments (Subcode B) shall apply to the construction safeguards required for all building construction and demolition.*

***R-R101.7 Construction documents.*** *In addition to the submittal requirements of the Administrative Code (Subcode A), the provisions of R-R101.7.1 and R-101.7.2 shall apply.*

***R-R101.7.1 Manufacturer's installation instructions.*** *Manufacturer's installation instructions, as required by this code, shall be available on the job site at the time of inspection.*

***R-R101.7.2 Information on braced wall design.*** *For buildings and structures utilizing braced wall*

*design, and where required by the code official, braced wall lines shall be identified on the construction documents. Pertinent information including, but not limited to, bracing methods, location and length of braced wall panels and foundation requirements of braced wall panels at top and bottom shall be provided.*

## PART III - BUILDING PLANNING AND CONSTRUCTION

### *CHAPTER 3*

### *BUILDING PLANNING*

***Table R301.2(1) is revised to include the climatic and geographic design criteria for Philadelphia as follows:***

### *CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA*

| *GROUND SNOW LOAD* | *WIND SPEED [d] (mph)* | *SEISMIC DESIGN CATEGORY [f]* | *SUBJECT TO DAMA* | | | *WINTER DESIGN TEMP [e]* | *ICE BARRIER UNDER-LAYMENT REQUIRED [h]* | *FLOOD HAZARDS [g]* | *AIR FREEZING INDEX [i]* | *MEAN ANNUAL TEMP [j]* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Weathe* | *Frost line depth [b]* | *Termite* | | | | | |
| *25 psf* | *115* | *B* | *Seve* | *30 in* | *Mod e to heav* | *14° F* | *YES* | *(a) 1979 (b) 11/18/15 (c) see table R-R301.2(1a)* | *500* | *55.9° F* |

***Insert Table R-R301.2(1a) as follows:***

### *TABLE R-R301.2(1a)*

### *PANEL NUMBERS AND DATES OF EFFECTIVE FIRMs FOR PHILADELPHIA*

| PANEL NUMBER | EFFECTIVE |
|---|---|
| 420757IND0B | 11/18/2015 |
| 4207570019G | 01/17/2007 |
| 4207570038G | 01/17/2007 |
| 4207570067G | 01/17/2007 |
| 4207570078G | 01/17/2007 |
| 4207570086G | 01/17/2007 |
| 4207570087G | 01/17/2007 |
| 4207570088G | 01/17/2007 |
| 4207570089G | 01/17/2007 |
| 4207570104G | 01/17/2007 |
| 4207570107G | 01/17/2007 |
| 4207570108G | 01/17/2007 |
| 4207570109G | 01/17/2007 |
| 4207570111G | 01/17/2007 |
| 4207570113G | 01/17/2007 |
| 4207570114H | 11/18/2015 |

| PANEL NUMBER | EFFECTIVE |
|---|---|
| 4207570116G | 01/17/2007 |
| 4207570117H | 11/18/2015 |
| 4207570118H | 11/18/2015 |
| 4207570119H | 11/18/2015 |
| 4207570126G | 01/17/2007 |
| 4207570127G | 01/17/2007 |
| 4207570128G | 01/17/2007 |
| 4207570129G | 01/17/2007 |
| 4207570136H | 11/18/2015 |
| 4207570157G | 01/17/2007 |
| 4207570159G | 01/17/2007 |
| 4207570167G | 01/17/2007 |
| 4207570169H | 11/18/2015 |
| 4207570177G | 01/17/2007 |
| 4207570178G | 01/17/2007 |
| 4207570179G | 01/17/2007 |

| PANEL NUMBER | EFFECTIVE |
|---|---|
| 4207570181G | 01/17/2007 |
| 4207570182H | 11/18/2015 |
| 4207570183G | 01/17/2007 |
| 4207570184H | 11/18/2015 |
| 4207570186H | 11/18/2015 |
| 4207570187H | 11/18/2015 |
| 4207570188H | 11/18/2015 |
| 4207570189H | 11/18/2015 |
| 4207570191H | 11/18/2015 |
| 4207570192H | 11/18/2015 |
| 4207570193H | 11/18/2015 |
| 4207570194H | 11/18/2015 |
| 4207570201H | 11/18/2015 |
| 4207570202H | 11/18/2015 |
| 4207570203H | 11/18/2015 |
| 4207570206H | 11/18/2015 |
| 4207570230H | 11/18/2015 |

## SECTION R302 FIRE-RESISTANT CONSTRUCTION

***Pursuant to the UCC, delete Section R302.5.1 and replace as follows:***

***R-R302.5.1 Opening protection.*** *Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1 -3/8 inches (35 mm) thick, or 20-minute fire-rated doors.*

## SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

***Delete Section R310.6 and replace as follows:***

***R-R310.6 Alterations or repairs of existing basements.*** *An emergency escape and rescue opening is not required for existing basements undergoing alterations or repairs, where such alterations or repairs do not increase the existing story height of the basement.*

*Exception: New sleeping rooms created in an existing basement shall be provided with emergency escape and rescue openings in accordance with Section R310.1.*

## SECTION R311 MEANS OF EGRESS

***Pursuant to the UCC, delete Section R311.7.4 and replace as follows:***

***R-R311.7.4 Walkline.*** *The walkline across winder treads and landings shall be concentric to the turn and*

*parallel to the direction of travel entering and exiting the turn. The walkline shall be located 12 inches (305 mm) from the inside of the turn. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface. Where winders are adjacent within a flight, the point of the widest clear stair width of the adjacent winders shall be used.*

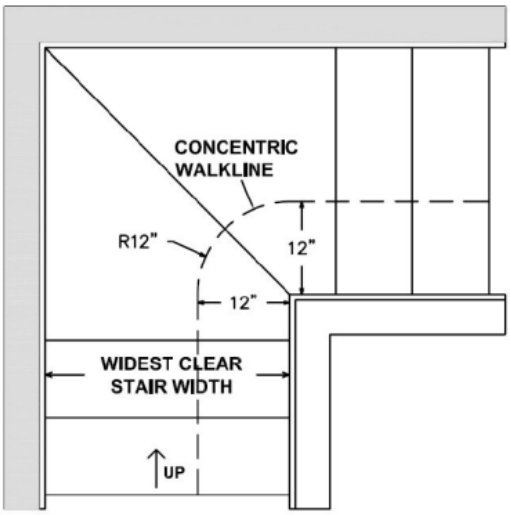


*Figure R311.7.4*
*WINDER TREAD AND LANDING DETAIL*

***Pursuant to the UCC, delete Section R311.7.5 and replace as follows:***

***R-R311.7.5 Stair treads and risers.*** *Stair treads and risers shall meet the requirements of this section. For the purposes of this section, dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners.*

***R-R311.7.5.1 Risers.*** *The riser height shall be not more than 8 ¼ inches (210 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted provided that the openings located more than 30 inches (762 mm), as measured vertically, to the floor or grade below do not permit the passage of a 4-inch diameter (102 mm) sphere.*

***Exceptions:***

*1. The opening between adjacent treads is not limited on spiral stairways.*

*2. The riser height of spiral stairways shall be in accordance with Section R311.7.10.1.*

***R-R311.7.5.2 Treads.*** *The tread depth shall be not less than 9 inches (229 mm). The tread depth shall be measured from tread nosing to tread nosing. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Treads may have a uniform projection of not more than 1½ inches (38 mm) when solid risers are used.*

***R311.7.5.2.1 Winder Treads.*** *Winder treads shall have a tread depth of not less than 10 inches (254*

*mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winder treads shall have a tread depth of not less than 6 inches (152 mm) at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than $^{3}/_{8}$ inch (9.5 mm). Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and shall not be required to be within $^{3}/_{8}$ inch (9.5 mm) of the rectangular tread depth.*

***Exception:*** *The tread depth at spiral stairways shall be in accordance with Section R311.7.10.1.*

**SECTION R313 AUTOMATIC FIRE SPRINKLER SYSTEMS**

***Pursuant to the UCC, delete Section R313.2 and replace as follows:***

***R-R313.2 Detached one- and two-family dwellings.*** *A builder of a one-family or two-family dwelling shall, at or before the time of entering into the purchase contract, do all of the following:*

1. *Offer to a buyer the option to install or equip, at the buyer's expense, an automatic fire sprinkler system in the building or dwelling unit designed and installed in accordance with the provisions of P2904 or NFPA 13D.*

2. *Provide the buyer with information which explains the initial and ongoing cost of installing and equipping an automatic fire sprinkler system in the building or dwelling unit.*

3. *Provide the buyer with information, as made available by the State Fire Commissioner on the agency's Internet website, on the possible benefits of installing an automatic sprinkler system.*

**SECTION R314 SMOKE ALARMS**

***Pursuant to the UCC, delete Section R314.4 and replace as follows:***

***R-R314.4 Interconnection.*** *Where more than one smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.*

***Exception:*** *Interconnection of smoke alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available that could provide access for interconnection without the removal of interior finishes.*

**SECTION R322 FLOOD RESISTANT CONSTRUCTION**

***Delete Section R322.2.1 and replace as follows:***

***R-R322.2.1 Elevation requirements.***

*1. Buildings and structures in flood hazard areas shall have the lowest floors elevated to or above the base*

*flood elevation plus 1 ½ feet (457 mm), or the design flood elevation, whichever is higher.*

*2. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including basement) elevated to a height of not less than the highest adjacent grade as the depth number specified in feet (mm) on the FIRM plus 1 ½ feet (457 mm), or not less than 3 feet (15 mm) if a depth number is not specified.*

*3. Basement floors that are below grade on all sides shall be elevated to or above base flood elevation plus 1 ½ feet (457 mm), or the design flood elevation, whichever is higher.*

*Exceptions:*

*1. Enclosed areas below the design flood elevation, including basements with floors that are not below grade on all sides, shall meet the requirements of Section R322.2.2.*

*2. Accessory structures in accordance with Section R-R322.2.1.1.*

***R-R322.2.1.1 Accessory structures.*** *Accessory structures are not required to be elevated to remain dry where they comply with all of the following requirements:*

1. *The structure shall not be designed or used for human habitation, but shall be limited to the parking of vehicles, or to the storage of tools, material, and equipment related to the principal use or activity;*

2. *The floor area shall not exceed 200 square feet;*

3. *The structure must have a low damage potential;*

4. *The structure must be located on the site so as to cause the least obstruction to the flow of flood waters;*

5. *Power lines, wiring, and outlets must be elevated to the elevation requirements of Section R-R322.2.1;*

6. *The structure shall not contain permanently affixed utility equipment and appliances such as furnaces, heaters, washers, dryers, etc.;*

7. *The structure shall not contain sanitary facilities; and*

*8. The structure shall be adequately anchored to prevent flotation, collapse, and lateral movement and shall be designed to automatically provide for the entry and exit of floodwater for the purpose of equalizing hydrostatic forces on the walls. Designs for meeting this requirement must either be certified by a registered design professional, or meet or exceed the following minimum criteria:*

*a. a minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space;*

*b. the bottom of each opening shall be no more than one (1) foot above the higher of the finished interior floor or grade level and the finished exterior grade immediately under each opening;*

*c. openings shall be installed on at least two walls of the enclosed area to allow for automatic entry and exit of floodwaters;*

*d. openings shall not be less than 3-inches in any direction in the plane of the wall.*

*e. openings may be equipped with screens, louvers, etc. or other coverings or devices provided that they permit the automatic entry and exit of flood waters.*

*9. Building materials and installation methods used for flooring and interior and exterior walls below the elevation required in R-R322.2.1 shall be flood damage-resistant materials that conform to the provisions of FEMA-TB-2.*

*10. A structure located in the coastal high-hazard area (including V Zones and Coastal A Zones, where designated), shall meet the requirements of Section R-322.3.4 and R-322.3.5. All electrical equipment and component installations to meet requirements of Section R-322.1.6.*

**SECTION R325 MEZZANINES**

***Pursuant to the UCC, delete Section R325.5 and replace as follows:***

***R-R325.5 Openness.*** *Mezzanines shall be open and unobstructed to the room in which they are located except for walls not more than 36 inches (914 mm) in height, columns and posts.*

***Exceptions:***

1. *Mezzanines or portions thereof are not required to be open to the room in which they are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the mezzanine area.*

***Pursuant to the UCC, delete Section R325.6 and replace as follows:***

***R-R325.6*** *Habitable attic. A habitable attic shall not be considered a story where complying with all of the following requirements:*

*1. The occupiable floor area is not less than 70 square feet (17 m2), in accordance with Section R304.*

*2. The occupiable floor area has a ceiling height in accordance with Section R305.*

*3. The occupiable space is enclosed by the roof assembly above, knee walls (if applicable) on the sides and the floor-ceiling assembly below.*

## CHAPTER 4
## FOUNDATIONS

***Pursuant to the UCC, delete Section R408.3 and replace as follows:***

***R-R408.3 Unvented crawl space.*** *Ventilation openings in under-floor spaces specified in Sections R408.1 and R408.2 shall not be required where the following items are provided:*

*1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall or insulation.*

*2. One of the following is provided for the under-floor space:*

*2.1. Continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m2) of crawl space floor area, including an air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code.*

*2.2. Conditioned air supply sized to deliver at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m2) of under-floor area, including a return air pathway to the common area (such as a duct or transfer grille), and perimeter walls insulated in accordance with Section N1102.2.11 of this code.*

*2.3. Plenum in existing structures complying with Section M1601.5, if underfloor space is used as a plenum.*

*2.4. Dehumidification sized in accordance with manufacturer's specifications.*

## CHAPTER 6
## WALL CONSTRUCTION

**SECTION R602 WOOD WALL FRAMING**
***Pursuant to the UCC, delete Sections R602.10 and R602.11 in their entirety and replace as follows:***

***R-R602.10 Wall bracing requirements.*** *The wall bracing requirements of sections R602.10 through R602.11.3 of the 2006 International Residential Code shall apply.*

## CHAPTER 7
## WALL COVERING

***Pursuant to the UCC, delete Section R702.7.3 and replace as follows:***

***R-R702.7.3 Minimum clear airspaces and vented openings for vented cladding.*** *For the purposes of this section, vented cladding shall include the following minimum clear airspaces. Other openings with the*

*equivalent vent area shall be permitted.*

*1. Vinyl, polypropylene or horizontal aluminum siding applied over a weather-resistive barrier as specified in Table R703.3(1).*

*2. Brick veneer with a clear airspace as specified in Table R703.8.4(1).*

*3. Other approved vented claddings.*

***Pursuant to the UCC, delete Section R703.7 and replace as follows:***

***R-R703.7 Exterior plaster (stucco).*** *Installation of exterior plaster shall be in compliance with ASTM C926-2018B, ASTM C1063-2018B and the provisions of this code.*

***R-R703.7.1 Lath.*** *Lath and lath attachments shall be of corrosion-resistant materials in accordance with ASTM C1063-2018B. Expanded metal, welded wire, or woven wire lath shall be attached to wood framing members or furring. Where the exterior plaster is serving as wall bracing in accordance with Table R602.10.1 of the 2006 IRC, the lath shall be attached directly to framing. The lath shall be attached with 1-1/2-inch-long (38 mm), 11-gage nails having a 7/16 -inch (11.1 mm) head, or 7/8 -inch-long (22.2 mm), 16-gage staples, spaced not more than 7 inches (178 mm) on center along framing members or furring and not more than 24 inches (610 mm) on center between framing members or furring, or as otherwise approved. Additional fastening between wood framing members shall not be prohibited. Lath attachments to cold formed steel framing or to masonry, stone, or concrete substrates shall be in accordance with ASTM C1063-2018B. Where lath is installed directly over foam sheathing, lath connections shall also be in accordance with Section R703.15, R703.16 or R703.17. Where lath is attached to furring installed over foam sheathing, the furring connections shall be in accordance with Section R703.15, R703.16 or R703.17.*

***Exception:*** *Lath is not required over masonry, cast-in-place concrete, precast concrete or stone substrates prepared in accordance with ASTM C1063-2018B.*

***R-R703.7.1.1 Furring.*** *Where provided, furring shall consist of wood furring strips not less than 1 inch by 2 inches (25 mm by 51 mm), minimum 3/4-inch (19 mm) metal channels, or self-furring lath, and shall be installed in accordance with ASTM C1063-2018B. Furring shall be spaced not greater than 24 inches (600 mm) on center and, where installed over wood or cold-formed steel framing, shall be fastened into framing members.*

***R-R703.7.2 Plaster.*** *Plastering with cement plaster shall be in accordance with ASTM C926-2018B. Cement materials shall be in accordance with one of the following:*

*1. Masonry cement conforming to ASTM C91-2018A, Type M, S or N.*

*2. Portland cement conforming to ASTM C150-2018, Type I, II or III.*

*3. Blended hydraulic cement conforming to ASTM C595-2018, Type IP, IS (< 70), IL, or IT (S < 70).*

*4. Hydraulic cement conforming to ASTM C1157-11, Type GU, HE, MS, HS*

*or MH.*

*5. Plastic (stucco) cement conforming to ASTM C1328-12.*

*Plaster shall be not less than three coats where applied over metal lath or wire lath and shall be not less than two coats where applied over masonry, concrete, pressure preservative-treated wood or decay-resistant wood as specified in Section R317.1 or gypsum backing. If the plaster surface is completely covered by veneer or other facing material or is completely concealed, plaster application need be only two coats, provided the total thickness is as set forth in Table R702.1(1). On wood-frame construction with an on-grade floor slab system, exterior plaster shall be applied to cover, but not extend below, lath, paper and screed. The proportion of aggregate to cementitious materials shall be as set forth in Table R702.1(3).*

***R-R03.7.2.1 Weep Screeds.*** *A minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed, with a minimum vertical attachment flange of $3^1/_2$ inches (89 mm), shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C926. The weep screed shall be placed not less than 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attachment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.*

***R-R703.7.3 Water-resistive barriers.*** *Water-resistive barriers shall be installed as required in Section R703.2 and, where applied over wood-based sheathing, shall comply with Section R-R703.7.3.1 or R-R703.7.3.2.*

***R-R703.7.3.1 Dry climates.*** *In Dry (B) climate zones indicated in Figure N1101.7, water-resistive barriers shall comply with one of the following:*

*1. The water-resistive barrier shall be two layers of 10-minute Grade D paper or have a water resistance equal to or greater than two layers of a water-resistive barrier complying with ASTM E2556-10, Type I. The individual layers shall be installed independently such that each layer provides a separate continuous plane. Flashing installed in accordance with Section R703.4 and intended to drain to the water-resistive barrier shall be directed between the layers.*

*2. The water-resistive barrier shall be 60-minute Grade D paper or have a water resistance equal to or greater than one layer of a water-resistive barrier complying with ASTM E2556-10, Type II. The water-resistive barrier shall be separated from the stucco by a layer of foam plastic insulating sheathing or other non-water-absorbing layer, or a designed drainage space.*

***R-R703.7.3.2 Moist or marine climates.*** *In the Moist (A) or Marine (C) climate zones indicated in Figure N1101.7, water-resistive barriers shall comply with one of the following:*

*1. In addition to complying with Section R-R703.7.3.1, a space or drainage material not less than 3/16 inch (5 mm) in depth shall be added to the exterior side of the water-resistive barrier.*

*2. In addition to complying with Section R-R703.7.3.1, Item 2, drainage on the exterior of the water-resistive barrier shall have a drainage efficiency of not less than 90 percent, as measured in*

*accordance with ASTM E2273-2018 or Annex A2 of ASTM E2925-17.*

***R-R703.7.4 Application.*** *Each coat shall be kept in a moist condition for at least 48 hours prior to application of the next coat.*

***Exception:*** *Applications installed in accordance with ASTM C926.*

***R-R703.7.5 Curing.*** *The finish coat for two-coat cement-plaster shall not be applied sooner than seven days after application of the first coat. For three-coat cement-plaster, the second coat shall not be applied sooner than 48 hours after application of the first coat. The finish coat for three-coat cement-plaster shall not be applied sooner than seven days after application of the second coat.*

## CHAPTER 8
## ROOF-CEILING CONSTRUCTION

***Pursuant to the UCC, delete Section R806.1 and replace as follows:***

***R-R806.1 Ventilation required.*** *Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, perforated vinyl or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. Required ventilation openings shall open directly to the outside air and shall be protected to prevent the entry of birds, rodents, snakes and other similar creatures.*

***Pursuant to the UCC, delete Section R806.2 and replace as follows:***

***R-R806.2 Minimum vent area.*** *The minimum net free ventilating area shall be 1/150 of the area of the vented space.*

***Exception:*** *The minimum net free ventilation area shall be 1/300 of the vented space provided one or more of the following conditions are met:*

*1. In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.*

*2. Not less than 40 percent and not more than 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the required ventilation provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.*

***Pursuant to the UCC, delete Section R806.3 and replace as follows:***

***R-R806.3 Vent and insulation clearance.*** *Where eave or cornice vents are installed, blocking, bridging and*

*insulation nothing shall not block the free flow of air. Not less than a 1-inch (25 mm) space shall be provided between the insulation and the roof sheathing and at the location of the vent.*

## CHAPTER 9
## ROOF ASSEMBLIES

R905 REQUIREMENTS FOR ROOF COVERINGS

***Add Section R-R905.18 as follows:***

***R-R905.18 Reflectance.*** *Roof Coverings over conditioned spaces on low-slope roofs (roof slope < 2:12) on newly constructed buildings and additions to existing buildings shall be Energy Star rated as highly reflective.*

*Exceptions:*

1. *An addition to a roof that supports living vegetation and includes a synthetic, high quality waterproof membrane, drainage layer, soil layer and light weight medium plants shall be permitted to comprise part or all of the roof area.*

2. *Roof areas used as outdoor recreation space by the occupants of the building.*

3. *An area including and adjacent to rooftop photovoltaic and solar thermal equipment, totaling not more than three times the area that is covered with such equipment.*

4. *Limited roof areas as determined by regulations promulgated by the Department of Licenses and Inspections.*

5. *A roof, the area of which is less than three (3) percent of the gross floor area of the building.*

## CHAPTER 10
## CHIMNEYS AND FIREPLACES

***Pursuant to the UCC, delete Section R1005.8, Insulation shield***

PART IV- ENERGY CONSERVATION
CHAPTER 11
[RE] ENERGY EFFICIENCY

***Pursuant to the UCC, delete Section N1101.4 and replace as follows:***

***R-N1101.4 Above code programs.*** *The building official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this chapter. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this chapter.*

***Pursuant to the UCC, delete Table N1102.1.2 and replace as follows:***

*Table R-N 1102.1.2*

*Insulation and fenestration requirements by Component[a]*

**TABLE N1102.1.2 (R402.1.2)**

**INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]**

| CLIMATE ZONE | FENESTRATION *U*-FACTOR[b] | SKYLIGHT[b] *U*-FACTOR | GLAZED FENESTRATION SHGC[b, e] | CEILING *R*-VALUE | WOOD FRAME WALL *R*-VALUE | MASS WALL *R*-VALUE[i] | FLOOR *R*-VALUE | BASEMENT[c] WALL *R*-VALUE | SLAB[d] *R*-VALUE & DEPTH | CRAWL SPACE[c] WALL *R*-VALUE |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | NR | 0.75 | 0.25 | 30 | 13 | 3/4 | 13 | 0 | 0 | 0 |
| 2 | 0.40 | 0.65 | 0.25 | 38 | 13 | 4/6 | 13 | 0 | 0 | 0 |
| 3 | [0.32]*0.35* | 0.55 | 0.25 | 38 | 20 or 13 + 5[h] | 8/13 | 19 | 5/13[f] | 0 | 5/13 |
| 4 except Marine | 0.32 | 0.55 | 0.40 | 49 | 20 or 13 + 5[h] | 8/13 | 19 | 10 /13 | 10, 2 ft | 10/13 |
| 5 and Marine 4 | 0.30 | 0.55 | NR | 49 | 20 or 13 + 5[h] | 13/17 | 30[g] | 15/19 | 10, 2 ft | 15/19 |
| 6 | 0.30 | 0.55 | NR | 49 | 20 + 5[h] or 13 + 10[h] | 15/20 | 30[g] | 15/19 | 10, 4 ft | 15/19 |
| 7 and 8 | 0.30 | 0.55 | NR | 49 | 20 + 5[h] or 13 + 10[h] | 19/21 | 38[g] | 15/19 | 10, 4 ft | 15/19 |

For SI: 1 foot = 304.8 mm. NR = Not Required.

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 fenestration.
**Exception:** In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.

c. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with "15/19" shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

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.

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation shall not be required in warm-humid locations as defined by Figure N1101.10 and Table N1101.10.

g. Alternatively, insulation sufficient to fill the framing cavity providing not less than an *R*-value of R-19.

h. 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.

i. 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.

***Pursuant to the UCC, delete Section N1103.3.5 and replace as follows:***

***R-N1103.3.5 Building cavities (Mandatory).*** *Building framing cavities shall not be used as supply ducts.*

***Pursuant to the UCC, delete Section N1105.2 and replace as follows:***

***R-N1105.2 Mandatory requirements.*** *Compliance with this section requires that the mandatory provisions identified in Section N1101.13 be met. All supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6.*

***Pursuant to the UCC, delete Paragraph N1105.4.2 and replace as follows:***

***R-N1105.4.2 Compliance report.*** *Compliance software tools shall generate a report that documents that the proposed design complies with Section N1105.3. A compliance report on the proposed design shall be submitted with the application for the building permit. Upon completion of the building, a compliance report based on the as-built condition of the building shall be submitted to the code official before a certificate of occupancy is*

*issued. Batch sampling of buildings to determine energy code compliance for all buildings in the batch shall be prohibited. Compliance reports shall include information in accordance with Sections N1105.4.2.1 and N1105.4.2.2. Where the proposed design of a building could be built on different sites where the cardinal orientation of the building on each site is different, compliance of the proposed design for the purposes of the application for the building permit shall be based on the worst-case orientation, worst-case configuration, worst-case building air leakage and worst-case duct leakage. Such worst-case parameters shall be used as inputs to the compliance software for energy analysis.*

***Pursuant to the UCC, delete Section N1106.3 and replace as follows:***

***R-N1106.3 Energy rating index.*** *The Energy Rating Index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an Index value of 100 and a residential building that uses no net purchased energy has an Index value of 0. Each integer value on the scale shall represent a 1 percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building.*

***R-N1106.3.1 ERI reference design.*** *The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 International Energy Conservation Code prescriptive requirements. The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design.*

***Pursuant to the UCC, delete Section N1106.6.1 and replace as follows:***

***R-N1106.6.1 Compliance software tools.*** *Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.*

***Pursuant to the UCC, Add Section N1106.7:***

***R-N1106.7 Calculation software tools.*** *Calculation software, where used, shall be in accordance with Sections R-N1106.7.1 through R-N1106.7.3.*

***R- N1106.7.1 Minimum capabilities.*** *Calculation procedures used to comply with this section shall be software tools capable of calculating the ERI as described in Section N1106.3, and shall include the following capabilities:*

*1. Computer generation of the ERI reference design using only the input for the rated design. The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.*

*2. Calculation of whole-building, as a single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with Section N1103.7.*

*3. Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating and air-conditioning equipment based on climate and equipment sizing.*

*4. Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings.*

***R- N1106.7.2 Specific approval.*** *Performance analysis tools meeting the applicable sections of Section N1106 shall be approved. Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction. The code official shall approve tools for a specified application or limited scope.*

***R- N1106.7.3 Input values.*** *When calculations require input values not specified by Sections N1102, N1103, N1104 and N1105, those input values shall be taken from an approved source.*

***Pursuant to the UCC, delete Section N1106.6.4 Specific approval***

***Pursuant to the UCC, delete Section N1106.6.5 Input values***

***Pursuant to the UCC, delete Section N1108.1.1.2 and replace as follows:***

***R- N1108.1.1.2 Heating and cooling systems.*** *New heating, cooling and duct systems that are part of the addition shall comply with Sections N1103.1, N1103.2, N1103.3, N1103.5 and N1103.6.*

*Exception: Where ducts from an existing heating and cooling system are extended to an addition, duct systems with less than 40 linear feet (12.19 m) in unconditioned spaces shall not be required to be tested in accordance with Section N1103.3.3.*

***Pursuant to the UCC, delete Section N1109.1.2 and replace as follows:***

***R-N1109.1.2 Heating and cooling systems.*** *New heating, cooling and duct systems that are part of the alteration shall comply with Sections N1103.1, N1103.2, N1103.3 and N1103.6.*

*Exception: Where ducts from an existing heating and cooling system are extended, duct systems with less than 40 linear feet (12.19 m) in unconditioned spaces shall not be required to be tested in accordance with Section N1103.3.3.*

## PART V - MECHANICAL

## CHAPTER 13 GENERAL MECHANICAL SYSTEM REQUIREMENTS

***Pursuant to the UCC, delete Section M1305.1.3.2. and replace as follows:***

***R-M1305.1.3.2 Excavations.*** *Excavations for appliance installations shall extend to a depth of 6 inches (152 mm) below the appliance and 12 inches (305 mm) on all sides, except that the control side shall have a clearance of 30 inches (762 mm).*

## CHAPTER 15 EXHAUST SYSTEMS

***Pursuant to the UCC, delete Section M1502.3.1 Exhaust termination outlet and passageway size***

## CHAPTER 20 BOILERS AND WATER HEATERS

***Pursuant to the UCC, add Section R-M2001.1.2 as follows:***

***R-M2001.1.2 Coal-fired boilers.*** *Coal-fired boilers shall not be subject to the stamping (labeling) requirements of Section M2001.1.1.*

PART VII
PLUMBING CHAPTERS 25 THROUGH 32

Delete Chapters 25 through 32, with the exception of Section P 2904 (Dwelling Unit Fire Sprinkler Systems), in their entirety and insert the following text:

Plumbing systems in buildings and structures regulated by this code shall be designed and constructed in accordance with the Philadelphia Plumbing Code.

PART VIII-ELECTRICAL
CHAPTER 39 POWER AND LIGHTING DISTRIBUTION

***Pursuant to the UCC, delete Section E3901.11 and replace as follows:***

***R-E3901.11 Foyers.*** *Foyers that are not part of a hallway in accordance with Section E3901.10 and that have an area that is greater than 60 square feet (5.57 $m^2$) shall have a receptacle(s) located in each wall space that is 3 feet (914 mm) 6 feet (1829 mm) or more in width, but a minimum of one receptacle. Doorways, door-side windows that extend to the floor, and similar openings shall not be considered as wall space.*

SECTION 2. All text added to the Code by this Bill shall be added in plain, not *italic* font, regardless whether the text appears in italic or plain font in the Bill.