## **DIVISION 12-II-7 RESIDENTIAL CODE**

Sec 12-17.6 Same; Additions, Insertions, Deletions And Change

## Sec 12-17.6 Same; Additions, Insertions, Deletions And Changes

 $The following sections of the {\color{red} \underline{2024}} International \ Residential \ Code \ adopted \ in section \ 12-16 \ is \ hereby \ revised \ as follows:$ 

R101.1 is amended to read:

These provisions shall be known as the Residential Code for One- and Two-family Dwellings of The City of Aurora, and shall be cited as such and will be referred to herein as "this code."

#### R103.1 is amended to read:

The Division of Building and Permits under the Developments Services Department is hereby created and the official in-charge thereof shall be known as the building official. The function of the agency shall be the implementation, administration, and enforcement of the provisions of this code,

# 105.1 Required is amended to read:

Any owner or owner's authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change theoccupancy of a building or structure, including detached accessory structures; or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code; or to construct, erect, install, or enlarge a fence; or construct any driveway or for the installation of pavement in the form of private walks, patios or parking pads adjacent to driveways capable of parking vehicles or construct or modify pavement in the public right-of-way, including public sidewalks, aprons, curbs, and curb-cuts, or to cause any such work to be performed, shall first make application to the building official and obtain the required permit.

Section R105.2 Work Exempt from permit. Refer to IBC Section 105.2 for exemptions (NOTE: Decks, Fences, Driveways and Sidewalks or pavement adjacent to Driveways require permits). R105.2 is amended to read:

Work exempt from permit. Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for projects where in the opinion of the building official the material costs are under seven hundred and fifty dollars (\$750.00), or where the material plus the labor costs are less than one thousand five hundred dollars (\$1500.00) unless the building official determines necessary to issued when the permit is the subject of curing a code violation citation. In addition, permits shall not be required for the following:

#### Building

- 1. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
- 2. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
- 3. Sidewalks on private property not more than 30 inches above adjacent grade and not over any basement or story below, and are not part of an accessible route, provided that the sidewalk is not adjacent to a driveway for more than 5 feet. (Some private property sidewalks, all sidewalks in rights-of-way and all driveways require permits).
- 4. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
- 5. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
- 6. Swings and other playground equipment.
- Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
- 8. Windows/Doors that are being replaced that do not alter the structural framing or egress requirements are exempt from a building permit. Note that if in a historic district, Fox Walk District or if a historic structure you will be required to obtain a certificate of appropriateness. Additionally, despite lack of permit requirement, the State Adopted Energy Conservation Code shall be adhered to.
- 9. Radon mitigation projects.

Electrical: delete subsequent text and amend to read:

Electrical installations per Article III. ELECTRICITY - section 103.2 and NEC 90.2 are exempt from permit.

# PLUMBING:

Item three (3.) is added to read:

Replacement of water heaters with water heaters of like type; capacity and fuel demand.

# R105.10 Withholding of permits is added to read:

Whenever the code official shall find that any contractor or owner is in violation of this code, or of any other ordinances of the city or state, he may refuse to grant any further permits to such violating contractor (or any owner employing such violating contractor) or to such violating owner (or anyone obtaining a permit for such violating owner's premises) until all violations have been corrected.

# R105.10.1 Indebtedness to the City of Aurora is added to read:

Any City liens, fines or city fees shall be paid prior to permit issuance.

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## R105.11 is added to read:

Prerequisite for permit: No building permit for new construction shall be issued unless the following improvements are provided:

1. Refer to Section 43-12 Subdivision Control Ordinance. Subsection R106.1.4 shall be changed to read as follows:

R106.1.4<u>Information for construction in areas prone to flooding.</u> Information for construction in areas prone to flooding. For buildings and structures in flood hazard areas as established on local floodway rate maps, locally adopted floodplain ordinances shall apply.

Subsection R109.1.3 Floodplain inspections. Shall be deleted in its entirety.

Subsection-R109.5 Dry and Stable access is added to readshall be added:

<u>R109.5 Dry and Stable access</u> Except for foundation inspections, a minimum 24" wide dry and stable access shall be provided to all inspection access <u>points</u>. Inspections scheduled for which this dry and stable access has not been provided will be disapproved and <u>may</u> be disapproved with penalty.

## Subsection R112.1.1 shall be added as follows:

## R112.1.1 Appeals is added to read:

\_\_\_\_\_Appeals shall be made and conducted in accordance with the provisions of the adopted International Building Code -\_\_\_\_\_Appendix B Board of Appeals as amended.

## R113.5 is added to read:

The applicant for a permit shall provide an estimated value of the work for which the permit is being issued at time of application. Such estimated valuations shall include the total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. Where, in the opinion of the building official, the valuation is underestimated, the permit shall be denied, unless the applicant can show detailed estimates acceptable to the building official. The building official shall have the authority to adjust the final valuation for permit fees.

## R202 is amended to add/ modify the following:

**Bedroom**. A room with a minimum of 70 square feet in floor area (excluding clothing storage floor area), which is a habitable space, that may be lawfully furnished with a bed and used for sleeping, but not including the living room, a dining room or a kitchen. However, a den, a study, a loft, or any room which may lawfully be used as a bedroom shall be considered a bedroom for the purposes of determining minimum safety requirements for current or future occupants.

Building Official. The Building Official shall be the Director of the Building & Permits and his designees. All City employees are hereby designees of the Building Official. The Building Official shall cooperate with the Fire Chief and the Fire Marshal.

Guest Rooms. A room used or intended to be used by one or more occupants not defined as family for living (see IPMC adoption for definition of family).

Lodging House. A one-family dwelling where one or more occupants are primarily permanent in nature with guest rooms, which does not qualify as a custodial care facility.

# Table R301.2(1) Insert: - CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA:

| Grou               |                | Wind               | Design                               |  | Seismi   | Subject                                   | To Damag                                  | e From                      | Ice Barrier           |   | Air                       | Mean                  |
|--------------------|----------------|--------------------|--------------------------------------|--|--|---|---|-----------------------------|-----------------------|---|---------------------------|-----------------------|
| nd<br>Snow<br>Load | Speed<br>(mpg) | Wind ne debris c-+ |                                      | Weatheri<br>ng                             | Frost<br>line<br>depth                                 | Termite                                   | Underlaym Flood<br>ent Hazard<br>Required |                             | Freezi<br>ng<br>Index | Annu<br>al<br>Temp                                |                           |                       |
| 25                 | 107            | N/A                | N/A                                  | N/A  | В  | Severe                                    | 42<br>Inches                              | Modera<br>te to<br>Heavy    | Yes                   | Yes, see<br>Aurora<br>Engineeri<br>ng<br>Division | 1635                      | 48.7<br>degre<br>es F |
|                    |                |                    |                                      |  | Man  | ual J Design                              | Criteria                                  |                             |                       |   |                           |                       |
| Elevatio           | Elevation      |                    | Altitude<br>Correcti<br>on<br>Factor | Coincide<br>nt wet<br>bulb                 | Indoor<br>winter<br>design<br>relative<br>humidi<br>ty | Indoor winter design dry-bulb temperature |   | Outdoor wir<br>dry-bulb ter | U                     | tempe   | ting<br>erature<br>rence  |                       |
|                    |                | 706                | 0.985                                | 76.4                                       | 35%  |   |   | 70                          |                       | -1  |                           | 71                    |
| Latitude           |                | Daily<br>range     | Summer<br>design<br>grains           | Indoor<br>summe<br>r<br>design<br>relative |  | ummer des<br>temperat                     | υ,  | Outdoor sum<br>dry temp     | U                     |   | oling<br>erature<br>rence |                       |

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|    |        | humidi<br>ty |    |    |    |
|----|--------|--------------|----|----|----|
| 41 | Medium | 50%          | 75 | 91 | 16 |

Subsection R301.2.4 Floodplain Construction shall be changed to read as follows:

R301.2.4 Information for construction in areas prone to flooding. For buildings and structures in flood hazard areas as established on local floodway rate maps, locally adopted floodplain ordinances shall apply.

The following subsection shall be added to Section R303.1.1:

R303.1.1 Basements: Window area in basements, except as may be otherwise specified for habitable rooms, the glass window area in basements shall not be less than two (2) percent of the floor area served.

The last sentence of the exception to subsection R303.3 shall be amended as follows;

#### R303.3 Exception

... Ventilation air from the space shall be independently exhausted to the outside.

Exception to Subsection R304.2 shall be deleted and Subsection to R304.2 shall be added as follows:

R304.2.1 Living Spaces: Living Room, Dining Room, Kitchen and Bedrooms shall provide the minimum floor areas as prescribed in the City of Aurora's Amended Property Maintenance Code - Occupancy Standards Section 404 -

The following shall be added to Chapter R308:

R308.7: Sliding Glass Doors. Ground level or easily accessible, sliding glass doors shall have installed an approved permanent anti-slide device.

Subsection R309.3 Flood Hazard areas. Shall be deleted in its entirety.

The following subsection shall be added to Section R310.2:

R310.2.3.3 Basement Window Wells; window well locations shall be placed as remotely as practical from at grade door locations and shall place a min. #4 bar with min. 4" hooks at the top and bottom of each opening

The following subsection shall be added to Section R310.4:

R310.4.1 Window wells shall be provided with flat covers capable of supporting at least 150 lbs.

The following subsection shall be added to Section R311.2:

R311.2..1 All swinging exterior doors, garage man doors and garage service doors shall be equipped with a dead bolt lock with a minimum one inch throw and dead locking latch. Dead bolts shall contain hardened inserts, or equivalent, so as to repel cutting tool attack. Mortise-type locks may be used; if the above-described requirements are met.

Subsection R313.1 shall be modified as follows:

R313.1 Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in each individual townhouse with a first floor Living Space footprint exceeding 5,000 ft \*:

Subsection R313.2 shall be modified as follows:

R313.2 One—and two family dwellings automatic fire sprinkler systems. An automatic residential sprinkler system shall be installed in One and Two family dwellings with a first floor Living Space footprint exceeding 5,000 ft.\*.

Subsection R322 Flood Resistant Construction shall be changed to read as follows:

R322.1.11 Additional Information for construction in areas prone to flooding. For buildings and structures in flood hazard areas as established on local floodway rate maps, locally adopted floodplain ordinances shall additionally apply and the most restrictive requirements shall apply.

R306.1.11 Additional Information for construction in areas prone to flooding is added to read:

For buildings and structures in flood hazard areas as established on local floodway rate maps, locally adopted floodplain ordinances shall additionally apply, and the most restrictive requirements shall apply.

309.1 is amended to read:

An automatic residential fire sprinkler system shall be installed in each individual townhouse with a first floor Living Space footprint exceeding 5,000 ft <sup>2</sup>.

R309.2 is amended to read:

An automatic residential sprinkler system shall be installed in One- and Two-family dwellings with a first floor Living Space footprint exceeding 5,000 ft <sup>2</sup>.

R312.2 text and exception is deleted and replaced with:

A habitable room, other than a kitchen, shall be not less than 7 feet (2134 mm) in any plan dimension. Kitchens shall have a minimum clear passageway of 3 feet (914 mm) between counterfronts and appliances or counterfronts and walls.

R315.6 Guards is added to read:

Guards complying with R321 shall be provided on open sides of sleeping lofts.

#### R318.2.1 is added to read:

All swinging exterior doors, garage man doors and garage service doors shall be equipped with a dead bolt lock with a minimum one-inch throw and dead locking latch. Mortise-type locks may be used; if the above-described requirements are met

## R319.4.4.1 Safety coverings is added to read:

Window wells shall be provided with flat covers capable of supporting at least 150 lbs.

## R319.4.5 is added to read:

Area well locations shall be placed as remotely as practical from at grade door locations and shall place a min. #4 bar with min. 4" hooks at the top and bottom of each opening.

# R324.7 is added to read:

Ground level or easily accessible, sliding glass doors shall be equipped with an approved permanent anti-slide device.

#### R325.1.4 Basements is added to read

Window area in basements, except as may be otherwise specified for habitable rooms, the glass window area in basements shall not be less than two (2) percent of the floor area served, provided by windows complying with section R319.

## R325.2.1 is added to read:

Bathrooms shall be mechanically exhausted directly to the outdoors.

Subsection R401.1 Application. Shall be changed to read as follows: R401.1 is amended to delete the last sentence and the exceptions.

R401.1 The provisions of this chapter shall control the design and construction of the foundation and foundation spaces of all buildings. In addition to the provisions of this chapter, the design and construction of foundations in areas prone to flooding as established by Table R301.2 (1) shall meet the provisions of section R322. Wood foundations shall not be allowed.

Subsection R401.4.1 Geotechnical evaluation. Shall be changed to read as follows is amended to read:

<u>R401.4.1</u> A Geotechnical report from a soils engineer shall accompany all new home permit applications and shall be amended <u>with observed in place results after excavation and prior to scheduling the Footing inspection. <u>CopyA copy</u> of the revised <u>report shall be given to inspector at the footing inspection.</u></u>

Subsection R402.1 Wood Foundations and its subsections-<u>are deleted and not permitted.</u> R402.1.1, & R402.1.2 shall be deleted in their entirety.

Subsection R403.1.1 Minimum size. Shall be deleted and changed to read as follows:

R403.11 Minimum sizes for concrete and masonry footings shall be as set forth in Table R403.1 and Figure R403.1(1). The footing width, W, shall be based on the load bearing value of the soil in accordance with Table R402.2. Spread footings Width shall be twice the width of the foundation wall and not less than 16 inches. Spread footing Thickness (depth) shall be equal to the width of the foundation wall and not less than 8 inches. Footing Projections, P, shall be ½ the width of the foundation wall, not less than 4 inches and shall not exceed the thickness of the footing.

Table R403.1(1) Minimum width of concrete or masonry footing (inches). Shall be deleted and changed to read as follows:

|   |                              | Load Bearing Val          | 2,000 3,<br>12 1:<br>16 1:<br>20 2:<br>16 1:<br>21 2:<br>22 2:<br>24 2:<br>26 2:<br>27 2:<br>28 2:<br>29 2:<br>20 2:<br>20 2:<br>20 2:<br>20 2:<br>21 2:<br>22 2:<br>24 2:<br>26 2:<br>27 2:<br>28 2:<br>29 2:<br>20 2: | <del>oil (psf</del> | )       |
|---|------------------------------|---------------------------|---|---------------------|---------|
| •   | Height                       | 1,500                     | 2,000   | 3,000               | >=4,000 |
| Trench Footings w/light frame construction — with Horiz. Reinforcing (one #4 bar within 12" of top and bottom)                | 1-Story & <10'<br>joist span | 16                        | 12  | 12                  | 12      |
| Trench Footings w/light frame construction with Horiz. Reinforcing (one #4 bar within 12" of top and one #4 bar at mid point) | <del>1 Story</del>           | Engineered<br>w/Soil test | <del>16</del>   | <del>16</del>       | 16      |
| Trench Footings w/masonry veneer with Horiz. Reinforcing (one #4 bar within 12" of top and one #4 bar at mid point)           | 1-Story                      | Engineered<br>w/Soil test | <del>20</del>   | <del>20</del>       | 20      |
| Trench Footings — with Horiz. Reinforcing (one #4 bar within 12" of top and one #4 bar at mid point)                          | 2-Story                      | Engineered<br>w/Soil test | 24  | 24                  | 24      |
|   | <del>1-Story</del>           | <del>16</del>             | <del>16</del>   |                     |         |
| Conventional light-frame construction   | 2-Story                      | <del>20</del>             |   | 16                  |         |
|   | 3-Story                      | 24                        | 20  |                     |         |
| 4 inch masonry veneer over frame or 8 inch hollow concrete masonry  | 1-Story                      | 20                        | 20  | 20                  |         |

| 2 Story | 24 |    |               |               |
|---------|----|----|---------------|---------------|
| 3-Story | 32 | 24 |               |               |
| 1-Story | 24 | 20 | 20            | <del>16</del> |
| 2-Story | 32 | 24 |               | 20            |
| 3-Story | 42 | 32 | <del>32</del> |               |

Tables R403.1(1), 403.1(2) and 403.1(3) are amended so that the minimum thickness of footings of 6 inches shall be replaced with 8 inches. Table R403.1(2) shall be deleted in its entirety.

Table R403.1(3) shall be deleted in its entirety.

8 inch solid or fully grouted masonry

Figures R403.1 (2) and R403.1 (3) Permanent Wood Foundations shall beis deleted in their entirety and not permitted.

The following section Chapter R403.1.4 shall be deleted and replaced with the following:

R403.1.4.1: Frost Protection:

Exceptions:

1. Detached and freestanding single story accessory structures less than 768 gross square feet, with an eave height of less than 10'; shall be allowed to be supported on an approved continuous turned down slab detail per the building code.

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3. Decks not supported by a dwelling and not adjacent to communicating doorways of a dwelling need not be provided with footings that extend below the frost line. Temporary handicapped ramps may be provided on non frost protected footings provided they are removed upon the lack of medical need of the ramp for the occupants.

Subsection R403.2 is deleted and not provided. Footings for Wood Foundations shall be deleted in its entirety.

 $\underline{R403.4\ and\ its\ subsections, figures\ and\ tables\ are\ deleted\ and\ not\ permitted.}$ 

R403.5 and its subsections, figures and tables are deleted and not permitted.

R403.5, figures and tables are deleted and not permitted.

Table R404.1.2.1 (1) Plain Masonry Foundation Walls shall be amended as follows:

|                            |   | Plain Masonry <sup>a</sup> Minimum Nominal Wall Thickness (inches) |                             |                                |  |  |  |  |
|----------------------------|---|--|-----------------------------|--------------------------------|--|--|--|--|
| Maximum Wall Height (feet) | Maximum Unbalanced Backfill<br>Height <sup>c</sup> (feet) | Soil Classes <sup>b</sup>  |                             |                                |  |  |  |  |
|                            |   | GW, GP, SW<br>and SP   | GM, GC, SM, SM-SC<br>and ML | SC, MH, ML-CL and inorganic CL |  |  |  |  |
| 5                          | 4   | 8  | 8                           | 8                              |  |  |  |  |
|                            | 5   |  |                             | 10                             |  |  |  |  |
|                            | 4   |  | 8                           | 8                              |  |  |  |  |
| 6                          | 5   | 8  |                             | 10                             |  |  |  |  |
|                            | 6   |  | 10                          | 12                             |  |  |  |  |
|                            | 4   | 8  | 8                           | 8                              |  |  |  |  |
| 7                          | 5   | Ů  | 10                          | 10                             |  |  |  |  |
| ,                          | 6   | 10   | 12                          | 10 solid <sup>d</sup>          |  |  |  |  |
|                            | 7   | 12   | 10 solid <sup>d</sup>       | 12 solid <sup>d</sup>          |  |  |  |  |
|                            | 4   | 8  | 8                           | 8                              |  |  |  |  |
| 8                          | 5   |  | 10                          | 12                             |  |  |  |  |
|                            | 6   | 10   | 12                          | 12 solid <sup>d</sup>          |  |  |  |  |
|                            | 7   | 12   | 12 solid <sup>d</sup>       | Footnote e                     |  |  |  |  |

|   | 8 | 10 solid <sup>d</sup> | 12 solid <sup>d</sup> | Footnote <sup>e</sup> |
|---|---|-----------------------|-----------------------|-----------------------|
| 9 | 4 | 8                     | 8                     | 8                     |
|   | 5 |                       | 10                    | 12                    |
|   | 6 | 10                    | 12                    | 12 solid <sup>d</sup> |
|   | 7 | 12                    | 12 solid <sup>d</sup> | Footnote e            |
|   | 8 | 12 solid <sup>d</sup> | Footnote e            | Footnote e            |
|   | 9 | Footnote e            | Footnote e            | Footnote e            |

Table R404.1.3.2(2) is deleted. Minimum thickness of concrete basement walls is 8 inches.

Table R404.1.3.2(5) Minimum Vertical wall reinforcement for 6-inch waffle-grid basement walls, shall be deleted, 8 inch minimum wall width required see R404.1.2(6) is deleted. Minimum thickness of waffle-grid basement walls is 8 inches.

Table R404.1.3.2(7) Minimum Vertical wall reinforcement for 6-inch screen-grid basement walls, shall be deleted. is deleted.

Subsection R404.2 Wood Foundations walls and its subsections R404.2.1, R404.2.2, R404.2.3 and Table R404.2.3, R404.2.4, R404.2.5, and R404.2.6 shall be deleted in their entirety, and it's subsections are deleted and not permitted.

Section R405.2 and it's subsections are deleted and not permitted. Wood Foundations and its subsections R405.2.1, R405.2.2, and R405.2.3 shall be deleted in their entirety.

Section-R406.3 and it's subsections are deleted and not permitted. Dampproofing for Wood Foundations and its subsections R406.3.1, R406.3.2, and R406.3.3 shall be deleted in their entirety.

Subsection-R502.7.1 Bridging is amended to read: Shall be deleted and changed to read as follows:

<u>R502.7.1 Bridging.</u> All Joists shall be supported laterally by solid blocking, diagonal bridging (wood or metal) or continuous 1 inch x 3-inch \_strips nailed across the bottom of the joist perpendicularly to the joist at intervals not exceeding 8 feet.

#### R503.2.2.1 is added to read as follows:

Minimum thickness, subfloors. Subfloors shall not be less than 3/4-inch nominal or as prescribed in Table R503.2.1.1(1). Other materials may be used when approved by the code official.

### R503.2.2.1 is added to read as follows:

Minimum thickness, roof decking. Roof decking shall not be less than 1/2-inch nominal or as prescribed in Table R503.2.1.1(1). Other materials may be used when approved by the code official.

Section R504 Pressure Preservative-Treated Wood Floors (on Ground) shall be deleted in its entirety. is deleted.

Subsection R506.2.1.1 Shall be added:

R506.2.1.1 Back-fill under concrete floors in attached garages.

a. The slab shall be doweled into the foundation wall as follows. Dowels (#4) shall be 3' 4" long, shall be doweled into foundation wall a minimum of 4", and shall be spaced at 24" on center; on all walls that do not provide 4" of bearing for slab.

Section-R602.3.2 Single Top plate Exception only. Shall be deleted in its entirety-Exception and Table R602.3.2 is deleted and not permitted.

R602.7.1 is added to read:

Single member headers shall be provided with blocking to prevent rotation at 16 inches on center.

Subsection R703.9 Shall be modified. is amended to read:

Exterior insulation and finish systems (EIFS) shall comply with this chapter and Section R703.9.1. R703.9 Exterior Insulation Finish Systems, general. All Exterior Insulation Finish Systems (EIFS) shall be installed in accordance with the manufacturer's installation instructions and the requirements of this section. Where permitted, \_EIFS installations shall be required to provide a manufacturer's inspection of certification certificate of inspection to the owner and shall be kept \_for inspection upon request. Repairs to existing EIFS systems shall be permitted to be repaired with EIFS systems \_w/drainage using the installation recommendations of the Manufacturer.

R703.9.1 EIFS systems without drainage shall not be permitted 2 is deleted and not permitted.

R803.2.2.1 is added to read:

Minimum thickness. Roof decking shall not be less than 1/2-inch nominal plywood or as prescribed in Table R503.2.1.1(1). Other materials may be used when approved by the building official.

Subsection R1003.9.2.11 shall beis amended to read:

R1003.9.2. Spark Arrestors. A spark arrestor is required to be installed on all masonry chimneys.

Chapter 11 Energy Conservation shall be deleted in its entirety; Compliance shall be determined by the current State of Illinois Energy Conservation Code, amended International Energy Code Council.

## The following Subsection shall be added to section M1401.1;

M1401.1.1 Temporary Heat system required is added to read;

Use of the new furnace during construction activities shall be prohibited. If new furnace is found to have been used, final inspections will not pass without a full system cleaning certification, plus the posting of a contractor installation and equipment warranty to match the manufacturer's equipment warranty period (if the manufacturer's warranty has been compromised by not following the manufacturer's installation instructions).

## The following subsection shall be added to Section M1502.3:

M1502.3.1 Clothes Dryer Termination: Clothes Dryer exhaust duct systems shall terminate with a removable guard to prevent bird or rodent entry. For maintenance purposes, termination shall be located no greater than 12 feet above the walking surface or grade below.

The following subsection shall be added to Section M1506.3:

The following Subsection shall be added to section M1601.1.1:

## M1601.1.1 item 9 is added to read:(8);

\_\_\_Ductwork; Shall not protrude from the framing cavity when applications of finishes will compress or deform the duct.

# The following Subsection M1602.2- item 2.1 is shall be added to read: as follows;

2.1 Disbursal of return air openings shall be taken from each finished floor inside of the dwelling unit. Dilution of return air with outdoor air shall be permitted.

#### The following Subsection to G2414 shall be deleted:

G2414.4 is deleted and not permitted.5 Metallic tubing; All metallic tubing types 5.1-5.3 shall be deleted.

The following Subsection shall be added to section M2426.6;

#### G2426.6.1 is added to read: Vent support;

B-vent support shall be provided every 5 feet minimum with no screw penetrations unless specifically required by the vent manufacturer and then only when it can be demonstrated that the inner wall of the vent has not been penetrated.

## Chapters 25-32 Plumbing shall be deleted and replaced with the following:

P2501.1. Scope. Per the State of Illinois preemption all Plumbing work shall conform to the current edition of the Illinois State Plumbing Code.

P2501.2 Hose bib locations: 2 hose bibbs located as remotely as practicable shall be required per residence (e.g. front and rear yards).

P2501.3 Water Distribution Piping: Water distribution piping shall be installed so that all water supplies except for hose bibs are fed from an isolated single branch pipe for the possible future installation of a water filtration system.

P2501.4 Water services shall be sized per the State of Illinois Plumbing Code. New water service size shall be a minimum 1 inch.

P2501.5 Public Systems Available: Variations from provisions contained in this section may be applied for by filing an application with the public works department for referral to and consideration by the city council.

P2501.5.1 A public water main shall be considered available to a building when the building is located within one thousand two hundred (1,200) feet of the public water main. Private wells shall not be allowed within the jurisdiction of the City of Aurora except as provided by section 48-28 of the Aurora Code of Ordinances.

P2501.5.2 A public sewer system shall be considered available when the nearest point of the property is located within one thousand two hundred (1,200) feet of the public sewer.

## The following subsection shall be added to Storm Drainage Section P3303 Sumps and Pumping Systems

P3303.1.5-2502.1 Required storm sump pit discharge shall be handled in conformance with one of the following:

 1. (1) — Discharge to the public storm sewer may occur at any time in conformance with City of Aurora Standard Specifications for Improvements.

2. (2)—Discharge to grade, when not prohibited above, may be permitted provided that the point of discharge is at least fifteen (15) feet from all property lines. Sump pumps shall not discharge directly into any street, sidewalk onto adjacent property, or in any manner that will flood or cause a nuisance. Sump discharge contrary to the above provisions shall be considered a violation as a public nuisance of the adopted IPMC 304 Exteriors, Roofs and Drainage subsection.

Part VIII- Chapters 34-43 are deleted. Electrical shall comply with the Aurora Electrical Code

BO104.4 is amended to read:

CHAPTER 34 GENERAL REQUIREMENTS

# SECTION E3401 GENERAL

E3401.1 Applicability. The provisions of 2015 International Residential Code Chapters 34 through 43 with the amendments below shall replace the adopted International Residential Code Chapters 34 through 43 and hereby establish the general scope of the electrical system and equipment requirements of this code. Chapters 34 through 43 cover those wiring methods and materials most commonly encountered in the construction of one—and two-family dwellings and structures regulated by this code. Other wiring methods, materials and subject matter covered in NFPA 70 are also allowed by this code.

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Formatted: Font: (Default) Roboto Slab, Font color: Custom Color(RGB(81,89,103)), Ligatures: None E3401.2 Scope. Chapters 34 through 43 shall cover the installation of electrical systems, equipment and components indoors and outdoors that are within the scope of this code, including services, power distribution systems, fixtures, appliances, devices and appurtenances. Services within the scope of this code shall be limited to 120/240-volt, 0- to 400-ampere, single-phase systems. These chapters specifically cover the equipment, fixtures, appliances, wiring methods and materials that are most commonly used in the construction or alteration of one- and two-family dwellings and accessory structures regulated by this code. The omission from these chapters of any material or method of construction provided for in the referenced standard NFPA 70 shall not be construed as prohibiting the use of such material or method of construction.

E3401.2.1 Electrical systems, equipment or components not specifically covered in these chapters shall comply with the applicable provisions of NFPA 70. (Including but not limited to: alternative power generating equipment, photovoltaic, wind turbines and generators, etc.)

E3401.4 Additions and alterations. Any addition or alteration to an existing electrical system shall be made in conformity to the provisions of Chapters 34 through 43 additionally refer to Appendix J for additional requirements based upon the scope and area of work. Where additions subject portions of existing systems to loads exceeding those permitted herein, such portions shall be made to comply with Chapters 34 through 43.

#### **CHAPTER 36 SERVICES**

## SECTION E3601 GENERAL SERVICES

E3601.6.2 Service disconnect location. The service disconnecting means shall be installed at a readily accessible location at the meter. Service disconnecting means shall not be installed in bathrooms. Each occupant shall have access to the disconnect serving the dwelling unit in which they reside.

## SECTION E3602 SERVICE SIZE AND RATING

E3602.2.1 Services under 100 amperes.

Services that are not required to be 100 amperes shall be sized in accordance with Chapter 37.

SECTION E3603 SERVICE, FEEDER AND GROUNDING ELECTRODE CONDUCTOR SIZING shall be amended:

E3603.1 Grounded and ungrounded service conductor size.

Service and feeder conductors supplied by a single-phase, 120/240-volt system shall be sized in accordance with Table 3705.1.

Sections E3603.1, through E3603.2 shall be deleted.

E3603.4 Grounding electrode conductor size. The grounding electrode conductors shall be sized based on the size of the service entrance conductors as required in Table 3705.1.

Table E3603.4 shall be deleted.

#### SECTION E3605 SERVICE-ENTRANCE CONDUCTORS

E3605.5 Protection of all other service cables. Above ground service entrance cables, where subject to physical damage, shall be protected by one or more of the following: rigid metal conduit, intermediate metal conduit, or other approved means:

E3605.5.1 Conduit Support. Shall be added as follows: All service entrance conduit for overhead service drops shall be supported by galvanized 2 piece back-straps or an approved equal. Corrosion resistant materials shall be required per NEC 300.6

E3605.9 Overhead service locations. Connections at service heads shall be in accordance with Sections E3605.9.1 through E3605.9.7.

E3605.9.3 Service head location. Service heads shall be located above the point of attachment of the service-drop or overhead service conductors to the building or other structure. Exception: Where it is impracticable to locate the service head above the point of attachment, the service head or gooseneck location shall be not more than 24 inches (610 mm) from the point of attachment.

E3605.9.5 Drip loops. Drip loops shall be formed on individual conductors. To prevent the entrance of moisture, service-entrance conductors shall be connected to the service-drop or overhead conductors below the level of the service head.

## SECTION E3606 SERVICE EQUIPMENT—GENERAL

E3606.4 Marking. Service equipment shall be marked to identify it as being suitable for use as service equipment. Service equipment shall be listed. Individual meter socket enclosures shall be considered as service equipment.

# SECTION E3608 GROUNDING ELECTRODE SYSTEM

E3608.1 Grounding electrode system.

E3608.1.2 Concrete encased electrode.

Unless otherwise accepted by the building official, a concrete encased electrode shall be installed in new structures with an electrical service.

A concrete encased electrode consisting of at least 20 feet (6096 mm) of either of the following shall be considered as a grounding electrode:

1. One or more bare or zinc galvanized or other electrically conductive coated steel reinforcing bars or rods not less than 1/2 inch (13 mm) in diameter, installed in one continuous 20-foot (6096 mm) length, or if in multiple pieces connected together by the usual steel tie wires, exothermic welding, welding, or other effective means to create a 20-foot (6096 mm) or greater length.

2. A bare copper conductor not smaller than 4 AWG.

Metallic components shall be encased by at least 2 inches (51 mm) of concrete and shall be located horizontally within that portion of a concrete foundation or footing that is in direct contact with the earth or within vertical foundations or structural

components or members that are in direct contact with the earth. Where multiple concrete-encased electrodes are present at a building or structure, only one shall be required to be bonded into the grounding electrode system.

CHAPTER 37 - BRANCH CIRCUIT AND FEEDER REQUIREMENTS

SECTION E3701 GENERAL

E3701.3 Selection of ampacity. Where more than one calculated or tabulated ampacity could apply for a given circuit length, the lowest value shall be used.

SECTION F2702 RDANCH CIRCUIT RATINGS

E3702.1.1 Existing 12 AWG branch circuits: Existing branch circuits with 12 AWG conductors that cannot be completely traced throughout the circuit shall be served by no more than 15 ampere breakers.

SECTION E3705 CONDUCTOR SIZING AND OVERCURRENT PROTECTION

TABLE E3705.1 ALLOWABLE AMPACITIES

| CONDUCTOR        | CONDI  | CONDUCTOR      |                                 |                    |  |   |           |
|------------------|--|----------------|---------------------------------|--------------------|--|---|-----------|
| SIZE             | <del>60°C</del>  | 75°€           | <del>90°C</del>                 | <del>60°C</del>    | <del>75°C</del>                                | <del>90°C</del>   | SIZE      |
| AWG kemil        | Types KHW, THHN, THHW, THHW, THW, THWN, USE, XHHW, XHHW 2, USE-2 |                | THW-2, THWN-2,<br>XHHW, XHHW-2, | Types<br>TW,<br>UF | Types RHW,<br>THHW, THW,<br>THWN, USE,<br>XHHW | Types RHW 2,<br>THHN, THHW,<br>THW-2, THWN-2,<br>XHHW, XHHW 2,<br>USE-2 | AWG kemil |
|                  | Copper   | •              |                                 | Alumin             | um or copper clas                              |   |           |
| 14- <sup>a</sup> | 15   | 20             | 25                              |                    |  |   |           |
| 12-ª             | <del>20</del>  | 25             | <del>30</del>                   |                    |  |   |           |
| 10- <sup>a</sup> | <del>30</del>  | <del>35</del>  | 40                              |                    |  |   |           |
| 8                | 40   | <del>50</del>  | 55                              |                    |  |   |           |
| 6                | 55   | 65             | <del>75</del>                   |                    |  |   |           |
| 4                | <del>70</del>  | <del>85</del>  | 95                              |                    |  |   |           |
| 3                | 85   | 100            | 115                             |                    |  |   |           |
| 2                | 95   | 115            | 130                             |                    |  |   |           |
| 1                | 110  | 130            | 145                             |                    |  |   |           |
| 1/0              | 125  | 150            | <del>170</del>                  | 100                | 120  | 135   | 1/0       |
| 2/0              | 145  | <del>175</del> | 195                             | 115                | 135  | 150   | 2/0       |
| 3/0              | 165  | 200            | 225                             | 130                | 155  | 175   | 3/0       |
| 4/0              | 195  | 230            | 260                             | 150                | 180  | 205   | 4/0       |

E3705.4.4 Conductors of Type NM cable. Delete section in its entirety

CHAPTER 38 - WIRING METHODS

SECTION E3801 GENERAL REQUIREMENTS

TABLE E3801.2 ALLOWABLE WIRING METHODS

| ALLOWABLE<br>WIRING METHOD           |     | NEW STRUCTURES                            | EXISTING STRUCTURES for limitations of use refer to IRC Appendix J |
|--------------------------------------|-----|---|--|
| Armored cable (BX)                   | AC  | Deleted                                   | Deleted See FMC and MC for other options                           |
| Electrical metallic tubing (Conduit) | EMT | Permitted without indenter type eouplings | Permitted without indenter type couplings                          |
| Electrical nonmetallic tubing        | ENT | Deleted                                   | Deleted  |

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| Flexible metal<br>conduit (Greenfield)         | FMC           | Deleted  | Limited in existing unexposed assemblies. (See IRC Appendix J). Then where partially exposed to transition to EMT/RMC shall only be permitted in lengths not to exceed (6) six feet. |
|--|---------------|--|--|
| Intermediate metal conduit                     | IMC           | Permitted  | Permitted  |
| Liquidtight flexible metallic conduit          | LFMC          | Permitted in lengths not to exceed 6 feet  | Permitted in lengths not to exceed 6 feet  |
| Liquidtight flexible non-metallic conduit      | LFNC          | Permitted in lengths not to exceed 6 feet  | Permitted in lengths not to exceed 6 feet  |
| Metal clad cable                               | MC            | Deleted Except where included as a factory assembled sub-component of a manufactured system. | Limited in existing unexposed assemblies. (See IRC Appendix J) Then where partially exposed to transition to EMT/RMC shall only be permitted in lengths not to exceed (6) six feet.  |
| Nonmetallic<br>sheathed cable<br>(Romex)       | NM            | Deleted  | Deleted  |
| Rigid polyvinyl<br>chloride conduit -<br>(PVC) | RNC/PVC       | Underground use only.  | Underground use only.  |
| Rigid metallic<br>conduit                      | RMC           | Permitted  | Permitted  |
| Service entrance cable                         | SE            | Deleted  | Deleted  |
| Surface Metal<br>raceways                      | SMR           | Permitted when containing an equipment grounding conductor                                   | Permitted when containing an equipment grounding conductor   |
| Surface Non-<br>Metallic raceways              | SNR           | Deleted  | Deleted  |
| Underground feeder cable                       | <del>UF</del> | Deleted  | Limited see (IRC Appendix J) Only in exterior applications, and in conformance with the cable listing  |
| Underground service eable                      | USE           | Deleted  | Deleted  |
| USE 2  | USE 2         | Above ground when part of a manufacturers systems/requirements                               | Above ground when part of a manufacturers systems/requirements   |

TABLE E3801.4 ALLOWABLE APPLICATIONS FOR WIRING METHODS 4-b, e, d, e, f, g, b, i, j, k

Note that uses of wiring methods are further restricted by Table 3801.2

| ALLOWABLE APPLICATIONS (application allowed where marked with an "A") | EMT | <del>FM</del><br>€ | IMC RMC RNC<br>PVC | LFMC, LFNC                | MC | SMR |
|---|-----|--------------------|--------------------|---------------------------|----|-----|
| Services  |     |                    | A                  |                           |    | _   |
| Feeders   | A   | A                  | A                  | A                         |    | _   |
| Branch circuits   | A   | A                  | A                  | A                         | A  | A   |
| Inside a building   | A   | A                  | A                  | A                         | A  | A   |
| Wet locations exposed to sunlight                                     | A   | _                  | A                  | A                         | A  | _   |
| Damp locations  | A   | A-d                | A                  | A                         | A  | _   |
| Embedded in noncinder concrete in dry location                        | A   | _                  | A                  | $\mathbf{A}^{\mathbf{j}}$ | -  | _   |
| In noncinder concrete in contact with grade                           |     | -                  | A f                |                           | -  | _   |

| Embedded in plaster not exposed to dampness                        | A | A | A              | A | A | - |
|--|---|---|----------------|---|---|---|
| Embedded in masonry  | A | _ | A-f            | A | A | _ |
| In masonry voids and cells exposed to dampness or below grade line |   |   | A-f            | A | A | _ |
| Fished in masonry voids  | _ | A | -              | A | A | _ |
| In masonry voids and cells not exposed to dampness                 | A | A | A              | A | A | _ |
| Run exposed  | A | A | A              | A | A | A |
| Run exposed and subject to physical damage                         | _ | _ | A#             |   | _ |   |
| For direct burial  |   | _ | A <sup>f</sup> | A |   |   |

For SI: 1 foot = 304.8 mm.

- a. Liquid-tight flexible nonmetallic conduit without integral reinforcement within the conduit wall shall not exceed 6 feet in length.
- b. Type USE cable shall not be used inside buildings.
- c. The grounded conductor shall be insulated.
- d. Conductors shall be a type approved for wet locations and the installation shall prevent water from entering other raceways.
- e. Shall be listed as "Sunlight Resistant."
- f. Metal raceways shall be protected from corrosion and approved for the application. Aluminum RMC requires approved supplementary corrosion protection.
- g. RNC shall be Schedule 80.
- h. Shall be listed as "Sunlight Resistant" where exposed to the direct rays of the sun.
- i. Conduit shall not exceed 6 feet in length.
- j. Liquid-tight flexible nonmetallic conduit is permitted to be encased in concrete where listed for direct burial and only straight connectors listed for use with LFNC are used.
- k. In wet locations under any of the following conditions:
- ${\bf 1.} \quad {\bf The\ metallic\ covering\ is\ impervious\ to\ moisture.}$
- 2. A lead sheath or moisture-impervious jacket is provided under the metal covering.
- 3. The insulated conductors under the metallic covering are listed for use in wet locations and a corrosion-resistant jacket is provided over the metallic sheath.

SECTION E3802 ABOVE-GROUND INSTALLATION REQUIREMENTS

Note that uses of wiring methods are further restricted by Table 3801.2

| INSTALLATION REQUIREMENTS (Requirement applicable only to wiring methods marked "A")   | MC  | EMT<br>IMC<br>RMC | FMC,<br>LFMC,<br>LFNC | <del>UF</del> | RNC/<br>PVC | SMR<br># |
|--|-----|-------------------|-----------------------|---------------|-------------|----------|
| Where run parallel with the framing member or furring strip, the wiring shall be not less than 1-1/4 inches from the edge of a furring strip or a framing member such as a joist, rafter or stud or shall be physically protected.   | A   | _                 | A                     | A             | _           | _        |
| Bored holes in framing members for wiring shall be located not less than 1-1/4 inches from the edge of the framing member or shall be protected with a minimum 0.0625-inch steel plate or sleeve, a listed steel plate or other physical protection.   | A-k | _                 | A.*                   | A-*           |             | _        |
| Where installed in grooves, to be covered by wallboard, siding, paneling, carpeting, or similar finish, wiring methods shall be protected by 0.0625 inch thick steel plate, sleeve, or equivalent, a listed steel plate or by not less than 11/4 inch free space for the full length of the groove in which the cable or raceway is installed. | A   | _                 | A                     | A             |             | A        |
| Securely fastened bushings or grommets shall be provided to protect wiring run through openings in metal framing members.  | -   | _                 | _                     | Αj            | _           | _        |
| The maximum number of 90 degree bends shall not exceed four between junction boxes.  | _   | A                 | A                     | _             | A           | _        |

| Bushings shall be provided where entering a box, fitting or enclosure unless the box or fitting is designed to afford equivalent protection. | A           | A                | A                 | _         | A                 | A |
|--|-------------|------------------|-------------------|-----------|-------------------|---|
| Ends of raceways shall be reamed to remove rough edges.  | _           | A                | A                 | _         | A                 | A |
| Maximum allowable on center support spacing for the wiring method in feet.   | 4.5<br>b, e | <del>10</del> .1 | 4.5- <sup>b</sup> | 4.5<br>i  | 3- <sup>d,1</sup> | _ |
| Maximum support distance in inches from box or other terminations.   | 12 b,       | <del>36</del>    | 12 b, g           | 12<br>h,i | <del>36</del>     | - |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad.

- a. Installed in accordance with listing requirements.
- b. Supports not required in accessible ceiling spaces between light fixtures where lengths do not exceed 6 feet.
- c. Six feet for MC cable.
- d. Five feet for trade sizes greater than 1 inch.
- e. Two and one-half feet where used for service or outdoor feeder and 4.5 feet where used for branch circuit or indoor feeder.
- f.—Twenty-four inches for AC cable and thirty-six inches for interlocking Type MC cable where flexibility is necessary.

g. Where flexibility after installation is necessary, lengths of flexible metal conduit and liquidtight flexible metal conduit measured from the last point where the raceway is securely fastened shall not exceed: 36 inches for trade sizes ½ through 1¼, 48 inches for trade sizes 1½ through 2 and 5 feet for trade sizes 2½ and larger.

- h. Within 8 inches of boxes without cable clamps.
- i. Flat cables shall not be stapled on edge.
- j. Bushings and grommets shall remain in place and shall be listed for the purpose of cable protection.
- k. See Sections R502.8 and R802.7 for additional limitations on the location of bored holes in horizontal framing members.

E3802.2 Cables in accessible attics. When permitted by table E3801.2. Cables in attics or roof spaces provided with access shall be installed as specified in Sections E3802.2.1 and E3802.2.2.

E3802.4 In unfinished basements and crawl spaces.

When existing and permitted to remain. Where type NM or SE cable is run at angles with joists in unfinished basements and crawl spaces, cable assemblies containing two or more conductors of sizes 6 AWG and larger and assemblies containing three or more conductors of sizes 8 AWG and larger shall not require additional protection where attached directly to the bottom of the joists. Smaller cables shall be run either through bored holes in joists or on running boards. Type NM or SE cable installed on the wall of an unfinished basement shall be permitted to be installed in a listed conduit or tubing or shall be protected in accordance with Table E3802.1. Conduit or tubing shall be provided with a suitable insulating bushing or adapter at the point where the cable enters the raceway. The sheath of the Type NM or SE cable shall extend through the conduit or tubing and into the outlet or device box not less than 1/4 inch (6.4 mm). The cable shall be secured within 12 inches (305 mm) of the point where the cable enters the conduit or tubing. Metal conduit, tubing, and metal outlet boxes shall be connected to an equipment grounding conductor complying with Section E3908.13.

SECTION E3803 UNDERGROUND INSTALLATION REQUIREMENTS E3803.1 Minimum cover requirements.

Direct buried cable or raceways shall be installed in accordance with the minimum cover requirements of Table E3803.1.

TABLE E3803.1 MINIMUM COVER REQUIREMENTS, BURIAL IN INCHES a, b, c, d, e

|  | TYPE OF WI                                    | RING METHOD  | OR CIRCUIT                                      |                                  |  |
|--|---|--|---|----------------------------------|--|
| LOCATION OF WIRING<br>METHOD OR CIRCUIT  | 1-Direct<br>burial cables<br>or<br>conductors | 2 Rigid metal<br>conduit or<br>intermediate<br>metal conduit | direct burial without diate concrete encasement |                                  | 5 Circuits for control of irrigation and landscape lighting limited to not more than 30 volts and installed with type UF or in other identified eable or raceway |
| All locations not specified below  | 24  | 6  | 18  | 12                               | 6  |
| In trench below 2 inch-<br>thick concrete or<br>equivalent   | 18  | 6  | 12  | 6                                | 6  |
| Under minimum of 4-inch-<br>thick concrete exterior slab<br>with no vehicular traffic<br>and the slab extending not<br>less than 6 inches beyond | 18  | 4  | 4   | 6 (Direct burial) 4 (In raceway) | 6 (Direct burial) 4 (In raceway)   |

| the underground installation  |                     |    |    |                     |                     |
|---|---------------------|----|----|---------------------|---------------------|
| Under streets, highways, roads, alleys, driveways and parking lots  | 24                  | 24 | 24 | 24                  | <del>24</del>       |
| One and two family<br>dwelling driveways and<br>outdoor parking areas, and<br>used only for dwelling-<br>related purposes | 18                  | 18 | 18 | 12                  | 18                  |
| In solid rock where<br>covered by minimum of 2<br>inches concrete extending<br>down to rock                               | 2 (In raceway only) | 2  | 2  | 2 (In raceway only) | 2 (In raceway only) |

For SI: 1 inch = 25.4 mm

- a. Raceways approved for burial only where encased concrete shall require concrete envelope not less than 2 inches thick.
- b. Lesser depths shall be permitted where cables and conductors rise for terminations or splices or where access is otherwise required.
- c. Where one of the wiring method types listed in columns 1 to 3 is combined with one of the circuit types in columns 4 and 5, the shallower depth of burial shall be permitted.
- d. Where solid rock prevents compliance with the cover depths specified in this table, the wiring shall be installed in metal or nonmetallic raceway permitted for direct burial. The raceways shall be covered by a minimum of 2 inches of concrete extending down to the rock.
- e. Cover is defined as the shortest distance in inches (millimeters) measured between a point on the top surface of any direct-buried conductor, cable, conduit or other raceway and the top surface of finished grade, concrete, or similar cover.

E3803.11 Under buildings. Underground cable installed under a building shall be in a(n) RMC, IMC, RNC/PVC, raceway.

**CHAPTER 39 - POWER AND LIGHTING DISTRIBUTION** 

SECTION E3903 LIGHTING OUTLETS

E3903.1 General. Lighting outlets shall be provided in accordance with Sections E3903.2 through E3903.4.

E3903.2 Habitable rooms. At least one wall switch-controlled lighting outlet shall be installed in every habitable room, closet with a depth greater than 4 feet, and bathroom.

SECTION E3904 GENERAL INSTALLATION REQUIREMENTS

E3904.6 Conduit and tubing fill. The maximum number of conductors installed in conduit or tubing shall not exceed 9 conductors.

E3904.7 Low Voltage Air handling stud cavity and joist spaces. Where wiring methods having a nonmetallic covering pass through stud cavities and joist spaces used for air handling, such wiring shall pass through such spaces perpendicular to the long dimension of the spaces.

SECTION E3905 BOXES, CONDUIT BODIES AND FITTINGS

E3905.3 Nonmetallic boxes. Nonmetallic boxes shall not be installed, except in corrosive locations or in non-grounded circuits when they are permitted to remain. Further when permitted they shall be used only with cabled wiring methods with entirely nonmetallic sheaths, flexible cords and nonmetallic raceways.

E3905.6.2 Ceiling outlets. At every outlet not physically capable of hanging a ceiling fan, the box shall be designed or installed so that a luminaire or lampholder can be attached. Such boxes shall be capable of supporting a luminaire weighing up to 50 pounds (22.7 kg). A luminaire that weighs more than 50 pounds (22.7 kg) shall be supported independently of the outlet box, unless the outlet box is listed and marked for the maximum weight to be supported. Ceiling outlets physically capable (due to location and clearances) of hanging a future ceiling fan shall meet the requirements of E3905.8 Boxes at fan outlets.

SECTION E3908 GROUNDING

E3908.9 Equipment fastened in place or connected by permanent wiring methods. Noncurrent carrying metal parts of equipment, raceways and other enclosures, where required to be grounded, shall be grounded by one of the following methods:

- 1.—By any of the equipment grounding conductors permitted by Sections E3908.8 through E3908.8.2.
- 2. By an equipment grounding conductor contained within the same raceway, cable or cord, or otherwise run with the circuit conductors. Equipment grounding conductors shall be identified in accordance with Section E3407.2.

TABLE E3908.12 EQUIPMENT GROUNDING CONDUCTOR SIZING. Heading of aluminum column shall be modified as indicated

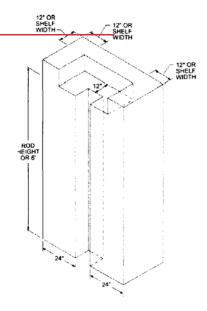
|  | RATING OR SETTING OF AUTOMATIC OVERCURRENT DEVICE IN CIRCUIT AHEAD OF EQUIPMENT, CONDUIT, ETC., NOT EXCEEDING THE FOLLOWING RATINGS (amperes) | MINIMUM SIZE |  | Formatted Table |
|--|---|--------------|--|-----------------|
|--|---|--------------|--|-----------------|

Copper wire No. (AWG)

Aluminum or copper clad aluminum wire No. (AWG) Minimum 1/0

E3908.16 Nonmetallic boxes. When allowed per 3905.3, one or more equipment grounding conductors brought into a nonmetallic outlet box shall be arranged to allow connection to fittings or devices installed in that box.

E3908.21 Underground/Under-slab/Concrete Encased Raceway: shall be added Equipment Grounding Conductor: A conductor to serve as a 100% redundant Equipment Grounding conductor shall be installed in all underground raceways and raceways in concrete.



## SECTION E4003 FIXTURES

E4003.12 Luminaires in clothes closets. The types of luminaires installed in clothes closets shall be limited to surface-mounted LED luminaires with completely enclosed light sources, surface-mounted or recessed fluorescent luminaires, and surface-mounted fluorescent or LED luminaires identified as suitable for installation within the closet storage area. The minimum clearance between luminaires installed in clothes closets and the nearest point of a closet storage area shall be as follows:

- 1. Surface mounted LED luminaires with a completely enclosed light source shall be installed on the wall above the door or on the ceiling, provided that there is a minimum clearance of 12 inches (305 mm) between the fixture and the nearest point of a storage space.
- 2. Surface-mounted fluorescent luminaires shall be installed on the wall above the door or on the ceiling, provided that there is a minimum clearance of 6 inches (152 mm).
- 3.—Recessed LED luminaires with a completely enclosed light source shall be installed in the wall or the ceiling provided that there is a minimum clearance of 6 inches (152 mm).

 ${\tt SECTION~E4202~WIRING~METHODS~FOR~POOLS, SPAS, HOT~TUBS~\&~HYDROMASSAGE~BATHTUBS}$ 

TABLE E4202.1 ALLOWABLE APPLICATIONS FOR WIRING METHODS a, b, c, d, e, f, g, h, i

Note that uses of wiring methods are further restricted by Table 3801.2

| WIRING LOCATION OR PURPOSE (Application allowed where marked with an "A")           | FMC, SMR                | EMT | ENT | IMC <sup>†</sup> , RMC <sup>†</sup> ,<br>RNC/PVC <sup>‡</sup> | LF<br>MC | LFN<br>MC | MC<br>* | FLEX<br>CORD |
|---|-------------------------|-----|-----|---|----------|-----------|---------|--------------|
| Panelboard(s) that supply pool equipment: from service equipment to panelboard      | A b, e SR not permitted | A-e | A-b | A   | _        | A         | A-e     |              |
| Wet niche and no niche luminaires: from branch circuit OCPD to deck or junction box | AC-b-only               | A_e | A-b | A   | _        | A         | A-b     | _            |
| Wet niche and no niche luminaires: from deck or junction box to forming shell       | _                       | _   | -   | A-d   | -        | A         | _       | A-h          |
| Dry niche: from branch circuit OCPD to luminaires                                   | AC b only               | A_e | A-b | A   | _        | A         | A-b     | _            |
| Pool-associated motors: from branch circuit OCPD to motor                           | A-b                     | A-e | A.b | A   | A-f      | A_f       | A-b     | A-h          |

| Packaged or self contained outdoor spas and hot tubs with underwater luminaire: from branch circuit OCPD to spa or hot tub                  | AC <sup>b</sup> -only | A-e | A-b         | A | A.g             | A- <sup>g</sup> | A-b | A-h            |
|---|-----------------------|-----|-------------|---|-----------------|-----------------|-----|----------------|
| Packaged or self-contained outdoor spas and hot tubs without underwater luminaire: from branch circuit OCPD to spa or hot tub               | A <sup>b</sup>        | A-e | A-b         | A | A.£             | A.s             | A   | A-h            |
| Indoor spas and hot tubs, hydromassage bathtubs, and other pool, spa or hot tub associated equipment: from branch circuit OCPD to equipment | A-b                   | A-e | <b>A</b> -b | A | A               | A               | A   | A <sup>h</sup> |
| Connection at pool lighting transformers or power supplies  | AC b only             | A-e | A-b         | A | A <sup>m,</sup> | A_ <sup>g</sup> | A-b | _              |

Repair or replacement of existing electrical wiring and equipment shall comply with the Aurora Electrical Code.a. For all wiring methods, see Section E4205 for equipment grounding conductor requirements.

# BO105.5.1 is amended to read:

Newly installed electrical equipment and wiring relating to work done in any work area, including in newly installed partitions and ceilings, shall comply with the materials and methods requirements of Aurora Electrical Code.

#### BO105 5 3 3

Ground-fault circuit interruption shall be provided on newly installed receptacle outlets if required by Aurora Electrical Code.

## BO105.5.3.5 is amended to read:

Clearance for electrical service equipment shall be provided in accordance with the Aurora Electrical Code.

- b. Limited to use within buildings.
- c. Limited to use on or within buildings.
- d. Metal conduit shall be constructed of brass or other approved corrosion-resistant metal.
- e. Permitted only for existing installations in accordance with the exception to Section E4205.6.
- f. Limited to where necessary to employ flexible connections at or adjacent to a pool motor.
- g.—Sections installed external to spa or hot tub enclosure limited to individual lengths not to exceed 6 feet. Length not limited inside spa or hot tub enclosure:
- h. Flexible cord shall be installed in accordance with Section E4202.2.
- i. Nonmetallic conduit shall be rigid polyvinyl chloride conduit Type PVC or reinforced.