

# FLAGSTAFF CITY CODE, TITLE 4, BUILDING REGULATIONS

## TITLE 4 BUILDING REGULATIONS

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NEW AMENDMENT

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EXISTING AMENDMENT - REVISED

# FLAGSTAFF CITY CODE, TITLE 4, BUILDING REGULATIONS

## CHAPTER 4-01 ADMINISTRATIVE ENACTMENTS

### SECTIONS:

- 4-01-001-0001 DEFINITIONS
- 4-01-001-0002 ADOPTION OF MODEL CODES
- 4-01-001-0003 SAVING CLAUSE
- 4-01-001-0004 VIOLATION AND PENALTIES

### 4-01-001-0001 DEFINITIONS

As used in this City of Flagstaff 2019 Building Code Amendments and all of the referenced herein the adopted model codes, the following terms shall have the meaning herein prescribed:

A. Wherever the word "Municipality" or "[Name of Jurisdiction]" is used, it shall mean the City of Flagstaff.

B. Wherever the term "Department of Building Safety" is used, it shall mean "Development Services Division."

C. Wherever the term "Corporation Counsel" is used in this Chapter, it shall mean the Attorney for the City of Flagstaff (Ordinance 587:8-14-62).

D. Wherever the term "Administrative Authority" is used in conjunction with publicly provided utilities (natural gas, electricity, internet and broadband service, telephone, and cable television), it shall mean the current contract company providing the respective service. Wherever the term "Administrative Authority" is used in conjunction with publicly provided utilities or permits (water, sewer, storm water management and/or building permits), it shall mean the City of Flagstaff.

### 4-01-001-0002 ADOPTION OF MODEL CODES

There are hereby adopted by the City Council of the City of Flagstaff for the purposes of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, alteration, removal, maintenance of buildings and structures, including permits and penalties, those certain model codes known and referred to with particularity as:

**2018 International Building Code (IBC)\***

**2018 International Residential Code (IRC)\***

**2018 International Existing Building Code (IEBC)\***

**2018 International Mechanical Code (IMC)\***

**2018 International Plumbing Code (IPC)\***

**2018 International Fuel Gas Code (IFGC)\***

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2018 International Energy Conservation Code (IECC)\*

2018 International Solar Energy Provisions (ISEP)\*

2018 International Swimming Pool and Spa Code (ISPSC)\*

National Electrical Code (NEC), 2017 Edition\*\*

ICC A117.1-2017, Standard for Accessible and Usable Buildings and Facilities\*

1997 Uniform Housing Code\*\*\*

1997 Uniform Administrative Code\*\*\*

1997 Uniform Code for the Abatement of Dangerous Buildings\*\*\*

\*Published by International Code Council (ICC)

\*\* Published by National Fire Protection Association (NFPA)

\*\*\* Published by International Conference of Building Officials (ICBO)

One (1) copy of which is on file in the office of the City Clerk of the City of Flagstaff, and the same made part hereof by this reference as if fully and completely herein set forth. The provisions of the aforesated Codes shall be controlling for construction within the corporate limits of the City of Flagstaff.

#### 4-01-001-0003 SAVING CLAUSE

Nothing in this Chapter or in the 2018 International Codes, National Electrical Code, ICC A117.1-2017, and Uniform Codes hereby adopted shall be construed to affect any suit or proceeding now pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinances replaced hereby. Nor shall any right or remedy of any character be lost, impaired, or affected by this Chapter.

#### 4-01-001-0004 VIOLATION AND PENALTIES

A. Violations. It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert, demolish, equip, use or maintain any building or permit the same to be done in violation of this Code.

B. Penalties. Any person, firm, or corporation violating any provision of this Code shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punishable by a fine and/or imprisonment set forth by Flagstaff City Code, Title I, Chapter 1-04 General Penalty. Each separate day or any portion thereof, during which any violation of this Code occurs or continues, shall be deemed to constitute a separate offense.

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## CHAPTER 4-02 2018 INTERNATIONAL BUILDING CODE

### 4-02-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Building Code adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section 101 General

##### Amend 2018 IBC 101.2.1, Appendices, by adding:

The following Appendices are hereby adopted as part of the IBC:

APPENDIX C - Group U - Agricultural Buildings

APPENDIX I - Patio Covers

APPENDIX J - Grading

APPENDIX N - Replicable Buildings

##### Section 103 Department of Building Safety

##### Amend 2018 IBC 103.1, Creation of enforcement agency, by deleting and replacing with:

The Building Safety Program of the Planning & Development Services Section, Community Development Division is appointed as the regulating office and the official in charge thereof shall be known as the Building Official.

##### Section 104 Duties and Powers of Building Official

##### Amend 2018 IBC 104.7, Department records, by deleting and replacing with:

The Building Official shall keep comprehensive records of applications, permits issued, certificates issued, inspections made, reports rendered, and of notices of orders issued. All such records shall be open to public inspection at the stated office hours but shall not be removed from the office of the Building Official. All records are kept in both hard copy and electronic format. The electronic format information may be requested on a "walk-in" basis and reviewed during normal working hours. Copies or inspection of original documentation requires written notice and reasonable amount of time for Staff to collect the required records from an off-site warehouse location. Written requests will go through the City Clerk's office for processing.

##### Section 105 Permits

##### Amend 2018 IBC 105.1, Required, by adding:

Approved portable equipment used in conjunction with special events in public locations (parks, parking lots, public owned land, et cetera) of 25 kW or greater shall have an Over-the-Counter Permit issued and a licensed electrical contractor for installation or set up. The building inspector must be given immediate notice when an installation is ready for either rough or final inspection.

##### Amend 2018 IBC 105.1.1 Annual permit, by deleting and replacing with:

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In lieu of an individual permit for minor work on an already approved electrical, gas, mechanical or plumbing installation, the building official may issue an annual permit upon application to any person, firm or corporation regularly employing one or more qualified tradespersons on the premises owned or operated by the permit applicant.

**Amend 2018 IBC 105.1.2, Annual permit records, by deleting in its entirety.**

**Amend 2018 IBC 105.1 Annual permit, by adding subsections 105.1.2 through 105.1.7:**

105.1.2 Application and fees. Application for an annual permit shall be filed with the building official, along with the application fee set forth in the city fee schedule.

105.1.3 Renewal application and fee. Annual permits expire on December 31. Application to renew an annual permit shall be filed by December 15, with the building official, along with the renewal application fee set forth in the city fee schedule.

105.1.4 Denial of application. If the application or renewal is denied, the fee shall be refunded. The applicant may appeal the denial to the Building and Fire Code Board of Appeals within 10 days after notice of the denial.

105.1.5 Suspension and revocation. The building official may suspend or revoke an annual permit upon violation of this code, including failure to apply for permits and inspections when required. Written notice of suspension or revocation shall be sent to the permit holder at least 10 days before suspension or revocation. Appeal may be made to the Building and Fire Code Board of Appeals within 10 days after notice of suspension or revocation. There is no fee refund if an annual permit is suspended or revoked.

105.1.6 Inspections. The building official may inspect all work and reject work or request corrections for any work in violation of this code.

105.1.7 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of work made under the annual permit. The building official shall have access to such records at all times.

105.1.7.1 Record exceptions. Work reports are not required for:

1. Installing machines, equipment, and processes related to production or testing;
2. Repairing electrical, plumbing, or mechanical systems;
3. Moving cases, counters, and partitions not over 5 feet 9 inches tall.

**Amend 2018 IBC 105.2, Work exempt from permit, as follows:**

Add the following to Building Item #1: Accessory structures with floor area less than 120 square feet require a Minor Improvement Permit per Flagstaff City Code, Title 10, Flagstaff Zoning Code.

Revise Building Item #2 as follows: Fences and walls not over six (6) feet high. Fences and walls six (6) feet and under require a Minor Improvement Permit per Flagstaff City Code, Title 10, Flagstaff Zoning Code.

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Revise Electrical Item #1 by deleting and replacing with: Minor repair work, including the replacement of lamps.

**Amend 2018 IBC 105.5, Expiration, by deleting and replacing with:**

All Commercial Building Permits for new construction, remodels, additions, and alterations shall be valid for a maximum period of 730 days. One extension shall be granted for an additional 365 days when requested in writing and justifiable cause is demonstrated. After the one-time extension has expired, the next additional extension will require the applicant to pay one-half the original building permit fee (not including the plan review fee) for an additional 365-day extension. Permits not passing final inspection over 1095 days will be expired and the applicant must submit for a new permit and pay all associated fees.

All commercial Over-the-Counter Permits for plumbing, mechanical, electrical, and re-roofing shall be valid for a maximum period of 180 days.

### **Section 107 Submittal Documents**

**Amend 2018 IBC 107.1, General, by adding:**

Pursuant to Arizona Revised Statutes governing the regulation of Registered Design Professionals (i.e. architects and engineers), all commercial occupancies for new construction, additions, alterations or repairs within the City of Flagstaff shall be prepared by an Arizona Registered Design Professional in good standing when:

1. The total square footage of any building exceeds 3,000 square feet, or
2. The total occupancy of the building exceeds twenty (20) persons, or
3. Any structural member required for the project exceeds twenty (20) feet in length.

The Arizona Registered Design Professional of Record must provide their seal upon all working drawings. Drawings not prepared by the Registered Design Professional of Record may be annotated as such, but the seal shall be affixed to all drawings in the construction working drawings set to indicate that coordination of the entire project has been done by the Registered Design Professional of Record.

An Arizona Registered Design Professional is required for any retaining walls having any imposed surcharges from adjacent structural elements or unbalanced loading that exceed four (4) feet.

An Arizona Registered Design Professional is required for electrical service entrance sections of 600 amperes and greater.

### **Section 109 Fees**

**Amend 2018 IBC 109.2, Schedule of permit fees, by adding:**

The fee schedule shall be based upon City of Flagstaff Resolution Number 2017-21 and shall be annually reviewed. The revised fees shall be published by the Building Safety Program, Planning & Development Services Section. Building permit fee valuation shall be subject to approval for increases by the City of Flagstaff Council based upon the recommendation of the Building Official and shall be published for public review.

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## **Amend 2018 IBC 109.4, Work commencing before permit issuance, by deleting and replacing with:**

Any person who commences any work on a building, structure, electrical, gas, mechanical, or plumbing system before obtaining the necessary permits shall be subject to an investigation fee of \$94.00 or twice the permit fee, whichever is greater.

## **Amend 2018 IBC 109.5, Related fees, by adding:**

Re-inspection fees may be assessed for each inspection or re-inspection when the portion of work for which the inspection was scheduled is not complete or when corrections from a previous inspection are not made. Other events which may require the imposition of a re-inspection fee are:

1. Failure to have the inspection record on the job site when the inspector arrives
2. The approved plans not on the job site for the inspector to review
3. Failure to provide access to the job site or area to be reviewed by the inspector.

Appeals for such fees are made to the Building Official. To obtain a re-inspection after the inspector has left notice that a fee shall be assessed, the applicant shall pay a \$94.00 fee to the Community Development counter.

## **Amend 2018 IBC 109.6, Refunds, by adding:**

The applicant may receive up to 80% refund for the building permit fee (not including plan review fee) if no work has begun and no inspections have been performed. No refund of the plan review fee is authorized.

The Building Official shall determine, based upon work completed, the portion of fees paid to be refunded. There shall be no refund of any required deposit once the administrative routing and plan review process has begun.

## **Section 111 Certificate of Occupancy**

### **Amend 2018 IBC 111.3, Temporary occupancy, by adding:**

Temporary Certificate of Occupancies for residential construction (detached single family dwellings and duplexes) is not authorized.

Exceptions:

1. When a driveway approach cannot be poured due to weather, the Building Official can approve a Temporary Certificate of Occupancy after the applicant has posted a bond with the City of Flagstaff.
2. If the structure meets all the requirements for habitable space and sanitation, then a Temporary Certificate of Occupancy will be granted. Any unfinished items (i.e. bonus rooms, basement finishing, etc.) will be annotated in the inspection record as "not inspected" at the time of Temporary Certificate of Occupancy issuance. Applicants moving into a dwelling prior to receiving a Certificate of Occupancy may be evicted as the property is posted "NO OCCUPANCY" by the building inspector or Building Official.

## **Section 113 Board of Appeals**

### **Amend 2018 IBC 113.1, General, by deleting and replacing with:**

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In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

## CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

### **Amend 2018 IBC by adding Section 429, Electric vehicle (EV) charging.**

#### **Amend 2018 IBC by adding 429.1, General:**

429.1 General. Every newly permitted multi-family dwelling, commercial, and industrial structure shall provide parking space with "EV-ready outlets" per Table 429.1 and shall be identified on the construction documents. Construction documents shall indicate the location of the proposed EV-ready outlet(s). At least one EV-ready outlet shall be located in common use areas and available for use by all occupants.

An EV-ready outlet is "ready-to-go" with the addition of a plug-in electric vehicle (PEV) charging station. An EV-ready outlet consists of 208/240V, 50 ampere panel capacity, conduit, wiring, receptacle, and overcurrent protection device. The end point of the system must be near the planned location of the future EV charging station. Electric vehicle supply equipment shall be installed in accordance with 2017 NFPA 70/NEC.

#### **Table 429.1**

Parking Spaces Provided	EV-ready Parking Spaces Required
1-19	None
20-50	One (1)
51-100	Two (2)
100+	Three (3)

## CHAPTER 11 ACCESSIBILITY

### Section 1102 Compliance

#### **Amend 2018 IBC 1102.1, Design, by deleting and replacing with:**

Buildings and facilities shall be designed and constructed to be accessible in accordance with this code, ICC A117.1-2017.

## CHAPTER 14 EXTERIOR WALLS

### Section 1404 Installation of Wall Coverings

#### **Amend 2018 IBC 1404.3.1, Vapor retarders, by deleting the following:**

Class I or II vapor retarders are required on the interior side of frame walls in Climate Zones 5, 6, 7, 8, and Marine 4.

## CHAPTER 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

### Section 1505 Fire Classification

#### **Amend 2018 IBC 1505.4, Class C roof assemblies, by deleting in its entirety.**

#### **Amend 2018 IBC 1505.5, Nonclassified roofing, by deleting in its entirety.**

### Section 1506 Materials

#### **Amend 2018 IBC 1506.3, Product identification, by adding:**

All roofing materials used must be a class "A" or "B" material and rolled roofing is to be of a self-adhering polymer bitumen type material.

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## Section 1507 Requirements for Roof Coverings

Amend 2018 IBC 1507.8, Wood shingles, by deleting in its entirety.

Amend 2018 IBC 1507.9, Wood shakes, by deleting in its entirety.

## CHAPTER 16 STRUCTURAL DESIGN

### Section 1607 Live Loads

Amend 2018 IBC Table 1607.1, Minimum Uniformly Distributed Live Loads and Minimum Concentrated Live Loads, by revising the following values:

#25 Residential

Habitable attics and attics served with fixed stairs: 40 psf

Sleeping rooms: 40 psf

### Section 1608 Snow Loads

Amend 2018 IBC 1608.2, Ground snow loads, by deleting and replacing with:

The ground snow load shall be 60 psf.

### Section 1612 Flood Loads

Amend 2018 IBC 1612.3, Establishment of flood hazard areas, as follows:

Replace "[INSERT DATE OF ISSUANCE]" with "09-03-2010".

## CHAPTER 23 WOOD

### Section 2308 Conventional Light-Frame Construction

Amend 2018 IBC 2308.4.1.1, Allowable girder spans, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables 2308.4.1.1(1) and 2308.4.1.1(2).

Amend 2018 IBC 2308.4.2.1, Span, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables 2308.4.2.1(1) and 2308.4.2.1(2) and AWR STJR.

Amend 2018 IBC 2308.7.1, Ceiling joist spans, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables 2308.7.1(1) and 2308.7.1(2) and AWR STJR.

Amend 2018 IBC 2308.7.2, Rafter spans, by adding:

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables 2308.7.2(1) through 2308.7.2(6) and AWR STJR.

## APPENDIX J GRADING

### Section J104 Permit Application and Submittals

Amend Appendix J by adding Section J104.5, Stormwater requirements, as follows:

1. Contractor shall submit to the Arizona Department of Environmental Quality a Notice of Intent (NOI) and a Notice of Termination (NOT) pursuant to the requirements of ARS Title 49, Chapter 2, Article 3.1. A copy of the submitted NOI and the NOT shall be provided to the City of Flagstaff Stormwater Section. The NOI shall be submitted prior to issuance of any City of

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Flagstaff grading, building, or offsite permits. The NOT shall be submitted prior to final acceptance of off-site improvements and the Certificate of Occupancy.

2. An Erosion Control Plan (ECP) shall be submitted to the City of Flagstaff Stormwater Section for review and approval as required by the City of Flagstaff Stormwater Manager. The ECP shall be prepared in accordance with the Arizona Department of Transportation (ADOT) Best Management Practices (BMP) Manual (or other BMPs as may be approved by the City of Flagstaff Stormwater Manager). Submittal shall be made concurrent with its respective permit application(s) and/or attached to the Civil Construction Document Plan Set submittal. Review timeframes shall be the same as the permit or civil reviews. City of Flagstaff permits that require an ECP will not be issued without review and approval by the City of Flagstaff Stormwater Section.

3. The ECP BMPs shall be set in place by the contractor, and the work inspected and approved the City of Flagstaff Stormwater Section prior to commencement of grading activities. The contractor shall contact the City of Flagstaff Stormwater Section for this pre-grading inspection.

4. During construction, the ECP BMPs shall remain in place, and shall be maintained until project completion as witnessed by a Final Grading Certification and the filing of a NOT. Failure to maintain ECP BMPs may result in a Stop Work Order. Permits will not be closed or finalized unless the site has been inspected and approved for final stabilization by the City of Flagstaff Stormwater Section. The contractor shall contact the City of Flagstaff Stormwater Section for this closure inspection.

5. In accordance with the provisions of this section, the City of Flagstaff may withhold permits, occupancy or enforce by other remedy in order to ensure compliance.

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## CHAPTER 4-03 2018 INTERNATIONAL RESIDENTIAL CODE

### 4-03-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Residential Code adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section R102 Applicability

##### Amend 2018 IRC R102.5, Appendices, by adding:

The following Appendices are hereby adopted as part of the IRC:

APPENDIX F - Radon Control Methods

APPENDIX H - Patio Covers

APPENDIX J - Existing Buildings and Structures.

APPENDIX M - Home Day Care, R-3 Occupancy

APPENDIX Q - Tiny houses

APPENDIX R - Light straw clay construction

APPENDIX S - Strawbale construction

APPENDIX T - Solar-ready provisions - detached one- and two-family dwellings and townhouses

##### Section R103 Department of Building Safety

##### Amend 2018 IRC R103.1, Creation of enforcement agency, by deleting and replacing with:

The Building Safety Program of the Planning & Development Services Section, Community Development Division is appointed as the regulating office and the official in charge thereof shall be known as the Building Official.

##### Section R104 Duties and Powers of the Building Official

##### Amend 2018 IRC R104.7, Department records, by deleting and replacing with:

The Building Official shall keep comprehensive records of applications, permits issued, certificates issued, inspections made, reports rendered, and of notices of orders issued. All such records shall be open to public inspection at the stated office hours but shall not be removed from the office of the Building Official. All records are kept in both hard copy and electronic format. The electronic format information may be requested on a "walk-in" basis and reviewed during normal working hours. Copies or inspection of original documentation requires written notice and reasonable amount of time for Staff to collect the required records from an off-site warehouse location. Written requests will go through the City Clerk's office for processing.

##### Section R105 Permits

##### Amend 2018 IRC R105.1, Required, by adding:

All manufactured housing (housing classified as modular, factory built or manufactured house) installed within the City of Flagstaff will be designed to meet Arizona Department of Housing, Office of Manufactured Housing standards. The City of Flagstaff enforces a 60 pound per square foot ground snow load for site-built construction. Arizona Department of Housing

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standards for snow winter areas in Arizona is not consistent with local conditions and owners should be aware of the differences.

For "used" manufactured housing or "resale"/relocated manufactured housing being brought into the City of Flagstaff, the following applies: As per direction from the Arizona Department of Housing, Office of Manufactured Housing, Arizona Revised Statutes Title 41, requires that all manufactured housing units be certified to meet the minimum standards of the United States Department of Housing and Urban Development and are to be designed in accordance with consistent Arizona Department of Housing standards for manufactured homes and related industries. An applicant requesting an installation permit and inspection will be required to provide proof to the Building Official of the current State certification or re-certification of the unit.

**Amend 2018 IRC R105.2, Work exempt from permit, as follows:**

Add the following to Building Item #1: Accessory structures with floor area less than 200 square feet require a Minor Improvement Permit per Flagstaff City Code, Title 10, Flagstaff Zoning Code.

Revise Building Item #2 as follows: Fences and walls not over six (6) feet high. Fences and walls 6 feet and under a Minor Improvement Permit per Flagstaff City Code, Title 10, Flagstaff Zoning Code.

Add the following to Building Item #10: These decks require a Minor Improvement Permit per Flagstaff City Code, Title 10, Flagstaff Zoning Code.

**Amend 2018 IRC R105.5, Expiration, by deleting and replacing with:**

Every Residential Building Permit issued shall become invalid unless the work authorized by such permit is completed within 365 days from the issuance date of the building permit for dwellings 4000 square feet or less in area (conditioned area/within building thermal envelope and attached garage area) or 18 months from the issuance date of the building permit for dwellings exceeding 4000 square feet in area (conditioned area/within building thermal envelope and attached garage area). The Building Official is authorized to grant, when request for extension is received in writing, one extension not to exceed 180 days. The extension shall demonstrate cause such as financial, weather delays, material delivery, etc. The permit may be extended for an additional 365 days by paying one half the original permit fee (not including the plan review fee), thereby allowing a maximum time of completing the project to 30 months for dwellings 4000 square feet or less in area or 36 months for dwellings exceeding 4000 square feet in area. Failure to obtain a Certificate of Occupancy within the maximum time frames prescribed shall result in a report being recorded with the Coconino County Recorder's Office for incomplete work or no final inspection report of the project.

All residential Over-the-Counter Permits for plumbing, mechanical, electrical, and re-roofing shall be valid for a maximum period of 180 days.

**Section R106 Construction Documents**

**Amend 2018 IRC R106.1, Submittal documents, by adding:**

Residential, single family detached, structures are exempt from the requirements for a Registered Design Professional under Arizona Revised

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Statutes unless circumstances dictate the necessity for professional design submittal. Duplexes and triplex units which do not exceed 3,000 square feet, two stories or a total occupant load of twenty (20), may also be designed by a non-registrant as long as the units have only one owner.

Sub-assemblies, such as commercially manufactured roof trusses or floor beams that indicate all imposed loading may be submitted without the seal of an Arizona Registered Design Professional. If a Registered Design Professional has sealed the construction documents, the Registered Design Professional shall state they have reviewed and approved of the design either on the construction documents or by providing a written letter stating as such, signed, sealed, and dated.

Any retaining walls having any imposed surcharges from adjacent structural elements or unbalanced loading that exceed four (4) feet, shall be designed by an Arizona Registered Design Professional and shall be submitted at the time of permit application.

**Amend 2018 IRC R106.1 Submittal documents, by adding subsection R106.1.5, Model plans:**

R106.1.5 Model plans. An applicant may submit a model plan, which is a residential construction plan used two or more times. If approved, only modifications not shown on the model plan must be submitted for review. All modifications shall be clearly identified by clouded symbols, deltas, or other appropriate means. The review fee for modifications only, will be hourly in accordance with city fee schedule. If, in building official's judgement, the modifications are excessive or inadequately defined, the full plan review fee will be charged.

**Section R108 Fees**

**Amend 2018 IRC R108.2, Schedule of permit fees, by adding:**

The fee schedule shall be based upon City of Flagstaff Resolution Number 2017-21 and shall be annually reviewed. The revised fees shall be published by the Building Safety Program, Planning & Development Services Section. Building permit fee valuation shall be subject to approval for increases by the City of Flagstaff Council based upon the recommendation of the Building Official and shall be published for public review.

**Amend 2018 IRC 108.4, Related fees, by adding:**

Re-inspection fees may be assessed for each inspection or re-inspection when the portion of work for which the inspection was scheduled is not complete or when corrections from a previous inspection are not made. Other events which may require the imposition of a re-inspection fee are:

1. Failure to have the inspection record on the job site when the inspector arrives
2. The approved plans not on the job site for the inspector to review
3. Failure to provide access to the job site or area to be reviewed by the inspector.

Appeals for such fees are made to the Building Official. To obtain a re-inspection after the inspector has left notice that a fee shall be assessed, the applicant shall pay a \$94.00 fee to the Community Development counter.

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## **Amend 2018 IRC R108.5, Refunds, by adding:**

The applicant may receive up to 80% refund for the building permit fee (not including plan review fee) if no work has begun and no inspections have been performed. No refund of the plan review fee is authorized.

The Building Official shall determine, based upon work completed, the portion of fees paid to be refunded. There shall be no refund of any required deposit once the administrative routing and plan review process has begun.

## **Amend 2018 IRC R108.6, Work commencing before permit issuance, by adding:**

Any person who commences any work on a building, structure, electrical, gas, mechanical, or plumbing system before obtaining the necessary permits shall be subject to an investigation fee of \$94.00 or twice the permit fee, whichever is greater.

## **Section R110 Certificate of Occupancy**

### **Amend 2018 IRC R110.4, Temporary occupancy, by adding:**

Temporary Certificate of Occupancies for residential construction (detached single family dwellings and duplexes) is not authorized.

Exceptions:

1. When a driveway approach cannot be poured due to weather, the Building Official can approve a Temporary Certificate of Occupancy after the applicant has posted a bond with the City of Flagstaff.
2. If the structure meets all the requirements for habitable space and sanitation, then a Temporary Certificate of Occupancy will be granted. Any unfinished items (i.e. bonus rooms, basement finishing, etc.) will be annotated in the inspection record as "not inspected" at the time of Temporary Certificate of Occupancy issuance. Applicants moving into a dwelling prior to receiving a Certificate of Occupancy may be evicted as the property is posted "NO OCCUPANCY" by the building inspector or Building Official.

## **Section R112 Board of Appeals**

### **Amend 2018 IRC 112.1, General, by deleting and replacing with:**

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

## **CHAPTER 2 DEFINITIONS**

### **Section R202 Definitions**

#### **Amend 2018 IRC Section R202 by adding:**

ACCESSORY DWELLING UNIT. Accessory dwelling units (ADU) are defined by the Flagstaff City Code, Title 10 - Flagstaff Zoning Code.

ACCESSORY ENERGY SYSTEM. An accessory energy system will include wind turbines, PV solar, thermal solar, geo-thermal, bio-mass and other technologies that provide heating, cooling or electrical energy. The systems will be subject to a building permit and limited by zoning ordinances for visual, design, height and setback requirements.

# FLAGSTAFF CITY CODE, TITLE 4, BUILDING REGULATIONS

## CHAPTER 3 BUILDING PLANNING

### Section R301 Design Criteria

**Amend 2018 IRC Table R301.2(1), Climatic and Geographic Design Criteria, as follows:**

Ground snow load: 60 psf  
Wind design - Speed (mph): 115  
Wind design - Topographic Effects: NO  
Wind design - Special wind region: NO  
Wind design - Windborne debris zone: NO  
Seismic design category: C  
Subject to damage from - Weathering: Moderate  
Subject to damage from - Frost line depth: 30 inches  
Subject to damage from - Termite: Moderate to heavy  
Winter design temperature: 4 degrees F  
Ice barrier underlayment required: YES  
Flood hazards: a)12-16-1975, b)01-19-1983, c)09-03-2010\*  
Air freezing index: 1013  
Mean annual temperature: 45.4 degrees F

Residential heating and cooling equipment sizing using Manual J is optional per 2018 IRC M1401.3. When opting to use ACCA Manual J for HVAC system design, the criteria shall be from ACCA Manual J, Table 1A for Arizona, Flagstaff AP.

\*The flood hazard dates reflect the current National Flood Insurance Program and the date of the currently effective "FIRM" Map (used by the City of Flagstaff). These maps are updated by the issuing agency and adopted by Storm Water Management without notice.

**Amend 2018 IRC Table R301.5, Minimum Uniformly Distributed Live Loads, by revising the following values:**

Habitable attics and attics served with fixed stairs: 40 psf  
Sleeping rooms: 40 psf

### Section R302 Fire-Resistant Construction

**Amend 2018 IRC R302.13, Fire protection of floors, by adding the following to Exceptions:**

5. Floor assemblies located directly over crawl spaces with fuel-fired or electric-powered heating appliances where the maximum distance from crawl space floor to finish floor above does not exceed four (4) feet at any point.

### Section R303 Light, Ventilation and Heating

**Amend 2018 IRC R303.4, Mechanical ventilation, by deleting and replacing with:**

Where the air infiltration rate of a *dwelling unit* is 5 air changes per hour or less where tested with a blower door at a pressure of 0.2 inch wg (50 Pa) in accordance with Section N1102.4.1.2, the *dwelling unit* may be provided with whole-house mechanical ventilation in accordance with Section M1505.4.

### Section R309 Garages and Carports

**Amend 2018 IRC R309.5, Fire sprinklers, by deleting in its entirety.**

# FLAGSTAFF CITY CODE, TITLE 4, BUILDING REGULATIONS

## **Section R313 Automatic Fire Sprinkler Systems**

### **Amend 2018 IRC R313.2, One- and two-family dwellings automatic fire sprinkler systems, by deleting and replacing with:**

An automatic residential fire sprinkler system may be installed in one- and two-family dwellings. Arizona Revised Statutes prohibits jurisdictions from adopting any ordinance that mandates fire sprinklers in newly constructed one- and two-family dwellings.

## **CHAPTER 4 FOUNDATIONS**

### **Section R410 General**

#### **Amend 2018 IRC R401.4.1, Geotechnical evaluation, by deleting and replacing with:**

Construction in all new residential subdivisions require a geotechnical evaluation with foundation recommendations. In established areas of the City of Flagstaff, "in-fill" lots or vacant lots in subdivisions established prior to 1996, the designer may use a load-bearing pressure of 1500 pounds per square foot in lieu of a geotechnical evaluation. Upon site excavation of foundation, where the Building Official determines that in-place soils with an allowable bearing capacity of less than 1500 pounds per square foot (psf) are likely to be present at the site, then allowable bearing capacity shall be determined by a geotechnical evaluation at the expense of the permit applicant.

### **Section R403 Footings**

#### **Amend 2018 IRC R403.1, General, by adding:**

All footings located less than eighteen (18) inches below existing grade to be air entrained, 3,500 psi concrete (severe weather), and pinned to rock at intervals specified for foundation wall vertical reinforcements or as specified by the Arizona Registered Design Professional of Record.

## **CHAPTER 5 FLOORS**

### **Section R502 Wood Floor Framing**

#### **Amend 2018 IRC R502.3, Allowable joist spans, by adding:**

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables R502.3.1(1) and R502.3.1(2)

#### **Amend 2018 IRC R502.3.1, Sleeping areas and attic joists, by deleting and replacing with:**

Table R502.3.1(1) shall be used to determine the maximum allowable span of floor joists that support sleeping areas and *attics* that are accessed by means of a fixed stairway in accordance with Section R311.7 provided that the design live load does not exceed 40 pounds per square foot (1.44 kPa) and the design dead load does not exceed 20 pounds per square foot (0.96 kPa). The allowable span of ceiling joists that support attics used for limited storage or no storage shall be determined in accordance with Section R802.5.

### **Section R507 Exterior Decks**

#### **Amend 2018 IRC R507.5, Deck beams, by adding:**

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables R507.5.

#### **Amend 2018 IRC R507.6, Deck joists, by adding:**

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The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables R507.6.

**Amend 2018 IRC R507.9.2, Lateral connection, by adding:**

Exception: Attached first floor decks that do not exceed 30 inches above grade at any point.

## CHAPTER 7 WALL COVERING

### Section R702 Interior Covering

**Amend 2018 IRC R702.7, Vapor retarders, by deleting the following:**

Class I or II vapor retarders are required on the interior side of frame walls in Climate Zones 5, 6, 7, 8, and Marine 4.

## CHAPTER 8 ROOF-CEILING CONSTRUCTION

### Section R802 Wood Roof Framing

**Amend 2018 IRC R802.4.1, Rafter size, by adding:**

The Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters is adopted as a secondary reference to Tables R802.4.1(1) through R802.4.1(8).

## CHAPTER 9 ROOF ASSEMBLIES

### Section R904 Materials

**Amend 2018 IRC R904.3, Material specifications and physical characteristics, by adding:**

All roofing materials used shall be Class "A" or "B" and rolled roofing shall be a Class A or B material and shall be a self-adhering, polymer modified bitumen material.

### Section R905 Requirements for Roof Coverings

**Amend 2018 IRC R905.7, Wood shingles, by deleting in its entirety.**

**Amend 2018 IRC R905.8, Wood shakes, by deleting in its entirety.**

## CHAPTER 11 ENERGY EFFICIENCY

### Section N1102 Building Thermal Envelope

**Amend 2018 IRC N1102.1.2, Insulation and fenestration criteria, by revising/adding the following to Table N1102.1.2 as follows:**

Climate Zone 5, Wood frame wall R-value, shall be 15 high density in existing 2x4 framed walls in remodel work only.

Footnote b, add Exception: Windows used for the installation of glazing for an approved passive solar design.

**Amend 2018 IRC N1103.7, Equipment sizing and efficiency rating (Mandatory), by adding:**

Furnaces installed in new construction shall be 90% condensing type furnaces. Exception: Replacement furnaces are to be voluntary 90% condensing type furnaces.

## CHAPTER 20 BOILERS AND WATER HEATERS

### Section M2005 Water Heaters

**Amend 2018 IRC M2005.1, General, by adding:**

Water heaters shall be capable of being removed without first removing a permanent portion of the building structure or any other appliance.

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## CHAPTER 24 FUEL GAS

### Section G2406 Appliance Location

Amend 2018 IRC G2406.2, Prohibited locations, by deleting numbers 3 and 4.

### Section G2445 Unvented Room Heaters

Amend 2018 IRC Section G2445, Unvented Room Heaters, by deleting in its entirety.

## CHAPTER 26 GENERAL PLUMBING REQUIREMENTS

### Section P2602 Individual Water Supply and Sewage Disposal

Amend 2018 IRC P2602.1, General, by adding:

Building sanitary drainage piping and systems that connect to private sewage disposal systems shall be approved by Coconino County Environmental Quality prior to installation.

### SECTION P2603 STRUCTURAL AND PIPING PROTECTION

Amend 2018 IRC P2603.5.1, Sewer depth, by deleting and replacing with:

*Building sewers* that connect to private sewage disposal systems shall be approved by Coconino County Environmental Quality. *Building sewers* that connect to the City of Flagstaff's sewage disposal system shall be not less than twelve (12) inches below grade.

## CHAPTER 29 WATER SUPPLY AND DISTRIBUTION

### Section P2903 Water Supply System

Amend 2018 IRC Table P2903.2, Maximum Flow Rates and Consumption for Plumbing Fixtures and Fixture Fittings, by revising and adding as follows:

Maximum Flow Rate or Quantity for a Water Closet to 1.3 gallon

Dual-flush water closets: The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume of two reduced flushes and one full flush. Flush volumes shall be tested in accordance with ASME A112.19.2/CSA B45.1 and ASME A112.19.14.

## CHAPTER 31 VENTS

### Section P3103 Vent Terminals

Amend 2018 IRC P3103.1.1, Roof termination, as follows:

Replace "6" with "twelve (12)" and delete "or 6 inches (mm) above the anticipated snow accumulation, whichever is greater".

## CHAPTER 39 POWER AND LIGHTING DISTRIBUTION

### Section E3901 Receptacle Outlets

Amend 2018 IRC E3901.9, Basements, garages and accessory buildings, by adding:

At least one required garage receptacle shall be a 208/240-volt individual branch circuit for purposes of electric vehicle (EV) charging. The service panel or subpanel circuit directory shall provide a 50-ampere minimum dedicated branch circuit and a branch circuit overcurrent device. Electric vehicle supply equipment shall be installed in accordance with 2017 NFPA 70/NEC.

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Exception: Additions and alterations to existing one- or two-family dwellings and townhouses constructed per the IRC are exempt from the EV charging requirement.

## APPENDIX M HOME DAY CARE - R-3 OCCUPANCY

### Section A101 General

Amend 2018 IRC Appendix M, AM101.1, General, by adding:

AM101.1.1 A Home Occupation Permit issued by the City of Flagstaff is required prior to receiving any building permits for conversions or improvements.

## APPENDIX T SOLAR-READY PROVISIONS - DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

### Section T101 Scope

Amend 2018 IRC Appendix T, T101.1, General, by deleting and replacing with:

These provisions shall be applicable for new construction.

### Section T103 Solar-Ready Zone

Amend 2018 IRC Appendix T, T103.6, Capped roof penetration sleeve, by deleting in its entirety.

Amend 2018 IRC Appendix T, T103.8, Interconnection pathway, by deleting in its entirety.

Amend 2018 IRC Appendix T, T103.9, Electrical service reserved space, by deleting and replacing with:

When feasible, the main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

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## CHAPTER 4-04

### 2018 INTERNATIONAL EXISTING BUILDING CODE

#### 4-04-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Existing Building Code adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section 105 Permits

##### Amend 2018 IEBC 105.1, Required, by adding:

Refer to the 2018 Amendments to Flagstaff City Code, Title 4, Building Code to the 2018 International Building Code (IBC) and 2018 and International Residential Code (IRC) for building permit requirements.

##### Amend 2018 IEBC 105.5, Expiration, by deleting and replacing with:

Refer to the 2018 Amendments to Flagstaff City Code, Title 4, Building Code to the 2018 International Building Code (IBC) and 2018 and International Residential Code (IRC) for the duration of building permits.

##### Section 112 Board of Appeals

##### Amend 2018 IEBC 112.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

#### CHAPTER 3 PROVISIONS FOR ALL COMPLIANCE METHODS

##### Section 301 Administration

##### Amend 2018 IEBC 301.5, Compliance with accessibility, by deleting and replacing with:

Accessibility requirements for existing buildings shall comply with the 2017 edition of ICC A117.1.

#### CHAPTER 4 REPAIRS

##### Section 408 Plumbing

##### Amend 2018 IEBC 408.2, Water closet replacement, by deleting and replacing with:

The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.3 gallons per flushing cycle.

Dual-flush water closets: The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume of two reduced flushes and one full flush. Flush volumes shall be tested in accordance with ASME A112.19.2/CSA B45.1 and ASME A112.19.14.

#### CHAPTER 12 HISTORIC BUILDINGS

##### Section 1201 General

##### Amend 2018 IEBC 1201.2, Report, by adding subsection 1201.2.1, Heritage Preservation Commission:

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1201.2.1, Heritage Preservation Commission. Any changes to a structure in a historic district or to buildings listed on the City of Flagstaff Historic Registry shall be reviewed by the Community Investment Division, Heritage Preservation Officer, and Current Planning Program, Planning & Development Services Section, prior to issuing a building permit. The project may be referred to the Development Review Board and/or the Heritage Preservation Commission for complete staff review by the board members.

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## CHAPTER 4-05 2018 INTERNATIONAL MECHANICAL CODE

### 4-05-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Mechanical Code (IMC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section 106 Permits

**Amend 2018 IMC 106.5.2, Fee schedule, by deleting and replacing with:**

The fees for all plumbing work shall be in accordance with 2018 IBC 109.2, as adopted and amended by the City of Flagstaff.

**Amend 2018 IMC 106.5.3, Fee refunds, by deleting and replacing with:**

Refunds shall be in accordance with 2018 IBC 109.6, as adopted and amended by the City of Flagstaff.

##### Section 108 Violations

**Amend 2018 IMC 108.4, Violation penalties, by deleting and replacing with:**

Violation penalties shall be in accordance with 2018 IBC 114.4 as adopted and amended by the City of Flagstaff.

**Amend 2018 IMC 108.5, Stop work orders, by deleting and replacing with:**

Stop work orders shall be in accordance with 2018 IBC Section 115, as adopted and amended by the City of Flagstaff.

##### Section 109 Means of Appeal

**Amend 2018 IMC 109.1, Application for appeal, by deleting and replacing with:**

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

#### CHAPTER 3 GENERAL REGULATIONS

##### Section 304 Installation

**Amend 2018 IMC 304.2, Conflicts, by deleting and replacing with:**

Where conflicts between this code and the conditions of the listing or the manufacturer's installation instructions occur, the listing and manufacturer's installation requirements shall apply.

#### CHAPTER 9 SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT

##### Section 903 Factory-Built Fireplaces

**Amend 2018 IMC 903.3, Unvented gas log heaters, by deleting and replacing with:**

An unvented gas log heater shall not be installed at any time unless first approved by the local gas utility company. A signed and dated letter of such approval shall be submitted to the Building Official before a permit can be issued.

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**CHAPTER 10 BOILERS, WATER HEATERS AND PRESSURE VESSELS**

**Section 1002 Water Heaters**

**Amend 2018 IMC 1002.1, General, by revising the second sentence to read:**

Water heaters shall be capable of being removed without first removing a permanent portion of the building structure or any other appliance.

DRAFT

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## CHAPTER 4-06 2018 INTERNATIONAL PLUMBING CODE

### 4-06-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Plumbing Code (IPC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section 106 Fees

**Amend 2018 IPC 106.6.2, Fee schedule, by deleting and replacing with:**

The fees for all plumbing work shall be in accordance with 2018 IBC 109.2, as adopted and amended by the City of Flagstaff.

**Amend 2018 IPC 106.6.3, Fee refunds, by deleting and replacing with:**

Refunds shall be in accordance with 2018 IBC 109.6, as adopted and amended by the City of Flagstaff.

##### Section 109 Means of Appeal

**Amend 2018 IPC 109.1, Application for appeal, by deleting and replacing with:**

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

**Amend 2018 IPC Sections 109.2 through 109.7, by deleting in their entirety.**

#### CHAPTER 3 GENERAL REGULATIONS

##### Section 301 General

**Amend 2018 IPC 301.7, Conflicts, by deleting and replacing with:**

Where conflicts between this Code and the conditions of the listing or the manufacturer's installation instructions occur, the listing or manufacturer's installation requirements shall apply.

##### Section 305 Protection of Pipes and Plumbing System Components

**Amend 2018 IPC 305.4, Freezing, by revising the last sentence to read:**

Exterior water supply piping shall be installed not less than thirty (30) inches below grade.

**Amend 2018 IPC 305.4.1, Sewer depth, by deleting and replacing with:**

Building sewers that connect to private sewage disposal systems shall be approved by Coconino County Environmental Quality prior to installation. Building sewers that connect to City-provided sewer shall be a minimum of twelve (12) inches below grade.

##### Section 312 Tests and Inspections

**Amend 2018 IPC 312.1, Required tests, by replacing the fourth sentence with:**

All plumbing system piping shall be tested with either water or air.

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Amend 2018 IPC 312.3, Drainage and vent air test, by deleting the first sentence.

Amend 2018 IPC 312.6, Gravity sewer test, by deleting in its entirety.

Amend 2018 IPC 312.7, Forced sewer test, by deleting in its entirety.

**CHAPTER 6 WATER SUPPLY AND DISTRIBUTION**

**Section 604 Design of Building Water Distribution System**

Amend 2018 IPC Table 604.4, Maximum flow rates and consumption for plumbing fixtures and fixture fittings, by revising the following values:

Maximum Flow Rate or Quantity for a Urinal to 1 pint

Maximum Flow Rate or Quantity for a Water Closet to 1.3 gallon

Dual-flush toilets: The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume of two reduced flushes and one full flush. Flush volumes shall be tested in accordance with ASME A112.19.2/CSA B45.1 and ASME A112.19.14.

**CHAPTER 7 SANITARY DRAINAGE**

**Section 703 Building Sewer**

Amend 2018 IPC 703, Building sewer, by adding section 703.7, Building sewer locating means:

703.7 Building Sewer Locating Means. All non-metallic building sewer piping shall be installed with a plastic covered No. 12 AWG Type UF 600V tracer wire taped to the top of the piping with a minimum 10 mil tape. The building sewer tracer wire shall be green in color.

**CHAPTER 9 VENTS**

**Section 903 Vent Terminals**

Amend 2018 IPC 903.1, Roof termination, as follows:

Replace "[NUMBER OF INCHES]" with "twelve (12)".

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## CHAPTER 4-07 2018 INTERNATIONAL FUEL GAS CODE

### 4-07-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Fuel Gas Code (IFGC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section 106 Fees

Amend 2018 IFGC 106.6.2, Fee schedule, by deleting and replacing with:

The fees for work shall be in accordance with 2018 IBC 109.2, as adopted and amended by the City of Flagstaff.

Amend 2018 IFGC 106.6.3, Fee refunds, by deleting and replacing with:

Refunds shall be in accordance with 2018 IBC 109.6, as adopted and amended by the City of Flagstaff.

##### Section 109 Means of Appeal

Amend 2018 IFGC 109.1, Application for appeal, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

Amend 2018 IFGC Sections 109.2 through 109.7, by deleting in their entirety.

#### CHAPTER 3 GENERAL REGULATIONS

##### Section 303 Appliance Location

Amend 2018 IFGC 303.3, Prohibited locations, by deleting numbers 3 and 4.

#### CHAPTER 4 GAS PIPING INSTALLATIONS

##### Section 403 Piping Materials

Amend 2018 IFGC 403.4.3, Copper and copper alloy, by deleting and replacing with:

Copper and brass, threaded copper, brass, and aluminum piping shall not be used for gas piping installations within the City of Flagstaff.

#### CHAPTER 6 SPECIFIC APPLIANCES

##### Section 621 Unvented Room Heaters

Amend 2018 IFGC Section 621, Unvented Room Heaters, by deleting in its entirety.

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## CHAPTER 4-08

### 2018 INTERNATIONAL ENERGY CONSERVATION CODE

#### 4-08-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Energy Conservation Code (IECC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### COMMERCIAL PROVISIONS

##### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section C101 Scope and General Requirements

##### Amend 2018 IECC, by adding Section C101.2.1, Appendices:

Provisions in the appendices shall not apply unless specifically adopted. The following Appendices are hereby adopted as part of the IECC:

##### APPENDIX CA - SOLAR-READY ZONE - COMMERCIAL

##### Section C109 Board of Appeals

##### Amend 2018 IECC C109.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

##### Amend 2018 IECC C109.3, Qualifications, by deleting in its entirety.

#### CHAPTER 2 DEFINITIONS

##### Section C202 General Definitions

##### Amend 2018 IECC C202, General definitions, by replacing the following definition with:

RESIDENTIAL BUILDING. For this code, includes detached one- and two-family dwellings and townhouses as well as Group R-2, R-3, and R-4 buildings three stories or less in height above grade plane or concrete podium, and without interior conditioned common entry/exit corridors. Where the building includes accessory common uses and/or commercial spaces, those portions of the building shall comply with the applicable commercial provisions of the IECC.

##### APPENDIX CA - SOLAR-READY ZONE - COMMERCIAL

##### Section CA101 Scope

##### Amend 2018 IECC Appendix CA, CA101.1, General, by deleting and replacing with:

These provisions shall be applicable for new construction.

#### RESIDENTIAL PROVISIONS

##### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section R101 Scope and General Requirements

##### Amend 2018 IECC, by adding Section R101.2.1, Appendices.

Provisions in the appendices shall not apply unless specifically adopted. The following Appendices are hereby adopted as part of the IECC:

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## APPENDIX RA - SOLAR-READY ZONE - RESIDENTIAL

### Section R109 Board of Appeals

#### Amend 2018 IECC R109.1, General, by deleting and replacing with:

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

#### Amend 2018 IECC R109.3, Qualifications, by deleting in its entirety.

## CHAPTER 2 DEFINITIONS

### Section R202 General Definitions

#### Amend 2018 IECC R202, General definitions, by replacing the following definition with:

RESIDENTIAL BUILDING. For this code, includes detached one- and two-family dwellings and townhouses as well as Group R-2, R-3, and R-4 buildings three stories or less in height above grade plane or concrete podium, and without interior conditioned common entry/exit corridors. Where the building includes accessory common uses and/or commercial spaces, those portions of the building shall comply with the applicable commercial provisions of the IECC.

## CHAPTER 4 RESIDENTIAL ENERGY EFFICIENCY

### Section R402 Building Thermal Envelope

#### Amend 2018 IECC R402.1.2, Insulation and fenestration criteria, by adding the following to Table R402.1.2 as follows:

Climate Zone 5, Wood frame wall R-value: 15 high density in existing 2x4 framed walls in remodel work only  
Footnote b, Exception: Windows used for the installation of glazing for approved passive solar design.

#### Amend 2018 IECC R403.7, Equipment sizing and efficiency rating (Mandatory), by adding:

Furnaces installed in new construction shall be 90% condensing type furnaces. Exception: Replacement furnaces are to be voluntary 90% condensing type furnaces.

## APPENDIX RA SOLAR-READY PROVISIONS - DETACHED ONE-AND TWO-FAMILY DWELLING AND TOWNHOUSES

### Section RA101 Scope

#### Amend 2018 IECC Appendix RA, RA101.1, General, by deleting and replacing with:

These provisions shall be applicable for new construction.

### Section RA103 Solar-Ready Zone

#### Amend 2018 IECC Appendix RA, RA103.6, Interconnection pathway, by deleting in its entirety.

#### Amend 2018 IECC Appendix RA, RA103.7, Electrical service reserved space, by deleting and replacing with:

When feasible, the main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The

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reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

## CHAPTER 4-09 2018 INTERNATIONAL SOLAR ENERGY PROVISIONS

### 4-09-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Solar Energy Provisions (ISEP) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

The 2018 ISEP is a compilation of all solar energy provisions found throughout the 2018 International Codes (IBC, IRC, IECC, IMC, IPC, IFC, and ISPCS). As such, each code section contained within this document is also identified by its corresponding section number from the original International Code source, as detailed in the Letter Designations located in the Preface of the ISEP. Amendments to any section from the source codes, including the 2018 International Fire Code (IFC) as adopted under Flagstaff City Code, Title 5, shall apply to the 2018 ISEP.

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## CHAPTER 4-10

### 2018 INTERNATIONAL SWIMMING POOL AND SPA CODE

#### 4-10-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the 2018 International Swimming Pool and Spa Code (ISPSC) adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 SCOPE AND ADMINISTRATION

##### Section 108 Means of Appeal

**Amend 2018 ISPSC 108.1, Application for appeal, by deleting and replacing with:**

In order to hear and decide appeals of orders, decisions or determinations made by the Building Official relative to the application and interpretation of this code, there shall be and is hereby created a Building and Fire Code Board of Appeals per Flagstaff City Code, Title 2, Boards and Commissions.

**Amend 2018 ISPSC Sections 108.2 through 108.7, by deleting in their entirety.**

#### CHAPTER 2 DEFINITIONS

##### Section 202 Definitions

**Amend 2018 ISPSC Section 202, Definitions, by adding:**

RESIDENTIAL SWIMMING POOL (RESIDENTIAL POOL). A pool intended for use that is accessory to a residential setting and available only to the household and its guests including any structure intended for swimming or recreational bathing that contains water over eighteen (18) inches in depth. This includes in-ground, above ground, and on-ground swimming pools, hot tubs, spas, and fixed in place wading pools. Other pools shall be considered to be public pools for purposes of this code.

#### CHAPTER 3 GENERAL COMPLIANCE

##### Section 305 Barrier Requirements

**Amend 2018 ISPSC 305.2.1, Barrier height and clearances, by revising as follows:**

1. The top of the barrier shall be not less than sixty (60) inches above grade where measured on the side of the barrier that faces away from the pool or spa. Such height shall exist around the entire perimeter of the barrier and for a distance of three (3) feet measured horizontally from the outside of the required barrier.

# FLAGSTAFF CITY CODE, TITLE 4, BUILDING REGULATIONS

## CHAPTER 4-11 NATIONAL ELECTRICAL CODE

### 4-11-001-0001 AMENDMENTS, ADDITIONS, AND DELETIONS

The following provisions shall have the effect of either amending, adding to, or deleting from the National Electrical Code (NEC), 2017 Edition, adopted in Flagstaff City Code, Title 4, Building Regulations, Chapter 4-01, Administrative Enactments, Section 4-01-001-0002, Adoption of Model Codes.

#### CHAPTER 1 GENERAL

#### Article 110 Requirements for Electrical Installations

##### Part I General

##### Amend 2017 NEC Article 110.5, Conductors, to read:

Conductors used to carry current shall be of copper only. Where the conductor material is not specified, the material and the sizes given in this Code shall apply to copper conductors. The use of aluminum wire shall be approved for feeders and service entrance conductors only and shall not be used for branch circuit wiring.

##### Amend 2017 NEC Article 110.7, Wiring integrity, by adding:

All equipment rated at 1000 amperes or more shall be tested for insulation breakdown, mechanical integrity, and workmanship prior to the equipment being energized. A certified high potential voltage test (hi-pot) shall be performed and a certificate issued to the Building Official. This test shall be performed in the presence of a Building Inspector and conducted by a testing firm approved by the Building Official.

Said test shall be performed for a period of one (1) minute, the application of a 60 hertz alternating potential of 1000 volts plus twice the rated phase to phase voltage of the equipment.

This test shall be performed between all phases to ground, phase to phase, and neutral if isolated.

#### CHAPTER 2 WIRING AND PROTECTION

#### Article 210 Branch Circuits

##### Part I General Provisions

##### Amend 2017 NEC Article 210.5, Identification for Branch Circuits, by adding:

(D) **Color Code.** Where 15, 20, or 30 ampere branch circuits requiring a neutral are installed in raceways or cable assemblies, the conductor of branch circuits connected to the same system shall conform to the following color code:

<u>Volts</u>	<u>Phase</u>	<u>System</u>	<u>Phase A</u>	<u>Phase B</u>	<u>Phase C</u>	<u>Neutral</u>
120/208	3	Wye	Black	Red	Blue	White
120/240	3	Delta	Black	Orange	Blue	White
277/480	3	Wye	Brown	Orange	Yellow	Gray

#### Article 250 Grounding and Bonding

##### Part II System Grounding

**FLAGSTAFF CITY CODE,  
TITLE 4, BUILDING REGULATIONS**

**Amend 2017 NEC Article 250.30, Grounding Separately Derived Alternating-Current Systems, (A) Grounded Systems, (2) Supply-Side Bonding Jumper, by adding:**

(c) All new building construction shall have a one-piece concrete-encased electrode and electrode conductor (Ufer ground), a minimum twenty (20) feet length in the footing, sized from the following table:

0-200 ampere service: 1 piece #4 copper (electrode and electrode conductor)

201-400 ampere service: 1 piece 1/0 copper (electrode and electrode conductor)

401-800 ampere service: 1 piece 2/0 copper (electrode and electrode conductor)

Larger than 800 ampere service: 1 piece 3/0 copper (electrode and electrode conductor)

Where the Ufer has been lost, damaged, or cannot be located, a ground ring or modification of the same consisting of thirty (30) feet of #2 bare copper wire, buried a minimum of thirty (30) inches deep in a trench, or a plate electrode per Article 250.53 (H) shall be required in lieu of a concrete-encased electrode.