

TITLE 11: BUILDINGS AND CONSTRUCTION

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TITLE 11: BUILDINGS AND REGULATIONS

SECTIONS:

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- 11.08 International Mechanical Code
- 11.12 National Electrical Code
 International Electrical Code
- 11.16 International Plumbing Code
- 11.20 International Residential Code
- 11.24 International Building Code
- 11.28 International Fuel Gas Code
- 11.32 International Energy Conservation Code (Effective March 9, 2010)
- 11.36 Contractor Licensing Regulations
- 11.40 Efficient Building Code

11.04: INTERNATIONAL BUILDING CODE

11.04.010: ADOPTION OF INTERNATIONAL BUILDING CODE

Section 11.04.010 of the Pitkin County code adopting the 2003 edition of the International Building Code is hereby repealed and reenacted to read as follows:

Pursuant to the powers and authority conferred by the laws of the State of Colorado and Pitkin County, Colorado, there is hereby adopted and incorporated herein by reference as if fully set forth those regulations contained in by reference thereto, the International Building Code, 2009 Edition, including Appendices C, E, and I, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, except as otherwise provided by amendment or deletion as contained herein.

11.04.020 Copies on file

The Pitkin County Building Division shall keep on file in its office in Aspen, Colorado, a full and complete copy of the 2009 International Building Code, as adopted by this Article, and said copies

shall be open to public inspection at all times during the regular business hours of said Division.

11.04.030 Severability

The provisions of this chapter are declared to be severable so that in the event any section or portion of any section hereof shall be declared by a court of competent jurisdiction to be unconstitutional, unlawful, or otherwise unenforceable, the remaining sections and provisions hereof not so found shall continue in full force and effect.

11.04.040 Amendments to the International Building Code

Section **101.1 Title** is hereby amended to read:

These regulations shall be known as the Building Code of Pitkin County, hereinafter referred to as “this code.”

Section 101.4 Referenced Codes is hereby amended to read as follows:

The other codes listed in Sections 101.4.1 through 101.4.7 and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference.

Section 101.4.4 Property Maintenance is hereby deleted in its entirety.

Section 104.4.5 Fire Prevention is hereby deleted in its entirety.

Add Section 101.4.7 Electrical:

The provisions of the most current version of the National Electric Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

Section 104.6 Right of Entry is hereby amended to read as follows:

[The section shall remain as is except that the last sentence shall read:] If entry is refused, or no person having charge or control over the building or premises can be located, the building official shall obtain a warrant from the Pitkin County Court authorizing the building official to make entry onto the building or premises.

Section 104.8 Liability is hereby amended to read as follows:

The Building Official, or his authorized representative charged with the enforcement of this code, acting in good faith and without malice in the discharge of his duties, shall not thereby render himself personally liable for any damage that may accrue to persons or property as a result of any act or omission in the discharge of his duties.

This code shall not be construed to relieve or lessen the responsibility of any person owning, operating or controlling any building or structure for any damage to persons or property caused by defects on or in such premises, nor shall the code enforcement agency, any employee thereof, or Pitkin County be held as assuming any such responsibility or liability by reason of the adoption of this code or by the exercise of inspections authorized and carried out there under, or by the issuance of any permits or certificates issued pursuant to this code.

Section 105.3.2 Time limitation of application is hereby amended to read as follows:

An application for a permit for any proposed work shall be deemed to have been abandoned one year after the date of filing. The building official is not authorized to grant further extensions.

Section 105.5 Expiration is hereby amended to read as follows:

A building permit that has been issued shall become invalid if: 1) The work on the structure authorized by such permit is not commenced within 12 months after the date of permit issuance. Evidence of commencement shall be a building inspection of work performed on the structure itself and does not include such peripheral work as infrastructure, grading, access, excavation, etc. 2) The work authorized on the site by such permit is suspended or abandoned for a period of six months after the time the work is commenced. Continuation of work shall be evidenced by a required building inspection. Projects that are not ready for a required inspection shall request a progress inspection to document the performance of significant work in the judgment of the building official. The building official is not authorized to grant an extension.

Add Section 107.2.6 Improvement Survey.

The application shall also be accompanied by a survey that is certified by a surveyor registered in the State of Colorado, is no more than two years old, and that contains or indicates the following:

- a) Original wet stamp and signature of the surveyor,
- b) Standard industry language regarding accuracy of the survey,
- c) Property boundaries,
- d) All structures and buildings located on the site,
- e) Topography indicating two foot contour intervals,
- f) Natural water courses that traverse or are adjacent to the lot or parcel,
- g) Average high water mark for such natural water courses,
- h) 100 year Floodplain and/or delineated wetlands (where relevant),
- i) Lot or parcel size,
- j) Legal description,
- k) Location and dimensions of any easements and rights-of-way either contained on the parcel or adjacent to the parcel,

- l) All development envelopes approved through land use review,
- m) Trees within the building envelope that have a greater than 6 inch DBH,
- n) Location of existing well and/or septic system(s) (where applicable),
- o) Legible vicinity map, and
- p) Surveyor notes.

The above requirements shall not be mandatory for a building permit application to reconstruct or remodel totally within the limits of an existing building or structure.

Section 107.3.3 Phased Approval is hereby amended to read as follows:

The building official is authorized to issue a permit for the construction of the foundation of a building only after the documents for the whole building or structure have been submitted and approved by the appropriate referral agencies. The holder of a foundation permit shall proceed at the holder's own risk without assurance that a permit for the entire structure will be granted.

109.1 Payment of fees is hereby amended and shall read as follows: A permit shall not be valid until all fees prescribed by the most current Community Development fee ordinance are paid in full, nor shall an amendment to the permit be released until the additional fees, if any, have been paid.

109.4 Work commencing before permit issuance is hereby amended and shall read as follows: 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, in addition to the permit fee, which may be collected whether or not the permit is subsequently issued. The minimum investigation fee in the first instance of violation shall be equal to the amount of the permit fee set forth in the most current adopted Community Development fee ordinance. The second and subsequent times an individual starts work without a permit the minimum fee shall be four times the permit fee.

Add **Section 109.7 Reinspections**. A reinspection fee may be assessed when an inspection is called for and the work is not complete, required corrections are not made, field copy of approved plans is not readily available to the inspector, work is not accessible or for deviating from approved plans.

Section 110.3.10 Final Inspection is hereby amended to read as follows:

The final inspection shall be made after all work required by the building permit is completed and all applicable referral agencies have accepted the work to comply with conditions of approval and any specific regulations.

111.3 Temporary Occupancy is hereby deleted in its entirety.

Section 113 BOARD OF APPEALS is hereby amended and shall read as follows:

113.1 General. 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 board of appeals consisting of members who are qualified by experience and training to pass on matters pertaining to building construction and who are not employees of the jurisdiction. The building official shall be an ex officio member of and shall act as secretary to said board but shall have no vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official.

113.2 Limitations of Authority. The board of appeals shall have no authority relative to interpretation of the administrative provisions of this code nor shall the board be empowered to waive requirements of this code.

Section [F] 903.2 Where required is hereby amended to read as follows:

Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Section 903.2.1 through 903.2.12 and in all structures 5,000 square feet or greater as defined by fire area (section 902.1). A fire wall, as defined in section 702.1, shall not create separate buildings for this purpose.

903.2.7 Group M is hereby amended and condition #4 shall read:

4. Where a Group M occupancy that is used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²) in fire area.

Section [F] 907.2.9 Group R-2 is hereby amended:

907.2.9.1, #3 shall read as follows:

3. The building contains more than three dwelling units or sleeping units.

Add **Section 1504.8 Snow shed design.** Roofs shall be designed so that they do not shed ice and snow onto the main path of egress to the public way, upon the public way or upon neighboring property.

Exceptions:

- 1) Roofs with mechanical snow retention devices secured to roof framing members or to solid blocking in accordance to manufacturers' instructions or as designed by a licensed structural engineer.
- 2) Roof areas with a horizontal dimension of no more than 48 inches that will not receive snow shedding from a higher roof are exempt from the requirement of design by a licensed structural engineer. The horizontal projection shall be measured perpendicular to the exterior wall line from the edge of the roof or eave to any intersecting vertical surface.
- 3) The re-roofing of legally-existing roofs that are not framed to allow effective installation of snow retention devices is exempt from this requirement.

4) Roofs with asphalt shingle roof coverings with a pitch of 6 in 12 or less are exempt from this requirement.

Section 1505 Fire Classification is hereby amended and the last sentence of **1505.1 General** shall be replaced with the following sentence: The minimum roof assemblies installed on buildings shall be Class A.

Table 1505.1 Minimum Roof Covering Classification for Types of Construction is hereby eliminated in its entirety.

Section 1507.2.8.2 Ice barrier is hereby amended to read as follows:

An ice dam barrier that consists of at least two layers of underlayment cemented together or of a self-adhering polymer modified bitumen sheet shall be used in lieu of normal underlayment and shall extend from the roof eave edge at least four and one-half feet inside the exterior wall line as measured along the roof surface, twenty-four inches from the centerline of the valley and up twenty-four inches on the vertical wall at a roof and wall juncture.

Section 1608 Ground Snow Loads is hereby deleted and is replaced with the following: The value of roof (or other member) snow load shall be equal to the “recommended basic snow load” as defined in the “1971 Snow Load Design Data for Colorado”, prepared and published by the “Structural Engineers Association of Colorado”.

Section 1612.3. Establishment of flood hazard areas. Insert: Pitkin County for [NAME OF JURISDICTION] and insert “June 4, 1987 or the latest study available” for [DATE OF ISSUANCE].

Section 1805.2.1 item #1 “Frost protection” is hereby amended to read as follows:

Frost protection depth shall be thirty-six (36) inches.

Add **Section 2111.1.1 Fireplaces allowed.** The number of fireplaces allowed shall be determined by the Pitkin County Code Section 6.12.030.

Add **Section 3001.5 Permits required.** Elevator permits and inspections are required for the installation of elevators.

(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-; chapter 11.04 repealed and reenacted Ord. 030-10)

11.08: INTERNATIONAL MECHANICAL CODE

11.08.010: ADOPTION OF INTERNATIONAL MECHANICAL CODE

11.08.010 of the Pitkin County code adopting the 2003 editions of the Uniform Mechanical Code is hereby repealed and reenacted to read as follows:

Pursuant to the powers and authority conferred by the laws of the State of Colorado and Pitkin County, Colorado, there is hereby adopted and incorporated herein by reference as if fully set forth those regulations contained in by reference thereto, the International Mechanical Code, 2009 Edition, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, except as otherwise provided by amendment or deletion as contained herein.

11.08.020 Copies on file

The Pitkin County Building Division shall keep on file in its office in Aspen, Colorado, a full and complete copy of the 2009 International Mechanical Code, as adopted by this Article, and said copy shall be open to public inspection at all times during the regular business hours of said Division.

11.08.030 Severability

The provisions of this chapter are declared to be severable so that in the event any section or portion of any section hereof shall be declared by a court of competent jurisdiction to be unconstitutional, unlawful, or otherwise unenforceable, the remaining sections and provisions hereof not so found shall continue in full force and effect.

11.08.040 Amendments

Section 101.1 Insert: Pitkin County for [NAME OF JURISDICTION]

Section 103.4 Liability is hereby amended to read as follows:

The Building Official, or his authorized representative charged with the enforcement of this code, acting in good faith and without malice in the discharge of his duties, shall not thereby render himself personally liable for any damage that may accrue to persons or property as a result of any act or omission in the discharge of his duties.

This code shall not be construed to relieve or lessen the responsibility of any person owning, operating or controlling any building or structure for any damage to persons or property caused by defects on or in such premises, nor shall the code enforcement agency, any employee thereof, or Pitkin County be held as assuming any such responsibility or liability by reason of the adoption of this code or by the exercise of inspections authorized and carried out thereunder, or by the issuance of any permits or certificates issued pursuant to this code.

Section 104.4 Right of Entry is hereby amended to read as follows:

[The section shall remain as is except that the last sentence shall read:] If entry is refused, or no person having charge or control over the building or premises can be located, the building official shall obtain a warrant from Pitkin County Court authorizing the building official to

make entry onto the building or premises.

Section 106.4.4 Expiration is hereby amended to read as follows:

Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 12 months after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is not authorized to grant an extension.

Section 106.4.4 Extensions is hereby deleted.

Section 106.5.2 Fee schedule is hereby amended to read as follows: A permit shall not be valid until all fees prescribed by the most current Pitkin County Community Development fee ordinance are paid in full, nor shall an amendment to the permit be released until the additional fees, if any, have been paid.

Section 106.5.3 Fee refunds. Insert: 80% for [SPECIFY PERCENTAGE] in 1. and 2.

109 Means of Appeal is deleted in its entirety and shall read as follows:

Section 109.1 Appeals shall be in accordance with IBC Section 113 as amended by this ordinance.

Section 306.3 Appliances in attics. Exception 2 is hereby amended and shall read in its entirety: Where the passageway is unobstructed and not less than 5'6" high and 30" wide for its entire length, the passageway shall not be greater than 50 feet in length.

Section 306.4 Appliances under floors. Exception 2 is hereby amended and shall read in its entirety: Where the passageway is unobstructed and not less than 5'6" high and 30" wide for its entire length, the passageway shall not be limited in length.

Section 307.1 Fuel-burning appliances is hereby amended and the following sentence is added at the end of the paragraph: All condensate shall be neutralized, collected and discharged.

Section 501.2 Exhaust discharge.

Add to the end of the paragraph: Bath Fans shall be defined as environmental air exhausts and shall use termination clearances from IMC Section 501.2.1, Item #3.

Section 504.1 Installation.

Add to the end of the paragraph: Dryer exhausts shall be defined as environmental air exhausts and shall use termination clearances from IMC Section 501.2.1, Item #3.

Section 505.1 Domestic systems.

Add to the end of the paragraph: Kitchen Hoods shall be defined as environmental air exhaust and shall use termination clearances from IMC Section 501.2.1, Item #3.

(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1; Chapter 11.08 repealed and reenacted Ord. 030.10)

11.12: NATIONAL ELECTRICAL CODE AND ICC ELECTRICAL CODE ADMINISTRATIVE PROVISIONS

11.12.010: ADOPTION OF THE NATIONAL ELECTRICAL CODE

Section 11.12.010 of the Pitkin County code adopting the National Electrical Code is hereby repealed and reenacted to read as follows:

Pursuant to the power and authority conferred by the laws of the State of Colorado and Pitkin County, Colorado, there is hereby adopted and incorporated herein by reference as if fully set forth those regulations contained in by reference thereto, the National Electrical Code, most current edition, published by the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts, 02269.

11.12.020 Copies on file

The Pitkin County Building Division shall keep on file in its office in Aspen, Colorado, a full and complete copy of the National Electrical Code, most current edition, as adopted by this Article, and said copy shall be open to public inspection at all times during the regular business hours of said Division.

11.12.030 Severability

The provisions of this chapter are declared to be severable so that in the event any section or portion of any section hereof shall be declared by a court of competent jurisdiction to be unconstitutional, unlawful, or otherwise unenforceable, the remaining sections and provisions hereof not so found shall continue in full force and effect.

11.12.050 Amendments to the National Electrical Code

690.10 Stand-Alone Systems is hereby amended and shall read as follows:

The premises wiring system shall be adequate to meet the requirements of this Code for a similar installation connected to a service. The wiring on the supply side of the building or structure disconnecting means shall comply with this Code except as modified by 690.10(A) through (D).

(A) Inverter Output. The ac output from a stand-alone inverter(s) shall be permitted to supply ac power to the building or structure disconnecting means at current levels less than the calculated load connected to that disconnect. The inverter output rating or the rating of an alternate energy source for dwellings less than 1000square feet shall be equal to or greater than 50% of the load as calculated by NEC 220.40 General.

The calculated load of a feeder or service shall not be less than the sum of the loads on the branch circuits supplied, as determined by Part II of this article, after any applicable demand factors permitted by Part III or IV or required by Part V have been applied.

For all other dwellings NEC 220.40 shall apply

For non-dwellings the calculated load shall be equal to or greater than the load posed by the largest single utilization equipment connected to the system.

(B) Sizing and Protection is not amended.

(C) Single 120-Volt Supply is not amended.

(D) Energy Storage or Backup Power System Requirements is amended and shall read as follows: Energy storage or backup power supplies are not required except for dwellings.

(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1; chapter 11.12 repealed and replaced Ord. 030-10)

11.16: INTERNATIONAL PLUMBING CODE

11.16.010: ADOPTION OF INTERNATIONAL PLUMBING CODE

Section 11.16.010 of the Pitkin County code adopting the 2003 edition of the International Plumbing Code is hereby repealed and reenacted to read as follows:

Pursuant to the powers and authority conferred by the laws of the State of Colorado and Pitkin County, Colorado, there is hereby adopted and incorporated herein by reference as if fully set forth those regulations contained in by reference thereto, the International Plumbing Code, 2009 Edition, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, except as otherwise provided by amendment or deletion as contained herein.

11.16.020 Copies on file.

The Pitkin County Building Division shall keep on file in its office in Aspen, Colorado, a full and complete copy of the 2009 International Building Code, as adopted by this Article, and said copy shall be open to public inspection at all times during the regular business hours of said Division.

11.16.030 Severability

The provisions of this chapter are declared to be severable so that in the event any section or portion of any section hereof shall be declared by a court of competent jurisdiction to be unconstitutional, unlawful, or otherwise unenforceable, the remaining sections and provisions hereof not so found shall continue in full force and effect.

11.16.040 AMENDMENTS TO THE 2003 INTERNATIONAL PLUMBING CODE

Section 101.1 Title. Insert: Pitkin County for [NAME OF JURISDICTION]

Section 103.4 Liability is hereby amended and to read as follows:

The Building Official or his authorized representative charged with the enforcement of this code, acting in good faith and without malice in the discharge of his duties, shall not thereby render himself personally liable for any damage that may accrue to persons or property as a result of any act or omission in the discharge of his duties.

This code shall not be construed to relieve or lessen the responsibility of any person owning, operating or controlling any building or structure for any damage to persons or property caused by defects on or in such premises, nor shall the code enforcement agency, any employee thereof, or Pitkin County be held as assuming any such responsibility or liability by reason of the adoption of this code or by the exercise of inspections authorized and carried out thereunder, or by the issuance of any permits or certificates issued pursuant to this code.

Section 104.4 Right of Entry is hereby amended to read as follows:

[The section shall remain as is except that the last sentence shall read:] If entry is refused, or no person having charge or control over the building or premises can be located, the building official shall obtain a warrant from the Pitkin County Court authorizing the building official to make entry onto the building or premises.

Section 106.5.3 Expiration is hereby amended to read as follows:

Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 12 months after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is not authorized to grant an extension.

Section 106.5.4 Extension is hereby deleted.

Section 106.6.2 Fee schedule is hereby amended and to read as follows: A permit shall not be valid until all fees prescribed by the most current Pitkin County Community Development fee ordinance are paid in full, nor shall an amendment to the permit be released until the additional fees, if any, have been paid.

Section 106.6.3 Fee refunds. Insert: 80% for [SPECIFY PERCENTAGE] in 1. and 2.

Section 109 Means of Appeal is hereby amended and shall read in its entirety as follows:

Section 109.1 Appeals shall be in accordance with IBC Section 113 as amended by this ordinance.

Section 305.6.1 Sewer Depth. Insert 48 for [NUMBER].

Section 314.1 Fuel burning appliances is hereby amended and the following sentence is added at the end of the paragraph: All condensate shall be neutralized, collected and discharged.

Section 412.2 Floor Drains is hereby amended and the following sentence added to the end of the paragraph: All emergency, mechanical room and basement floor drains shall be plumbed to an approved sanitary drainage system, except that garage floor drains may drain to daylight or drywell.

Add **Section 412.5 Floor Drains for Storage Tank.** Crawlspace containing large capacity storage tanks shall have emergency floor drains or some other means of catastrophic draining provided. Such drainage shall go to a drywell or to daylight.

Table 702.3 Building Sewer Pipe is amended to delete “Vitrified clay pipe” as an allowed material.

Section 904.1 Roof Extension. Insert 12 for [NUMBER].

(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1; Chapter 11.16 repealed and reenacted Ord. 030-10)

11.20: INTERNATIONAL RESIDENTIAL CODE

11.20.010: ADOPTION OF UNIFORM HOUSING CODE

Section 11.20.010 of the Pitkin County code adopting the 2003 edition of the International Residential Code is hereby repealed and reenacted to read as follows:

Pursuant to the powers and authority conferred by the laws of the State of Colorado and Pitkin County, Colorado, there is hereby adopted and incorporated herein by reference as if fully set forth those regulations contained in by reference thereto, the International Residential Code, 2009 Edition, including Appendices E, F, H and K, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, except as otherwise provided by amendment or deletion as contained herein.

11.20.020 Copies on file.

The Pitkin County Building Division shall keep on file in its office in Aspen, Colorado, a full and complete copy of the 2009 International Residential Code as adopted by this Article, and said copies shall be open to public inspection at all times during the regular business hours of said Division.

11.20.030 Severability

The provisions of this chapter are declared to be severable so that in the event any section or portion of any section hereof shall be declared by a court of competent jurisdiction to be unconstitutional, unlawful, or otherwise unenforceable, the remaining sections and provisions hereof not so found shall continue in full force and effect.

11.20.040 AMENDMENTS TO 2009 INTERNATIONAL RESIDENTIAL CODE.

R101.1 Title. Insert Pitkin County for [NAME OF JURISDICTION].

Section R104.6 Right of Entry is hereby amended to read as follows:

[The section shall remain as is except that the last sentence shall read:] If entry is refused, or no person having charge or control over the building or premises can be located, the building official shall obtain a warrant from the Pitkin County Court authorizing the building official to make entry onto the building or premises.

Section R104.8 Liability is hereby amended to read as follows:

The Building Official or his authorized representative charged with the enforcement of this code, acting in good faith and without malice in the discharge of his duties, shall not thereby render himself personally liable for any damage that may accrue to persons or property as a result of any act or omission in the discharge of his duties.

This code shall not be construed to relieve or lessen the responsibility of any person owning, operating or controlling any building or structure for any damage to persons or property caused by defects on or in such premises, nor shall the code enforcement agency, any employee thereof, or Pitkin County be held as assuming any such responsibility or liability by reason of the adoption of this code or by the exercise of inspections authorized and carried out thereunder, or by the issuance of any permits or certificates issued pursuant to this code.

Section R105.3.2 Time limitation of application is hereby amended to read as follows:

An application for a permit for any proposed work shall be deemed to have been abandoned one year after the date of filing. The building official is not authorized to grant further extensions.

Section R105.5 Expiration is hereby amended to read as follows:

A building permit that has been issued shall become invalid if: 1) The work on the structure authorized by such permit is not commenced within 12 months after the date of permit issuance. Evidence of commencement shall be a building inspection of work performed on the structure itself and does not include such peripheral work as infrastructure, grading, access, excavation, etc. 2) The work authorized on the site by such permit is suspended or abandoned for a period of six months after the time the work is commenced. Continuation of work shall be evidenced by a required

building inspection. Projects that are not ready for a required inspection shall request a progress inspection to document the performance of significant work in the judgment of the building official. The building official is not authorized to grant an extension.

Add Section R106.2.1 Improvement Survey.

The application shall also be accompanied by a survey that is certified by a surveyor registered in the State of Colorado, is no more than two years old, and that contains or indicates the following:

- a) Original wet stamp and signature of the surveyor,
- b) Standard industry language regarding accuracy of the survey,
- c) Property boundaries,
- d) All structures and buildings located on the site,
- e) Topography indicating two foot contour intervals,
- f) Natural water courses that traverse or are adjacent to the lot or parcel,
- g) Average high water mark for such natural water courses,
- h) 100 year Floodplain and/or delineated wetlands (where relevant),
- i) Lot or parcel size,
- j) Legal description,
- k) Location and dimensions of any easements and rights-of-way either contained on the parcel or adjacent to the parcel,
- l) All development envelopes approved through land use review,
- m) Trees within the building envelope that have a greater than 6 inch DBH,
- n) Location of existing well and/or septic system(s) (where applicable),
- o) Legible vicinity map, and
- p) Surveyor notes.

The above requirements shall not be mandatory for a building permit application to reconstruct or remodel totally within the limits of an existing building or structure.

Section R106.3.3 Phased Approval is hereby amended to read as follows:

The building official is authorized to issue a permit for the construction of the foundation of a building only after the documents for the whole building or structure have been submitted and approved by the appropriate referral agencies. The holder of a foundation permit shall proceed at the holder's own risk without assurance that a permit for the entire structure will be granted.

Section R108.1 Payment of fees is hereby amended and shall read as follows: A permit shall not be valid until all fees prescribed by the most current Pitkin County Community Development fee ordinance are paid in full, nor shall an amendment to the permit be released until the additional fees, if any, have been paid.

108.6 Work commencing before permit issuance is amended and shall read as follows: 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, in addition to the permit fee, which may be collected whether or not the permit is subsequently issued. The

minimum investigation fee shall be equal to the amount of the permit fee set forth in the most current adopted Community Development fee ordinance. The second time and subsequent times an individual starts work without a permit the minimum fee shall be four times the permit fee.

Section R109.1.6 Final Inspection is hereby amended and shall read as follows:

The final inspection shall be made after all work required by the building permit is completed and all applicable referral agencies have accepted the work to comply with conditions of approval and any specific regulations.

Add **Section R109.5 Reinspections**. A reinspection fee may be assessed when an inspection is called for and the work is not complete, required corrections are not made, field copy of approved plans is not readily available to the inspector, work is not accessible or for deviating from approved plans.

Section R110.4 Temporary Occupancy is hereby deleted.

Section R112 BOARD OF APPEALS is hereby amended and shall read as follows:

R112.1 General. 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 board of appeals consisting of members who are qualified by experience and training to pass on matters pertaining to building construction and who are not employees of the jurisdiction. The building official shall be an ex officio member of and shall act as secretary to said board but shall have no vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official.

R112.2 Limitations of Authority is hereby amended and the last sentence shall read: The board of appeals shall have no authority relative to interpretation of the administrative provisions of this code nor shall the board be empowered to waive requirements of this code.

R202 Definitions. Habitable Space is hereby amended. The definition shall remain as written, with the following sentence appended to the end: Unfinished basements with a ceiling height of 80 inches or more are considered habitable space.

Table R301.2 (1) shall read as follows:

* The value of roof (or other member) snow load shall be equal to the “recommended basic snow load” as defined in the “1971 Snowload Design Data for Colorado”, prepared and published by the “Structural Engineers Association of Colorado”.

R313.2 One- and two-family dwellings automatic fire sprinkler systems is hereby amended and shall read: Effective January 1, 2013, an automatic residential fire sprinkler system shall be installed one- and two-family dwellings.

Add **R313.3 Structures 5,000 square feet or greater** to read as follows: An approved automatic fire-extinguishing system shall be installed in all structures 5,000 square feet or greater as defined by fire area (IBC section 702.1). A fire wall, as defined in IBC section 702.1, shall not create

Ground Snow Load	Wind Design		Seismic Design Category	Weathering	Frost Line Depth	Termite	Decay	Winter Design Temp	Ice Barrier Underlayment Required	Flood Hazards	Air Freezing Index	Mean Annual Temp
	Speed (mph)	Topographic Effects										
0.833 x roof snow load*	90/B	No	33 D	Severe	36"	None to slight	None to slight	-16	Yes -- refer R905.2.7.1 as amended	1987 or latest study available	2000	40.8

separate buildings for this purpose.

R315 Carbon monoxide alarms is hereby amended and shall read in its entirety:

R315.1 Carbon monoxide alarms. Carbon monoxide alarms shall be installed in new and existing buildings in compliance with the Pitkin County Carbon Monoxide Ordinance No. 039-2008.

Section R902.1 is hereby amended and shall read as follows:

The second sentence is replaced with the following: The minimum roof assemblies installed on buildings shall be Class A.

Add **Section R903.5 Snow shed design.**

Roofs shall be designed so that they do not shed ice and snow onto the main path of egress to the public way, upon the public way or upon neighboring property.

Exceptions:

- 1) Roofs with mechanical snow retention devices secured to roof framing members or to solid blocking in accordance to manufacturers’ instructions or as designed by a licensed structural engineer.
- 2) Roof areas with a horizontal dimension of no more than 48 inches that will not receive snow shedding from a higher roof are exempt from the requirement of design by a licensed structural engineer. The horizontal projection shall be measured perpendicular to the exterior wall line from the edge of the roof or eave to any intersecting vertical surface.
- 3) The re-roofing of legally-existing roofs that are not framed to allow effective installation of snow retention devices is exempt from this requirement.
- 4) Roofs with asphalt shingle roof coverings with a pitch of 6 in 12 or less are exempt from this requirement.

Section R905.2.7.1 Ice protection is hereby amended to read as follows:

An ice dam barrier that consists of at least two layers of underlayment cemented together or of a self-adhering polymer modified bitumen sheet shall be used in lieu of normal underlayment and shall extend from the roof eave edge at least four and one-half feet inside the exterior wall line as measured along the roof surface, twenty-four inches from the centerline of the valley and up twenty-four inches on the vertical wall at a roof and wall juncture.

Add **Section R1003.1.1 Fireplaces allowed**. The number of fireplaces allowed shall be determined by the Pitkin County Code Section 6.12.030.

Chapter 11 is deleted in its entirety and replaced with the following:

Chapter 11 Energy Efficiency. The provisions of the 2009 International Energy Conservation Code shall apply to all matters governing the design and construction of buildings for energy efficiency.

M1305.1.3 Appliances in attics. Exception 2 is hereby amended and shall read: Where the passageway is unobstructed and not less than 5' 6" high and 30" wide for its entire length, the passageway shall be not more than 50' long.

M1305.1.4 Appliances under floors. Exception 2 is hereby amended and shall read: Where the passageway is unobstructed and not less than 5' 6" high and 30" wide for its entire length, the passageway shall not be limited in length.

Add **M1307.7 Fuel-burning appliances**. All condensate shall be neutralized, collected and discharged.

Section R2406 Appliance location is amended as follows:
Exceptions 3 & 4 are hereby deleted.

Section G2425.8 item #7 is hereby amended to read as follows:
Unvented room heaters shall not be installed.

Section G2445 Unvented room heaters are prohibited in Pitkin County and this section is hereby deleted in its entirety.

Section P3103.1 Roof extension is hereby amended and shall read as follows:

All open vent pipes which extend through a roof shall be terminated at least 12 inches above the roof or 6 inches above the anticipated snow accumulation, except where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet above the roof.

(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1; Chapter 11.20 repealed and reenacted Ord. 030-10)

11.24: INTERNATIONAL EXISTING BUILDING CODE

11.24.010: ADOPTION OF THE UNIFORM CODE FOR THE ABATEMENT OF DANGEROUS BUILDINGS

Pursuant to the powers and authority conferred by the laws of the State of Colorado and Pitkin County, Colorado, there is hereby adopted and incorporated herein by reference as if fully set forth those regulations contained in by reference thereto, the International Existing Building Code, 2003 Edition, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, except as otherwise provided by amendment or deletion as contained herein. *(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1)*

11.24.020: COPIES ON FILE.

The Pitkin County Building Division shall keep on file in its office in Aspen, Colorado, a full and complete copy of the International Residential Code, most current edition, as adopted by this Article, and said copies shall be open to public inspection at all times during the regular business hours of said Division. *(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1)*

11.24.030: SEVERABILITY

The provisions of this chapter are declared to be severable so that in the event any section or portion of any section hereof shall be declared by a court of competent jurisdiction to be unconstitutional, unlawful, or otherwise unenforceable, the remaining sections and provisions hereof not so found shall continue in full force and effect. *(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1)*

11.24.040: AMENDMENTS TO THE 2003 EXISTING BUILDING CODE

Section 101.1 Insert: Pitkin County for [NAME OF JURISDICTION]

SECTION 103 DEPARTMENT OF BUILDING SAFETY is hereby amended to read as follows:

SECTION 103 DIVISION OF BUILDING SAFETY

Section 103.1 The Division of Building Safety is hereby created and the official in charge thereof shall be known as the building official.

Section 104.6 Right of Entry is hereby amended to read as follows:

[The section shall remain as is except that the last sentence shall read:] If entry is refused, or no person having charge or control over the building or premises can be located, the building official shall obtain a warrant from the City of Aspen Municipal Court authorizing the building official to make entry onto the building or premises.

Section 104.8 Liability is hereby amended to read as follows:

The Building Official, or his authorized representative charged with the enforcement of this code, acting in good faith and without malice in the discharge of his duties, shall not thereby render himself personally liable for any damage that may accrue to persons or property as a result of any act or omission in the discharge of his duties.

This code shall not be construed to relieve or lessen the responsibility of any person owning, operating or controlling any building or structure for any damage to persons or property caused by defects on or in such premises, nor shall the code enforcement agency, any employee thereof, or Pitkin County be held as assuming any such responsibility or liability by reason of the adoption of this code or by the exercise of inspections authorized and carried out there under, or by the issuance of any permits or certificates issued pursuant to this code.

Section 105.3.2 Time limitation of application is hereby amended to read as follows:

An application for any proposed work shall be deemed to have been abandoned six (6) months after the date of filing, unless such application has been pursued in good faith or a permit has been issued. The building official is authorized to grant an extension not exceeding six (6) months. The extension shall be requested in writing and justifiable cause demonstrated.

Section 105.5 Expiration is hereby amended to read as follows:

Every permit issued shall become invalid unless the work on the site authorized by such commenced within 12 months after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is not authorized to grant an extension.

Section 106.3.3 Phased Approval is hereby amended to read as follows:

The building official is authorized to issue a permit for the construction of the foundation of a building only after the documents for the whole building or structure have been submitted and approved by the appropriate referral agencies. The holder of a foundation permit shall proceed at the holder's own risk without assurance that a permit for the entire structure will be granted.

Section 108.1 Fees is hereby amended and shall read: A permit shall not be valid until all fees prescribed by the Pitkin County Community Development Department's fee schedule in effect at the time of permit submittal are paid in full, nor shall an amendment to the permit be released until the additional fees, if any, have been paid.

Section 110.3 Temporary Occupancy is hereby deleted and replaced to read as follows:

Section 110.3 Conditional occupancy. The building official is authorized to issue a conditional certificate of occupancy before the completion of the entire work covered by the permit or conditions of approval, provided that portions of the building shall be occupied safely. The conditional certificate of occupancy shall clearly state the portions of the building that may be

occupied, the conditions that must be met and a time period during which the conditional certificate of occupancy is valid

Section 112.1 Board of Appeals, General is hereby amended to read as follows:

112.1 General. 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 board of appeals consisting of members who are qualified by experience and training to pass on matters pertaining to building construction and who are not employees of the jurisdiction. The building official shall be an ex officio member of and shall act as secretary to said board but shall have no vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official.

112.2 Limitations of Authority. The board of appeals shall have no authority relative to interpretation of the administrative provisions of this code nor shall the board be empowered to waive requirements of this code. (*Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1*)

11.28: INTERNATIONAL FUEL GAS CODE

11.28.010: ADOPTION OF THE UNIFORM CODE FOR THE BUILDING CONSERVATION

Section 11.28.010 of the Pitkin County code adopting the 2003 edition of the Uniform Code for the Building Conservation is hereby repealed and reenacted to read as follows:

Pursuant to the powers and authority conferred by the laws of the State of Colorado and Pitkin County, Colorado, there is hereby adopted and incorporated herein by reference as if fully set forth those regulations contained in by reference thereto, the International Fuel Gas Code, 2009 Edition, as published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, except as otherwise provided by amendment or deletion as contained herein.

11.28.020 Copies on file

The Pitkin County Building Division shall keep on file in its office in Aspen, Colorado, a full and complete copy of the International Fuel Gas Code, most current edition, as adopted by this Article, and said copies shall be open to public inspection at all times during the regular business hours of said Division.

11.28.030 Severability

The provisions of this chapter are declared to be severable so that in the event any section or portion of any section hereof shall be declared by a court of competent jurisdiction to be unconstitutional, unlawful, or otherwise unenforceable, the remaining sections and provisions hereof not so found shall continue in full force and effect.

11.28.040 AMENDMENTS TO 2003 INTERNATIONAL FUEL GAS CODE

Section 106.5.2 Fee schedule is hereby amended and to read as follows: A permit shall not be valid until all fees prescribed by the most current Pitkin County Community Development fee ordinance are paid in full, nor shall an amendment to the permit be released until the additional fees, if any, have been paid.

Section 106.5.3 Fee refunds is hereby amended as follows: insert 80% for [SPECIFY PERCENTAGE] in items 2. and 3.

Section 109 (IFGC) Means of Appeal is deleted in its entirety and shall read as follows:

Section 109.1 Appeals shall be in accordance with IBC Section 113 as amended by this ordinance.

Section 306.3 Appliances in attics. Exception 2 is hereby amended and shall read: Where the passageway is unobstructed and not less than 5' 6" high and 30" wide for its entire length, the passageway shall be not more than 50' long.

Section 306.4 Appliance under floors. Exception 2 is hereby amended and shall read in its entirety: Where the passageway is unobstructed and not less than 5'6" high and 30" wide for its entire length, the passageway shall not be limited in length.

Add **Section 402.6.2 Liquefied petroleum gas facilities and equipment.**

Liquefied petroleum gas (LPG) gas facilities and equipment shall not be located in any pit or basement, under show windows or interior stairways, in engine, boiler, heater or electric meter rooms.

Exception: Equipment may be installed in such locations with an approved means of detection and removal of unburned LPG gas. A minimum 3" drain pipe to the exterior of the building, propane sensor and automatic safety shutoff shall be installed. The drain shall not be trapped and shall be protected from snow closure and rodents. When the above listed means cannot be achieved, an engineered mechanical exhaust system designed by a Colorado-licensed mechanical engineer with a propane sensor and an automatic safety shut-off shall be required.

Section 503.4.1.1 Plastic vent joints is hereby amended and the following shall be added to the end of the first sentence: and shall be tested with water at a minimum 10' of head pressure or air at a minimum of 5 psi for 15 minutes.

Section 621 (IFGC) Unvented Room Heaters is hereby deleted in its entirety and shall read as follows:

Section 621.1 General. Unvented room heaters shall not be installed.

(Ord. 99-61 (part); Ord. 007-04 (part); prior code Title VII § 1-1; chapter 11.28 repealed and reenacted Ord. 030-10)

11.32: INTERNATIONAL ENERGY CONSERVATION CODE

Section 101.1 Title. Insert the name “Pitkin County” for Name of Jurisdiction.

Section 107.1 Fees is hereby amended and shall read as follows: “A permit shall not be valid until all fees as prescribed in the Pitkin County Community Development Fee Ordinance that is in effect at the time of permit submittal are paid in full, nor shall an amendment to the permit be released until the additional fees, if any, have been paid.”

Section 107.5 Refunds is hereby amended and shall read as follows:

The building official shall authorize the refund for the full amount of any fee paid which was erroneously paid or collected. Not more than 80% of a permit fee paid may be refunded when no work has been done under a permit issued in accordance with this code. The building official shall not authorize refunding any fee paid except on written application filed by the original permittee not later than six months after the date of payment.

Refunds may be approved for up to 80% of a fee paid for REMP. No refund will be approved when requested more than 180 days after the Certificate of Occupancy or Letter of Completion is issued.

Section 109 Board of Appeals

109.1 General is deleted in its entirety and shall read as follows: Appeals shall be in accordance with Pitkin County Code Title 11, Chapter 11.04, Section 112.1.

Section 110 Liability to read as follows: *(added)*

The Building Official or his authorized representative charged with the enforcement of this code, acting in good faith and without malice in the discharge of his duties, shall not thereby render himself personally liable for any damage that may accrue to persons or property as a result of any act or omission in the discharge of his duties.

This code shall not be construed to relieve or lessen the responsibility of any person owning, operating or controlling any building or structure for any damage to persons or property caused by defects on or in such premises, nor shall the code enforcement agency, any employee thereof, or Pitkin County be held as assuming any such responsibility or liability by reason of the adoption of this code or by the exercise of inspections authorized and carried out thereunder, or by the issuance of any permits or certificates issued pursuant to this code.

Section 301 Climate Zones shall be deleted in its entirety and shall read as follows:

“The City of Aspen, Colorado and Pitkin County, Colorado shall use Climate Zone 7 in determining the applicable requirements from Chapters 4 and 5”.

Section 402.4.2 Air sealing and insulation is hereby amended and shall read as follows:

“Building envelope air tightness and insulation installation shall be demonstrated to comply with the testing option section 402.4.2.1.

Section 402.4.3 Fireplaces is hereby amended and shall read as follows:

New wood-burning fireplaces and gas log fireplaces shall have gasketed doors and outdoor combustion air.

“Appendix A” (*added*)

“Residential Renewable Energy Mitigation Program”

Section 101 SCOPE AND ADMINISTRATION

Section 101.1 Scope. Residential snowmelt, outside pool, or outside spa systems and equipment may be installed only if the supplemental energy meets the requirements of the Residential Renewable Energy Mitigation Program (RREMP) Appendix A. This applies to all installations for which an application for a permit or renewal of an existing permit is filed or is by law required to be filed with or without an associated Building Permit that include systems described in section 101.1.

Section 101.2 Residential Renewable Energy Mitigation Program (RREMP) Option – Exterior energy use for residential snowmelt systems, outdoor spas, and outdoor pools are calculated as directed by Section 201.

Section 101.2.1. The maximum area of snowmelt is capped at 6,000 square feet per parcel.

Exception: Residences with Ground Source Heat Pump (GSHP) systems complying with Section 301.3 are exempt from this cap.

Section 101.2.2. R-10 insulation shall be installed under all areas to be snowmelted. R-5 insulation may be used when the insulation extends up the sides of the slab.

Section 101.3 On-site Renewable Credits Option – Renewable credit options are calculated as directed by Section 301.

Section 102 Payment option. The RREMP payment option is the difference in energy use calculated in section 202 and on-site renewable credits calculated in section 302 and shall be paid at the time of issuance of the building permit. The payment, if any, is based on the amount of energy required, expressed as dollars per square foot, to operate the exterior energy use systems. No payment shall be made to an applicant that exceeds the energy use with on-site renewable credits. All monies collected pursuant to this section shall be recorded in a separate fund and shall

be spent in accordance with a joint resolution by the Aspen City Council and Pitkin County Board of County Commissioners.

Section 103 Credits for on-site renewable energy. This RREMP payment option is voluntary. Applicants interested in exterior energy use systems can alternatively choose to produce on-site renewable energy (Section 301) with solar photovoltaics and/or solar hot water or micro-hydro. The energy efficient technology of ground source heat pumps is also permitted for supplemental on-site energy.

Section 104 Pre-existing systems. Pre-existing snowmelt, pools or spas which are being overhauled or renovated qualify for exterior energy credit. This credit can only be applied towards an installation of exterior energy on the same parcel. The calculation of the credit shall be based on section 301.

Section 105 - Residential repairs. Repairs to building components, systems, or equipment which do not increase their pre-existing energy consumption need not comply with RREMP. All replacement mechanical equipment shall be Energy Star® rated.

Section 106 Residential Renewable Energy Mitigation Program (RREMP) for houses 5,000 square feet and more. A new residence 5,000 sq ft or more in area (as defined by the building code), or a residence receiving an addition which brings the area of the residence to 5,000 sq ft or more, is required to offset a portion of its fossil fuel energy consumption through the use of on-site renewable energy or through a fee payment to REMP. Renewable energy systems installed for this requirement do not qualify for credit for exterior energy use.

Section 106.2. The on-site renewable energy requirement can be met by the installation of a two-kilowatt solar photovoltaic or equivalent renewable energy system. This requirement can alternatively be satisfied off-site by payment of a REMP fee as follows. The fee for buildings over 4,999 sq ft shall equal the floor area as defined by the building code. For example:

5,000 sq ft	\$5,000
8,255 sq ft	\$8,255

Section 201 EXTERIOR ENERGY USE CALCULATIONS

Section 201.1 Snowmelt energy consumption shall be calculated as a RREMP payment option at \$34.00 per square foot divided by the boiler efficiency (AFUE).

Section 201.2 Outdoor pool energy use shall be calculated as a RREMP payment option at \$136.00 per square foot divided by the boiler efficiency (AFUE).

Section 201.3 Spa energy use shall be calculated as a RREMP payment option at \$176.00 per square foot divided by the boiler efficiency (AFUE). Package spas not more than 64 square feet are exempt.

Section 202 The total RREMP payment option is the total sum of exterior energy use of sections 201.1, 201.2 and 201.3.

Section 301 ON-SITE RENEWABLE CREDITS

Section 301.1 Photovoltaic Systems – On-site renewable credit shall be calculated as \$6,241.20 per 1 kilowatt of the system design. Solar electric (photovoltaic) systems tied to the electric grid, are eligible for on-site renewable credit. Systems must be sited, oriented and installed for solar electric panels to supply at least 90% of rated capacity of the installed KW. System designer/installer must be certified by COSEIA (Colorado Solar Energy Industries Association) or NABCEP, (North American Board of Certified Energy Practitioners).

Section 301.2 Solar Hot Water - On-site renewable credit shall be calculated as \$224.65 per 1 square foot of the system design. The size of solar hot water systems is limited to 500 square feet of collector area.

Section 301.3 Ground Source Heat Pump - On-site renewable credit shall be calculated as \$6.84 per 100,000 BTU per year of the system design. In order to use a GSHP for on-site renewable credit the GSHP system must supply at least 20% of the peak load for heating the house and all the exterior energy uses. Each ground source heat pump system shall be tested and balanced and the design engineer shall certify in writing that it meets a design coefficient of performance of 3.0 inclusive of source pump power.

The ground loop system must be designed by a CGD (Certified GeoExchange Designer certified by the Association of Energy Engineers) or a professional engineer with IGSHPA (International Ground Source Heat Pump Association). The mechanical system must be installed by a certified IGSHPA contractor.

Section 302 The total RREMP on-site renewable credit is the total sum of sections 301.1, 301.2 and 301.3.

PUBLIC DOMAIN SOFTWARE

Section 401 A free calculation program known as RREMP 2009 shall be made available to the public.

EXAMPLE CALCULATION FOR RESIDENTIAL RENEWABLE ENERGY MITIGATION PROGRAM

<p style="text-align: center;">Snowmelt Example (Snowmelt requested 800 sq. ft.) $\\$34.00 \times 800 / .91$ (efficiency rating of boiler) = \$29,890.11 RREMP payment option for exterior energy use will be \$29,890.11</p> <p style="text-align: center;">ON-SITE RENEWABLE CREDITS 96 square feet of solar hot water panels * \$224.65 per square foot = \$21,566.24 RREMP payment option will be \$8,323.87</p> <p style="text-align: center;">OR</p> <p style="text-align: center;">4.8 KW photovoltaic system * \$6,241.20 per kilowatt = \$29,957.76</p> <p style="text-align: center;">RREMP payment option will be \$0</p>



“Appendix B” (*added*)

“Commercial Renewable Energy Mitigation Program”

SECTION 101 SCOPE AND ADMINISTRATION

Section 101.1 Scope. Commercial snowmelt, outside pool, or outside spa systems and equipment may be installed only if the supplemental energy meets the requirements of the Commercial Renewable Energy Mitigation Program (CREMP) Appendix B. This applies to all installations for which an application for a permit or renewal of an existing permit is filed or is by law required to be filed with or without an associated Building Permit that include systems described in section 101.1.

Section 101.2 Commercial Renewable Energy Mitigation Program (CREMP) Option – Exterior energy use for commercial snowmelt systems, outdoor spas, and outdoor pools are calculated as directed by Section 201.

Section 101.2.1. R-10 insulation shall be installed under all areas to be snow melted. R-5 insulation may be used when the insulation extends up the sides of the slab.

Section 101.3 On-site Renewable Credits Option – Renewable credit options are calculated as directed by Section 301.

SECTION 102 PAYMENT OPTION

The CREMP payment option is the difference in energy use calculated in section 202 and on-site renewable credits calculated in section 302 and shall be paid at the time of issuance of the building permit. The payment, if any, is based on the amount of energy required, expressed as dollars per square foot, to operate the exterior energy use systems. No payment shall be made to an applicant that exceeds the energy use with on-site renewable credits. All monies collected pursuant to this section shall be recorded in a separate fund and shall be spent in accordance with a joint resolution by the Aspen City Council and Pitkin County Board of County Commissioners.

SECTION 103 CREDITS FOR ON-SITE RENEWABLE ENERGY

This CREMP payment option is voluntary. Applicants interested in exterior energy use systems can alternatively choose to produce on-site renewable energy (Section 301) with solar photovoltaics and/or solar hot water or micro-hydro. The energy efficient technology of ground source heat pumps is also permitted for supplemental on-site energy.

SECTION 104 PRE-EXISTING SYSTEMS

Pre-existing snowmelt, pools or spas which are being overhauled or renovated qualify for exterior energy credit. This credit can only be applied towards an installation of exterior energy on the same parcel. The calculation of the credit shall be based on section 301.

SECTION 105 - COMMERCIAL REPAIRS

Repairs to building components, systems, or equipment which do not increase their pre-existing energy consumption need not comply with CREMP.

SECTION 201 EXTERIOR ENERGY USE CALCULATIONS

Section 201.1 Snowmelt energy consumption shall be calculated as a CREMP payment option at \$60.00 per square foot divided by the boiler efficiency (AFUE).

Section 201.2 Outdoor pool energy use shall be calculated as a CREMP payment option at \$170.00 per square foot divided by the boiler efficiency (AFUE).

Section 201.3 Spa energy use shall be calculated as a CREMP payment option at \$176.00 per square foot divided by the boiler efficiency (AFUE). Package spas with not more than 64 square feet of water surface area are exempt.

Section 202 The total CREMP payment option is the total sum of exterior energy use of sections 201.1, 201.2 and 201.3.

Section 301 ON-SITE RENEWABLE CREDITS

Section 301.1 Photovoltaic Systems – On-site renewable credit shall be calculated as \$6,241.20 per 1 kilowatt of the system design. Solar electric (photovoltaic) systems tied to the electric grid are eligible for on-site renewable credit. Systems must be sited, oriented and installed for solar electric panels to supply at least 90% of rated capacity of the installed KW. System designer/installer must be certified by COSEIA (Colorado Solar Energy Industries Association) or NABCEP (North American Board of Certified Energy Practitioners).

Section 301.2 Solar Hot Water - On-site renewable credit shall be calculated as \$224.65 per 1 square foot of the system design. The size of solar hot water systems is limited to 500 square feet of collector area.

Section 301.3 Ground Source Heat Pump - On-site renewable credit shall be calculated as \$6.84 per 100,000 BTU per year of the system design. In order to use a GSHP for on-site renewable credit the GSHP system must supply at least 20% of the peak load for heating the building and all the exterior energy uses. Each ground source heat pump system shall be tested and balanced and the design engineer shall certify in writing that it meets a design coefficient of performance of 3.0 exclusive of source pump power.

The ground loop system must be designed by a CGD (Certified GeoExchange Designer certified by the Association of Energy Engineers) or a professional engineer with IGSHPA (International Ground Source Heat Pump Association). The mechanical system must be installed by a certified IGSHPA contractor.

Section 302 The total CREMP on-site renewable credit is the total sum of sections 301.1, 301.2 and 301.3.

PUBLIC DOMAIN SOFTWARE

Section 401 A free calculation program known as CREMP 2009 shall be made available to the public.

EXAMPLE CALCULATION FOR COMMERCIAL RENEWABLE ENERGY MITIGATION PROGRAM

<p style="text-align: center;">Snowmelt area 1200 sq. ft. $\\$60.00 \times 1,200 / .92$ (efficiency rating of boiler) = \$78,260.87</p> <p style="text-align: center;">Pool area 700 sq. ft. $\\$170.00 \times 700 / .92$ (efficiency rating of boiler) = \$119,000.00</p> <p style="text-align: center;">Spa area 80 sq. ft. $\\$176.00 \times 80 / .92$ (efficiency rating of boiler) = \$15,304.35</p> <p style="text-align: center;">CREMP payment option for exterior energy use will be \$222,913.04</p> <p style="text-align: center;">ON-SITE RENEWABLE CREDITS</p> <p style="text-align: center;">448 square feet of solar hot water panels * \$224.65 per square foot = \$100,642.44 20 KW photovoltaic system * \$6,241.20 per kilowatt = \$124,824.00 CREMP payment option will be \$0</p>
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Add Section 403.81. to Section 403.8 Snow melt systems controls:

1. Electric roof and gutter deicing systems shall include automatic controls capable of shutting off the system when outdoor temperature is above 50 degrees F and below 25 degrees F, or which limit the use of the system to daylight hours by means of a programmable timer.

2. Hydronic roof and gutter deicing systems shall be considered snowmelt systems and shall comply with Appendix A "Residential Renewable Energy Mitigation Program" of the 2009 International Energy Conservation Code, as amended.

(Ord. 99-61 (part); prior code Title VII § 9-4); Chapter 11.32 repealed/replaced Ord. 01-10; Chapter 11.32 amended (part) Ord. 030-10)

11.36: CONTRACTOR LICENSING

SECTIONS:

- 11.36.010 COMPLIANCE REQUIRED
- 11.36.020 REVOCATION AND SUSPENSION
- 11.36.030 ISSUANCE OF PERMITS ONLY TO LICENSE HOLDERS OR AGENTS, AND OWNER-BUILDERS
- 11.36.040 COMPLIANCE WITH LAW AND SUPERVISORY CLAUSES AS REQUIRED
- 11.36.050 APPROVAL OF BUILDING OFFICIAL REQUIRED FOR ISSUANCE OF CERTAIN LICENSES
- 11.36.060 BUILDER'S LICENSES GENERALLY
- 11.36.070 APPLICATION FOR LICENSEES WHO EMPLOY QUALIFIED SUPERVISORS
- 11.36.080 EXAMINATION FEE
- 11.36.090 EXAMINATIONS
- 11.36.100 INSURANCE
- 11.36.110 ANNUAL FEES
- 11.36.120 COMPLIANCE WITH CHAPTER REQUIRED FOR ISSUANCE OF PERMIT
- 11.36.130 STATE LICENSE REQUIRED
- 11.36.140 REGISTRATION OF ELECTRICAL AND PLUMBING CONTRACTORS
- 11.36.150 APPEALS

11.36.010: COMPLIANCE REQUIRED

It is unlawful for any person to violate any provisions of this chapter or to violate or refuse to obey any order issued by the chief building official or neglect to pay any fee assessed by the chief building official. (*Ord. 99-61 (part); prior code Title VII § 1-1*)

11.36.020: REVOCATION AND SUSPENSION

A. The chief building official shall have the authority to issue an order to show cause why the license issued hereunder to any licensee should not be suspended or revoked. Any such

order shall grant the licensee ten (10) days in which to show cause and shall inform the licensee of the basis for issuance of the order.

B. The following acts or omissions of any person or firm holding a license under this chapter or any applicant for a license under this chapter shall constitute grounds for which the chief building official may suspend, revoke or refuse renewal of any license or deny an application for the license:

1. Causing or allowing to exist conditions hazardous to the health, safety and welfare of workmen and the public;
2. Violation of Pitkin County Code, including but not limited to the Land Use Code, the Uniform Building Code and related Uniform Codes as adopted, and the Colorado Revised Statutes; relating to buildings or construction or contractor licensing;
3. Failure to comply with any lawful order of the building official or his or her designated representative;
4. Misrepresentation or falsification of a material fact in an application to obtain a license or permit under this and other applicable codes;
5. Conviction of a misdemeanor or felony relating to the contractor's performance of construction work or the contractor's conduct of his or her construction business;
6. Failure to obtain a building or other applicable permit for any work as required by Pitkin County Code, including but not limited to the Land Use Code, and the Uniform Building Code and Uniform Codes as adopted;
7. Failure to ensure that the person with whom a subcontractor contracts has obtained valid building or other applicable permit for any work required by this code;
8. Contracting for or performing construction work that requires a particular license without holding a valid license for that work;
9. Use of a contractor's license to obtain building permits for another person's project for which the contractor will not be responsible;
10. Disregard or deviation from the plans and specifications approved by the building official for which the permit was issued without the approval of the building official;
11. Failure to ensure that any subcontractor hired by the contractor is licensed in compliance with the regulations set forth in this section;

12. Failure to appear after proper notice, as set forth in this section, at a building official hearing.
13. Failure to obtain and maintain a current Pitkin County use tax license through the county finance office. *(Ord. 99-61 (part); prior code Title VII § 1-1)*

11.36.030: ISSUANCE OF PERMITS ONLY TO LICENSE HOLDERS OR AGENTS AND OWNER/BUILDERS

A. On any work requiring a building permit(s), the permit(s) shall be issued only to licensed contractors, authorized representatives of licensed contractors, and owner-builders.

B. For purposes of this chapter, an “owner-builder” is an individual personally engaged in the construction (new or remodel) of a single-family residence or accessory, building for his or her own use. The following requirements shall apply to owner-builders seeking permits for construction:

1. The owner-builder shall not be issued more than one building permit for new home construction in any two-year period and not more than one building permit at a time;
2. The owner-builder has read applicable regulations and provisions of this chapter and applicable state law and affirmed in writing that the proposed project will comply with all such requirements;
3. It is the responsibility of the owner-builder to see that all paid personnel shall be covered by workman’s compensation insurance as required by state law;
4. The owner-builder must be present at the work site during all inspections and conferences with the building division, unless prior arrangements have been made with the building officials.

In the event that any of the above listed requirements are not met at any time during the course of a permitted project, the chief building official may suspend or revoke the owner-builder’s permit. In the case of a suspended building permit the owner-builder shall have a reasonable time to correct the problem. If not corrected within the time period, the permit may be revoked. In the case of either a suspended or revoked building permit, the owner-builder may ask for a review at the next scheduled building code board of appeals meeting. *(Ord. 99-61 (part); prior code Title VII § 1-1)*

11.36.040: COMPLIANCE WITH LAW AND SUPERVISORY CLAUSES AS REQUIRED

All licenses enumerated in this chapter shall be issued by the chief building official in accordance with the provisions of this code, and shall be subject to the supervisory clauses contained in this chapter. The chief building official is authorized to administer tests for the licenses and owner-builders as required by this chapter, as per the standards and regulations promulgated by the Board of Examiners for Standardized Testing. The chief building official is further authorized to

recognize, for purposes of contractor licensing and owner builder permits, results of tests administered by other jurisdictions. (*Ord. 99-61 (part); prior code Title VII § 1-1*)

11.36.050: APPROVAL OF BUILDING OFFICIAL REQUIRED FOR ISSUANCE OF CERTAIN LICENSES

- A. No person may be issued a license to engage in the following listed trades, jobs, or contractual service as hereinafter enumerated unless approved by the chief building official.
 - 1. General contractor (unlimited);
 - 2. General contractor (commercial);
 - 3. General contractor (light commercial);
 - 4. General contractor (home builder);
 - 5. Specialty.

- B. All persons having valid licenses with the community development department to engage in the aforementioned trades, jobs, or contractual services, shall not be required to be examined by the chief building official. All persons must hold a license from the state, if required by the state, before engaging in any trade, job, or contractual services within the county. (*Ord. 99-61 (part); prior code Title VII § 1-1*)

11.36.060: BUILDER'S LICENSES GENERALLY.

- A. General Contractor (Unlimited). This classification qualifies the holder to contract for the construction, alteration or repair of any structure of any type of construction and occupancy group as permitted by the International Building Code.

- B. General Contractor (Commercial). This classification qualifies the holder to contract for the construction of any structure of any type of construction and occupancy group as permitted by the International Building Code, with the exception of Type I and Type II buildings. Also this classification qualifies the holder for the alteration or repair of any structure of any type of construction and occupancy group permitted by the Building Code.

- C. General Contractor (Light Commercial). This classification qualifies the holder to contract for the construction, alteration, or repair of A-2, A-3, B, E, M, R, S-1, or U occupancy groups of any type of construction with the exception of Type I and Type II fire-resistive construction as permitted by the International Building Code.

- D. General Contractor (Home Builder). This classification qualifies the holder for the construction, alteration, or repair of buildings regulated by the International Residential Code.

- E. Specialty. This classification qualifies the holder to contract for work involving specialty trades regulated by the International Codes, including the following:
 - (1) Alteration & Maintenance;

- (2) Concrete;
- (3) Fire Alarm System Installation;
- (4) Fire Sprinkler System Installation;
- (5) Mechanical Contractor;
- (6) Roofing;
- (7) Solid Fuel & Gas Appliance;
- (8) Temporary Contractor;
- (9) Historic Preservation

F. For the purposes of this section a contractor or sub-contractor hired specifically for one job, may be issued a Temporary Contractors License. It shall only be valid for six months. The applicant for a Temporary Contractors License shall only be required to complete an application; no testing shall be required. Only one Temporary Contractors License can be applied for within one year. *(Ord. 99-61 (part); Ord. 007-04 (part); Ord. 023-04) (part) prior code Title VII § 1-1)*

11.36.070: APPLICATION FOR LICENSEES WHO EMPLOY QUALIFIED SUPERVISORS

Each individual who acts as a supervisor on any work for which a permit is required must be tested in accordance with the provisions of this chapter for the work proposed to be done. *(Ord. 99-61 (part); prior code Title VII § 1-1)*

11.36.080: EXAMINATION FEE

Applications for licenses required by this chapter shall be accompanied by a fee of according to the most current Community Development Department's fee ordinance. *(Ord. 99-61 (part); Ord. 007-04 (part) Ord. 023-04; prior code Title VII § 1-1)*

11.36.090: EXAMINATIONS

- A. The chief building official, before issuing any license required by this chapter, shall require the applicant to take such examinations, written or oral, as the chief building official may determine to be appropriate. In lieu of such examination, the chief building official may recognize and accept the results of examinations administered by other governmental jurisdictions with which the county is a party to an intergovernmental agreement regarding recognition of such test results.
- B. Examinations shall be given at reasonable intervals. *(Ord. 99-61 (part); prior code Title VII § 1-1)*

11.36.100: INSURANCE

Every contractor granted a license under the terms of this chapter shall be required to maintain at all times employee liability and public liability insurance with minimum limits of not less than one hundred thousand dollars (\$100,000.00) for one person and three hundred thousand dollars (\$300,000.00) for any one accident, and property damage insurance with a minimum limit of not

less than one hundred thousand dollars (\$100,000.00) for any one accident. *(Ord. 99-61 (part); prior code Title VII § 1-1)*

11.36.110: ANNUAL FEES

Holders of contractors' licenses shall be required to pay a registration fee according to the most current Community Development Department's Fee Ordinance. *(Ord. 99-61 (part); Ord. 007-04 (part); Ord. 023-04 (part) prior code Title VII § 1-1)*

11.36.120: COMPLIANCE WITH CHAPTER REQUIRED FOR ISSUANCE OF PERMIT

- A. No permit shall be issued to any contractor who has not first obtained a license as required in this chapter or who is delinquent in the payment of annual license fees, or use taxes, or whose license has been suspended or revoked by action of the chief building official.
- B. A licensed contractor may apply for and be issued permits to only such work as he or she is entitled to do under their respective licenses.
- C. Any application for a permit or license filed in derogation of this section shall be deemed to have been filed with fraudulent intent and shall be a nullity. Any permit or license issued on the basis of such fraudulent application shall be null and void. *(Ord. 99-61 (part); prior code Title VII § 1-1)*

11.36.130: STATE LICENSE REQUIRED

All persons performing plumbing or electrical work of any type regulated or licensed by the state of Colorado must hold valid state licenses before engaging in any trade, job or contractual service within the unincorporated county. *(Ord. 99-61 (part); prior code Title VII § 1-1)*

11.36.140: REGISTRATION OF ELECTRICAL AND PLUMBING CONTRACTORS

As a condition of performing services within the county, electrical and plumbing contractors shall register with the chief building official. Applicants for registration must demonstrate that they hold a valid contractor's license issued by the state. Registrations made under this section shall terminate every two years on the month and year of the State of Colorado license expiration.

Appeals of any final decision of the building official may be made pursuant to the bylaws of the building code board of appeals. *(Ord. 99-61 (part); Ord. 023-04 (part) prior code Title VII § 1-1)*

11.38: CARBON MONOXIDE DETECTORS

11.38.010: PURPOSE AND SCOPE

This chapter is enacted for the purpose of protecting the health and safety of the residents of the County, its visitors and employees, by requiring operable carbon monoxide detectors in existing

residential occupancies thereby hopefully reducing the number of injuries and fatalities resulting from carbon monoxide (CO) poisoning.

The provisions of this ordinance shall apply to: 1) all new residential construction containing a sleeping unit; 2) additions to residential buildings containing a sleeping unit; 3) remodels of residential buildings containing a sleeping unit for which a building permit is required; 4) residential units where a fuel burning appliance is added or replaced and for which a permit is required; 5) all existing residential buildings, including single family, duplex, townhome and multifamily.

11.38.030: DEFINITIONS

The following terms as used in this chapter shall have the indicated meaning:

BUILDING CODES: The building and other technical codes adopted pursuant to Title 11 of this code.

CO DETECTOR: A device sensing invisible particles of carbon monoxide that is either battery powered, AC powered with battery backup or connected to a system via an approved control panel that has been installed in accordance with its manufacturer's recommendations, which, when activated, will provide some form of visual or audible signal, and which has been either UL (Underwriters Laboratories Inc.) listed or CSA (Canadian Standards Association) approved.

DWELLING: Any building or portion thereof containing one or more dwelling units occupied as, or designed or intended for occupancy as, a residence by one or more families.

DWELLING UNIT: Any building or portion thereof designed, occupied, or intended as a residence, with complete and independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

RESIDENTIAL OCCUPANCIES:

A. Any of the residential uses as such terms are defined and described in International Building Code and the International Residential Code as amended by the Pitkin County Code in Chapters 11.04 and 11.20.

B. Any residential occupancy or any institutional occupancy with sleeping units as such terms are defined in the building codes.

C. Any other occupancy used for sleeping purposes.

SEPARATE SLEEPING AREA: Bedrooms or sleeping rooms separated by other use areas, such as a kitchen or living room, but not including bathrooms.

SLEEPING UNIT: A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both.

11.38.040: RESPONSIBILITIES

- A. All existing residential occupancies and all residential occupancies to be constructed in the future shall be equipped with CO detectors in accordance with the requirements of this chapter.
- B. The owner of a residential occupancy shall be responsible to: 1) Install and maintain required CO detector(s) in such residential occupancy in accordance with the requirements of this chapter; 2) Test and replace all batteries necessary for operation of a required CO detector, except for dwellings or dwelling units where the tenant has been notified of such responsibility; 3) Immediately repair or replace any defective CO detector required under the provision of this chapter.
- C. The owner of a dwelling or dwelling unit that is rented or leased to a tenant, shall: 1) Immediately, upon notice from the tenant, repair or replace a defective CO detector required to be located within such dwelling or dwelling unit, except that the owner need not repair or replace any CO detector where the defective condition was caused by the tenant, the tenant's family, or the tenant's guests or invitees, by inappropriate use or misuse of the dwelling or dwelling unit during the rental term or any extension of it; 2) Install new batteries in any required CO detector at the beginning of a new lease or tenancy; 3) Furnish to the tenant at the beginning of a new lease or new tenancy written notice of the owner's responsibility to install and maintain a required CO detector on the premises.
- D. A tenant in possession of a dwelling or dwelling unit shall be responsible for: 1) Testing and replacing any batteries necessary for operation of a required CO detector; 2) Informing the owner of a CO detector malfunction; and 3) Repairing or replacing defective CO detectors in the event that the defective condition was caused by the tenant, the tenant's family, or the tenant's guests or invitees, by inappropriate use or misuse of the dwelling or dwelling unit during the rental term or any extension of it.

11.38.050: CO DETECTOR / INSTALLATION REQUIREMENTS

- A. CO detector(s) shall be centrally located outside of each separate sleeping area in the immediate vicinity of the bedrooms or sleeping rooms and on each level of the residence. Residential occupancies shall be considered to be in compliance with this requirement if CO detector(s) are installed within a dwelling unit such that an audible signal not less than 70 decibels reaches each sleeping area. CO detectors shall be hard wired or connected to a system via an approved control panel in new construction. In interior alterations, repairs or additions requiring a permit, or when one or more sleeping rooms are added or created in existing dwellings, detectors shall be hard wired or connected to a system via an approved control panel where the alterations or repairs result in the removal of interior wall or ceiling finishes unless there is an attic, crawlspace or basement available which would provide access for hard wiring.
- B. CO detectors are required in sleeping units containing fuel burning appliances, e.g. gas clothes dryer, decorative gas fireplace, wood burning appliance, etc.

C. It is the intention of this chapter to implement the requirements of the existing building codes, including the latest edition of National Fire Protection Association #720, to the greatest extent practicable for existing residential occupancies. The building official or the fire marshal may approve alternative locations or methods for the installation of CO detectors, if the result would meet the spirit and intent of the building codes and NFPA #720. The building official, in coordination with the fire marshal, may also adopt written guidelines illustrating or describing required locations of CO detectors, and any approved alternative locations or methods for bringing residential occupancies into compliance with the requirements of this chapter.

D. A CO detector is deemed approved for purposes of this chapter if it complies with all applicable state and federal regulations, and bears the label of a nationally recognized standard testing laboratory and meets the revised standard of at least ANSI/UL 2034, Single and Multiple Station Carbon Monoxide Alarms, or ANSI/UL 2075, Gas and Vapor Detectors and Sensors, and subsequent revision or its equivalent. The CO detector may be a combination smoke/gas/CO device.

E. Each CO detector will be mounted in accordance with the manufacturer's instructions, though ceiling mounting is preferred. CO detector(s) will not be mounted in areas of low air movement (dead air spaces),

F. If a CO detector is required to be installed in a common hallway and found to be tampered with it shall be replaced with a hard-wired device (missing or inoperable batteries shall not constitute tampering) or replaced with a system-connected detector.

G. In new construction, the required CO detector shall receive its primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery or from an approved control panel. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection. CO detectors shall be permitted to be battery operated when installed in buildings without commercial power or in buildings that undergo alterations, repairs or additions as stipulated in Section 11.38.050 A.

11.38.060: PROHIBITIONS

A. It shall be unlawful for any owner of a residential occupancy to fail to install and maintain an operable CO detector when required under the provisions of this chapter.

B. It shall be unlawful for any person to remove or render ineffective a CO detector installed to satisfy the requirements of this ordinance. This provision shall not apply to a building owner, manager or his/her agent in the normal procedure of repairing or replacing a CO detector.

C. No person shall, without privilege to do so, knowingly move, deface, damage, destroy or otherwise improperly tamper with a CO detector required to be installed pursuant to the provisions of this chapter so as to destroy or diminish its effectiveness or availability for its intended purpose.

11.38.070: ENFORCEMENT RESPONSIBILITY

The building official and the fire code official, or their designees, shall monitor compliance with this chapter and may perform enforcement inspections upon, but not limited to, the following instances: when notified of a change in occupancy; when reviewing or inspecting the construction, repair, rehabilitation or renovation of the interior of a residential occupancy pursuant to a required permit, when inspecting at the request of the building owner or his representative; when inspecting for any other purpose under the provisions of this code; or when on the premises for any lawful purpose, including but not limited to such purposes as responding to a fire or other request for fire department services.

11.38.080: PENALTIES AND REMEDIES FOR VIOLATIONS

A. Violations, Criminal Enforcement and Penalties

- 1) Violations of any section of §11.38 of the Pitkin County Code shall be a Class 2 Petty Offense with a maximum fine of \$1000 and /or imprisonment for a period not to exceed 90 days or the maximum allowable by state law. The building official and the fire code official, or their designees, shall be authorized to serve either a Summons and Complaint or Penalty Assessment, as specified in this Section on any person who violates the provisions of this Ordinance.
- 2) Failure to provide carbon monoxide detectors as specified by this Ordinance shall be subject to penalty assessment as follows:
 - First Offense: \$250.00
 - Second Offense: \$500.00
 - Third and additional offenses: Summons and Complaint to appear before the Pitkin County Court.
- 2) Summonses and Complaints shall be referred to the District Attorney for prosecution in Pitkin County Court. Nonpayment of a Penalty Assessment shall result in prosecution of the Penalty Assessment as a Summons and Complaint pursuant to § 16-2-201, C.R.S., as amended. In such case the penalty schedule set forth in this § 11.38.070 (2) shall be followed
- 4) Any Person who aids, assists or abets any other Person in committing a violation of these regulations shall be subject to the penalties specified in §11.38.070 (2) dependent upon on whether the person aided or assisted is subject to Penalty Assessment or Summons and Complaint.
- 5) Each day a violation of §11.38 of the Pitkin County Code continues shall be considered a separate offense for purposes of penalties.
- 6) In the case of a property being designed such that multiple rooms require a detector and there are multiple violations within that property, together they shall constitute one violation for the given day

B. Violations, Civil Enforcement.

- 1) Notice of Violation In addition to utilizing the enforcement procedures authorized by this Ordinance, the building official and the fire code official or their designees may deliver a Notice of Violation (NOV) to any person who violates this Ordinance. The NOV shall specify the violation, and may require that the violator either cease and desist immediately from all acts or omissions relating to the violation, or correct the violation within a specified time not to exceed 90 days. Failure to comply with the terms of an NOV shall result in enforcement pursuant to §11.38.080 (2-6). Issuance of a Notice of Violation shall not be deemed a condition precedent to enforcement pursuant to the procedures set forth in §11.38.080, nor shall it preclude later enforcement action pursuant to §11.38.080.
- 2) Civil Enforcement In the event of any act or omission that violates any section of this Ordinance, the County Attorney, in addition to other remedies provided by law or specified herein, may institute an injunction, mandamus, abatement, or other appropriate civil action or proceeding to prevent, enjoin, or abate any unlawful activity, or to remove any improvements or construction resulting from such unlawful activity. In the event that such unlawful activity has damaged any county property, the violator shall be liable for any damage to county property resulting from any such unlawful activity, including, but not limited to, compensation for staff time and for use of county equipment or contracted services to repair such damage. Any civil action or proceeding may include a claim to recover all such money damages in addition to any and all claims for injunctive or other equitable relief.
- 3) Withdrawing or Withholding Permits In the event that Community Development or designee, Code Enforcement Officer, or designee has personal knowledge of any violation of this Ordinance, any Community Development issued permit may be withdrawn after the violator is provided notice and an opportunity for hearing before the Board of County Commissioners. No further permits or approvals from the County shall be issued for any property generating a violation until the violation is brought into compliance with the standards of this Ordinance.

11.38.090: EFFECTIVE DATE

All owners of residential occupancies shall come into compliance with the requirements of this chapter on or before March 2, 2009. (*enacted ord. 03-09*)

11.40: EFFICIENT BUILDING CODE

1.0 ADMINISTRATIVE AND INTERPRETIVE REGULATIONS

The purpose of these regulations is to set forth the procedures and requirements for the administration and implementation of the Efficient Building ordinance. These regulations are not intended to limit the administrative discretion of the persons implementing the Efficient Building ordinance on subjects not covered herein.

The intent of the Pitkin County Efficient Building Program is to encourage cost-effective and sustainable building methods to conserve fossil fuels, water, and other natural resources, to promote the reuse and recycling of building materials and reduce solid waste, and to promote enhanced indoor air quality in residential buildings.

1.1 Point requirements

The provisions of this code shall apply to one and two family dwellings and multiple family dwellings (townhouses) not more than 3 stories in height. Such dwellings are required to earn points according to the following schedule:

Project Description	Points Required	Thresholds
New construction	50 points	Up to 1,500 sq. ft.
New construction	65 points	Between 1,501 and 2,500 sq. ft.
New construction, each additional 50 sq. ft.	1 point	2,501 sq. ft. or greater
Interior remodel	20 points	500 – 1,000 sq. ft.
Interior remodel	30 points	1,001 - 2,000 sq. ft.
Interior remodel	40 points	2,001 sq. ft. or greater
Additions	25 points	500 – 1,000 sq. ft.
Additions	50 points	Between 1,001 and 2,500 sq. ft.
Additions, each additional 50 sq. ft.	1 point	2,501 sq. ft. or greater
Detached garages	Zero points	Up to 500 sq.ft.
Detached garages	15 points	501-750 sq.ft.
Detached garages, each 25 additional sq.ft.	1 point	Over 750 sq.ft.

Square footage is as defined by the currently adopted building codes. For measures where a graduated point scale is used, the following shall apply: Level 1 = 10%-25%, Level 2 = 26%-50%, Level 3 = 51%-75%, and Level 4 = 76%-100%.

1.2 Inspection and compliance

These regulations identify the specific requirements for complying with the APEB program. The sections and numbers in these regulations correspond to the sections and numbers on the APEB

Checklist. A completed APEB Checklist must be submitted with the appropriate building permit application. Permit applications will not be processed unless a completed hard copy of the APEB Checklist is included in the application packet or an electronic checklist is submitted by email to Vickim@co.pitkin.co.us. The checklist and other related documents are available at the Community Development Department; 130 S. Galena St. Aspen, CO 81611 or at www.aspenpitkin.com (see Community Development section).

Compliance with each measure described below will be demonstrated by one of two methods. If compliance is "Inspected", City/County staff will inspect these measures during their typical inspections, and shall require the submission of appropriate documentation to establish compliance. Inspections are listed as PC: Plan Check, 1:Foundation, 2: Framing, 3:Insulation, 4:Rough-in, 5: Final. (Please read the "Compliance" section of the specific measure to see which type of inspection is required). All materials marked off on the checklist classified as "Inspected", must be identified on the plans. If a measure is indicated as "Self-Certified", the applicant's signature on the APEB Checklist serves as certification that a measure will be complied with as described in each section. Pitkin County reserves the right to conduct follow-up inspections or compliance audits of self-certified measures prior to issuing a C.O. If a compliance audit is conducted, the contractor must provide documentation for these items.

1.3 Mandatory measures

Measures identified with shading (i.e. 2.1) indicate mandatory compliance for all projects. Measures identified with a dark outline (i.e. 2.1) indicate mandatory compliance for all publicly-funded affordable housing (PFAH) projects.

1.4 Total required point calculations

NOTE: Refer to Point requirement schedule on page 1 of this document.

Example 1:

To calculate the required points for a 7500 sq. ft. *new construction* project:
The first 2500 sq.ft. requires 65 points.
In addition, every sq.ft. over 2500, requires 1 point for every 50 sq.ft.
 $(7500-2500) = 5000$ divided by 50 = 100 points.
Total points required = 65 + 100 = 165

Example 2:

To calculate the required points for a 2500 sq.ft. *remodel* and 5000 sq.ft. *addition*:
A *remodel* with more than 2001 sq.ft. requires 40 points.
The first 2500 sq.ft. of the *addition* requires 25 points;
In addition, every sq.ft. for the *addition* over 2500 sq.ft., requires 1 point for every 50 sq.ft. = $(5000-2500) = 2500$ divided by 50 = 50.
Total points required = 40 + 25 + 50 = 115

For multi-family projects, *each unit* must have its own checklist for compliance. Each unit may receive credit for common items such as landscaping.

2.0 CONSTRUCTION/DEMOLITION AND USE OF RECYCLED MATERIALS

- 2.1** Deconstruction Plan submitted with permit application 3 points
(additions, remodels, or scrape-offs only)

A completed APEB Deconstruction Plan is required. The Plan can be used to create a site-specific program to reduce demolition waste. Deconstructing the building to allow for the reuse of valuable building materials is encouraged but not required.

The plan requires a description of the materials to be recovered, designation of a “deconstruction contact”, site plan for collection bins, and destination of all materials expected to be recycled, reused, or resold. A significant goal is that 60% of the material be made available for reuse.

Compliance: Inspected (PC): Plan Check. Completed Deconstruction Plan must be submitted to the Community Development Department, a minimum of 45 days prior to receiving a demolition permit or building permit (whichever is obtained first). During the 45-day period, the project’s “deconstruction contact”, provided by the contractor, shall be available to discuss material recovery by interested parties prior to receiving building permit.

- 2.2** Demolition debris reduced *(4 points required for all remodels/scrap-offs)* 4-37 points

Compostable and/or recyclable material must be sorted for composting and/or recycling or processed for compaction. Applicants choosing 2.26 can also earn points for items 2.2.1 thru 2.2.5.

- 2.2.1 Wood recycled/composted ($\geq 75\%$ of all wood) 3 points
- 2.2.2 Metal recycled ($\geq 90\%$ of all metals) 3 points
- 2.2.3 Concrete recycled ($\geq 75\%$ of all concrete) 3 points
- 2.2.4 Carpet pad recycled ($\geq 90\%$ of all carpet pad) 2 points
- 2.2.5 Compaction – Grinding, shredding, crushing, etc. 2 points
- 2.2.6 Material salvaged for reuse (6 points per level) 6-24 points

Compliance: Inspected (1: Foundation). Present receipt from entity and place into permit sleeve.

- 2.3** Deconstruction materials donated to a non-profit organization 3 points
 Non-profits such as Resource 2000, Habitat for Humanity (via Construction Junction) and others will take deconstructed materials for reuse or resale, keeping the materials out of the waste stream while benefiting the community. Pitkin County Landfill will provide services for deconstructed materials as well.

Compliance: Self-certified (S). Present receipt from entity and place into permit sleeve.

- 2.4** Construction debris recycled 4-10 points
(4 points required of all new & PFAH construction projects)

Recycle two or more of the following scrap materials from the construction of a new project:

- 2.4.1 Wood scrap recycled/composted *(1 point per level)* 1-4 points
- 2.4.2 Metal scrap recycled ($\geq 90\%$) 2 points
- 2.4.3 Cardboard recycled *(1 point per level)* 1-4 points

Compliance: Self-certified (S).

- 2.5** Reclaimed lumber 5-20 points
 (5 points per level)

Install reclaimed lumber for 10-100% of lumber. Reclaimed lumber is the re-use of already harvested lumber. Lumber is recovered from old buildings as they are torn down or from logs that have been sitting at the bottom of rivers, lakes, and streams. These timbers are often re-milled, providing a stable, trouble-free, solid building material. Points can be awarded for reclaimed timber frames.

Compliance: Self-certified (S).

2.6 Reclaimed exterior trim / siding / interior trim / flooring 5-20 points (5 points per level)

Install reclaimed materials for 10 to 100% of all trim, siding and flooring areas .

Compliance: Self-certified (S).

2.7 Recycled-content carpeting 1-4 points
(1 point per level)

Install recycled content carpeting and carpet pad in 10% - 100% of all carpeted area.

Compliance: Self-certified (S).

2.8 Recycled-content decking materials 1-4 points
(1 point per level)

Install recycled-content decking on 10% - 100% of all decks.

Compliance: Self-certified (S).

2.9 Recycled-content sheathing 1-4 points Recycled-
(1 point per level)

Install recycled-content sheathing on 10% - 100% of all exterior walls.

Compliance: Self-certified (S).

2.10 Recycled-content or fiber cement siding 1-4 points
(1 point per level)

Install recycled-content or fiber cement siding on 10% - 100% of all exterior walls.

Compliance: Self-certified (S).

2.11 Recycled-content ceramic tile 1-4 points
(1 point per level)

Install recycled-content tile in 10% - 100% of all tiled area.

Compliance: Self-certified (S).

2.12 Recycled-content roofing 1-4 points
(1 point per level)

Install recycled-content roofing on 10 to 100% of roof. Approved roofing materials include non-combustible tiles made of recycled wood fiber and concrete, recycled plastic panels, and recycled aluminum. Steel roofing with at least 75% recycled steel content is also permitted. All roofing materials must be hail-rated for Colorado.

Compliance: Self-certified (S).

2.13 Rapidly renewable content flooring 2-8 points

(2 points per level)

Install rapidly renewable flooring for 10-100% of all flooring. Rapidly renewable content materials include, but are not limited to: wool carpet, bamboo, sisal, linoleum, or cork.
Compliance: Self-certified (S).

2.14 Built in kitchen recycling center to include 2 or more bins 2 points
Install an indoor recycling center containing 2 or more bins in the kitchen area.
Compliance: Self-certified (S). Recycling center must be identified on plans.

3.0 LAND USE AND WATER CONSERVATION

3.1 Keep footprint simple for cost-effectiveness 1-3 points
Reduce waste and improve energy efficiency with a simple footprint as follows for:
3.1.1 Simple rectangle (no points for 3.1.2 or 3.1.3) 3 points
3.1.2 One "L" (no points for 3.1.1 or 3.1.3) 2 points
3.1.3 Rectangle with 1 rectangle protrusion (no pts for 3.1.1 or 3.1.2) 1 point
Compliance: Inspected (1: Foundation). Verification of footprint approved at plan review.

3.2 Xeriscape Landscaping (2 points required of PFAH projects) 1-5 points
(1 point for each measure)

Applicants can earn points by selecting xeriscape measures.

- 3.2.1 Addition of organic material to and aeration of soil. Organic material can include, but is not limited to, manure and compost.
- 3.2.2 Reduction of turf areas. No more than 25% of landscaped area or 3000 square feet (which ever is smaller) can be covered with high water demand turf, such as Kentucky bluegrass. For the Pitkin County climate more appropriate turf can include, native, low water, bunch grasses for fringe areas.
- 3.2.3 All planting beds mulched with wood chips at least 2" deep. (Except desert plantings.)
- 3.2.4 Appropriate use of low-water-demand plants. All plants to be grouped by water needs. 75% of the landscape must use low or moderate water demand plants.
- 3.2.5 Zoned irrigation system. Irrigation system must be zoned to deliver different amounts of water appropriate to the different plant zones. High-water zones should have irrigation controls that include timed devices and be surrounded on 75% of the perimeter with other water zones; no high-water zones should be immediately adjacent to large hardscapes such as driveways or streets, and for efficient irrigation, high water zones should not be installed in areas less than 15 feet wide. The remainder of the landscape should include low to moderate water demanding plants, and should be irrigated with drip irrigation, bubbler, or micro-spray systems.

Compliance: Self-Certified (S).

3.3 Water conservation by performance method 1-13 points (2 points required of PFAH projects)

Showers and faucets: Points are available for accumulated water savings over code for listed fixtures and/or for dual flush toilets, composting toilets and/or single showerheads.

3.3.1 One point is earned for every one gallon per minute savings over code.

CODE: Showerhead = 2.5 gpm; Toilet = 1.6 gpm; Lav.faucet = 2.2 gpm; Kit. faucet = 2.2

gpm

- 3.3.2 Dual flush toilet *(1 point each, no credit for toilet in 3.3.1)* 1-4 points
 - 3.3.3 Composting toilet *(2 points each, no credit for toilet in 3.3.1)* 2-8 points
 - 3.3.4 Only one showerhead in all showers 1 point
- Compliance: Self-certified (S).

- 3.4 No irrigation system or install a drip irrigation 5 points
Do not install a permanent irrigation system or install drip irrigation system for these points.
- Compliance: Self-Certified (S).

- 3.5 Engineered/vegetated swales to filter storm water runoff 1-4 points
(1 point per level)

Submit a diagram showing water drainage patterns (paths) from developed areas and a watercourse to vegetated swales. Water from developed areas should be diverted to vegetated swales to slow and filter storm water egress flow prior to leaving the site. For city projects, an engineered site drainage plan is required by code.

Compliance: Inspected (5: Final).

- 3.6 Planting trees above requirements 1-10 points
Applicant receives 1 point for each additional tree (beyond code requirements). Tree planting points are limited to a maximum of 10 total points (ten trees).

Compliance: Inspected (5: Final).

- 3.7 Save and reuse all topsoil and/or excavated fill on site 3-8 points
 - 3.7.1 Topsoil from the site must be reused on site 3 points
 - 3.7.2 Use 100% of excavated fill on-site 5 points

Compliance: Self-certified (S).

- 3.8 Site-rock reclaimed on site 2-8 Points (2 points per level)

Reclaim 10-100% of site rock on site. Site rock is used for rock applications i.e. retaining walls, landscaping, veneer applications, etc.

Compliance: Self certified (S). Place letter from entity in permit sleeve.

- 3.9 Non-potable water used for irrigation 4 points
Use systems, such as rainwater catchments, to save and store water on-site for use as irrigation or use ditch water if available. Verify compliance with local and state regulations prior to construction.
- Compliance: Self-certified (S).

- 3.10 Pervious materials in “hardscape” areas. 2-8points
(2 points per level)

Construct 10-100% of “hardscape” areas (walkways, patios and driveways) with pervious materials.

Compliance: Self-certified (S).

4.0 FRAMING & MATERIALS

- 4.1** Incorporate optimal value engineering (OVE) framing techniques
(6 points required of PFAH projects) 1-21 points
 Use advanced framing techniques in design specifications and construction. Optimum value engineering (OVE) framing techniques include:
- 4.1.1 24" o.c. studs *(2 points per level for all framing)* 2-8 points
 - 4.1.2 Two stud corners *(1 point per level for all framing)* 1-4 points
 - 4.1.3 Efficient headers *(1 point per level for all framing)* 1-4 points
 - 4.1.4 Stacking joists over studs with single top plates
(1 point per level for all framing) 1-4 points
 - 4.1.5 Build with two-foot increments ($\geq 75\%$ of footprint) 2 points

Compliance: Inspected (2: Framing).

- 4.2 Oriented Strand Board (OSB) in subfloors 1-4 points
 (1 point per level)
 Sub floors (10-100%) constructed with Oriented Strand Board (OSB).
 Compliance: Inspected (2: Framing).

- 4.3 Oriented Strand Board in wall sheathing 1-4 points
 (1 point per level)
 Use Oriented Strand Board for 10% - 100% of exterior wall sheathing applications.
 Compliance: Inspected (2: Framing).

- 4.4 Formaldehyde free OSB 1-4 points
 (1 point per level)
 Use formaldehyde free OSB for 10 –100% of OSB wherever OSB is specified.
 Compliance: Inspected (2: Framing).

- 4.5 Finger-jointed studs or engineered studs for wall framing 1-4 points
 (1 point per level)
 Use finger-jointed studs or engineered studs for 10% - 100% of all framing.
 Compliance: Inspected (2: Framing).

- 4.6 Finger-jointed interior trim 1-4 points
 (1 point per level)
 Use finger-jointed trim for 10% - 100% of all interior trim.
 Compliance: Self-certified (S).

- 4.7 FSC certified sustainably harvested lumber 2-8 points
 (2 points per level for all exterior walls)
 Use certified sustainably harvested lumber for 10-100% of all exterior walls.
 Compliance: Inspected (2: Framing). FSC certification placed in permit sleeve.

- 4.8 Other FSC certified products used: 2-40 points
 A maximum of 20 points can be counted in this section.
 4.8.1 FSC cedar shakes *(2 points per level for all roofing)* 2-8 points

- 4.8.2 FSC trim & flooring (2 pts per level for all trim & flooring) 2-8 points
- 4.8.3 FSC cabinets (2 points per level for all cabinets) 2-8 points
- 4.8.4 FSC doors (2 points per level for all doors) 2-8 points
- 4.8.5. Outdoor structures, decking and landscaping forms made with dimensional FSC lumber (2 points per level for all exterior structures) 2-8 points
Compliance: Inspected (5: Final). FSC certification placed in permit sleeve.
- 4.9** Engineered lumber used in floors and roofs (3 points required of PFAH projects) (1 point per level for floor & roof framing) 1-4 points
Install engineered lumber in framing. Engineered lumber includes, but not limited to: wood “I” joists, engineered trusses, or other remanufactured wood fiber structural materials.
Compliance: Inspected (2: Framing). Engineered material must be specified on structural plans.
- 4.10** Engineered lumber used to replace 2x10s or 2x12s for structural bearing applications 2 points
Replace ≥ 75% of all 2x10’s and/or 2x12’s with engineered lumber. Products include, but are not limited to: gluelam, microlam, laminated veneer lumber, and parallel strand lumber.
Compliance: Inspected (2: Framing). Engineered material must be specified on structural plans.
- 4.11 Structural alternatives to wood-frame construction 5-20 points
(5 points per level for exterior walls)
Construct 10-100% of exterior walls with alternative materials, which may include, but is not limited to: adobe, rammed earth, and straw bale.
Compliance: Inspected (2: Framing). Applicant must provide plans or designs certified by a structural engineer and in compliance with the requirements of Pitkin County.
- 4.12 Structural Insulated Panels (SIP’s) for exterior walls and/or roofs 1-4 points
(1 point per level for non-foundation building envelope)
Structural insulated panels (SIP) used for exterior walls and/or roof.
Compliance: Inspected (2: Framing).
- 4.13 Factory built or panelized homes 1-4 points
(1 point per level)
Factory built or panelized construction used for exterior walls and/or roof. Resource-efficient techniques must be used in off-site construction.
Compliance: Inspected (2: Framing). Provide manufacturers’ specifications outlining resource efficient techniques for plan review.
- 4.14 Recycled-content Insulated Concrete Forms (ICF’s) 2 points
(≥ 75% of all ICF’s)
Install insulated concrete forms with recycled-content such as post-consumer plastic or fly ash for foundation walls.

Compliance: Inspected (1: Foundation).

4.15 Insulated Concrete Forms (ICF's) 1-4 points
(1 point per level for foundation walls)

Install insulated concrete forms for 10 - 100% of foundation walls.

Compliance: Inspected (1: Foundation).

4.16 Non-asphalt based foundation waterproofing 2 points

Use non-asphalt based damproofing on all walls receiving damproofing.

Compliance: Self-certified (S).

4.17 Frost-protected shallow foundation 3-12 points
(3 points per level)

Use this design technology for 10 -100% of foundation. Provide details as per references listed in the Resource Guide.

Compliance: Inspected (1: Foundation).

4.18 Twenty percent fly ash content in all structural concrete 1-4 points
(1 point per level of all structural concrete)

Specify 20% fly ash content in 10-100% of structural concrete.

Compliance: Inspected (1: Foundation). Batch report for fly ash content in permit sleeve.

5.0 ENERGY CODE MEASURES

5.1 Performance exceeding the Pitkin County Energy Code 1-10 points
(4 points required of PFAH projects)

One point is awarded for every 5% performance over "Pass" according to MEC check energy calculations. For example: For 10 % better than code performance, 2 points are earned. No points can be earned if a snowmelt system and/or a heated pool or spa is incorporated into the project.

Compliance: Inspected (PC: Plan Check).

5.2 Window quilts or insulated window shades 1 point
(≥ 50% of all windows)

Install insulated window shades or window quilts on ≥ 50% of the windows.

Compliance: Self-certified (S).

5.3 Mechanical equipment centrally located 1 point

Locate mechanical equipment within the middle third (1/3) of the distance of the longest horizontal diagonal.

Compliance: Inspected (PC: Plan Check).

5.4 Energy Star® House (5 Star Rating) 5 points

Obtain a 'Final' rating certificate for the house by Energy Rated Homes of Colorado (E-Star™), with a score of at least 5 stars. An E-Star™ 'From-Plans' rating certificate can be used with building permit application as per APECC compliance and shall be submitted with building permit application.

Compliance: Inspected (5: Final). E-Star™ 'Final' rating certificate placed in permit sleeve

5.5. Energy 10 Analysis 3 points
Use Energy 10 computer software to analyze the building's energy performance. Energy 10 cannot be used for APECC compliance i.e. Calres applications.
Compliance: Inspected (PC: Plan Check).

5.6 All ductwork sealed with mastic 1 point
Use mastic to seal all duct work; duct tape is not allowed.
Compliance: Inspected (4: Rough-in).

5.7 Insulate all hot water pipes 1 point
Insulate all hot water pipes with R-3 to all locations.
Compliance: Inspected (4: Rough-in).

5.8 Unvented crawlspace 3 points
Construct all crawlspaces according to guidelines in ASHRAE Book of Fundamentals, section 23.11. Provide details demonstrating an approved design.
Compliance: Inspected (3: Insulation).

5.9 Side-arm hot water heater 2 points
Install a side-arm or indirect heat coil from the boiler for domestic hot water.
Compliance: Inspected (5: Final).

5.10 Energy efficient boiler or furnace 4-9 points
Install a minimum 87% efficient boiler or modulating boilers or sequentially staged boilers for efficient operation when demand is less than full heat load. For a forced-air system, install a 94% efficient furnace.

5.10.1 87% (min.) efficient boiler or 94% (min.) efficient furnace 4 points

5.10.2 Modulating or sequentially-staged boilers 5 points

Compliance: Inspected (5: Final). Equipment must be specified in the energy calculations.

5.11 Outdoor reset thermostat control 3 points
Install an outdoor reset thermostat to measure both outdoor air temperature and heating system supply temperature. The reset thermostat shall regulate heating supply water temperature for a more efficient heating system.
Compliance: Inspected (5: Final).

5.12 High efficiency gas hot water heater 4 points
Install a high efficiency ($\geq 88\%$) gas hot water heater.
Compliance: Inspected (5: Final).

6.0 PLUMBING

6.1 Tankless water heater 2 points
Install a tankless hot water heater. The device must have a variable-set thermostat and be sized to Manual J specifications.
Compliance: Inspected (5: Final).

6.2 "On-Demand" hot water switch 3 points
Install an "on-demand" hot water circulation device installed at the plumbing fixture furthest from the hot water heater. An automatic switch-activated device recirculates water from the fixture to the hot water heater through the cold water line, while providing instant hot water at the tap. Constant circulation hot water systems do not qualify for these points.
Compliance: Inspected (5: Final).

7.0 ELECTRICAL

7.1 Energy Star® rated appliances (*2 points required of PFAH projects*) 1-4 points
(1 point for each appliance)
Install an energy efficient dishwasher, clothes washer, refrigerator and/or freezer. "Energy Efficient" appliance designation is indicated on the required Department of Energy "Energy Star®" label. Appliances shall be selected from the most efficient category in the top quarter of the Energy Star® list.
Compliance: Self-certified (S).

7.2 Clothesline 1 point
Install a permanent clothesline inside or outside.
Compliance: Self-certified (S).

7.3 Energy efficient clothes washers 3 points
Select a horizontal axis washer referenced in the Resource Guide for an extra point over the Energy Star® washer.
Compliance: Self-certified (S).

7.4 Compact Fluorescent (CFL) bulbs (*1 point required of PFAH projects*) 1-4 points
One point will be awarded for every four bulbs/lamps, up to a maximum of 4 points (points may be awarded for additions or existing square footage as well as new construction). T8 & T5 fluorescent bulbs also qualify.
Compliance: Self-certified (S).

7.5 Efficient light controls 2 points
Control at least 2 interior spaces with efficient lighting controls. Efficient lighting controls include occupancy/motion sensors and automatic daylight dimming controls.
Compliance: Self-certified (S).

8.0 INSULATION

8.1 Wall insulation is 70% recycled material 2 points
(≥ 75% of thermal envelope)
Install insulation with at least 70% recycled content material in exterior walls. This includes, but is not limited to Insulation made from recycled - newsprint, wood fiber, agricultural waste, cotton or mineral wool.
Compliance: Inspected (3: Insulation). Insulation certificate placed in permit sleeve.

8.2 Roof insulation is 70% recycled material (≥ 75% of thermal envelope) 2 points

Install insulation with at least 70 % recycled content material in roof/attic. Insulation made from recycled materials: newsprint, wood fiber, agricultural waste, cotton or mineral wool can be used. Compliance: Inspected (3: Insulation). Insulation certificate placed in permit sleeve.

8.3 Blown / sprayed insulation (≥ 75% of thermal envelope) 2 points

Install blown / sprayed insulation in walls and/or roofs/attics. Points are also awarded for sections 8.1, 8.2 and/or 8.3.

Compliance: Inspected (3: Insulation). Insulation certificate placed in permit sleeve.

8.4 Formaldehyde-free Insulation (≥ 75% of thermal envelope) 2 points

Install formaldehyde-free insulation in wall and/or roofs/attics. Points are also awarded for sections 8.1, 8.2 and/or 8.3.

Compliance: Inspected (3: Insulation). Insulation certificate placed in permit sleeve.

8.5 Single-pane windows upgraded (*additions/remodels only*) 1-10 points

Applicant must replace single-pane windows with double-glazed windows according to the following schedule: (Points are awarded for one category only.)

8.5.1 Double-glazed (max U-value= 0.40) .5 point per window

8.5.2 Double-glazed with low-e coating (max U-value = 0.35) 1 point per window

8.5.3 Spectrally selective film applied to historic windows .5 point per window

Compliance: Inspected (5: Final). The inspector must be able to clearly identify the U-value and window type by either the National Fenestration Rating Council's sticker or the Manufacturer's label.

8.6 Existing ceiling/roof insulated to R-38 or to capacity (*additions/remodels only*) 7 points

Increase ceiling/roof insulation in existing structure to R-38, where possible, which is generally intended to be in ceilings below attic space, with appropriate gable or soffit ventilation.

NOTE: If existing cathedral or flat ceilings are already insulated, it is not recommended to install more insulation in the cavity. Refer to the building code for ventilation requirements.

Compliance: Inspected (3: Insulation). An insulation certificate dated on or after the date of the building permit issuance must be placed in permit sleeve.

8.7 Existing walls insulated to capacity or rigid insulation added to exterior (*additions/remodels only*) 5 points

Insulate walls of existing wood frame houses to capacity. The existing home qualifies only if the walls have no existing insulation or if the insulation has settled or degraded. Wall cavities with existing insulation can be blown full of new cellulose or fiberglass to increase the density, thereby increasing the R-value. Exterior walls can be wrapped with a minimum of 1" (R-4) rigid foam to increase R-value; two inches is recommended.

Compliance: Inspected (3: Insulation). An insulation certificate dated on or after the date of the building permit issuance must be placed in permit sleeve.

9.0 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

9.1 Air destratification system 1 point

Design and install a system to reduce the stratification of warm air in residential living spaces. The systems are to be used on ceilings greater than 10 feet in height, or in stairwells. The systems can include: blade-type ceiling fans, heat siphon fan units, return ducting mounted at the high point of ceilings, calculated air flow pathways, utilizing high- and low placed operable windows/vents in passive solar systems, or other proven, documented systems designed to reduce stratification. Compliance: Self-certified (S).

9.2 Natural cooling 1 point required of PFAH projects 1- 5 points

One point will be awarded for natural cooling systems for each measure described below:

9.2.1 Vertical shading devices for $\geq 75\%$ of east and west-facing glass.

9.2.2 Reflective films on $\geq 90\%$ of east and west-facing glass or use windows with a Solar Heat Gain Coefficient of less than 0.45.

9.2.3 Radiant heat-reflective barriers installed on $\geq 90\%$ of roof applications.

9.2.4 Landscaping that shades $\geq 75\%$ of east and west facing glazing during the summer season (June-August).

9.2.5) Properly sized overhangs for $\geq 75\%$ of south facing glazing area. The formula below will result in window overhangs that shade 100% of south-facing window glazing on June 21st (the summer solstice).

Applicants should use this formula as a guide for sizing all south-facing overhangs.

$D=H/F$ where:

D = Distance of overhang from face of glass

H = Height from bottom of glass to top of overhang

F = 3.38 (F is a value corresponding to the noon sun altitude angle on June 21st,

which results in 100% window shading).

Compliance: Inspected (5: Final). For option 9.2.5 applicant must submit a calculation for “D” that demonstrates overhangs have been designed in accordance with the equation above for all south-facing glazing.

9.3 No mechanical air conditioning 5 points

Do not install compressed refrigerant systems for temperature control.

Compliance: Inspected (5: Final).

9.4 Evaporative cooling 1 point

Install an evaporative cooling system instead of a compressed refrigerant air conditioner. No points allowed for Section 9.3 above.

Compliance: Inspected (5: Final).

9.5 Air infiltration rate below specified levels 2-12 points (4 points required of PFAH projects)

Applicant must provide blower door test results identifying the Natural Air Change per Hour (NACH) rate for the house. Points are awarded for meeting the following air infiltration rates:

9.5.1 0.40 NACH 2 points

9.5.2 ≤ 0.35 NACH (2 additional pts for every .05 NACH reduction) 4-12 points

Note: To earn points for air infiltration rates less than or equal to .35 NACH, mechanical ventilation that allows a minimum of .35 NACH must also be installed and inspected.

Compliance: Inspected (5: Final). Place blower door test result in permit sleeve. (Note: A blower door test is included in an E-Star™ rating.)

9.6 Whole-House Fan 2 points

Install a whole-house fan with an insulated cover. The fan must be mounted in a common area ceiling on the top floor of the house. The fan must have two speeds: low speed for continuous ventilation and high speed to vent the entire house quickly. Insulation, louvered vents, and an airtight seal are required to prevent air infiltration or exfiltration. Fans should be sized to produce between 4-5 air changes per hour at top speed within the home. Fans are rated in terms of the number of cubic feet per minute (CFM) of air they move. For design purposes, to determine the appropriate size fan for your project, use the following formula:

Minimal Fan Size (CFM) = Volume of House x 4-5 air changes/hour x 1/60

Volume of House = square footage of house x average ceiling height throughout house

Compliance: Inspected (5: Final).

9.7 Convert electric resistance heat to gas (*additions/remodels only*) 10 points

Replace an existing whole house electric resistance heating system with a natural gas heating system sized to accommodate the heating load of the entire house.

Compliance: Inspected (5: Final). Applicant must provide documentation that conversion occurred on or after the date of building permit issuance.

9.8 Replace electric water heater with a gas water heater (*additions/remodels only*) 4 points

Replace an electric hot water heater with a gas water heater sized to accommodate the water-heating load.

Compliance: Inspected (5: Final). Applicant must provide documentation that conversion occurred on or after the date of building permit issuance.

9.9 Hydronic heat 3 points

Install a system that distributes hot water heat in the floor or by radiators to two or more zones. No points can be awarded if points are taken for Section 9.7.

Compliance: Inspected (5: Final)

9.10 Air to air heat exchanger (heat recovery ventilation) 8 points

Install a mechanical heat recovery ventilation system that recovers at least 60% of the heat from exhausted indoor air.

Compliance: Inspected (5: Final)

Note: Use of this equipment complies with the requirements of Section 9.5 for houses with a NACH of less than .35.

10 SOLAR

10.1 Passive solar space seating 10-20 Points

Points for passive solar space heating are obtained for either Sections 10.1.4 or 10.1.5. Install south facing glazing to capture solar energy and meet the prerequisites in Sections 10.1.1, 10.1.2 and 10.1.3.

10.1.1 Prerequisite South facing glazing is oriented within 30 degrees of east of true south or 30 degrees west of true south direction.

10.1.2 Prerequisite Size overhangs so that south facing glazing is not shaded between 10 a.m. and 2 p.m. on a clear winter solstice day and is totally shaded (by the eaves) between 10 a.m. and 2 p.m. on the summer solstice (see Section 9.25 for sizing calculation).

10.1.3 Prerequisite Solar access is unimpeded under easements, covenants, or other private agreements among affected landowners that the Building Official finds are adequate to protect continued solar access for south facing glazing.

10.1.4 Sun tempered 10 points
Install south facing glass equivalent to 6-7% of total heated floor area.
Compliance: Inspected (PC: Plan Check). Provide calculation south facing glass vs. total heated floor area on plans.

10.1.5 Passive solar 20 Points
Install south facing glass equivalent to 7-12% of total floor area. Thermal mass must be added, either in the floor or walls, for each square foot of south facing glass over 7% of the floor area.

Types of thermal mass which can be used include: concrete floors, two layers of sheetrock, exterior sheet rock, gypcrete (2 inches), tile floors, masonry, thick plaster, adobe walls, stone fireplaces, etc.

Compliance: Inspected (PC: Plan Check). Provide calculation of percentage of south facing glass and amount of thermal mass required with plans.

10.02 Solar heating system for domestic hot water 10 points
Install a solar system, which includes rooftop or ground-mounted panels (collectors), to collect and distribute solar heat to a heat exchanger and/ or insulated storage tank for domestic hot water supply. Systems may be active, using pumps, or they may be a thermo siphon-type.

The collectors must be mounted to achieve a minimum 85 % Orientation Adjustment Factor (refer to the Solar Table in the Resource Guide), by the combination of slope angle from the horizontal and orientation versus true south. No points can be awarded if points are taken for Sections 10.3 or 10.4.

10.2 Con't. System size is dependent on number of bedrooms. Collector size and storage tank size:

- 1 bedroom - 40 sq ft of solar collectors, 50 gallons storage;
- 2 bedrooms – 48 sq.ft. of solar collectors, 60-65 gallons storage;
- 3 bedrooms – 64 sq ft of solar collectors, 80 gallons storage;
- 4 bedrooms or more – 96 sq.ft. of solar collectors, 120 gallons of storage.

Compliance: Inspected (5: Final). Show collector panels on plans and specify panel sizes. Solar hot water systems may be installed off-site if approved by CORE Board.

10.3 Active solar pre-plumbing 2 points

The piping is to be installed in an interior wall and shall start in the mechanical room or near the area that will house the storage tank. The piping should terminate in an attic space under the roof that will support the solar collectors, and it shall be above the insulation for easy sighting. If there isn't an attic space, the piping shall end after penetrating the roof that will support the collectors. The two runs of piping shall be type M copper and be a minimum of 3/4 inch in diameter. All joints shall be soldered with lead-free solder. The piping shall be insulated with a minimum R-6. The insulation shall run continuously without any exposed piping. Run three conductors thermostat wire from the mechanical room to the roof. No points can be earned if snowmelt and/or a heated pool or spa is incorporated into the project.

Pre-plumbed for future active solar retrofit. No points can be awarded if points are taken for Sections 10.2 or 10.4.

Compliance: Inspected (5: Final).

10.4 Active solar space heating, with solar domestic hot water 15 Points

Install a solar system, which includes rooftop or ground-mounted panels (collectors), to distribute solar heat to a heat exchanger and/ or insulated storage tank in order to meet part of the winter heating load. Area of solar collectors shall be 5-7% of total heated floor area. No more than 320 square feet of collector shall be installed on a house. The collectors for the solar system must be mounted with a minimum slope from the horizontal of 40 degrees. Also the position of the collectors must result in a minimum 90 % Orientation Adjustment Factor by the combination of slope from the horizontal and orientation versus true south. See the Solar Table in the Resource Guide.

The system shall also be used to provide domestic hot water. Solar system design shall have at least 2 gallons of storage for every square foot of collector. If the system is not a drain-back system, the solar hot water system must have a means of dissipating or using solar heat in the summer months. No points can be awarded if points are taken for Sections 10.2 or 10.3.

Compliance: Inspected (5: Final). System design shall be detailed in mechanical plans. Mounting angles specified on the plans. Solar hot water systems may be installed off-site if approved by CORE Board.

10.5 Solar-Generated Electricity 10-80 points

Install a solar-generated electric or photovoltaic system for these points. Photovoltaic panels should be mounted facing south either on a roof or on the ground, at an angle, which provides 90 % rated output as per the Orientation Adjustment Factor Table in the Resource Guide. Panels shall not be shaded between the hours 10 AM-2PM year round. Systems must be grid-tied if the electric grid is to the property line. Applicants with houses over 5000 sq.ft installing a photovoltaic system can receive a credit towards REMP fees.

10.5.1 System size of 1 KW 10 Points

10.5.2 System size of ≥ 1.5 KW (5 additional pts for every .5 KW) 15-80 Points

Compliance: Inspected (5: Final). Applicant must submit diagrams by a qualified architect, engineer, or designer certifying the KW capacity, mounting angle meets 90% rated output of solar electric power. Solar-electric systems may be installed off-site if approved by CORE Board.

11 INDOOR AIR QUALITY

- 11.1** Low VOC Interior Paint (2 points required of PFAH projects) 1-4 points
(1 point per level)
Paint 10% - 100% of interior walls with low or no volatile organic compound (VOC) paint containing less than 250 grams VOC/liter.
Compliance: Self-certified (S).
- 11.2 Solvent-free construction adhesives 1 point
Use construction adhesives free of aromatic hydrocarbons or solvents, throughout the house.
Compliance: Self-certified (S).
- 11.3 High efficiency filter on furnace 2-5 points
Install a high efficiency filter on a forced-air furnace system. Any HEPA filter must be rated at 99% efficiency or higher.
- 11.3.1 High Efficiency pleated air filter 2 points
11.3.2 High Efficiency Particulate Air (HEPA) filter 5 points
Compliance: Inspected (5: Final).
- 11.4 Rough-in for radon mitigation 3 points
Install a four-inch PVC pipe under the floor (under slab or under crawlspace vapor barrier/mat) of new construction, for future evacuation of potential radon gas, as per EPA guidelines.
Compliance: Inspected (4: Rough-in)
- 11.5 Radon mitigation 5 points
Design and install radon mitigation system according to generally recognized practices to remove radon from under the slab and vent to a location away from pedestrian traffic areas, per EPA regulations. No points can be awarded if points are taken for Sections 11.4.
Compliance: Inspected (5: Final)
- 11.6 Solvent-free low-toxic wood finishes 1-4 points
(1 point per level)
Finish 10 - 100% of unfinished, interior wood with solvent-free, water-based, low-toxic finishes.
Compliance: Self-certified (S).
- 11.7 Low toxic floor coverings 1-4 points
(1 point per level)
Install chemical free carpeting, cork, linoleum or other low-toxic floor coverings for 10% - 100% of all floor coverings.
Compliance: Self-certified (S).
- 11.8** Carbon monoxide detector 3 points
Install an electric (hard-wired) or AC/DC carbon monoxide detector, located according to manufacturer's recommendation.
Compliance: Inspected (5: Final)
- 11.9** Non-atmospheric vented (sealed combustion) gas furnace/boiler & water heater 5-10 points
(5 points for each piece of equipment)
(5 points required of PFAH projects)
Install a non-atmospheric vented (sealed combustion) gas furnace, boiler, and/or water heater.

Compliance: Inspected (5: Final).

11.10 Sealed mechanical room 2 points
Mechanical equipment such as the furnace/boiler and water heater must be located in a separate room. The room should be sealed off with a continuous air-barrier, to minimize air infiltration from the mechanical area to the rest of the house and be insulated to R-11. Room must be fitted with an exterior solid-core door weather-stripped to exterior specifications.
Compliance: Inspected (3: Insulation).

11.11 Exhaust fan installed in attached garage or no attached garage 5 points
For attached garages, install an exhaust fan with a timer and/or sensor. Points can also be awarded if the garage is built detached from house.
Compliance: Inspected (5: Final).

11.12 Elimination of all particleboard inside envelope of house 5 points
Do not install any formaldehyde-based particleboard inside the house.
Compliance: Self-certified (S).

11.13 Elimination of all medium density fiberboard made with urea-formaldehyde inside envelope of house 3 points
Do not install any urea formaldehyde-based MDF inside the house.
Compliance: Self-certified (S).

11.14 All exposed particleboard sealed 2 points
Seal all exposed particleboard, such as cabinets, counter tops, stair treads, shelving, etc. with 3 coats of low VOC, non-toxic sealer.
Compliance: Self-certified (S).

11.15 American Lung Association "Health House" 5 points
Obtain certification through "Health House", American Lung Association standard.
Compliance: Inspected (5: Final). Provide certification.

11.16 Mechanical ventilation installed 4 points
Provide 15 cfm per person as per ASHRAE Standards. See also Section 9.10 for alternative method for indoor air quality improvement with air-to-air heat exchanger.
Compliance: Inspected (5: Final).

12 INNOVATIVE POINTS

12.1 Innovative product or design 1-20 points
Provide information demonstrating exceptional performance in environmental efficiency above the measures listed in this program.
Compliance: Inspected (PC: Plan Check / 5: Final). Product and/or the design must be approved by the Building Official.

12.2 Alternative fuel infrastructure 5 points

Install infrastructure to support current or future alternative fuel vehicle use.
 Compliance: Inspected (5: Final).

12.3 Location-Efficient Project 3 points
 Locate a project within a ¼ mile radius of a transit stop.
 Compliance: Inspected (PC: Plan Check).

12.4 Ground source heat pumps with wind power 15 Points
 Purchase wind power for 50% of the estimated electricity consumed with a ground source heat pump for heating and cooling for 20 years. Wind powered electricity shall be purchased off-site through a payment to the REMP fund. Calculation of payment shall be as follows:
 Annual electricity consumption (Kilowatt hours) x 50% x \$.025/kilowatt hour X 20 years.
 Compliance: Inspected (5: Final).

12.5 Electronic Submittal 1- 2 points
 12.5.1 Submit checklist form via email 1 point
 12.5.2 Submit residential Deconstruction Plan via email 1 point
 Compliance: Inspected (PC: Plan Check).
(adopted by ord. 03-009)

<u>Pitkin County Efficient Building Program Checklist</u>					
OWNER:					
PROJECT ADDRESS:					
PARCEL ID #:					
CONTACT NAME:					
CONTACT NUMBER:					
CONTACT E-MAIL ADDRESS:					
PERMIT #:	TYPE OF PROJECT:	NEW	SCRAPE-OFF	REMODEL	ADDITION
New construction square footage:		Points required:			
Interior remodel square footage:		Points required:			
Addition square footage:		Points required:			
Detached garage square footage:		Points required:			
TOTAL POINTS REQUIRED					
CERT. SCORE	POINTS	<u>Pitkin County Efficient Building Program Checklist</u>			TOW SIGN- OFF

LEGEND		
	21	= Shaded box indicates mandatory compliance for all projects (14 for new houses / 21 for additions/remodels)
	70	= Dark outline indicates mandatory measures for publicly-funded affordable housing projects (PFAH)
S		= Self-certified (<i>Applicant's signature on this checklist serves as certification.</i>)
1-5		= Inspected (PC : Plan Check; 1 : Foundation; 2 : Framing; 3 : Insulation; 4 : Rough-in; 5 : Final)
	P	= Prerequisite (<i>These measures must be achieved for the subsequent points to be earned.</i>)
Point levels = Level 1 = 10% - 25%; Level 2 = 26% - 50%; Level 3 = 51% - 75%; Level 4 = 76% - 100%		

2.0 CONSTRUCTION/DEMOLITION AND USE OF RESOURCE-EFFICIENT MATERIALS		
PC	3	2.1 Deconstruction Plan submitted with permit application (<i>remodels and/or scrape-offs only</i>)
	4-37	2.2 Demolition debris reduced (<i>4 points required of remodels and/or scrape-offs</i>)
1	3	2.2.1 Wood recycled / composted (<i>≥ 75% of all wood</i>)
1	3	2.2.2 Metal recycled (<i>≥ 90% of all metals</i>)
1	3	2.2.3 Concrete recycled (<i>≥ 75% of all concrete</i>)
1	2	2.2.4 Carpet pad recycled (<i>90% of all carpet pad</i>)
1	2	2.2.5 Compaction (<i>grinding, shredding, crushing, etc.</i>)
1	6-24	2.2.6 Material salvaged for reuse (<i>6 points per level</i>)
S	3	2.3 Deconstruction materials donated to a non-profit organization
	4-10	2.4 Construction debris recycled (<i>4 points required of all new construction & PFAH projects</i>)
S	1-4	2.4.1 Wood scrap recycled / composted (<i>1 point per level</i>)
S	2	2.4.2 Metal scrap recycled (<i>≥ 90% of all unused metals</i>)
S	1-4	2.4.3 Cardboard recycled (<i>1 point per level</i>)
S	5-20	2.5 Reclaimed lumber (<i>5 points per level</i>)
S	5-20	2.6 Reclaimed exterior trim / siding / interior trim / flooring (<i>5 points per level</i>)
S	1-4	2.7 Recycled-content carpet (<i>1 point per level</i>)
S	1-4	2.8 Recycled-content in decking materials (<i>1 point per level</i>)
S	1-4	2.9 Recycled-content sheathing (<i>1 point per level</i>)
S	1-4	2.10 Recycled-content or fiber cement siding (<i>1 point per level</i>)
S	1-4	2.11 Recycled-content ceramic tile (<i>1 point per level</i>)
S	1-4	2.12 Recycled-content roofing (<i>1 point per level</i>)
S	2-8	2.13 Rapidly renewable content flooring used (<i>2 points per level</i>)
S	2	2.14 Built-in kitchen recycling center to include two or more bins

3.0 LAND USE AND WATER CONSERVATION		
	1-3	3.1 Simple Footprint
1	3	3.1.1 Simple rectangle (<i>no points for 3.1.2 or 3.1.3</i>)
1	2	3.1.2 One "L" shape (<i>no points for 3.1.1 or 3.1.3</i>)
1	1	3.1.3 Rectangle with one rectangular protrusion (<i>no points for 3.1.1 or 3.1.2</i>)
	1-5	3.2 Xeriscape Landscaping (<i>2 points required of all PFAH projects</i>)
S	1	3.2.1 Addition of organic material to and aeration of soil
S	1	3.2.2 Reduction of turf areas (<i>≤ 25% of landscaped area or 3000 sq. ft. whichever is smaller</i>)
S	1	3.2.3 All planting beds mulched with wood chips at least 2" deep
S	1	3.2.4 Appropriate use of low-water-demand plants
S	1	3.2.5 Zoned irrigation system

	1-13	3.3	Water conservation by performance <i>(2 points required of all PFAH projects)</i>	
S	1	3.3.1	One point for each gallon per minute savings over code requirements	
S	1-4	3.3.2	Dual-flush toilet <i>(1 point for each toilet, no credit for toilet under 3.3.1)</i>	
S	2-8	3.3.3	Composting toilet <i>(2 points for each toilet, no credit for toilet under 3.3.1)</i>	
S	1	3.3.4	Only one showerhead in all showers	
S	5	3.4	Drip Irrigation or no irrigation	
5	1-4	3.5	Engineered/vegetated swales to filter stormwater runoff <i>(1 point per level of filtered run-off)</i>	
5	1-10	3.6	Planting trees beyond required trees <i>(1 point for every tree over requirement)</i>	
	3-8	3.7	Save and reuse all topsoil and/or excavated fill on site	
S	3	3.7.1	Topsoil reused on site	
S	5	3.7.2	100% of excavated fill reused on site	
S	2-8	3.8	Site-rock reclaimed on site <i>(2 points for per level)</i>	
S	4	3.9	Non-potable water used for irrigation	
S	2-8	3.10	Pervious materials in "hardscape" areas <i>(2 points per level)</i>	
4.0 FRAMING & MATERIALS				
	1-22	4.1	Incorporate optimal value engineering (OVE) framing techniques <i>(6 points required of all PFAH projects)</i>	
2	2-8	4.1.1	24" O.C. studs <i>(2 points per level for all framing)</i>	
2	1-4	4.1.2	Two-stud corners <i>(1 point per level for all framing)</i>	
2	1-4	4.1.3	Efficient headers <i>(1 point per level for all framing)</i>	
2	1-4	4.1.4	Stacking joists/studs - eliminating double top plate <i>(1 point per level)</i>	
2	2	4.1.5	Building with 2' increments <i>(≥ 75% of footprint)</i>	
2	1-4	4.2	Oriented Strand Board in subfloors <i>(1 point per level)</i>	
2	1-4	4.3	Oriented Strand Board in wall sheathing <i>(1 point per level)</i>	
2	1-4	4.4	Formaldehyde-free Oriented Strand Board (OSB) <i>(1 point per level)</i>	
2	1-4	4.5	Finger-jointed studs or engineered studs for wall framing <i>(1 point per level)</i>	
S	1-4	4.6	Finger-jointed interior trim <i>(1 point per level)</i>	
2	2-8	4.7	FSC certified sustainably harvested lumber <i>(2 points per level)</i>	
	2-40	4.8	Other FSC certified products	
5	2-8	4.8.1	FSC certified cedar shakes <i>(2 points per level)</i>	
5	2-8	4.8.2	FSC certified trim and flooring <i>(2 points per level)</i>	
5	2-8	4.8.3	FSC certified cabinets <i>(2 points per level)</i>	
5	2-8	4.8.4	FSC certified doors <i>(2 points per level)</i>	
5	2-8	4.8.5	FSC certified outdoor structures, decking and landscaping forms <i>(2 points per level)</i>	
2	1-4	4.9	Engineered Lumber used in floors and roofs <i>(1 point per level) (3 points required of all PFAH projects)</i>	
2	2	4.10	Engineered lumber used to replace 2x10s or 2x12s for structural applications <i>(≥ 75% structural material)</i>	
2	5-20	4.11	Structural alternatives to wood-frame construction <i>(5 points per level)</i>	
2	1-4	4.12	Structural Insulated Panels (SIP's) used for exterior walls and/or roof <i>(1 point per level)</i>	
2	1-4	4.13	Factory-built or panelized construction <i>(1 point per level)</i>	
1	2	4.14	Recycled-content Insulated Concrete Forms (ICF's) used <i>(≥ 75% of all insulated concrete forms)</i>	
1	1-4	4.15	Insulated Concrete Forms (ICF's) <i>(1 point per level)</i>	
S	2	4.16	Non-asphalt based foundation waterproofing <i>(100% of foundation wall)</i>	
1	3-12	4.17	Frost-protected shallow foundation <i>(3 points per level)</i>	
1	1-4	4.18	20% or more flyash content <i>(1 point per level)</i>	

5.0 ENERGY MEASURES		
PC	1-10	5.1 Performance exceeding the Model Energy Code 98.2 standard for APECC (1 pt for every 5% better) (4 pts for PFAH)
S	1	5.2 Window quilts or insulated window shades installed (≥ 75% of all exterior windows)
PC	1	5.3 Mechanical equipment centrally located
5	5	5.4 Energy Star® house (5 star rating on an E-Star™)
PC	3	5.5 Energy 10 analysis
4	1	5.6 All ductwork sealed with mastic
4	1	5.7 Insulate all hot water pipes to all locations to R-3
3	3	5.8 Unvented crawlspace (conditioned, insulated walls, continuous vapor barrier, no vents, etc.)
5	2	5.9 Side-arm hot water heater
	4-9	5.10 Energy-efficient boiler or furnace
5	4	5.10.1 87% (min.) efficient boiler or 94% (min.) efficient furnace
5	5	5.10.2 Modulating or sequentially staged boilers
5	3	5.11 Outdoor reset thermostat control
5	4	5.12 High-efficiency gas hot water heater
6.0 PLUMBING		
5	2	6.1 Tankless water heater
5	3	6.2 "On-demand" hot water system
7.0 ELECTRICAL		
S	1-2	7.1 Energy Star® appliances (1 point for each appliance) (2 points required of all PFAH projects)
S	1	7.2 Clothesline (indoor or outdoor)
S	3	7.3 Energy-efficient clothes washer (selected from list on www.cee1.org - Tier 2 or higher)
S	1-2	7.4 Compact fluorescent bulbs (1 point for every 4 bulbs) (1 point required of all PFAH projects)
S	2	7.5 Efficient light controls (≥ 2 interior spaces controlled)
8.0 INSULATION		
3	2	8.1 Wall insulation is 70% recycled material (≥ 75% of all wall insulation)
3	2	8.2 Roof insulation is 70% recycled material (≥ 75% of all roof insulation)
3	2	8.3 Blown / sprayed insulation (≥ 50% of all insulation)
3	2	8.4 Formaldehyde-free insulation (≥ 50% of all insulation)
	1-10	8.5 Single-pane windows upgraded (additions and remodels only)
5	0.5	8.5.1 Double-glazed (no points for 8.5.2 or 8.5.3)
5	1	8.5.2 Double-glazed with low-e coating (no points for 8.5.1 or 8.5.3)
5	0.5	8.5.3 Spectrally-selective film applied to historic windows (no points for 8.5.1 or 8.5.2)
3	7	8.6 Existing ceiling insulated to R-38 or to capacity (additions & remodels only)
3	5	8.7 Existing walls insulated to capacity or rigid insulation added to exterior (additions & remodels only)
9.0 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)		
S	1	9.1 Air destratification system
	1-5	9.2 Natural cooling (1 point required of all PFAH projects)
5	1	9.2.1 Vertical shading devices for east and west-facing glass
5	1	9.2.2 Reflective films on east and west-facing glass or use windows with a SHGC of less than 0.45
3	1	9.2.3 Radiant heat-reflective barriers installed on roof applications
S	1	9.2.4 Landscaping that shades east and west facing glazing during the summer season (June-August)

5	1	9.2.5	Properly sized overhangs for south facing glazing area	
5	5	9.3	No mechanical air conditioning	
5	1	9.4	Evaporative cooling <i>(no points for 9.3 or 9.6)</i>	
	2-12	9.5	Air infiltration rate below specified levels <i>(Blower Door Test required)</i> <i>(4 points required of all PFAH projects)</i>	
5	2	9.5.1	0.40 NACH	
5	4-12	9.5.2	≤ 0.35 NACH <i>(2 additional points for every .05 NACH reduction)</i>	
5	2	9.6	Whole-House Fan cooling <i>(no points for 9.3 or 9.4)</i>	
5	10	9.7	Convert electric resistance heat to gas <i>(additions & remodels only)</i>	
5	4	9.8	Replace electric water heater with a gas water heater <i>(additions & remodels only)</i>	
5	3	9.9	Hydronic heat <i>(≥ 50% of heating system; no points for 9.7)</i>	
5	8	9.10	Air to air heat exchanger	

		10.0	SOLAR	
		10.1	Passive solar space heating	
PC	P	10.1.1	South facing glazing is oriented within 30 degrees of east or west of true south.	
PC	P	10.1.2	Properly sized overhangs <i>(see Section 9.25 for sizing calculation)</i> .	
PC	P	10.1.3	Solar access is unimpeded under easements, covenants, or other private agreements	
PC	10	10.1.4	Suntempered design	
PC	20	10.1.5	Passive solar design	
5	10	10.2	Solar heating system for domestic hot water <i>(no points for 10.3 or 10.4)</i>	
5	2	10.3	Active solar pre-plumbing <i>(no points for 10.2 or 10.4)</i>	
5	15	10.4	Active solar space heating combined with solar domestic hot water system <i>(no points for 10.2 or 10.3)</i>	
	10-80	10.5	Solar-generated electricity	
5	10	10.5.1	System size of 1 kW	
5	15-80	10.5.2	System size of ≥ 1.5 kW <i>(5 additional points for every .5 kW supplied, with a 8 kW maximum)</i>	

		11.0	INDOOR AIR QUALITY	
S	1-4	11.1	Low VOC interior paint <i>(1 point per level)</i> <i>(2 points required of all PFAH projects)</i>	
S	1	11.2	Solvent-free construction adhesives	
	2-5	11.3	High efficiency air filter	
5	2	11.3.1	High efficiency pleated (electrostatically-charged) air filter	
5	5	11.3.2	High Efficiency Particulate Air (HEPA) filter	
4	3	11.4	Rough-in for radon mitigation <i>(no points for 11.5)</i>	
5	5	11.5	Radon mitigation system completed <i>(no points for 11.4)</i>	
S	1-4	11.6	Solvent-free low-toxic wood finishes <i>(1 point per level)</i>	
S	1-4	11.7	Low toxic floor coverings <i>(1 point per level)</i>	
5	3	11.8	Carbon monoxide detector	
5	5-10	11.9	Non-atmospherically vented (sealed combustion) gas furnace, boiler, or water heater <i>(5 pts required for PFAH)</i>	
3	2	11.10	Sealed mechanical room	
5	5	11.11	Exhaust fan in attached garage or no attached garage	
S	5	11.12	Elimination of all particleboard inside envelope of house	
S	3	11.13	Elimination of all mdf made with urea-formaldehyde used inside envelope of house	
S	2	11.14	All exposed particleboard sealed.	
5	5	11.15	Americal Lung Association "Health House"	
5	4	11.16	Mechanical ventilation	

		12.0 INNOVATION POINTS	
PC	1-20	12.1 Innovative product or design points	
5	5	12.2 Alternative fuel infrastructure for vehicle use	
PC	3	12.3 Location-efficient project	
5	15	12.4 Ground source heat pump - wind power fee _____	
	1-2	12.5 Electronic submittal	
PC	1	12.5.1 Submit Checklist electronically	
PC	1	12.5.2 Submit Deconstruction Plan electronically	
« « « FOR OFFICIAL USE ONLY » » »			
PC		Plan Check approval by:	Date:
1		Foundation Inspection Approval by:	Date:
2		Framing Inspection Approval by:	Date:
3		Insulation Inspection Approval by:	Date:
4		Rough-in Inspection Approval by:	Date:
5		Final Inspection Approval by:	Date:

Pitkin County Efficient Building Program
Deconstruction Plan

2.1 - Required for additions, remodels, or scrape-offs only.

Project Address:	Date:
-------------------------	--------------

Contractor:	Phone:
Property Owner:	Date of demo:
Project description:	Project size (ft²):
Deconstruction contact:	Phone:

1. Is project partial or complete demolition/deconstruction?

Partial ____ Complete ____

2. How much of the structure will be demolished/deconstructed?

> 500 ft² ____ >1000 ft² ____ >1500 ft² ____ >2000 ft² ____

3. Lumber, metal, doors, windows, concrete, cabinets and some appliances can be recycled or donated for re-use. Do you intend to deconstruct project for materials recovery?

Yes ____ No ____ (If No, go to question 5).

Refer to the Pitkin County Efficient Building Program Resource Guide for a list of local deconstruction resources or for a list of deconstruction materials accepted locally.

4. If you intend to deconstruct, who will be performing the work?

Contractor & Phone number _____

Method of disposition: Donate _____ Recipient: _____

On-site auction / sale _____ Date and time of sale: _____

5. Will demolition waste be recycled? Yes ____ No ____

6. What types and amounts of reusable or recyclable materials will this project generate?

Deconstruction Material Table

Material	Estimated volume (yd³)	Reuse by contractor	Available to others	Recycled	Landfill* (compacted)	Other (explain)
Dirt Debris						
Lumber						
Structural Members						
Wood trim						
Wood						
Metal						
Drywall						
Concrete						
Asphalt						
Brick						
Cabinets						
Appliances						
Tile						
Windows						
Doors						
Carpet						

* If you choose not to deconstruct or recycle your demolition debris, it must be compacted prior to leaving the site.

Pitkin County is interested in increasing reuse of deconstruction waste and reducing the amount of all construction and demolition waste sent to the landfill. By completing this form you provide useful information and qualify for this program. *(adopted by ord. 009-03)*

