COCONINO COUNTY BOARD OF SUPERVISORS

ORDINANCE 2007 - 12

FOR THE ADOPTION OF THE
INTERNATIONAL BUILDING CODE
INTERNATIONAL RESIDENTIAL CODE
INTERNATIONAL MECHANICAL CODE
INTERNATIONAL FUEL GAS CODE
INTERNATIONAL PLUMBING CODE
INTERNATIONAL ENERGY CONSERVATION CODE
AND THE NATIONAL ELECTRIC CODE

AN ORDINANCE REGULATING THE QUALITY, TYPE OF MATERIAL, AND WORKMANSHIP OF ALL ASPECTS OF CONSTRUCTION OF BUILDINGS OR STRUCTURES, PROVIDING FOR THE ISSUANCE OF PERMITS AND COLLECTIONS OF FEES THEREFORE, PROVIDING PENALTIES FOR VIOLATIONS, AND ESTABLISHING A BUILDING AND SAFETY ADVISORY BOARD.

SECTION 1. The Board of Supervisors hereby adopts, by reference, the following codes: 2006 Editions, published by the International Code Council,

INTERNATIONAL BUILDING CODE
INTERNATIONAL RESIDENTIAL CODE
INTERNATIONAL MECHANICAL CODE
INTERNATIONAL FUEL GAS CODE
INTERNATIONAL PLUMBING CODE
INTERNATIONAL ENERGY CONSERVATION CODE

AND
The 2005 Edition, of the NATIONAL ELECTRIC CODE, published by the National Fire Protection Agency

Amendments are listed in Section 9 below. Three copies of the codes are on file with the Clerk of the Board of Supervisors.

SECTION 2. Ordinance No. 01-13 adopting the 1997 edition of the Uniform Building Code and other related codes and the 1999 National Electric Code are hereby repealed.

SECTION 3. These codes shall apply to the unincorporated area of Coconino County excluding Indian Reservations.

SECTION 4. This ordinance and the building codes shall be administered by the Coconino County Department of Community Development. The administrator shall be the Building Official.

SECTION 5. It shall be unlawful to erect, construct, reconstruct, alter, move, demolish, convert, or use any building or structure covered by the Ordinance contrary to or in violation of any provisions of these codes. Any person, firm, or corporation violating any of the provisions of these codes is guilty of a class 2 misdemeanor. Each day of continuance of the violation constitutes a separate violation.

SECTION 6. If any section, subsection, sentence, or phrase of this Ordinance is held to be invalid or unconstitutional, such decision shall not affect the validity of the remainder of the Ordinance. The Board of Supervisors hereby declares that it would have adopted this Ordinance and each section, subsection, sentence, or phrase irrespective of the fact that any one or more section, subsection, sentence or phrase is declared invalid or unconstitutional.

SECTION 7. Pursuant to ARS 11-862, there shall be a Building and Safety Advisory Board to determine the suitability of alternative materials and construction, to permit interpretations of the provisions of the code, and to hear appeals and grant waivers to the codes. There shall be at least one member from each of the following categories: licensed architect, professional engineer, licensed general contractor, representative of the electrical, plumbing or mechanical trade, and representative of the public. The building official shall serve as non-voting ex-officio member and shall act as secretary.

SECTION 8. The Board of Supervisors shall, in a separate action, establish fees for building permits and inspections.

SECTION 9. The Board of Supervisors hereby adopts the following amendments to the International Building Code and related codes:

PART I: 2006 INTERNATIONAL BUILDING AND RESIDENTIAL CODE AMENDMENTS

1. MANUFACTURED HOME FOUNDATION – Amend IBC 105.1. by adding 105.1.1. and IRC R105.1. by adding R105.1.1. as follows:

   Manufactured home stem walls shall be built of concrete block or poured concrete, utilizing a footing system according to the County detail. A manufactured home foundation will require a separate building permit. The permit for a new manufactured home foundation will not be issued until the permit for the manufactured home has been issued. The manufactured home shall be anchored and shimmed to the foundation at four (4) feet on center.

2. PARK MODEL AND TRAVEL TRAILER RECREATIONAL VEHICLES (RV) Amend IBC 105.1. by adding 105.1.2. as follows:

   Whenever a Park Model, travel trailer, or recreational vehicle is installed as a dwelling unit as part of a permanent home-site when approved by Conditional Use or when

installed in a Recreational Vehicle Park and having substantial improvements such as additions or when installed in a floodplain, a Manufactured Home Permit shall be required.

Additions to the Park Model, travel trailer, or recreational vehicle shall also require a Building Permit.

EXCEPTION: A platform with a maximum size of eight (8) feet by twenty (20) feet at a maximum height of twelve (12) inches above grade, located adjacent to a Park Model or travel trailer RV shall not require a permit.

3. TIME LIMITATIONS – Amend IBC 105.5 by adding 105.5.1.A.B.C.D.E. as follows:

A. Building permits for new construction shall be valid for three (3) years. Inspections shall be required at least every six (6) months. If after the three (3) year period the structure is not complete, a renewal permit shall be obtained for the cost of the original permit excluding plan review, mechanical, plumbing and electrical fees. The original permit may be renewed a maximum of two (2) times, for a total of nine (9) years. After the end of nine (9) years, the permit becomes null and void and temporary occupancy, electric, and other permitted uses will be revoked. After that time, a new remodeling permit shall be obtained, with a new plan submittal and the plan reviewed according to the current code cycle.

B. Permits for additions, alterations and accessory structures shall be valid for two (2) years and may be renewed a maximum of two (2) times for a total of six (6) years.

C. A one time renewal of a building permit shall be allowed for one (1) year at one-half of the original building permit fee as described in Sections A and B of this Amendment.

D. Manufactured Home, Woodstove, Mechanical, Electrical, and Plumbing permits shall be valid for a period of six (6) months. After that time a new permit shall be obtained if the work has not been completed.

E. A temporary electric power permit will be issued in conjunction with approved permits for new construction. The temporary electric permit will stay in affect until the project is complete and final inspection and approval has been given. The temporary electric power status will be revoked and the meter pulled when any conditions of the permit have not been complied with.

4. BEDROOMS, SIMILAR ROOMS and COMMON SPACE – Amend IBC and IRC Chapter 2, Definitions 202 and R202 by adding 202.1.1 and R202.1.1 to read:

A bedroom is a room or space intended for sleeping purposes, having an escape window, a smoke detector, having a level of privacy such as a door, meeting all Code requirements for habitable space and generally located in a dwelling unit as a point of final destination. Similar rooms are offices, sewing rooms, studies, libraries, exercise rooms and dens that have the potential of the same character and function as a bedroom.

Common space shall be considered a living room, family room, dining room, recreation room, hallway and other spaces that are part of the main exit access to the outside. A room or space shall be considered common space when there is an open finished passage-way of at least four (4) feet wide minimum adjoining the main common area. A second floor loft as a point of final destination shall be considered a bedroom. These rooms or spaces shall be provided with a door or an egress window to the outside and a smoke detector for purposes of escape and life-safety except as approved by the Building Official.

5. ENGINEERED FILL - Amend IBC and IRC Chapter 2, Definitions 202 and R202, by adding 202.1.2. and R202.1.2 to read:

Engineered fill: Materials to be placed shall be specified as to their composition, placement, compaction and frequency of soils tests, by a licensed Arizona professional engineer. Soils reports specified by the engineer are to be made available to the administrative authority as a permanent record with the building permit.

6. CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA - COCONINO COUNTY Designations for Table R301.2(1) as Follows:

A. Ground Snow Load – See Amendment number 29.

B. Wind Speed – 90 Miles per Hour

C. Seismic Design Category – Do

D. Weathering – Moderate

E. Frost Line – See Amendment number 30.

F. Termite – Site Specific: When treatment is required by other agencies or lending institutions, then the report shall be filed with the permit from the County Building Department.

G. Ice Barrier Underlayment Required – All areas of Coconino County Except: Marble Canyon and Greenehaven.

H. Flood Hazard – The Flood Plain Administrator is the Director of Coconino County Community Development.

7. MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS – Amend IRC Table R301.5 as follows:

A. Attics – See Amendment number 20.

B. Decks and Exterior Balconies – 60 pounds per square foot.

C. Sleeping Rooms – 40 pounds per square foot.

D. Habitable Space – 40 pounds per square foot.

E. Storage Rooms – 60 pounds per square foot.

8. MINIMUM CEILING HEIGHTS FOR RESIDENTIAL DWELLING UNITS AND ACCESSORY STRUCTURES – Amend IRC R305.1 and Exceptions as follows:

A. Habitable rooms (rooms); 7 feet – 6 inches.

B. Under beams spaced at 4 feet or greater on center; 7 feet – 0 inches

C. Basements, porch ceilings, garages and accessory structures, shall have a minimum ceiling height of; 7 feet – 0 inches (finished floor to bottom of finished ceiling, beam, pipe or duct).

D. Rooms with sloped ceilings: Rooms with sloped ceilings shall have a ceiling height of not less than 7 feet 6 inches for 50 percent of the allowed area which is measured between floor areas that have a 5 feet – 0 inch ceiling height.

E. Bathroom floor areas: 7 feet – 0 inches. NOTE: Spaces above the lavatories, vanity tops, 12 inches from the wall starting behind the water closet and permanent shelving shall not be considered floor areas. Any area in a bathroom that has a sloped ceiling may have a ceiling height of less than 7 feet – 0 inches provided it is not part of the floor area that accesses any fixture, window or door.

F. Porch beam headers: Perimeter porch beam headers shall be 6 feet – 6 inches minimum above the finished floor of the porch. Head room under porch beam headers where grade is accessed and at steps to grade shall be 6 feet – 8 inches.

9. FIRE RESISTIVE CONSTRUCTION FOR ATTACHED GARAGES AND STORAGE AREAS AND FIRE RATED GARAGES – Amend IRC 309.2 to add the following:

Omit the use of half (1/2) inch gypsum board in attached garages and storage areas and fire rated garages.

All attached garages shall have 5/8 inch Type X drywall and materials rated for one (1) hour fire resistive construction on the garage side of the common wall, all other walls,

and the ceiling. Note: 5/8 inch Type X drywall on the common wall taken up to the roof sheathing is not acceptable.

Garages or accessory buildings that exceed one thousand (1000) square feet in floor area or more than one story in height and are within twenty (20) feet of a property line or within twenty five (25) feet of a residence shall be of fire rated construction as defined above. These residential structures are classified as Group S-1 Occupancies.

Where openings such as garage doors are located in a wall that opens under protruding construction of the building or an exterior exit balcony the underside of the construction shall be built of one (1) hour fire resistive construction.

Plastic pipe penetrations one and one half (1 ½) inch and larger shall have an approved fire collar installed at the surface of the wall or ceiling where the pipe penetrates through the wall board. Pipe sizes less than one and one half (1 ½) inch shall have the one quarter (1/4) inch annular space around the pipe filled with fire rated caulking and the pipe penetration covered by a metal escutcheon plate. Metal pipe and conduit penetrations shall have the annular space around the pipe filled with fire rated caulk.

Attic access through a fire restrictive ceiling between a garage and a single family dwelling shall be made up of ¾ inch plywood and 5/8 inch Type X sheetrock glued and screwed together and supported by a 5/8 inch Type X drywall edge. A pull down ladder access shall have its assembly approved by the Building Official.

10. ALTERNATE TYPE STAIRS IN RESIDENTIAL DWELLING UNITS – Amend IRC R311.5.8.1. by adding R311.5.8.1.1.A.B. to read:

A. Alternate type stairs shall include spiral stairs, alternating tread stairs and a modified type stairs.

Spiral stairs shall meet the minimum size requirements of the IRC, section R311.5.8.1.

Modified type stairs shall be a minimum of thirty (30) inches wide, have a maximum unit rise of eight (8) inches, a minimum unit tread of nine (9) inches and meet all other code requirements for stairs such as headroom, guardrails and handrails.

Alternate type stairs shall be allowed as a component of the means of exit for areas limited to 400 square feet of habitable space. Alternate type stairs may be used as a secondary exit from any floor only when each floor has met all of the code requirements for exits.

B. The installation of a diagonal riser that cuts a landing into two treads shall not be allowed.

11. GROUP A DIVISION *6* – LAND ART – Previously listed as Number 4 of Ordinance 97-01 adopted May 5th, 1997.

Amend IBC Chapter 3, Use and Occupancy Classification, Section 303, Assembly Group A (Requirements for Group A Occupancies), by addition of Section 303.1.1., to create a new Occupancy Group entitled Group A, Division 6, Land Art. Adopted by reference; copies are available at the office of the Clerk of the Board of Supervisors and the Department of Community Development.

12. EMERGENCY ESCAPE OPENING – Amend IRC R310.1. by adding to the existing sentence as stated in **bold:**

"The net clear opening dimension required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside," **without the removal of the window sash.**

13. EMERGENCY EXIT FROM BASEMENTS - Amend IRC R310.1. by adding the following:

Below grade basements shall have at least two windows to the outside that meet "Emergency Escape" requirements plus adequate openings for light and ventilation.

Any floor at grade level shall have a 3068 (3' x 6'8") minimum exit door directly to the outside.

14. EFFICIENCY DWELLINGS (STUDIO APARTMENT), MINIMUM SIZED DWELLING UNITS AND BOARDING HOUSES - Amend IBC 310.1. by adding IBC 310.1.2.A.B.C.

A. EFFICIENCY (STUDIO APARTMENT) DWELLING UNITS

1. An Efficiency (Studio Apartment) Dwelling Unit is any dwelling unit that is sized less than 480 square feet but not smaller than 320 square feet in floor area.

2. Efficiency Dwelling Units shall be located within R-1 and R-2 Occupancies only, apartments, hotels, motels, and condominiums.

B. MINIMUM SIZED DWELLING UNITS

1. The minimum size for a single family dwelling unit shall be four hundred eighty (480) square feet in floor area, not including attached garages, decks, or porches.

2. These shall include all R-3 Occupancies: each dwelling unit of a duplex, boarding house (16 or fewer persons), detached guest house, or a town house.

3. These minimum dwelling units shall meet all applicable code requirements.

C. BOARDING HOUSES – Boarding Houses R-3, congregate living facilities for 16 or fewer persons, shall be limited to five (5) bedrooms or similar rooms maximum.

15. WINDOWS ON SECOND FLOORS – Amend IBC 1013 and IRC R312 by adding 1013.1.2. and R312.1.2. to read:

Windows located above the first floor or on any floor where the floor level is four (4) feet above the adjacent ground level or floor below shall have the rough frame window sill installed forty (40) inches above the floor and in dwelling units the rough frame window sill installed thirty four (34) inches above the floor or guardrails shall be installed over the openings as required by code.

When guardrails are installed over emergency escape windows the guardrails shall comply with IRC R310.4.

16. SMOKE DETECTORS - Amend IRC R313.2 by adding R313.2.A.B. to read:

A. Smoke detectors shall be required in garages, storage areas, or workshops and shall be audible simultaneously with smoke detectors throughout the dwelling unit. If a dwelling has a vaulted ceiling, a smoke detector shall be installed between twelve (12) inches and eighteen (18) inches below the ridge beam or the peak and shall be audible simultaneously with smoke detectors throughout the dwelling unit. Smoke detectors installed on walls or ceilings shall be kept a minimum of twelve (12) inches away from the corner. (Manufacturers specifications recognize a dead air space within twelve (12) inches of the corner.)

B. Smoke detectors shall be required in each bedroom or similar rooms which could be used for sleeping purposes and in other locations as specified by this section.

17. HEATING SYSTEM REQUIRED- Amend IRC R303.8. by adding the following:

In single family dwellings where solar and/or wood are the primary sources of heat, the dwelling shall have a conventional heating system. Pre-wiring for fixed electric space heating is acceptable as a minimum, or vented gas space heating permanently installed. In single family dwellings that are off of the electric utility power grid, vented gas space heating permanently installed is required or the water distribution plumbing system shall be installed as a self drain down system.

18. AGRICULTURAL BUILDINGS - Amend IBC 312.1. by adding IBC Appendix C, Group U - Agricultural Buildings.

Structures of Group U occupancies of Agricultural use over three thousand (3000) square feet shall be classified and built according to the appendix for Agricultural Buildings.

19. PLUMBING IN ACCESSORY STRUCTURES AND CRAWL SPACES IN CONJUNCTION WITH R-3 - Amend IBC 312.1 by adding IBC 312.1.1.A.B.C.D.

A. No sanitary plumbing will be permitted in an accessory structure, attached or detached, with the exception of one (1) lavatory, one (1) water closet, and a laundry area when approved by the Building Official. These areas shall be heated.

B. Laundry rooms, when permitted in a garage, shall have a floor level of eight inches (8") above the garage floor.

C. Garages that contain plumbing fixtures or laundry facilities shall be completely insulated in order to protect pipes against freezing. Exposed water pipes shall be adequately insulated. A heated enclosure for the toilet room or laundry area may be constructed as an option to fully insulating the garage.

D. All water piping located in crawl spaces shall be adequately protected against frost. Water pipe insulation on the piping shall be installed as a minimum. Water pipe is not allowed in the attic space unless specifically approved by the Building Official.

20. ACCESSORY STRUCTURES IN CONJUNCTION WITH R-3 - Amend IBC 312.1. by adding IBC 312.1.2.A.B.C.

A. All accessory structures closer than six (6) feet between the eaves of a single family dwelling shall be attached by a roof structure, conventional type framing, valleyed in or tied in securely with waterproof roof covering.

B. Storage Areas One (1) Hour Fire Protection
All workshops and storage areas greater than fifty (50) square feet when attached to a single family dwelling shall meet all fire resistive construction requirements as set forth in IRC R309 and the Amendment. When storage areas are constructed on a wood floor the floor shall be constructed of a double wood floor consisting of 5/8 inch sub floor and 3/4 tongue and groove flooring. As an option 1 and one- eighth (1 1/8) inch tongue and groove flooring may be used.

C. The floor elevation of the garage slab shall be minimum three and one-half (3 ½) inches lower than the finish floor height of the house in an attached garage. The garage slab shall be sloped 1/8 inch per foot toward the garage door.

21. ATTICS, ATTIC SPACES, ATTIC ROOMS, BONUS ROOMS AND ATTIC TRUSSES – Amend IBC 312.1 by adding IBC 312.1.3.A.B.C.D.E.

A. Attics are unfinished space under the roof structure not intended for any use. Special provisions for attics are as follows:

1. When an attic is made useable by a floor surface the average ceiling height of the useable space shall be six (6) feet or less.

2. Attics shall only be accessed through an attic access, scuttle or pull-down stairs.

3. When attics are intended to be useable the floor live load design shall be forty (40) pounds per square foot minimum.

4. When attics are unfinished and are sized according to attic spaces, attic rooms or bonus rooms there shall be disclosed on the property deed that any improvements or finish of the area shall require a building permit.

B. Attic spaces are areas with an average ceiling height of the useable space from more than six (6) feet to less than seven (7) feet and the use is intended for storage only. Special provisions for attic spaces are as follows:

1. Attic spaces shall only be accessed through an attic access, scuttle or pull-down stairs.

2. Attic spaces shall have interior finish of fire resistive construction and two layer wood floor when attached to a dwelling unit or when the building is required to be fire resistive.

3. Attic spaces shall have a floor live load design of sixty (60) pounds per square foot minimum.

4. Attic spaces shall be considered as a story.

5. Attic spaces shall have required attic ventilation. Attic spaces may have limited electric lighting and receptacle outlets as necessary.

C. Attic rooms are areas with an average ceiling height of the useable space from seven (7) feet and greater and the intended use is for storage or workshop only. Special provisions for attic rooms are as follows:

1. Attic rooms shall only be accessed from a properly sized exit access or stairs.

2. Attic rooms shall have interior finish of fire resistive construction and a two layer wood floor when attached to a dwelling unit or when the building is required to be fire resistive.

3. Attic rooms shall have the use disclosed on the deed that it is not to be used for habitable space and shall not be used for sleeping purposes.

4. Attic rooms shall be considered as a story.

5. Attic rooms may have windows for ventilation, heat and electric.

D. Bonus rooms are areas where because of the shape of the roof or structure that additional floor area becomes useable. Bonus rooms are areas having an average ceiling height of the useable space from seven (7) feet six (6) inches and greater and the intended use is for habitable purposes only. Special provisions for Bonus Rooms are as follows:

1. Bonus Rooms shall follow all of the requirements for habitable space such as exit access, emergency egress, light and ventilation, heat, electric layout and shall be considered a place for sleeping purposes.

2. Bonus rooms of conventional floor frame construction shall have a floor live load design of forty (40) pounds per square foot minimum.

E. Attic Trusses used for the construction of attic spaces, attic rooms and bonus rooms shall have the floor designed for a sixty (60) pound per square foot live load for the useable space. Useable areas in attics may have the truss floor live load design of forty (40) pound per square foot minimum.

Attic trusses as well as conventional floor framing used in detached accessory structures for accessory use (use other than residential dwelling) shall have the floor live load design of sixty (60) pounds per square foot minimum unless specifically designed for heavy storage.

22. TENANT SEPARATIONS - Amend IBC 401.1 by adding IBC 401.1.1. to read:

Tenant separations constructed of 1-hour fire resistive walls *up to the roof sheathing* shall be required between tenant spaces of commercial office, retail, shops and industrial occupancies of all buildings.

23. TYPES OF CONSTRUCTION FOR EDUCATIONAL BUILDINGS - Amend IBC Table 503 as follows:

A. Change Table 503 Occupancy E, Type V-*B*, up to nine thousand five hundred (9,500) square feet to Not Permitted. Use Table 601 for one (1) hour construction throughout for any type of construction.

B. Add footnote e. to table 503 for all Types of Construction for Occupancy E to read: All structures used for educational purposes shall be a minimum of one (1) hour fire-resistive construction throughout, regardless of size, but not limited to, public, parochial, or private institutions. Educational buildings shall be of one (1) hour construction regardless of the installation of an automatic sprinkler system.

24. FIRE PROTECTION OF EXTERIOR WALLS FOR TYPES OF CONSTRUCTION BASED ON THE DISTANCE TO PROPERTY LINES – Amend Table 602 by changing to add the following:

Exterior walls that are located less than twenty (20) feet to property lines for Types of Construction of II-B and V-B shall be constructed of one (1) hour fire resistive construction for the following occupancies:

Groups – A; B; F-1; M; S-1.

Accessory structures for Types of Construction of II-B and V-B in residential zones that are sized greater than one (1) thousand square feet in floor area or more than one (1) story in height that are within twenty (20) feet to a property line the interior shall be one (1) hour fire resistive construction. When these structures are within or equal to ten (10) feet to the property line the exterior side of the wall adjacent to the property line shall be of one (1) hour fire resistive construction.

Protection of openings, windows and doors, shall be in accordance with IBC Table 704.8.

25. DOORS IN ACCESSORY STRUCTURES - Amend IBC 1008.1 by adding 1008.1.1.2. with Exceptions A and B to read:

All detached accessory structures i.e.: garages, storage sheds, and barns shall have at least one (1) 3068 (3’ X 6’8”) minimum hinged, swinging door to the outside which meets the requirements as for a required exit door.

A. The required exit door shall not be required in barns with a floor area of less than one thousand (1000) square feet when the sides of the barn are open with stalls that have stall gates to the outside.

B. Shipping Containers for storage only when allowed by Planning and Zoning.

26. SECONDARY EXITS - Amend UBC 1003.3.1.3. by adding the following:

Exterior doors of single family dwellings other than required exits shall have a width of not less than two (2) feet eight (8) inches. The common door between the interior of the house and the garage shall also be a minimum of two (2) feet eight (8) inches. The minimum required door height of six (6) feet eight (8) inches shall remain the same for all doors for habitable space. Exception: five (5) feet sliding glass and atrium door units.

27. ACCESSIBILITY – Previously listed as Number 2 of Ordinance 97-01 adopted May 5th, 1997.

Amend IBC Chapter 11, Accessibility, to be replaced in its entirety by a new Chapter 11 that is adopted by reference and which is on file with the Clerk of the Board of Supervisors and with the Department of Community Development.

28. ROOF COVERING ORDINANCE – Previously listed as Number 3 of Ordinance 97-01 adopted May 5th, 1997.

Amend IBC Chapter 15, Roof Assemblies and Roof Top Structures, Section 1501.1 Scope and IRC Chapter 9, Roof Assemblies Section R901.1 Scope, to include the Coconino County Roof Covering Ordinance which serves as the minimum standard for fire resistive classification of roof coverings, severe climates, and high wind areas, adopted by reference; copies available at the office of the Clerk of the Board of Supervisors and the Department of Community Development.

To the provisions of the Roof Covering Ordinance add A and B as follows:

A. Metal roofing shall be installed as a Class B roof covering assembly by using approved underlayment sheets that are fire resistive, installed according to the requirements of their listing.

B. Listed and approved Solar Type shingles for the purposes of generating electric power may be used that have a minimum of a Class C roof covering assembly, installed according to manufacturer's specifications placed over underlayment sheets that are fire resistive.

29. SPACE SHEATHING UNDER METAL ROOFING - Amend IBC 1507.4.1. by adding the following:

Space sheathing, when allowed, shall be spaced no more than two (2) feet o.c. Minimum sheathing for this installation is solid lumber – nominal size 1 x 6 or 2 x 4 or according to manufacturer's specifications, whichever is more restrictive.

30. SNOW LOADS - Amend IBC 1608. by adding the following:

Snow Loads for roof design shall be considered as a non-reducible live load on the roof. The Ground Snow Load shall be a minimum of fifteen (15) pounds per square foot greater than the listed Snow Load for the following areas:

A. Fifty (50) pounds per square foot:

1. Hart Prairie
2. Kendrick Park
3. Jacob Lake and the North Rim

4. Any building site at an elevation of 8000 feet or more above sea level.

B. Forty (40) pounds per square foot:

1. Areas surrounding Flagstaff
2. Doney Park
3. Valle
4. Tusayan
5. Parks
6. Areas surrounding Williams
7. Clear Creek Pines
8. Starlight Pines
9. Happy Jack
10. Forest Lakes
11. Mormon Lake
12. Kachina Village
13. Mountainaire
14. Pinewood

C. Thirty (30) pounds per square foot

1. Cameron
2. Tuba city
3. Areas between Twin Arrows and Winslow
4. Oak Creek Canyon
5. Areas surrounding Ash Fork and Seligman
6. Areas surrounding Fredonia
7. Alpine Ranchos and Leupp

D. Twenty (20) pounds per square foot

1. Greenhaven
2. Marble Canyon

31. FILL MATERIAL - Amend IBC 1802.6. by adding 1802.6.1.A.B.

A. Fill material for slab floors in excess of four (4) feet in depth shall be an engineered fill and sustained by a soils report for verification of compaction. Engineered fill and soils reports shall also be required for exterior and interior bearing footings and foundations which do not extend into the undisturbed soil.

B. Fill material which is used in slab floor construction shall be limited to 3/8 inch or less dirty cinder, "ABC" (aggregate base course), or native material when approved by the Building Inspector.

32. FOOTING, STEMWALL, COLUMNS AND RETAINING WALL REQUIREMENTS - Amend IBC 1805.1 by adding 1805.1.1.A.B.C.D.E.F.G.H.I and to be added to IRC R403 inclusive with specific code sections.

A. Adopt County footing, stem, and pier details.

B. Frostline Depth shall be thirty (30) inches in Coconino County with the exception of Oak Creek/Sedona, Marble Canyon, and Greenhaven, where depth shall be twenty-four (24) inches.

EXCEPTIONS – Detached accessory structures located in residential zones for private use, sized less than one thousand (1,000) square feet, single story, may have a foundation depth of eighteen (18) inches into undisturbed soil.

Detached accessory structures of light frame construction such as storage sheds in residential zones for private use, sized four hundred (400) square feet or less may be grade set on pressure treated skids and shall be anchored with approved methods.

C. Minimum Footing Size - Thickness eight (8) inches, width sixteen (16), and reinforcing steel as shown in County Detail. Limited to two (2) story buildings.

For footings for basements and for buildings of masonry wall construction, the minimum footing size shall be ten (10) inches thick and twenty four (24) inches in width minimum with three (3) number four (4) rebar continuous. Limited to two (2) story buildings.

For footings supporting a twelve (12) inch stem wall for brick veneer or other use the minimum footing width shall be twenty (20) inches; for footings supporting a ten (10) inch stem wall the minimum footing width shall be eighteen (18) inches. Footing thickness and reinforcement according to minimum requirements.

When clay soils are encountered at a building site as determined by a pre-construction soils investigation the footing design shall be done by an engineer licensed in the State of Arizona.

D. Other Bearing Footings - Bearing footings for covered and uncovered decks, attached carports and manufactured home cabanas shall have a minimum depth of thirty (30) inches below grade.

E. Stemwalls, Masonry, and Poured Concrete Walls - Amend IBC 1901 and 2103 by adding the following:

a) Minimum width for stem walls shall be eight (8) inches.

b) Horizontal Rebar - Add to IBC 2103.13.1.

Stem walls, which are thirty-six (36) inches or more above grade, shall have a horizontal bond beam of No. 4 reinforcement placed at the top course of block. C.M.U. walls six (6) feet or more in height above grade shall have one (1) No. 4 rebar horizontal and continuous at four (4) feet o.c. and top course. No. 4 horizontal rebar at any course securing anchor bolts which fasten rim joists or beams to wall.

c) Vertical Rebar - Add to IBC 2103.13.1.

Any C.M.U. stem and masonry walls shall have one (1) No. 4 rebar vertical at four (4) feet o.c., at each corner at all beam pockets, and each side of openings. Vertical rebar shall be embedded a minimum of six (6) inches into concrete footing with a six (6) inch bend on the bottom. Vertical reinforcement spaced four (4) feet on center on masonry stemwalls shall turn into slab not less that eighteen (18) inches, as well as eighteen (18) inches into the block, cell. "This will not include a floating slab." All other requirements for reinforced stemwalls, masonry walls, retaining walls, basement walls, and columns shall remain unchanged.

d. Bearing Lintels for Masonry and Poured Concrete

Openings in masonry walls shall have an approved horizontal lintel above and one (1) No. 4 rebar horizontal below, grout both solid. Lintels above openings in walls, greater than eight (8) feet shall be engineered, or when deemed necessary by the Building Official.

e. Masonry walls shall be grouted solid below grade and at rebar above grade.

f. A 4x8x16 C.M.U. suitcase block shall not be allowed as a top course block nor used for any structural applications.

g. Poured Concrete Walls - Amend IBC 1907.5. by adding 1907.5.5.

Poured concrete walls shall have No. 4 vertical rebar four (4) feet o.c. and No. 4 horizontal rebar four (4) feet o.c.

F. Basement and Retaining Wall Requirements

a) C.M.U. basement or retaining walls shall have No. 4 rebar twenty-four (24) inch o.c. vertical and forty-eight (48) inch o.c. horizontal and all cells shall be grouted solid. Poured concrete walls shall have No. 4 rebar twenty-four (24) inch o.c. both ways. Minimum rebar lap shall be forty (40) diameters. Stamped engineer calculations may be required.

b) Basement foundation walls in excess of ten (10) feet in height and/or retaining eight (8) feet of soil or more shall be engineered. Any wall retaining in excess of eight (8) feet of soil shall be engineered.

c) Damp proofing and perforated drain tile shall be required for C.M.U. or concrete walls below grade enclosing basements or habitable area. This shall be done by approved methods and materials according to IBC 1807 and IRC 405 and 406

G. Masonry and Concrete Columns - Amend IBC 2109.5.2.5. and 1901.2 by adding the following:

a) Minimum width for piers and columns shall be twelve (12) inches. The minimum pier dimension for covered and uncovered decks, carports, and cabanas shall not be less than twelve (12) inches.

b) Column piers or columns 12"x12" or 12"x16" shall bear on concrete pad 8"x24"x24" minimum and shall be limited to eight (8) feet maximum height. Minimum footing sizes will vary based on the actual load to be carried by the piers in all cases.

c) Piers or columns (16"x16") shall bear on concrete pad 8"x32"x32" minimum when height is eight (8) or more feet and limited to twelve (12) feet in height.

d) Piers or columns over twelve (12) feet in height shall be designed and stamped by an engineer registered in the State of Arizona.

H. Foundation Attachment to Rock (Drilling and Pinning) – Amend IBC 1805 and IRC R403 by adding IBC 1805.10 and IRC 403.4 as follows:

Footings may be attached, drilled and pinned, to bed-rock, rock ledges and to large boulder rocks that are unfeasible to remove only when the footing trench has been dug down to no less than eighteen (18) inches into undisturbed soil. The top of a single large boulder rock may encroach a maximum of twelve (12) inches within the top of the footing trench

The attachment shall be made by drilling into the rock a minimum of eight (8) inches and using a number four (4) rebar pin driven into the hole securely or use epoxy adhesive, with an extension of the rebar a minimum of fifteen (15) inches long to make a lap with the footing or stem wall rebar. The pin spacing shall be no less than four (4) feet on center and twelve (12) inches on center when stepping over boulders.

Drilling and pinning of footings to rock located less than eighteen (18) inches into undisturbed soil, the attachment of the pins shall be designed and the plan stamped by an Arizona registered engineer.

I. Manufactured Home Footings and Anchorage – Amend IBC 1805 by adding 1805.11 as follows:

a) Each site where a manufactured home is to be placed shall be sufficiently scraped and graded to remove all vegetation and organic material down to where the grade is considered the top of undisturbed soil. This shall be done before any fill is placed or footing blocks installed on grade.

b) A maximum of twelve (12) inches of fill of "ABC" or cinder floor fill adequately compacted is allowed to be placed under the manufactured home for the installation of the footing blocks.

c) Fills in excess of twelve (12) inches for the bearing of the manufactured home on grade shall be designed by an engineer as engineered fill.

d) When the footings are to be installed as poured concrete continuous footings (runners), the footings shall be sized sixteen (16) inches wide and eight (8) inches thick with two (2) continuous number four (4) rebar. These footings shall be placed in a trench dug down eight (8) inches into undisturbed soil minimum.

e) Manufactured homes shall be anchored with approved three (3) feet in length heavy duty auger anchors or equivalent with straps placed four (4) feet from each end maximum and evenly spaced a maximum of twelve (12) feet on center or according to manufacturer's specifications which ever is more restrictive.

When approval is given and a manufactured home is installed in a flood plain the manufactured home shall be placed on a code complying foundation system and anchored. When the required elevation height of the manufactured home is within the limitation for set-up, according to Arizona State Office of Manufactured Housing and is grade-set the home shall be anchored with approved four (4) feet in length heavy duty auger anchors with straps placed four (4) feet from each end and evenly spaced a maximum of ten (10) feet on center.

33. <u>ENGINEERED STEEL STRUCTURES</u> – Amend IBC 2205.1 by adding 2205.1.1 as follows:

Engineered steel structures sized one thousand (1000) square feet or larger shall have the design and the plans stamped by an engineer licensed in the State of Arizona for the structure and the foundation.

34. INTERIOR SILL PLATES – Amend *IBC 2304.11.2.4 and IRC R319.1.#3* by adding the following:

Bottom plates of interior walls and partitions on concrete slab construction shall be of foundation redwood or pressure treated material.

35. WEATHER EXPOSURE ON GLUE-LAMINATED STRUCTURAL BEAMS– Amend IBC 2304.11.5 and IRC R319.1.5 by adding the following exception:

Glue-laminated structural beams exposed to weather used to support decks, porches, and porch roofs may be of non-pressure treated wood provided the glue-laminated structural beam is primed and sealed (2 coats minimum) and that protection is maintained. These glue-laminated structural beams shall be manufactured with exterior glue.

36. BRACING FOR FRAME WALL CONSTRUCTION - Amend IBC 2308.3 and IRC R602.10.3 by adding IBC 2308.3.0.1.A.B.C.D. and IRC R602.10.3.1.A.B.C.D.

A) Braced Wall Lines

Spacing shall not exceed twenty-five (25) feet on center in both the longitudinal and transverse directions in each story.

B) Allow 1 inch x 4 inch Let-in Bracing – Amend Table *R602.10.1.*

Allow 1 inch x 4 inch let-in bracing for seismic Category Do for one story and the top floors of two and three story wood frame buildings.

C) Materials Excluded for Bracing for Walls - Amend IRC R602.10.3. as follows:

Delete IRC R602.10.3.#'s4,5,&7; This excludes drywall, fiberboard, and stucco as bracing materials.

D) Requirements for Wall Bracing - Amend IRC R602.10.3. and Table R602.10.3 for seismic Category Do by adding the following:

1. Exterior, main interior and interior bearing walls shall be braced at ends and every twenty-five (25) feet on center along walls.

2. In two story wood frame buildings, one (1) inch by six (6) inch wood let-in bracing may be used on the first floor. In three story buildings, one (1) inch by six (6) inch let-in bracing may be used on the second story. In no case shall there be less than twenty-five (25) percent coverage of the building length.

3. The first floor of a three-story building shall have not less than forty (40) percent of the wall length solidly sheathed.

4. Flat strap bracing may be used in lieu of one (1) inch by four (4) inch let-in bracing when installed in an "X" fashion as per manufacturers' specification

5. Walls shall be braced with sheathing panels for not less than a full four (4) feet by eight (8) feet of the wall length when doors, windows or other obstructions are located within eight (8) feet of the wall corners or within twenty-five (25) foot spacing of braces.

6. Walls adjacent to garage door openings, which are less than eight (8) feet in length, shall be solidly sheathed.

7. For the purposes of complying with the International Energy Code 402.4 and the International Residential Code N1102.4 for Air Leakage all conditioned spaces of building construction shall have the exterior walls solidly sheathed with three eights (3/8) inch structural panel minimum, exterior panel siding or approved thermal energy brace sheathing panel. This shall be considered as meeting the requirements for bracing of exterior walls.

   When a rigid insulation sheathing panel is installed over the exterior of the stud construction, then the provisions of wall bracing, numbers 1 through 6 shall apply.

37. WOOD DECKING - Amend IBC 2304.7. and IRC R503.1. by adding IBC 2304.7.0.1 and IRC R503.1.0.1 to read as follows:

    Wood decking on exterior decks shall have a maximum spacing of 1/4 inch after shrinkage.

38. WESTERN LUMBER SPAN TABLES FOR FLOOR AND CEILING JOIST AND ROOF RAFTERS – Previously listed as Number 1 of Ordinance 97-01 adopted May 5th, 1997. Amend IBC Chapter 23 – Wood Sections 2308.8. Floor Joists and 2308.10. Roof and Ceiling Framing. Amend IRC Chapters 5 and 8; R503.3 Floor Joists; R802.4 and R802.5 Roof and Ceiling Framing by adding the following:

    Amend by reference Western Lumber Span Tables for Floor and Ceiling Joists and Roof Rafters (Published by Western Wood Products Association 572/261/rev.2-94, 4-96/20M).

39. BUILT-UP GIRDERS - Amend IBC Table 2304.9.1 No. 24. Add the following:

    2"x_____" built-up girders, four (4) or more shall be joined together by one-half (½) inch through bolts, thirty-two (32) inch o.c. staggered.

40. EDGE BLOCKING OR PLYWOOD CLIPS FOR ROOF SHEATHING AND SHEATHING FOR HEAVY ROOF COVERING - Amend IBC Table 2304.7(3) and IRC Table R503.2.1(1) - change edges unblocked to sixteen (16) inch o.c. for one-half (½) inch panels rated 32/16 minimum for roofs and add the following:

Areas where live load (snow) is thirty (30) pounds per square foot or more and the pitch is 5-12 or less, 5-ply – one-half (½) inch plywood or 32/16 rated OSB sheathing on supports twenty-four (24) inch o.c. shall have blocking or ply clips on the edges.

When heavy roof covering is applied to structures such as cement or clay tile the roof sheathing shall be 5/8 inch structural panels of plywood or OSB with a panel rating of 40/20 minimum.

41. GYPSUM WALL BOARD FASTENING – Amend IBC Table 2306.4.5 and IRC Table R702.3.5 by adding footnote m to read as follows:

The minimum length of screw fasteners for 5/8 inch gypsum wall board shall be a one and five eights (1 5/8) inch type S or type W screws.

For fire resistive assemblies in residential attached garages and accessory buildings required to be fire resistive the screw spacing for ceilings (horizontal applications) shall be six (6) inches at the edges and eight (8) inches at intermediate framing supports; the screw spacing for walls (vertical applications) shall be eight (8) inches on the edges and twelve (12) inches at the intermediate framing supports.

42. WALL FRAMING DETAILS – Amend IBC 2308.9.1 and IRC R602.3.1 by adding IBC 2308.9.1.0.1 and IRC R602.3.1.0.1 as follows:

a) All framing corners shall be accessible to allow complete insulation.

b) At exterior corners the third required stud shall be placed parallel with the plate for interior wall covering backing so as to allow full insulation between the stud space of sixteen (16) inches or twenty four (24) inches. The parallel stud shall make full contact with the stud of the perpendicular wall for structural nailing.

c) At the intersection of an exterior wall and an interior partition the normal stud spacing shall be maintained for the exterior wall with blocking installed (ladder blocking) at sixteen (16) inches on center for the attachment of the intersecting interior wall and as the required backing for interior wall covering.

PART II: 2006 INTERNATIONAL MECHANICAL CODE, INTERNATIONAL FUEL GAS CODE AND INTERNATIONAL RESIDENTAL CODE (MECHANICAL AND FUEL GAS CODE SECTIONS) AMENDMENTS

1. PROHIBITED FURNACE, BOILER AND WATER HEATER LOCATIONS - Amend IFGC 303.3 and IRC G2406.2 by adding IFGC 303.3.1 and IRC G2406.2.2 as follows:

   Delete Exception 2,3, and 4 of 303.3 and G2406.2 – Gas appliances are not allowed in bedrooms, bathrooms or toilet rooms, except as provided in Exception 1.

   Warm air furnaces, boilers or water heaters, gas or electric, shall not be allowed in under stair locations, bedrooms, bathrooms, toilet rooms, clothes closets, or in spaces having access through such rooms.

   Exception 5 of 303.3 and G2406.2. will apply as an option. Furnace or water heater closets may access through a bedroom, bathroom or toilet room when all combustion air is taken from outside and the door is a 1 3/8 inch solid core, fully weather stripped and self closing. Combustion air shall comply with section 304.6 and G2407.6.

   Add to Exception 1 of 303.3. and G2406.2. – Vented gas heaters, fireplaces, decorative appliances and wood burning fireplaces and stoves located in bedrooms and bathrooms shall be direct vent only.

   Furnace located in an attic or crawl space may be accessed through a closet.

2. PROHIBITED LOCATIONS FOR LIQUID PETROLEUM GAS (LPG) APPLIANCES – Amend IFGC 303.3 and IRC G2406.2 by adding to IFGC 303.3 and IRC G2406.2, Number 6. as follows:

   Equipment burning Liquid Petroleum Gas shall not be located in a pit, an underfloor space, below grade or similar locations where vapors or fuel might unsafely collect unless an approved method for the safe collection, removal and containment or disposal of the vapors or fuel is provided.

   At grade crawl spaces, garages and non-habitable spaces in underfloor locations, and daylight basements shall be spaces where methods for safe collection, removal and containment or disposal of the vapors or fuel may be provided. Pits and below grade basements are spaces that LPG appliances are strictly prohibited.

   Combustion air shall not be obtained into a LPG appliance location from an underfloor crawl space where the combustion air opening through the floor would allow the gas to drain into the crawl space.

3. COMBUSTION AIR DRAWN FROM OUTDOORS – Amend IFGC 304.1 and IRC G2407.1 by adding IFGC 304.1.0.1 and IRC G2407.1.0.1 to read as follows:

New construction and existing buildings that have been remodeled and durably sealed against air infiltration as regulated under the International Energy Conservation Code shall be considered Unusually Tight Construction. All fuel burning appliances shall have the required combustion air drawn from the outdoors.
All Appliances within habitable portions of a building shall be installed in a sealed compartment with outside combustion air or be of the Direct-Vent type.

Exceptions to this requirement shall include: gas clothes dryer, gas cooking range and oven, one (1) woodstove, or one (1) fireplace, or one (1) free standing vented heater or one (1) vented wall heater.

4. PROHIBITED LOCATIONS FOR GAS PIPING – Amend IFGC 404.1 and G2415.4 by deletion and IFGC 404.11 and IRC G2415.11by adding IFGC 404.11.1 and IRC G2415.11.1 as follows:

Delete IFGC 404.1.1 and IRC G2415.4. The gas pipe shall emerge out of the ground before entering any foundation wall of basements or crawl spaces.

Gas piping shall not be installed in or on the ground under any building or structure and exposed gas piping shall be kept at least six (6) inches above grade. The term building or structure shall include structures such as porches, steps, whether covered or uncovered, breezeways, roofed patios, carports or drives, covered walk-ways, paved driveways and similar structures or appurtenances.

Exception – Gas piping installed below grade under buildings or structures when placed in approved recessed channels or conduits that are properly vented as described in IFGC 404.11 and IRC 2415.11. (This does not include piping entering below grade into foundations of basements or crawl spaces.)

5. APPROVED CONNECTIONS TO LIQUID PETROLEUM GAS (LPG) TANKS – Amend IFGC 404.7 and IRC G2415.7 by adding 404.7.1 and IRC G2415.7.1 as follows:

The connection of the building gas yard line to the regulator at the LPG tank shall be a rigid pipe or an approved, listed and labeled exterior flex connector (Manufactured Home Flex Connector) sized for the full demand of fuel to be served.

The copper tubing that is generally used as the connection from the tank to the regulator is a material that can be damaged when exposed above ground outdoors. The copper tubing shall be installed as short as practical, to compensate for expansion, contraction, jarring, vibrations and settlement (by the use of bends, loops or offsets) as required by NFPA 58 section 3-2.10.6, and protected from physical damage by being installed under the protective dome of the LPG tank.

6. MINIMUM BURIAL DEPTH FOR GAS PIPING – Amend IFGC 404.9 and IRC G2415.9 by changing the burial depth as follows:

   a) Black Iron, approved underground burial – twelve (12) inches minimum of cover.

   b) Plastic Pipe, approved non-metallic – eighteen (18) inches minimum of cover.

7. UNVENTED APPLIANCES NOT ALLOWED - Amend IFGC 621.2. and IRC G2445.2 by deletion as follows:

   Unvented decorative appliances, fireplaces, and room heaters are not allowed regardless of the location or type of fuel.

8. GAS SHUT-OFF VALVES AND UNIONS – Amend IFGC 409 1.1 and IRC G2420.1.1 by adding IFGC 409.1.1.1 and IRC G2420.1.1.1 as follows:

   All structures served by gas shall have an APPROVED EXTERIOR BALL VALVE gas shut-off valve on the piping, located outside and adjacent to the building, near where the pipe enters the building.

   On the discharge side of the gas shut-off valve a union shall be installed. In areas where the gas pipe emerges out of the ground the union shall be of the isolating type.

9. GAS PIPING CONNECTION TO A GAS FUELED FURNACE AND WATER HEATER – Amend IFGC 411.1 and IRC G2422.1 by adding IFGC 411.1.0.1 and IRC G2422.1.0.1 as follows:

   A rigid connection shall not be allowed between appliances and piping system. The connection shall be made to a rigid nipple outside the appliance with an APPROVED appliance connector.

   Exception: Corrugated Stainless Steel Tubing (CSST) gas piping extending out of the wall installed according to manufacturer's installation instructions where three (3) feet maximum of CSST piping connects to an appliance shut-off valve and then to a union connected to the rigid nipple.

10. CONDENSATE WASTE DRAIN FOR AIR CONDITIONERS – Amend 1107.3 by adding the following:

    When condensate water is approved to drain on the ground outside of buildings the condensate shall drain on to a concrete gutter stone 3 feet long minimum so as not to collect water against the foundation. The discharge of the condensate from the gutter stone shall drain out into the yard and away from the building.

11. COCONINO COUNTY UNLISTED WOODSTOVE CLEARANCES – Amend IMC 308.6 and IRC M1306.2 by adding to Tables 308.6 and M1306.2 – A.B.C.D.E.F.G.H.

A. Thirty-six (36) inches to combustibles when unprotected.

B. Eighteen (18) inches to combustibles when protected by twenty-six (26) gauge sheet steel or one quarter (1/4) inch non-combustible mill board (listed) and a one (1) inch convective air space.

C. Twenty-four (24) inches to combustibles when protected by four (4) inches of brick on the wall.

D. Twelve (12) inches to combustibles when protected by four (4) inches of brick and a one (1) inch convective air space.

E. Stove pipe eighteen (18) inches to combustibles when unprotected. Nine (9) inches to combustibles when protected by an APPROVED heat shield.

F. Hearth protection for floor – brick or stone attached and mortared to the floor. Brick on mill board contained by a wooden frame.

G. Hearth extensions – Eighteen (18) inches in front, twelve (12) inches sides, twelve (12) inches rear or to the protected wall.

H. Where conflicts arise between the Tables and this list the more restrictive shall apply.

PART III: 2006 INTERNATIONAL PLUMBING CODE AND INTERNATIONAL RESIDENTIAL CODE (PLUMBING SECTION) AMENDMENTS

1. MINIMUM WATER DISTRIBUTION PIPING REQUIRENMENTS – Amend IPC 604.5 and IRC P2904.5. by adding the following:

Delete the use of Type M copper for use inside a building for the water distribution piping.

Type L copper piping or tubing minimum shall be used when copper is used for water distribution in a residential, accessory or commercial structure in the concealed construction. Concealed construction shall include attic spaces and crawl spaces.

2. SLOPE OF HORIZONTAL DRAINAGE PIPE – Amend IPC 704.1, Table 704.1 and IRC P3005.3 by adding the following:

Horizontal drainage pipe sized three (3) inches and smaller shall be sloped 1/4 inch per foot minimum unless structural conditions prohibit, then for small sections where 1/8

inch per foot is minimum. Horizontal drainage pipe sized four (4) inches and larger shall be sloped 1/8 per foot minimum.

3. VENT TERMINATIONS – Amend IPC 904.1, 904.2 and IRC P3103.1, P3103.2 by adding as follows:

   In areas as determined by the minimum frost depth of thirty (30) inches, vent terminations shall be installed for vent extensions through the roof for the effects of snow accumulation and frost closure.

   The vent shall extend through the roof to be 12 inches minimum above the top of the flashing.

   The minimum sized vent through the roof shall be 2 inches to prevent the effects of frost closure. Any increase in the size of the vent shall be made inside the structure, 12 inches below the bottom of the roof framing or 12 inches below the bottom of the wall plates. At the point of the increase in size of the pipe, the pipe shall be adequately braced to prevent movement.

4. AIR ADMITTANCE VALVES PROHIBITED – Amend IPC 917.1 and IRC P3114 by adding the following:

   Air Admittance Valves are not allowed in residential, residential accessory, commercial or industrial uses.

   Exception – When structural conditions strictly prohibit the pathway for the proper run of a required vent to the outside as determined by the Building Official. When an Air Admittance Valve is used a hard-wired gas detector shall be installed at the location within the room or within 8 feet of the location measured horizontally.

PART IV: 2005 NATIONAL ELECTRIC CODE AMENDMENTS

1. ELECTRIC SERVICE AND TEMPORARY ELECTRIC SERVICE PERMITS - Amend Article 90 by adding Section 90-10.A.B.C.D.E. to read as follows:

   A. Electric service permits and the approval of such equipment will not be allowed on vacant land with the exception of electric equipment for the service of a well and in commercial zones when approved by the Building Official.

   B. Electric services are only allowed to be placed on structures with a permanent foundation of an area two hundred forty (240) square feet or larger.

C. Electric services may be installed on approved power poles or pedestals for manufactured homes, modular homes, wells, and in commercial zones only.

Upon approval of the Building Official and where deemed necessary due to site conditions, the main service for a single family dwelling may be mounted on a power pole or an electric service pedestal. A main disconnect is required on the house in a readily identifiable location in the same vicinity of the service entrance conductors.

D. Only one (1) electric service is allowed for any parcel of land zoned AR (Agricultural Residential), General (10 acre minimum parcel size), RS (Residential Single Family Dwelling), RR (Rural Residential) and PRD (Planned Residential Development), which are zones for Single Family Dwellings only.

Upon approval of the Building Official and where deemed necessary due to site conditions, a second electric service may be authorized for an accessory structure in Agricultural Residential and General zones only.

E. Temporary power electric service permits are allowed in conjunction with building permits for new construction. These services shall supply a minimum load of at least one (1) or more fifteen (15) or twenty (20) amperes one hundred twenty (120) volt duplex receptacles that are G.F.C.I. protected for construction purposes. The services shall meet all installation requirements of the electric utility supplier. The electric service shall be rated one hundred (100) amperes minimum. Approval of temporary power will be given once the project has commenced.

2. EFFECT OF PERMITS - Amend Article 90 by adding Section 90-11 to read as follows:

The issuance of an electrical permit shall not be construed as an approval by the Electrical Inspector of any wiring diagrams, drawings, specifications, or details of such contemplated work insofar as the same or any portion thereof is in conflict with this Chapter or any other rules or regulations governing electric installations in the County. The holder of an electrical permit shall not do or perform any work other than that designated in the application for said permit without first notifying the Electrical Inspector and paying the additional fee thereof. No work shall be permitted at any location other than that designated by the permit. The Electrical Inspector must be given notice when an installation is ready for either rough or final inspection.

3. USE OF ALUMINUM WIRE - Amend Article 110 by adding Section 110-28 to read as follows:

Use of aluminum wire is approved for service entrance conductors and/or panel feeders only, and shall not be used for any other purpose.

4. SUB-PANEL FEEDERS - Amend Article 110 by adding Section 110-29 to read as follows:

All multi-tenant occupancy, residential multi-family or commercial building, the sub-panel feeders shall not be routed through an adjacent occupancy or building. Below-grade raceways may be either PVC or metal. Above-grade raceways shall be metal and shall extend to a point a minimum or four (4) inches below grade. An underground PVC feeder may extend up to panel height if within its own occupancy. Any PVC feeder raceway shall be approved if totally within its own occupancy and if installed per National Electrical Code requirements.

5. EXCEPTION TO ARC-FAULT CIRCUITS IN BEDROOMS – Amend NEC 210.12 by adding an exception as follows:

Smoke detector circuits in bedrooms need not have arc-fault protection.

6. RECEPTACLES IN GARAGES -Amend Article 210 by adding Section 210.64 to read as follows:

All receptacle outlets in garages, residential, commercial or industrial shall be installed greater than eighteen (18) inches above the finish floor.

7. INSULATION OF SERVICE ENTRANCE CONDUCTORS - Amend Article 230-41 by deleting Exceptions 1,2,3,4 and 5, and to read as follows:

The grounded conductor shall be insulated.

8. GROUNDING ELECTRODE SYSTEM - Amend Article 250-50 by adding 250-50a, b and c to read as follows:

a) All new building construction shall have a concrete-encased electrode (Ufer) twenty (20) feet in the footing, a minimum of #4 bare copper wires. Services larger than 200A the grounding electrode conductor shall be sized from Table 250-66.

b) In buildings with pier foundation construction or existing buildings without a concrete encased electrode a #2 bare copper wire shall be installed twenty (20) feet in length in a trench thirty (30) inches deep minimum. As an alternative, two (2) – 1/2 inch x 8 ft. copper rods shall be installed located a minimum of 6 feet apart. As an exception to a second ground rod a test may be preformed to determine that a single rod has a maximum resistance to ground of 25 ohms or less.

c) At existing buildings where electric service up-grades occur with an existing concrete encased electrode, a 1/2 inch x 8 ft. copper rod shall be added with a properly sized grounding electrode conductor from Table 250-66.

9. BONDING OTHER ENCLOSURES - Amend Article 250-96 by adding 250-96C to read as follows:

   C) Whenever concrete or eccentric knockouts are encountered throughout a metallic raceway electric system, equipment ground continuity shall be maintained by Bonding Bushings and Jumpers.

10. NONMETALLIC - SHEATHED CABLE - USES NOT PERMITTED - Amend Article 334-12 by adding 334-12C to read as follows:

    C) The cable assemblies regulated in Article 334 shall not be permitted in any commercial, industrial, professional or educational building or any other occupancy deemed inappropriate for use of these types by the Building Official.

11. ELECTRIC METALLIC TUBING - USES NOT PERMITTED - Amend Article 358-12 by adding 358-12.7 to read as follows:

    7) Electrical metallic tubing (E.M.T.) shall not be allowed for underground raceways.

12. HYDROMASSAGE BATHTUBS - PROTECTION - Amend Article 680-71 by adding 680-71.1 to read as follows:

    The ground fault circuit interrupter device shall be motor rated (faceless G.F.C.I.) and readily accessible. (See N.E.C. definition for accessible and readily accessible)

PART V: 2006 INTERNATIONAL ENERGY CONSERVATION CODE AMENDMENTS

1. INSULATION AND FENESTRATION CRITERIA – Amend IECC 402.1.1 including Table 402.1.1 and IRC N1102.1 including Table 1102.1 by adding IECC 402.1.1.A.B.C.D.E and IRC N1102.1.A.B.C.D.E

   A. Climate Zone – Coconino County is a Climate Zone 5

   B. Change Fenestration U Factor to .45, Low E. When metal or aluminum windows are used they shall be Low E with a thermal break. EXCEPTION – Windows for approved passive solar design.

   C. Add to Wood Frame Wall R-Value R-15, to include 2 x 4 wall frame construction.

   D. Add to Slab R-Value and Depth R-5 for 4 feet. Note – When the slab and foundation insulation is applied to the inside of the construction an additional R-5

one (1) inch of rigid insulation shall be installed vertically between the top course of the stem wall and the edge of the slab as a thermal break.

E. There shall be alignment with the thermal barrier insulation and the air barrier in all cases.

a) Insulation shall be installed in full contact with the air barrier on both sides of exterior walls. The insulation shall be installed so as not to create any voids around piping, wiring, blocking and any other obstruction within the wall cavity.

b) Insulation shall be installed in full contact with the conditioned side of the air barrier of flooring above and in attics the ceiling covering below. The insulation shall be installed so as not to create any voids around piping, wiring, blocking and any other obstruction within the floor or ceiling cavity.

c) When faced insulation is used the tabs of the insulation facing shall be lapped over the framing members.

2. AIR LEAKAGE OF CONSTRUCTION – Amend IECC 402.4 and IRC N1102.4 by adding IECC 402.4.4. and IRC N1102.4.4. to read as follows:

Based on the requirements for construction to be durably sealed to limit air infiltration all new construction and existing construction that has been remodeled to meet the requirements of this section, shall be considered **UNUSALLY TIGHT CONSTRUCTION.**

All frame construction shall have an approved permeable Grade D minimum building wrap or building paper installed over the panel sheathing or on the exterior stud surface when panel siding is used. This application is recognized to avoid condensation on building materials and the installation of a vapor retarder on the warm-in-winter side of the wall assembly will **not** be required as stated in IECC 402.5 and IRC N1102.5.

Window and door openings shall be flashed by approved methods and materials.

Approved sill seal gasket material shall be installed under the bottom sill plate for slab on grade construction.

3. DUCT INSTALLATION – Amend IECC 403.2 and IRC N1103.2 by adding IECC 403.2.0.1 and IRC N1103.2.0.1 as follows:

All rooms in a building that have a ventilation heat supply shall have a return air duct to each room, or a “Jump Duct” between a room and the main return air or louver doors, to cause a return air path to the furnace, to keep all areas of the building at equal pressure. EXCEPTION – Bathrooms, Toilet Rooms, Laundry Rooms and other similar spaces.

Ducts and plenums shall be sealed with approved mastic at joints and caused to be an air tight system. Furnace equipment may be sealed with metallic duct tape.

4. DUCT INSULATION – Note to IECC 403.2 and IRC N1103.2 as follows:

R-6 duct insulation minimum installed in unconditioned spaces will be permitted to meet the requirements of this section until January 1, 2009. After that date R-8 duct insulation shall be required. EXCEPTION – In floor and attic trusses where the main trunk duct is run, and an R-8 duct is too large to be properly installed R-6 duct may be used.

5. ADOPTION OF THE INTERNATIONAL ENERGY CONSERVATION CODE – Note to IECC 101.2 as follows:

The requirements of this code for commercial and industrial buildings shall go into affect July 1, 2008.

6. ADOPT AS REFERENCE AND GUIDELINES FOR RESIDENTIAL CONSTRUCTION – Amend IECC 401.1 and IRC N1101.1 as follows:

a) Adopt as reference and guidelines approved details from "Builder's Guide to Cold Climates" published by Energy and Environmental Building Association (EEBA).

b) Adopt as reference and guidelines for flashing of windows and door and other approved details "Water Management Guide" published by Energy and Environmental Building Association (EEBA).

Energy and Environmental Building Association: 10740 Lyndale Avenue South, Suite 10 West, Minneapolis, MN. 55420.

The EEBA Institute of Building and Construction Technology: www.eeba.org/institute

United States Department of Energy's Building America Program: www.buildingamerica.gov

PART VI: 2006 INTERNATIONAL FIRE CODE

The International Fire Code is not adopted. However, the following Articles are adopted as amendments to the International Building Code:

Chapter 22 Motor Fuel-Dispensing and Repair Garages

Chapter 24 Tents, Canopies and other Membrane Structures

Chapter 34 Flammable and Combustible Liquids

Chapter 38 Liquefied Petroleum Gases

The following articles are adopted for reference and guidelines:

Chapter 9 Fire-Protection Systems and Equipment

Chapter 11 Aviation Facilities

Chapter 15 Flammable Finishes

Chapter 19 Lumberyards and Woodworking Facilities

Chapter 23 High-Piled Combustible Storage

Chapter 33 Explosives and Fireworks

PART VII: ORDINANCE FOR ROAD STANDARDS

Previously listed as Ordinance 95-01 adopted January 3, 1995.

Amend IBC Chapter 33 by adding 3301.3 to read as follows:

1. For new land divisions where the resulting parcels are 2 ½ acres or smaller and where the access easement exceeds one-hundred fifty (150) feet in length, an all-weather road at least twenty (20) feet in unobstructed width must be constructed on the property being split. The road must be constructed prior to initiation of combustible material on the building site.

   An all-weather road is defined as a road capable of carrying a forty-two thousand (42,000) pound vehicle. In a "typical" rural area, this is a built-up or raised roadbed constructed with material bladed from the side ditches, with six (6) inches of compacted cinders on top. The first four (4) inches should be three (3) or four (4) inches minus cinders and the top two (2) inches, one and one-half (l ½) inches minus cinders.

2. For new land divisions where the resulting parcels are over 2 ½ acres and less than 10 acres, an all-weather road at least sixteen (16) feet in width must be constructed. The road must be constructed prior to initiation of combustible material on the building site.

3. Easements less than one-hundred fifty (150) feet in length, measured from the nearest road to the farthest point of the house, are defined as driveways. The standards for driveways are minimum ten (10) feet width, minimum thirteen (13) feet six (6) inches vertical clearance, and maximum fifteen (15) percent slope.

4. Bridges on private easements or on driveways exceeding one-hundred fifty (150) feet in length must be engineered to carry a forty-two thousand (42,000) pound load.

5. For parcels where topography or physical obstruction prevents road standards from being met and prevents any possible access by fire equipment (such as a railroad pass or an exceptionally steep grade), either the house shall be sprinklered or a document shall be recorded indicated a potential inability for fire fighting apparatus to reach the site.

PART VIII: POLICIES AND ORDINANCES

Amend IBC 108 by adding IBC 108.7 to read as follows:

1. Refunds for manufactured home permits will only be authorized if the request for refund is made within ninety (90) days of the date that the permit was issued.

2. Refunds for all other permits will only be authorized within three hundred and sixty (360) days of the date the permit was issued.

3. Reinspections - Work which is not ready or accessible at time of inspection, in addition to other stipulations as set forth in this section, will be assessed a reinspection fee of $*94*.

4. Special Inspections - $*47*.00 unit fee, plus $*47*.00 per hour with a 1 hour minimum fee, plus mileage of $.*54* per mile. Also when the inspection requires report writing a $*47*.00 per hour fee shall be charged.

5. Stop Work - shall be issued whenever any work for which a permit is required has been commenced without first obtaining a permit. The party responsible for performing such work will be charged a double fee of the building permit cost. Work which has been concealed will require a special inspection and fees collected prior to submittal of plans. When a stop work is issued on permitted projects for other reasons and work is covered up a special inspection shall be required by the Building Official and a fee collected and approval obtained before work shall recommence on the project.

6. Plan Revisions – Approved plans requiring revisions shall be charged $*47*.00 per hour with a half-hour minimum fee.

7. No Occupancy - No building shall be used or occupied until a final inspection has been made. Violation of this section will result in a "**No Occupancy"** posted on the structure. The building permit will also be voided out and can only be re-activated by a special inspection.

SECTION 10: This ordinance shall be in effect 30 days from this date of final approval.

PASSED and ADOPTED this 4th day of December, 2007, by the Coconino County Board of Supervisors by the following roll call vote:

AYES: 5 NOES: 0 ABSTENTIONS: 0 ABSENT: 0

COCONINO COUNTY BOARD OF SUPERVISORS

Carl Taylor

Carl Taylor, Chairman

APPROVED AS TO FORM:
Terence C. Hance, Coconino County Attorney

Erin McNeil

Deputy County Attorney

ATTEST:

Wendy Escoffier

Clerk of the Board