

## Housing NM HOME Homeowner Rehabilitation Property Standards

*Last Revised: March 24, 2025*

### PROGRAM INTENT

The Homeowner Rehabilitation Program, funded through the HOME Investment Partnership Program, is designed to provide safe, decent, and sanitary housing for low-income homeowners, effectively creating sustainability for residents across New Mexico.

In accordance with 24 CFR 92.251(b) and 92.251(e) all housing assisted with HOME funds must meet specific Property Standards. The Participating Jurisdiction must establish written rehabilitation standards to ensure that HOME-assisted units are safe, decent, and sanitary.

This document serves as the guiding framework for the Housing NM HOME Homeowner Rehabilitation Program and must be adhered to for all program-funded projects.

### STANDARDS FOR REHABILITATION

The following categories must be reviewed and incorporated into all scopes of work:

1. Code Compliance Requirements
2. Health & Safety Issues & Substandard Conditions
3. Structural Requirements
4. Space & Occupancy Requirements
5. Sanitation Requirements
6. Mechanical System(s) Requirements
7. Safety Requirements
8. Resource Efficiency & Healthy Homes Standards

All rehabilitation work must align with these standards. Any requests beyond these requirements are not eligible under the Homeowner Rehabilitation Program. However, reasonable exceptions may be submitted to MFA for review and consideration on a case-by-case basis.

### MAJOR SYSTEM SPECIFICATIONS

The major systems are encompassed within the eight (8) rehab standards listed above and detailed throughout this document. However, the “major systems” specified in this section must be evaluated and determined to have a minimum remaining useful life of at least five (5) years upon project completion. Each scope of work developed under these standards must ensure functionality, repair, or replacement of the major systems defined below.

Major Systems Defined Per 24 CFR 92.251(b)(ii):

- ✓ Structural Support
- ✓ Roofing
- ✓ Cladding & Weatherproofing (e.g., windows, doors, siding, gutters)
- ✓ Plumbing
- ✓ Electrical Systems
- ✓ Heating, Ventilation & Air Conditioning (HVAC)

### ACCESSIBILITY MODIFICATIONS

MFA requires Subrecipients to evaluate reasonable modification requests for homeowners needing accommodations due to disability, handicap, or aging in place.

- ◆ All projects must comply with HUD property standards, which are mandatory and non-negotiable.
- ◆ If funding allows, reasonable accessibility requests should be incorporated into the project scope.

- ◆ If the cost of accessibility modifications exceeds available funding, a formal request must be submitted to MFA for review and consideration.

## COMPLIANCE & OVERSIGHT

Compliance with these rehabilitation standards will be verified through the following measures:

- ✓ **On-Site Inspections** – Conducted by the Subrecipient or Program Administrator to certify compliance with established standards.
- ✓ **MFA Oversight** – Includes random quality control (QC) checks during initial inspections and a thorough review of all project scopes of work.
- ✓ **Annual Monitoring Inspections** – Encompasses a review of completed projects to ensure alignment with the approved scope of work.

### (1) Code Compliance Requirements

HOME assisted homeowner rehabilitation projects, including manufactured housing, must meet all applicable state and local codes upon completion.

- ◆ 2021 New Mexico Existing Building Code: [14.7.7 NMAC](#)
- ◆ 2021 New Mexico Residential Building Code: [14.7.3 NMAC](#)
- ◆ 2021 New Mexico Plumbing Code: [14.8.2 NMAC](#)
- ◆ 2020 New Mexico Electrical Code: [14.10.4 NMAC](#)
- ◆ 2021 New Mexico Residential Energy Conservation Code 1 & 2: [14.7.6 NMAC](#) & [14.7.9 NMAC](#)
- ◆ 2021 New Mexico Fire Code: [10.25.5 NMAC](#)

If additional state or local codes are adopted, the requirements of those codes shall apply. The codes listed above serve as a quick reference for creating scopes of work; however, this list is not all-inclusive. **All applicable state and local codes must be followed for each project.**

### MANUFACTURED HOMES.

#### Rehabilitation.

[24 CFR 92.251(b)] In HOME-funded rehabilitation of existing manufactured housing, the foundation and anchoring must meet all applicable State and local codes, ordinances, and requirements or in the absence of local or state codes, the Model Manufactured Home Installation Standards at 24 CFR part 3285 as all rehabilitated mobile/manufactured housing must be placed on a permanent foundation in order to qualify for this Program.

#### Replacement.

[24 CFR 92.251(e)] Construction of all manufactured housing including manufactured housing that replaces an existing substandard unit under the definition of “reconstruction” must meet the Manufactured Home Construction and Safety Standards codified at 24 CFR part 3280. These standards preempt State and local codes which are not identical to the federal standards for the new construction of manufactured housing.

- ✓ HOME assistance to manufactured housing units must comply with applicable State and local laws or codes regarding installation. In the absence of such laws or codes, the installation must comply with the manufacturer's written instructions for installation of manufactured housing units.
- ✓ All new manufactured housing and all manufactured housing that replaces an existing substandard unit under the definition of “reconstruction” must be on a permanent foundation that meets the requirements for foundation systems as set forth in 24 CFR 203.43f(c)(i).
- ✓ All new manufactured housing and all manufactured housing that replaces an existing substandard unit under the definition of “reconstruction” must, at the time of project completion, be connected to permanent utility hook-ups and be located on land that is owned by the manufactured housing unit

owner or land for which the manufactured housing owner has a lease for a period at least equal to the applicable Restrictive Period.

## **(2) Health & Safety Issues & Substandard Conditions**

The following list of life-threatening deficiencies was developed from proposed NSPIRE life-threatening deficiencies, and must be identified during the inspection, incorporated into the scope of work, and addressed as soon as feasible.

### **LIFE THREATENING HEALTH & SAFETY.**

#### **UNIT/INSIDE**

- ◆ **Carbon Monoxide Alarm** – missing, not installed in a proper location, obstructed or not producing audio or visual alarm when tested
- ◆ **Chimney** – visually accessible chimney flue or firebox connected to a fireplace or wood-burning appliance is incomplete or damaged such that it may not safely contain fire and convey smoke and combustion gases to the exterior
- ◆ **Clothes Dryer Exhaust Ventilation** – dryer transition duct is detached, constructed of unsuitable material, missing, or has restricted airflow
- ◆ **Egress** – obstructed egress
- ◆ **Electrical** – exposed electrical conductor, outlet or switch is damaged, or the overcurrent protection device in the service panel is damaged
- ◆ **Flammable and Combustible Items** – improperly stored flammable or combustible item on or near an ignition source
- ◆ **Foundation** – appears to be in imminent danger of collapse or failure
- ◆ **Guardrail** – guardrail is missing, not installed, or not functionally adequate
- ◆ **Heating Ventilation and Air Conditioning (HVAC)** – resident is unable to maintain a minimum temperature of 68 degrees Fahrenheit through a safe heating source, heating system or device fueled by combustion has a misaligned, disconnected, improperly connected, damaged, blocked or missing exhaust vent, combustion chamber cover or gas shutoff valve is missing from a combustion-fueled heating appliance, or natural gas, propane or oil leak
- ◆ **Smoke Alarm** – not installed where required or does not produce an audio or visual alarm.
- ◆ **Structural System** – structural system exhibits signs of serious failure. A building structure safely supports and transfers weight loads. Structure can include, but not limited to, exterior walls, windows, roof, columns, and beams.
- ◆ **Toilet** – only one (1) toilet was installed and it is missing, damaged or inoperable
- ◆ **Water Heater** – chimney or flue piping is blocked, misaligned or missing, or gas shutoff valve is damaged or not installed

#### **OUTSIDE**

- ◆ **Chimney** – visually accessible chimney flue or firebox connected to a fireplace or wood-burning appliance is incomplete or damaged such that it may not safely contain fire and convey smoke and combustion gases to the exterior, or chimney exhibits signs of structural failure
- ◆ **Clothes Dryer Exhaust Ventilation** - dryer exhaust ventilation system has restricted airflow
- ◆ **Electrical** – exposed electrical conductor, outlet or switch is damaged, or the overcurrent protection device is damaged
- ◆ **Flammable and Combustible Items** – improperly stored flammable or combustible item on or near an ignition source
- ◆ **Foundation** - foundation appears to be in imminent danger of collapse or failure

- ◆ **Guardrail** - guardrail is missing, not installed or not functionally adequate Natural gas, propane or oil leak
- ◆ **Structural System** – structural system exhibits signs of serious failure

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### SUBSTANDARD CONDITIONS.

Any building or portion thereof which is determined to be an unsafe building in accordance with the Building Code or Uniform Physical Conditions Standards, or any building or portion thereof including any dwelling unit in which there exists any conditions that endangers life, limb, health, property, safety, or welfare of the public or occupants thereof shall be deemed to be substandard and must be addressed.

- ◆ **Structural Hazards.** Buildings or portions thereof shall be deemed substandard when they are or contain structural hazards. Structural hazards include, but are not limited to, the following:
  - ✓ Deteriorated or inadequate foundations
  - ✓ Defective or deteriorated flooring or floor supports
  - ✓ Flooring or floor supports of insufficient size to safely carry imposed loads
  - ✓ Members of walls, partitions or other vertical supports that split, lean, list, or buckle due to defective material or deterioration
  - ✓ Members of walls, partitions, or other vertical supports that are of insufficient size to carry imposed loads with safety
  - ✓ Members of ceilings, roofs, and supports or other horizontal members which sag, split or buckle due to defective material or deterioration
  - ✓ Members of ceilings, roofs, and supports or other horizontal members that are of insufficient size to carry the imposed loads with safety
  - ✓ Condition of stairs, railings and porches that are hazardous or not sound
  - ✓ Potential for collapse of the chimney or the chimney is not capable of safely carrying smoke, fumes and gasses from the unit to the outside
- ◆ **Hazardous Electrical Wiring.** Electrical wiring which was installed in violation of code requirements in effect at the time of installation or electrical wiring not installed in accordance with generally accepted construction practices in areas where no codes were in effect or which has not been maintained in good condition or which is not being used in a safe manner shall be considered substandard.
- ◆ **Hazardous Plumbing.** Plumbing which was installed in violation of code requirements in effect at the time of installation or plumbing not installed in accordance with generally accepted construction practices in areas where no codes were in effect or which has not been maintained in good condition or which is not free of cross-connections or siphonage between fixtures shall be considered substandard.
- ◆ **Hazardous Mechanical Equipment.** Mechanical equipment which was installed in violation of code requirements in effect at the time of installation or mechanical equipment not installed in accordance with generally accepted construction practices in areas where no codes were in effect or which has not been maintained in good and safe condition or which is not being used in a safe manner shall be considered substandard.
- ◆ **Faulty Weather Protection.** Buildings or portions thereof shall be considered substandard when they have faulty weather protection. This is defined as conditions that would allow significant amounts of water or air to enter the unit which would result in damage such as the following:
  - ✓ Deteriorated, crumbling or loose plaster or stucco
  - ✓ Deteriorated or ineffective waterproofing of exterior walls, roof, foundation or floors, including broken windows or doors
  - ✓ Broken, split, rotted or buckled exterior wall coverings or roof coverings
  - ✓ Visible internal water damage that indicates roofing failure.

- ◆ **Faulty Materials of Construction.** The use of construction materials which are not specifically allowed or approved by the Building Code, or the use of approved materials which have not been adequately maintained in a good and safe condition, shall cause a building to be substandard.
- ◆ **Hazardous or Unsanitary Premises.** The accumulation of weeds, vegetation, junk, dead organic matter, debris, garbage, offal, rat harborages, stagnant water, combustible materials and similar materials or conditions on a premises shall constitute fire, health or safety hazards and shall be abated.

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## ENVIRONMENTAL HAZARDS

The presence of deteriorated paint in pre-1978 homes and/or radon are environmental hazards that must be addressed by Federal Mandate. In addition to these two, MFA has also imposed testing for Asbestos for each project.

For a detailed breakdown of these testing requirements please refer to the regulation listed as well as the NM HOME Homeowner Rehabilitation Program Manual subsections listed in parenthesis:

- ✓ **Lead Based Paint:** Hazard controls must follow 24 CFR Part 35 Subpart R. (2.5.4)
- ✓ **Radon:** Mitigation measures must comply with HUD Notice CPD-23-103. (2.5.6)
- ✓ **Asbestos:** Engineering controls and work practices as prescribed in 29 CFR 1910.1001(c) must be followed. (2.5.5)
- ✓ **Mitigation measures:** For Lead-Based Paint, Asbestos, and/or Radon present, proper mitigation measures must be incorporated into the project's scope of work. These measures must be clearly specified to ensure contractors can accurately budget for the necessary mitigation during the bidding process. Only contractors licensed and qualified to perform abatement or mitigation in accordance with the standards outlined in Part 2 and Sections: 2.5.4; 2.5.5; 2.5.6 Rehab Manual are authorized to carry out these services.
- ✓ **Noise Attenuation:** For modernization projects in all noise zones, HUD encourages mitigation to reduce levels to acceptable compliance standards. See [24 CFR 51.101](#) for further details. For projects that are located near noise generators, at least one improvement to the envelope of the home must be included:
  - ◆ Improved building envelope components (better windows and doors, strengthened sheathing, insulation, sealed gaps, etc.)
  - ◆ Redesigned building envelope (more durable or substantial materials, increased air gap, resilient channels, staggered wall studs, etc.)

## (3) Structural Requirements

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### GENERAL.

- ◆ Structures may be of any type of construction that is permitted by the Building Code.
- ◆ Buildings of every permitted type of construction shall comply with the applicable requirements of the Building Code.
- ◆ Roofs, floors, walls, foundations, and all other structural components of the building shall be sound and free from hazardous defects such as severe buckling, bulging or leaning; damaged or loose structural members; large holes; air infiltration, missing parts; falling or in danger of falling loose surface materials and capable of resisting any and all forces and loads to which they may be subjected and should have a useful of 5 or more years upon completion.
- ◆ All structural elements shall be proportioned and joined in accordance with the stress limitations and design criteria as specified in the appropriate sections of the Building Code.

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### SHELTER.

- ◆ Every building shall be weather protected to provide shelter for the occupants against the elements and to exclude dampness.

- ◆ The roof covering shall be capable of accommodating the required loads as specified in the Building Code.
- ◆ The roof shall provide a barrier against the weather to protect the supporting elements and the structure beneath.
- ◆ Roof covering materials shall be approved and installed in a manner consistent with the manufacturer's requirements and in accordance with the Building Code.
- ◆ All wood shall be protected against termite damage and decay as provided for in the Building Code.

#### FOUNDATIONS.

- ◆ The foundation and its' structural elements shall be capable of accommodating all superimposed live, dead, lateral, and all other loads in accordance with accepted foundation design practices.
- ◆ Lots shall be provided with adequate drainage and shall be graded as to drain surface water away from foundation walls.
- ◆ Finish grade shall be below floor grade as per the Building Code minimum requirements.
- ◆ If foundations are repaired/replaced, IECC Guidelines for Foundations apply:

Foundation			
	Basement Wall R-Value	Slab R-Value & Depth	Crawl Space Wall R-Value
Zone 5	15/19	10, 2 ft	15/19
Zone 4	10/13	10, 2 ft	10/13
Zone 3	5/13	0	5/13

#### (4) Space & Occupancy Requirements

##### LIGHT.

- ◆ Habitable rooms within a dwelling unit shall be provided with natural light by means of exterior glazed openings (i.e. windows, skylights) with a minimum opening area of 10 square feet. Habitable rooms include those for living, sleeping, cooking and eating. Bathrooms, closets, halls, storage or utility space are not considered habitable rooms.

##### VENTILATION.

- ◆ Habitable rooms within a dwelling unit shall be provided with natural ventilation by means of operable exterior openings (i.e. windows, doors) with a minimum opening area of 5 square feet.
- ◆ Bathrooms, laundry rooms, and similar rooms shall be provided with natural ventilation by means of operable exterior openings with a minimum opening area of 1½ square feet.
- ◆ In lieu of required exterior openings for natural ventilation, a mechanical ventilation system may be installed providing the number of air changes to meet code for the room being ventilated.

#### (5) Sanitation Requirements

##### PLUMBING SYSTEMS.

- ◆ An acceptable plumbing system consists of three separate parts: an adequate potable water supply system; a safe, adequate drainage system; and ample fixtures and equipment. All installations shall be consistent with the Building Code.

##### SEPTIC SYSTEMS.

- ◆ Septic system use is limited to designated areas and must adhere to specific guidelines for proper installation and maintenance, including required approval and certification. All Program Administrators and their contracted vendors must comply with all applicable state and local requirements. ([20.7.3 NMAC](#) & [20.7.11 NMAC](#))

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## BATHROOMS.

- ◆ Each unit must have a bathroom.
- ◆ The bathroom must be in a separate room with a flush toilet in operating condition.
- ◆ The unit must have a shower or a tub with hot and cold water in operating condition.
- ◆ These facilities must be connected to an approved disposal system.
- ◆ The washbasin or sink must have a gas trap (drain trap).
- ◆ Floors of bathrooms shall be resistant to damage from water or dampness.
- ◆ If the household has accessibility needs, modifications should be made to the extent practicable and within budget.

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## KITCHENS.

- ◆ Each dwelling unit shall be provided with a kitchen which is defined as being a separate room or area of a larger room which is used primarily for preparation of meals and storage of food. A bedroom with a refrigerator in it cannot be defined as a kitchen.
- ◆ Defined by facilities contained, a kitchen or kitchen area must have a separate kitchen sink for preparing food and washing dishes, with piped hot and cold water which drains into an approved system, a stove for cooking food, a refrigerator for storing food and facilities for the sanitary disposal of food and refuse.
- ◆ The sink shall be of a nonabsorbent material.
- ◆ All appliances must be free of hazardous conditions including a damaged or broken stove, sink or refrigerator that endangers users.
- ◆ There must be no evidence of gas or water leakage that presents the danger of fire or electrical shock.
- ◆ The stove and refrigerator must be free of potential hazards due to improper hookup.
- ◆ All countertop replacements must use mid-grade materials to ensure durability, functionality and sustainability. Acceptable materials include but are not limited to, granite, tile, butcher block, concrete, and solid surface/acrylic/corian. Alternative materials may be considered if they meet the program's quality and durability standards. Laminate should not be used as this material is considered low-grade and not sustainable.
- ◆ If the household has accessibility needs, modifications should be considered to the extent practicable and within budget.

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## FIXTURES.

- ◆ All plumbing fixtures shall be connected to a sanitary sewer or to an approved private sewage disposal system.
- ◆ All plumbing fixtures shall be connected to an approved system of water supply and be provided with hot and cold running water, except water closets may be provided with cold water only.
- ◆ All plumbing fixtures shall be of an approved nonabsorbent material.  
All sanitary facilities shall be installed and maintained in a safe and sanitary condition and in accordance with applicable requirements of the Building Code.

## **(6) Mechanical System(s) Requirements**

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### HEATING.

- ◆ Dwelling units shall be provided with heating facilities capable of maintaining a room temperature of 70° F. (21.1°C.) at a point 3 feet above the floor directly or indirectly in all rooms used for living.
- ◆ Such facilities shall be installed and maintained in a safe condition and in accordance with all applicable laws and requirements of the Building Code.

- ◆ Un-vented fuel-burning heaters are not permitted.
- ◆ Wood, wood pellet or similar heating devices must be installed according to the manufacturer's directions and according to applicable requirements of the Building Code.
- ◆ All heating devices and wood burning heaters shall be of an approved type.

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#### EVAPORATIVE COOLING SYSTEMS.

- ◆ Evaporative cooling systems shall be installed according to the manufacturer's guidelines.
- ◆ Evaporative cooling systems shall be installed to minimize the probability of damage from an external source.
- ◆ Every evaporative cooler shall be accessible for inspection, service and replacement without removing permanent construction.

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#### ELECTRICAL EQUIPMENT.

- ◆ All dwelling units shall be connected to electrical power.
- ◆ Every habitable room shall contain at least one electrical convenience outlet and at least one electric light fixture.
- ◆ Every water closet compartment, bathroom, and laundry room shall contain at least one GFCI type electrical convenience outlet and one electric light fixture.
- ◆ Every kitchen shall have at least two GFCI type electrical convenience outlets and one electric light fixture.

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#### WATER HEATERS.

- ◆ Gas water heaters may not be in bedrooms or other living areas unless safety dividers or shields are installed.
- ◆ Water heaters are to be properly installed and maintained with adequate venting, relief valves and discharge lines conforming to current Uniform Plumbing Codes.

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#### VENTILATION.

- ◆ Ventilation for rooms and areas and for fuel burning appliances shall be provided as required in the Building Code.
- ◆ Ventilation systems shall be maintained in good operational order.

### **(7) Safety Requirements**

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#### ATTACHED GARAGES.

- ◆ Garages attached to dwelling units shall be completely separated from the residence and its' attic area by means in accordance with the Building Code.
- ◆ Openings from a private garage directly into a room used for sleeping purposes shall not be permitted.
- ◆ Other openings between a garage and residence shall be equipped with a properly fire rated self-closing door as prescribed by the Building Code.
- ◆ Garage and carport floor surfaces shall be of approved noncombustible material. That area of floor used for parking vehicles shall be sloped to facilitate the movement of liquids toward the main vehicle entry doorway.

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#### EGRESS.

- ◆ Dwelling units shall have access directly to the outside or to a public corridor.
- ◆ All buildings or portions thereof shall be provided with exits that meet the local Building Code, Fire Code or considered adequate by the appropriate local officials.

- ◆ Sleeping rooms shall have at least one operable window or exterior door approved for emergency egress, escape, or rescue. The unit must be operable from the inside to a full clear opening without the use of separate tools.
- ◆ If the household has accessibility needs, accessibility modifications should be designed to the extent practicable and within budget.

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### SMOKE DETECTORS.

- ◆ Each unit must have at least one hardwired (with battery backup) smoke detector in proper operating condition on each level of the dwelling unit, including basements but excluding crawl spaces and unfinished attics.
- ◆ Smoke detectors are to be installed inside of each separate sleeping area or bedroom, in the corridor giving access to each separate sleeping area, and where there is a ceiling elevation change of two feet or more.
- ◆ A smoke detector must also be installed within 21 feet of any door to a sleeping area measured along a path of travel and, where a smoke alarm installed outside a sleeping area is separated from an adjacent living area by a door, a smoke alarm must also be installed on the living area side of the door.
- ◆ If the unit is occupied by any hearing-impaired person, smoke detectors must have an alarm system designed for hearing impaired persons.
- ◆ Detectors must be installed in accordance with and meet the requirements of National Fire Protection Association Standard (NFPA) 72. For assistance in determining specific requirements mandated by the standard, agencies should contact State or local fire officials with jurisdiction over the proposed property and with expertise concerning these requirements.
- ◆ Where the use of hardwired smoke detectors places an undue financial burden or is infeasible, the PJ may consider a written exception to allow the install a smoke detector that uses 10-year non rechargeable, nonreplaceable primary batteries as long as the smoke detector is sealed, tamper-resistant and contains a means to silence the alarm

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### CARBON MONOXIDE DETECTORS

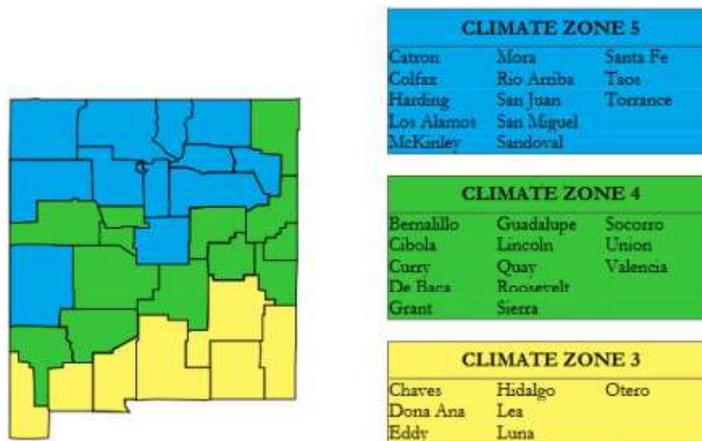
- ◆ Each unit must have carbon monoxide detectors installed, meeting the standards of the 2018 International Fire Code (IFC)
- ◆ Furthermore, HUD states all properties must have CO detectors installed in all dwelling units that meet or exceed the standards in Chapters 9, [Fire Protection and Life Safety Systems](#), and Chapter 11, [Construction Requirements for Existing Buildings](#), of the International Fire Code.

### **(8) Resource Efficiency and Healthy Homes Standards**

Resource Efficiency should be integrated in the rehabilitation process using an approach that balances social, economic, and environmental factors. **To the extent permissible by program guidelines budget**, rehabilitation should address:

- ◆ Energy efficiency
- ◆ Water efficiency
- ◆ Health materials [indoor environmental quality]
- ◆ Remediation of health hazards
- ◆ Waste reduction (Job site recycling & efficient use of materials)

Subrecipients are encouraged to work with the **New Mexico EnergySmart Program** to ensure that weatherization activities are performed for each property rehabilitated. Standards vary by zone.



### HIGH EFFICIENCY TOILETS.

- ◆ All toilets with a flush capacity over 1.6 gallons should be replaced if the budget permits.
- ◆ Replacement toilets should be high efficiency toilets (HETs), which use less than 1.6 gpf, including pressure-assist toilets that consume as little as 1.0 gpf, gravity-flush toilets that consume 1.28 gpf, and dual-flush toilets that offer two flush volumes.

### LOW FLOW FIXTURES.

- ◆ All shower heads with a flow over 2.0 gpm should be replaced, and all faucets should be modified or replaced to achieve the following flow capacities:
  - ✓ Kitchen Faucets: Install a low-flow faucet aerator to 1.5 gpm (fixed-type or flip-type.)
  - ✓ Bathroom Faucets: Install a low-flow faucet aerator to 1.0 gpm.
  - ✓ Showerheads: Install showerheads that use 2.0 gpm.

### APPLIANCES.

- ◆ If replacing the following appliances, replacement units must carry Energy Star certification:
  - ✓ Dishwashers
  - ✓ Washer and Dryers
  - ✓ Room Air Conditioners
  - ✓ Central Air Conditioners
  - ✓ Ceiling and Ventilating Fans
  - ✓ Boilers, Furnaces or Heat Pumps
  - ✓ Programmable Thermostats

### HVAC.

- ◆ If replacing components of the HVAC system of a home, new HVAC systems must be properly sized to ensure energy efficiency following the Energy Star/ACCA Quality Installation Standards ([www.acca.org/quality/](http://www.acca.org/quality/)) and to manufacturer's specifications.

### WATER LINE AND WATER HEATER INSULATION.

- ◆ If replacing or repairing water lines or water heaters, provide proper insulation of these components to improve energy efficiency. Select durable pipe insulation, and tightly insulate as many water lines, hot and cold, as possible.
- ◆ For water heaters, use water heater blankets, and ensure that the air flow beneath gas-fired natural draft water heaters is not blocked. Follow the manufacturer's instructions.

### WALL, CEILING AND ROOF INSULATION.

- ◆ If repairing or replacing wall or ceiling/attic/roof insulation, ensure that new insulation adheres to the following standards and is formaldehyde-free:

Insulation				
	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value
Zone 5	49	20 or 13+5 <sup>b</sup>	13/17	30
Zone 4	49	20 or 13+5 <sup>b</sup>	8/13	19
Zone 3	38	20 or 13+5 <sup>b</sup>	8/13	19

### FLOORING.

- ◆ When replacing hard-surface flooring, utilize hard-surfaced, resilient flooring materials, such as tile, wood, wood-laminate, bamboo, cork, natural linoleum, or finished concrete. When installing flooring using glues, use only low-VOC, formaldehyde-free adhesives.
- ◆ When removing carpet, replace it with hard-surfaced flooring when possible.
  - When carpet is installed, it should be located only in low-moisture areas.
  - All carpet should be tacked down, not glued.
  - When possible, choose carpet products that are made from natural materials, such as wool, cotton, jute or hemp, but which have not been treated with pesticides or contain residues from dyes and finishes used in manufacturing.

### WINDOWS AND EXTERIOR DOORS.

- ◆ When replacing windows and exterior doors, adhere to the following standards set by Energy Star for minimum National Fenestration Rating Council (NFRC) ratings for U- Factor and Solar Heat Gain Coefficient (SHGC) for the particular geographic region:

Windows			
	Fenestration U- Factor	Skylight U- Factor	Glazed Fenestration SHGC
Zone 5	0.32	0.55	NR
Zone 4	0.35	0.55	NR
Zone 3	0.35	0.55	0.25

### PAINTS AND FINISHES.

- ◆ When painting or applying finishes, use only low- or zero-VOC (volatile organic compounds) paints, primers, sealants, adhesives, coatings and other finishes. Also, avoid plastic-coated paper and vinyl wall coverings.

### COMPOSITE WOOD.

- ◆ When installing or replacing composite wood, such as particle board and medium-density fiberboard (MDF), ensure that products are free of urea-formaldehyde, and do not install these materials in high-humidity or high-moisture areas.
- ◆ When composite wood must be used, choose products that are moisture-resistant, such as particle board and MDF produced with MDI (polyurethane) or phenol-formaldehyde binders. This standard also applies to cabinetry and furniture made with composite wood.

### INTEGRATED PEST MANAGEMENT.

- ◆ Do not use any insecticides. Use Integrated Pest Management methods to control pests.
- ◆ Seal all cracks, holes and crevices on interior surfaces and exterior surfaces to prevent access by pests.
- ◆ Use copper mesh to plug larger holes prior to finishing with plaster or drywall. Do not use steel wool.
- ◆ Place a thin dusting of 98% boric acid under kitchen cabinets, in wall cavities, cracks and crevices in the kitchen. ([www.doyourownpestcontrol.com](http://www.doyourownpestcontrol.com))