



**LONGMONT
HOUSING & COMMUNITY
INVESTMENT**
A Division of Community Services

**CDBG/CDBG-DR CONSTRUCTION AND
REHAB STANDARDS
Policies and Procedures**

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Authority

The following document establishes the policies and procedures to be used to implement the City of Longmont CDBG/CDBG-DR Homeowner Rehabilitation Program. This Program operates in the City of Longmont and is funded by a CDBG/CDBG-DR grant

Advisory Committee

The Longmont Housing and Human Services Advisory Board (Advisory Board) serves as the Advisory Board for the Program. There are nine (9) voting members who are volunteer representatives from the community-at-large.

The Advisory Board will assist in policy development and treatment of management issues. City of Longmont Housing and Community Investment division staff will, within these policies and procedures, review all routine applications for loans or grants and will take action on these applications. The Advisory Board will review all non-routine applications and recommend action on these applications.

The Advisory Board meets monthly and will review applications as needed, will recommend actions and conduct other business pertaining to the Program in a timely and efficient manner. Five (5) voting members of the Advisory Board constitute a quorum for conducting business.

I. Introduction

The Construction and Rehabilitation Standards adopted by the City of Longmont for the Community Development Block Disaster Relief (CDBG-DR) Program shall apply to all housing projects assisted with CDBG-DR funds. The Construction and Rehabilitation Standards define a standard and code compliance level for the construction and rehabilitation necessary to correct health, safety and building code violations to achieve decent, safe and sanitary housing.

All housing constructed or rehabilitated must meet all applicable local codes including International Existing Building Code and International Property Maintenance Codes, rehabilitation standards, ordinances and zoning ordinances at the time of the project completion.

General Policies

Housing that is rehabilitated under the CDBG-DR program will include HUD's Green Build requirements, resiliency repairs or modifications, correction to HQS fail items, correction of code violations and flood related repairs. The inspections will identify what the repairs falls under (green build, resiliency, HQS, Code Violation, or Flood related).

All repairs or modifications will use mid-grade materials. However, the homeowner will be allowed to pay the difference for a higher quality material and any additional labor required for installing the up-graded material.

Lead Based Paint

Definition of Lead-Based paint as defined in the Lead-Based Paint Poisoning Prevention Act: Any paint containing more than .06% lead by weight in the total non-volatile contents of liquid paint or in the dried film of paint already applied.

All renovation to property that was **built prior to 1978** and is funded with Federal Funds must be performed by a Contractor or employees of a contractor who has become a certified renovator by successfully completing renovator training from an accredited provider.

Contractors working on LBP projects must post signs clearly defining the work area and warning occupants and other persons not involved in the renovation activities to remain outside of the work area. The signs must be posted before beginning the renovation and must remain in place and be readable until the renovation is completed.

Before beginning the renovation, the Contractor must isolate the work area so that no dust or debris leaves the work area while the renovation is being performed. The Contractor must maintain the integrity of the containment by ensuring that any plastic or other impermeable materials are not torn or displaced. The Contractor must also ensure that the containment is installed in such a manner that it does not interfere with occupant and worker egress in an emergency.

Interior renovations on property built prior to 1978 – the Contractor must:

- Remove all objects from the work area, including furniture, rugs, and window coverings, or cover them with plastic sheeting or other impermeable material with all seams and edges taped or otherwise sealed.
- Close and cover all ducts opening in the work area with taped-down plastic sheeting or other impermeable material.
- Close windows and doors in the work area. Doors must be covered with plastic sheeting or other impermeable material. Doors used as an entrance to the work area must be covered with plastic sheeting or other impermeable material in a manner that allow workers to pass through while confining dust and debris to the work area.
- Cover the floor area including installed carpet, with taped-down plastic sheeting or other impermeable material in the work area 6 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to contain the dust, whichever is greater.
- Use precautions to ensure that all personnel, tools, and other items, including the exteriors of containers of waste, are free of dust and debris before leaving the work area.

Exterior Renovations on property built prior to 1978 – the Contractor must:

- Close all doors and windows within 20 feet of the renovation.
- Ensure that doors within the work area that will be used while the job is being performed are covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.
- Cover the ground with plastic sheeting or other disposable impermeable material extending 10 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to collect falling paint debris, unless the property line prevents 10 feet of such ground covering.

Prohibited and restricted practices while working on buildings built prior to 1978

- Open-flame burning or torching of lead-based paint is prohibited.
- The use of machines that remove lead-based paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting, is prohibited unless such machines are used with HEPA exhaust control.
- Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 degrees Fahrenheit.

Waste from renovations of building built prior to 1978

- Waste must be contained to prevent releases of dust and debris before the waste is removed from the work area for storage or disposal.
- At the conclusion of each work day and at the conclusion of the renovation, waste that has been collected from renovation activities must be stored under containment, in an enclosure, or behind a barrier that prevents release of dust and debris out of the work area and prevents access to dust and debris.
- When transporting waste from the work area, the Contractor must contain the waste to prevent release of dust and debris.

III. STANDARDS FOR REHABILITATION WORK UNDER CITY OF LONGMONT'S CDBG and CDBG-DR PROGRAM

In order to comply with CDBG and CDBG-DR program requirements, all contract work to be completed during the rehabilitation of a property shall meet the following minimum standards:

Cleaning and protection

Obtain necessary demolition permits as required by the City of Longmont. During handling and installation, clean and protect construction in progress and materials in place. Apply protective covering where required to ensure protection from damage or deterioration.

Clean and maintain the construction site as often as necessary throughout the construction period.

Adjust and lubricate operable components to ensure operability without damaging effects. Supervise operations to ensure that no part of construction completed or in progress is subject to harmful or deleterious exposure.

Refer to specific cleaning requirements for each building element.

Temporary services

Keep facilities clean and neat. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

Existing water services may be used by the Contractor. The Owner will pay for water and sewer services during construction. Condition of existing sewer services is unknown and may be used during construction provided that they comply with all applicable codes. Maintain temporary toilets, wash facilities and drinking water during construction.

Contractor shall pay all costs for damages during construction to existing facilities and services to be reused in the completed project.

Contractor may use the existing electrical service to and within the building provided that it complies with all applicable codes. Do not overload circuits, use weatherproof and grounded service as required. Contractor shall pay all costs for damages during construction to existing facilities and services to be reused in the completed project. Provide Owner with a schedule of any and all proposed shut-offs.

Contractor may use heat in the building during construction.

Onsite parking is limited to the areas designated by the Owner. Contractor shall not use or obstruct parking without prior approval of Owner or Tenant.

Construction storage is permitted on site (See LMC for restrictions). Owner will designate areas for material storage. Contractor storage of material on site is at their own risk.

Provide temporary enclosure for protection of construction from exposure, foul weather, other construction operations and similar activities. Where heat is needed and the building enclosure is incomplete, provide enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions. Collect and dispose of waste daily. Comply with NEPA 241 for removal of combustible waste. Enforce requirements strictly. Handle hazardous, dangerous, asbestos, or unsanitary waste materials separately from other waste by proper containment. Dispose in a lawful manner.

Store combustible materials in containers in fire-safe locations.

Provide supervision of welding operations, combustion type temporary heating units, and sources of fire ignition.

Comply with standards and code requirements for erection of barricades. Paint appropriate warning signs to inform personnel and the public of the hazard being protected against.

Operate temporary facilities and conduct construction by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints. (see restrictions in the LMC).

Minimize raising dust from construction operations. Provide positive means to prevent dust from disturbing the occupants (see restrictions in the LMC)

Provide methods to control surface water and prevent damage to the construction/rehab. Damage to the building elements or Owners or Tenants personal items shall be repaired or replaced to the Tenant's and Owner's approval at no additional cost to the Owner or Tenant.

Enforce strict discipline in use of existing facilities. Limit availability to intended use to minimize abuse. Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and the elements.

Product Requirements

When the Contractor has the option of selecting between two or more products, the product selected shall be compatible with products previously selected.

Provide a permanent nameplate on each item of service-connected or power-operated equipment. The nameplate shall contain the following information and essential operating data:

- a. Name of product and manufacturer.
- b. Model and serial number.
- c. Capacity.
- d. Speed.
- e. Ratings.

Store and handle products in accordance with manufacturer's recommendations, using methods that will prevent damage, deterioration and loss.

Provide products that comply with the Work Write-Up and are undamaged and unused at installation.

Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.

All products specified by name are assumed to be accompanied by the term "or preapproved equal". Comply with provisions for "substitutions" to obtain approval for use of an unnamed product.

When Specifications list products or manufacturers that are available and may be used, but do not restrict the Contractor to use of these products only, the Contractor may propose any product that complies with Contract requirements. Comply with provisions for 'substitutions' to obtain approval for use of an unnamed product.

Substitutions

When the Contractor proposes an alternative product or manufacturer for a proprietary specification, the following items must be submitted to the Owner and City of Longmont for approval at time of the initial bid:

- a. Installation Instructions
- b. Manufacturer's Warranty
- c. Product specifications, such as weight, size, capacities, and other performance related data.

Descriptive Specification Requirements:

Where Specifications describe a product, listing characteristics required, with or without use of a brand name, provide a product that provides the characteristics and otherwise complies with requirements.

Performance Specification Requirements:

Where Specifications require compliance with performance requirements, provide products that comply and are recommended for the application. Manufacturer's recommendations may be contained in product literature, or by certification of performance.

Compliance with Standards:

Where Specifications require compliance with a standard, select a product that complies with the standard specified.

Visual Matching:

Where Specifications require matching a sample, the Owner's decision on whether a proposed product matches is final. Where no product matches and complies with other requirements, comply with provisions for "substitutions" for selection of a matching product in another category.

Visual Selection:

Where requirements include the phrase "as selected from manufacturer's standard colors, patterns, textures or " a similar phrase, select a product that complies with other requirements. The Owner will select color, pattern and texture from the product line selected.

Installation of Products:

Comply with manufacturer's instructions and recommendations for installation of products. Anchor each product securely in place, accurately located and aligned with other Work. Clean exposed surfaces and protect to ensure freedom from damage and deterioration at time of Substantial Completion.

Performance Requirements

All work performed is subject to a 1 year Contractor's special warranty of workmanship and materials.

Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and Subcontractors required to sign special warranties with the Contractor.

When work covered by a warranty has failed and has been corrected, the warranty will be reinstated by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

The following specifications represent the minimum standards. Additional standards or particular requirements, if necessary will be listed in the individual work write-up.

Appliances

Kitchen appliances that are inoperable or past their service life may be replaced using program funds. Appliances allowed under this program are ranges/ovens, refrigerators, dishwashers, clothes washers, and hood fans. Other appliances will not be replaced unless otherwise allowed under special funding. **All replaced appliances must be Energy Star-Labeled.**

- Prices shall be based on best available appliance, delivery, haul away and installation costs.
- All ranges are to have four burners and a glass panel door
- All Refrigerators are to be 18 cf. or greater.
- Kitchen hood fans shall be rated a minimum of 180 cubic feet per minute. Size, color, and material to be noted on bid sheet, and shall be Nu-tone or equivalent in quality.
- Each stove, refrigerator, dishwasher, etc. shall have separate circuits sized to NEC.

Cabinetry

Cabinets are generally graded "good, better, or best" by individual cabinet manufacturers. Use the "better" standard when installing kitchen cabinets and bath vanities. Work should include all hardware. The cabinet finish and style to be selected by Owner.

- All cabinets shall have solid hard wood face frames
- Cabinet box and shelves may be constructed of 1/2" to 3/4" plywood or particle board.. All interior surfaces must be sealed or finished with a vinyl (laminated or Viraguard) surface.

Exterior end panels must be finished to match face frame. If wood end panels are extra (over and above the cost of laminate end panels), they shall be included as a separate line item bid.

Cabinets shall include shelving. Cabinet style and finish will be selected by Owner. All selections shall conform to rehab grades and standards and be subject to review and approval by the Owner.

Cabinet doors shall have either solid hard wood frames or made of 3/4" plywood panel with a center panel door constructed of wood or furniture-core grade particle board (48 lbs. psi) with a laminate or wood veneer finish to match door frame.

Door style and finish to be selected by owner from doors available in "better" cabinet price range. No glass doors will be permitted. Doors shall have finger-tip beveled edge or finger pull without additional knobs or pulls required. Hardware shall be included and all hinges shall be self-closing.

Cabinet drawer fronts shall be constructed of solid wood. Drawer boxes must be four-sided in addition to drawer front, constructed of 1/2" or 3/4" plywood. Drawers to have finger-tip beveled edge or finger pull without additional knobs or pulls required. Drawer guides to be side mounted, roller type.

Caulking

All Caulking shall be appropriate for the materials to be caulked, but all caulking will be a type that is guaranteed by the manufacturer for 20 years or more. All tubes will be new and have been protected from freeze/thaw cycles. Empty tube will be required proof of meeting specifications. Caulking where metal meets metal shall be adhesive caulk, polyurethane caulk or "gutter" caulk. Caulking at plastic bathtub enclosures shall be 20 year silicone caulk and a color, which will hide, fill and/or replace joints, seams, or cracks and shall conform or compliment the bath color scheme. All caulk in wet locations shall be mold and mildew resistant. Caulking or filling deeply rotted wood shall include the chemical preparation of the interior surface of the hole after the removal of loose rotten wood according to the manufacturer's specifications. Caulking at joints, seams or cracks at the exterior where dissimilar wall materials meet shall be of a urethane sealant material that conforms to specifications.

Counter tops

Counter tops shall be either Formica-type prefabricated units or ceramic tile, to be noted on bid sheet. Formica-type prefabricated units shall be manufactured from 3/4" wood products with a glued-on plastic laminated finish, 4" coved backsplash. Also add a 4" end splash and/or cap as required. Alternate materials for counter top shall fall within cost range of above materials, and must be approved by the Project Manager and Owner.

Ceramic tile counter tops shall be set in place on a mortar backing, with grouted joints, edge tiles and a single-row backsplash. All finished surfaces shall be plumb, square and level. Surfaces that are not level or tiles that are not straight shall be removed and reset. Grout color and width will be selected by Owner. Joints to be 1/8" or less.

Vanity counter tops in bathrooms shall be either prefabricated cultured marble units with preformed sink, marble units with sink holes, or Formica with china bowl sink. Alternate materials shall meet

or exceed the quality specified above and be equivalent or less in cost. Alternate materials shall be approved by Owner.

Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Counter tops shall be level within a 1/8" in 4'. Seal entire back and edges of countertops at sink cut outs with water-based polyurethane varnish.

Faucet Sets

- Kitchen faucet center sets shall be single or double control, as noted in bid sheet, and shall be chrome-plated Moen, American Standard or equivalent in quality and design. Kitchen faucet sets shall be equipped with a spray attachment. **Kitchen faucets must be water conserving fixtures (2.0 gpm)**. Tub/shower faucet center sets shall be single control, as noted in bid sheet, and shall be chrome-plated Moen, American Standard or equivalent in quality and design.

Bathtub/shower facets must be water conserving fixture (1.5 gpm)

- Walk in showers shall have a delta single handle temperature/pressure regulated faucet with a hand held shower spray on a slide bar. **Showerheads must be water conserving fixtures (2.0 gpm)**
- Laundry faucet sets, over laundry trays, shall be standard double control with spout and connections for washer hoses. Wall or deck mount shall be noted on bid sheet.
- Washing machine connections shall be equipped with shut-off valves installed per the currently adopted International Plumbing Code.

Electrical

Furnish all material, fittings, fixtures, and equipment; perform work required to place the electrical system in a complete, proper, and legal operating condition. The contractor shall obtain all permits and inspections required by all laws, ordinances, and codes. Electricians with a current license must perform all electrical work. Make any necessary arrangements with the utility service company for service or work required on its equipment or system. Contractor is authorized to replace switches, receptacles, light fixtures, etc. if replacing the exact same type of equipment.

Furnish and install new lamps for all light fixtures at completion of the work. Compact florescent bulbs (CFL) are acceptable. Incandescent lamps shall be inside frosted except for decorative type lighting, where lamps shall match existing. Exterior exposed lamps shall be PAR or CFL type. Lamps shall not exceed fixture rating.

Exterior Doors

Front entry doors shall be 1 3/4" pre-hung solid core insulated (metal or fiberglass) or foam core, such as Simpson or Stanley, and shall include a new threshold, weatherstrip and hardware, including new lockset and single-throw deadbolt, wide angle peephole and hung on three brass finished steel butt hinges.. When two or more locksets are installed, they are to be keyed alike. All strike plates will be secured with at least a properly pre-drilled 3" screw.

All exterior doors and doors into garage shall include new weather stripping and threshold. All weather-stripping must be good quality and durable (not self-adhesive). Doors between attached garages or carports and living areas shall be a minimum 1 -3/8” solid-wood core, flush type, with self-closing and self-latching hardware

Where pre-hung doors are to be installed, remove the existing door, jamb and casework completely to framing. Install new pre-hung door unit of maximum standard size allowed by framing. Provide trim and hardware. Patch to previous condition all plaster and like finishes around door frame.

Where applicable, remove the door sill and install an oak or aluminum sill properly anchored to the door frame. Refit the bottom of the door to the door sill. Weatherstrip bottom of door with interlock or vinyl insert door sweep. Weatherstripping shall be metal with rubber insert Jamb-up Tite type or written approved equal, applied snug up to the door. No paint is allowed on weatherstripping. If called for in work write-up contractor shall install necessary weatherstripping at sides and top of door to form a tight seal with door closed.

New doors in existing openings - repair frame, fill all holes and irregularities in casework. Relocate hinges to previously unused section of jamb. Mortise hinges into door and jamb per manufacturer’s recommendation, provide all hardware.

Garage Doors

Basis of Design: Wayne Dalton Door System, Line “Specialty Vinyl” or approved equal. Garage door color to match existing color/color of the home. Door sized to match existing garage door or existing opening. Installation includes overhead track, hardware, door, and installation.

Reframe opening with pressure treated 2x6 frame for sides and header of sufficient size to accommodate new overhead garage door(s). Jambs will be cut up between 1: and 1.5: off concrete to comply with slab on grade inspections. Install 2x6 jambs of select dimensional material ripped (if necessary) to match wall thickness and 1-1/8” x 3 “ exterior door weatherstrip, #1 hem-fir or better jambs with dripcap installed overhead. Fill in excess opening to match existing siding and patch concrete if doorway has been changed in size.

Interior Doors

All interior doors shall match existing door style and hardware finish.

Doors between attached garages or carports and living areas shall be a minimum 1-3/8” solid-wood core, flush type, with self-closing and self-latching hardware.

Door stops shall be solid metal base installed where appropriate. Install solid metal hinge mounted doorstops if base mounted type is not appropriate.

Storm Doors

Aluminum storm doors shall be a combination storm and screen door with complete hardware package (door sweep hinges, closer, locksets, etc) Door(s) shall be hinged to suit convenience of the

Owner (avoid interference of handles of new storm doors) and existing exterior door(s). Door shall be minimum 1-1/4" thick and color to be selected by Owner.

Windows and Sliding Glass Doors

Windows will be replaced on a home with vinyl clad, qualifying Energy Star, windows and screens under the following conditions:

- 1) Single pane, or non-insulated aluminum frames exist, will be always be replaced.
- 2) Windows will be replaced when windows designed to be operable, do not operate with normal effort or do not lock and cannot be fixed cost effectively (50% less than the cost of replacement) in the estimation of the Rehab Inspector. Also, windows will be replaced where re-glaze of broken glass is impractical due to some unusual circumstances.
- 3) Where the unit was submerged in flood waters to some level and has any visual damage or difficulty in operating.
- 4) Where the existing windows are 25 years old or more.
- 5) A homeowner who feels that they should qualify for new windows, but does not based on the Rehab Inspectors evaluation, may hire on their own a certified energy auditor to inspect their home (rebates for some of the costs are available from the utility company). If an audit shows a less than a 10 year pay back from energy savings the homes windows will then qualify for new windows.

Missing or broken screens always qualify for replacement of those screens, but are not grounds for window replacement. Fixed windows will not be replaced, but broken glass can be re-glazed and unit can be sealed with manufacture recommended silicone.

Obtain necessary permits from the City of Longmont before installation. All replacement windows shall meet the currently adopted International Energy Conservation Code and be left clean, tight and weatherproof. All windows and sliding doors must lock.

Windows and sliding glass doors shall be gas-filled, low E, pre-glazed, Energy Star rated with either white vinyl or anodized aluminum finish. Window frames and sashes formed of aluminum alloy not less than .06" thick, fastened with aluminum, nonmagnetic stainless steel fasteners or epoxy adhesive compatible with window units.

All new windows and sliding glass door replacements or installations shall include all related refinishing, rebuilding and repair of exterior and interior wall surfaces and structure of surrounding area and shall match existing surrounding finishes.

All new windows and sliding glass doors shall include new aluminum-framed screens with aluminum or fiberglass screening material.

For complete replacement windows, remove sashes, jambs, interior and exterior moldings. Provide all fillers and shims as required to accommodate window. Reframe opening and install window, jamb and casing per manufacturer's recommendation. Repair exterior siding and interior wall. Install interior casing trim consistent with interior trim. All glass doors and windows will be tempered glass where required by code.

Driveways

Driveways shall not be poured over frozen earth and shall be a minimum of 3.5” of concrete. Concrete mix shall be 3000 PSI in strength or greater. Concrete shall have expansion joints limiting isolated sections to not more than 120 square feet and shall be broom finished. Contractor shall obtain required permits from the City of Longmont for concrete approaches and sidewalks.

Walkways and porches shall be dug out and have 2” of sand, or gravel fill beneath concrete, and 3.5” of concrete. Concrete mix shall be 5 sack ³/₄” aggregate. Concrete shall have expansion joints at maximum of 6’ intervals, and shall be light broom finished.

Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

Fencing

All fences and gates shall comply with the City of Longmont zoning requirements for maximum height. Contractor is to verify property lines and all setback requirements prior to installation.

Wood fencing material shall be redwood or cedar. Grade shall be “Select” or better. 1” X 6” or 1” X 8” material shall be rough-sawn, nail-on type, and shall be installed in a “good neighbor” fence style. Nails shall be galvanized. Posts shall be pressure-treated and set a minimum of two feet deep in concrete. Gate material shall be redwood or cedar, with self-latching hardware and hinges. Grades shall be “Select” or better. All hardware shall be Owner approved.

Steel (tube) fencing may be used in the front yard/setback, as budget allows and per zoning requirements. Tube steel fencing shall be powder-coated, ½” steel spindles, minimum of 1 1/2” posts, 16 gauge ½” x ½” tubing. Fencing over 3’ shall be submitted for review and approval by the construction manager.

Flooring

ALL FLORING MATERIAL SHALL BE ENVIRONMENTALLY PREFERABLE FLOORING, INCLUDING THE FLOORSCORE CERTIFICATIONS. ANY CARPET PRODUCTS USED MUST MEET THE CARPET AND RUG INSTITUTE’S GREEN LABEL OR GREEN LABEL PLUS CERTIFICATION FOR CARPET, PAD AND CARPET ADHESIVES.

Prepare surfaces by cleaning, leveling and priming as required. Test adhesive for bond before general installation. Install base and accessories to minimize joints. Install base with joints as far from corners as practical. Inside corners of base must be coped. Clean, polish, and protect.

Ceramic or Porcelain tile – provide tile as indicated in work write-up, as specified herein and as needed for a complete and proper installation. Use standard grade glazed ceramic or porcelain tile and accessories in colors and patterns selected by Owner. For floor tiles, used only tile designed for the application.

- Tiles on wood subfloor shall have ¼” fiber cement board (1/8” expansion gaps) over code compliant subfloor. All grout will be sealed as per manufactures instructions with mortar joints 3/8” or less. All thresholds between dissimilar flooring types will be as low in profile

as possible, attractive in nature, and will be installed to hold up to wear and tear. Screw and glues will be used ILO nails where practicable.

- Ceramic or Porcelain tile shall **not** be high gloss slippery surfaces.
- Deliver all unused ceramic tiles to Owner.

Sheet vinyl shall be single sheet whenever possible, no-wax type, and shall include proper preparation for floor surface prior to application of floor covering, per manufacturer's specification. Lay sheet vinyl to provide as few seams as possible with economical use of materials. Match edges for color shading and pattern at seams in compliance with manufacturer's recommendations. All cracks, holes and low spots in the underlayment shall be filled with approved filler and troweled to a smooth finish. All vinyl shall be installed wall to wall under most circumstances.

- The minimum and maximum thickness of the wear layer of sheet vinyl shall be 12/20 mils
- The minimum and maximum total thickness of the sheet vinyl shall be 65/80 mils
- The material selected must fall within the min/max limits in both categories.
- Wearing surface shall be smooth and slight texture.
- Seal as specified in manufacturer's installation manual. No seams permitted in floors with a dimension less than the manufactured width of the material.

On raised foundations with wood sub-floor, the underlayment shall be a minimum 3/8" particle board or other approved underlayment.

Carpet - Work specified for carpet flooring covers furnishing, delivery and installation of wall to wall carpeting in areas noted with accessories such as edge strips and padding required for a complete installation. Submit duplicate swatches of sufficient size to show full range of colors of each type of carpet accompanied by respective material specifications. Color to be selected by Owner. Submit samples of carpet padding for selection by the Owner.

- Do not seam perpendicular to a door opening within the width of the opening.
- Extend carpet into adjoining closets
- Provide vinyl grip type edge where carpet adjoins other surface materials.
- Deliver all unused carpet (pieces of 8 square feet or larger) to owner.
- Padding will be 1/2" 6 or 8 lb except in the installation of Berber carpet.

All floor material shall have manufacturer's written guarantee of materials and workmanship for a period of 7 years.

Alternate flooring may be acceptable depending on client need, cost of material, and subject to Owners approval.

Furnaces

When replacing, size heating and cooling equipment in accordance with the Air Conditioning Contractors of America (ACCA) Manuals, Parts J and S, or 2012 ASHRAE Handbook- HVAC Systems and Equipment or most recent edition.

Contractor shall obtain a permit for all heating equipment and shall be installed to conform to all City of Longmont building codes and be **ENERGY STAR** labeled. All work, installation and

equipment shall be guaranteed for one full year after acceptance by the Owner. Manufacturer's warranties that exceed one year shall take precedence over Contractor's warranty of one year.

All fuel burning heat units shall be vented through the roof or wall per manufacturer's specification and building codes. Forced air furnaces placed in attics must be installed with required sized catwalk, light fixture, and the ability to have access to it. All fuel burning appliances will have combustion air supplied per code

Maximum BTU output on furnaces shall be designed according to the heating/cooling needs of the structure and shall be at least 80% efficiency units. Contractor to inspect and repair/replace, as necessary, all components related to the furnace installation, including vent system, gas lines, framing, sheetrock, roofjacks, etc. Contractor shall specify brand name, model number, size, and efficiency of furnace. Contractor to patch/repair sheetrock and floors when converting from wall or floor furnace to forced air systems. Any removal of materials containing asbestos shall be performed by a certified contractor, including proper disposal.

Furnaces shall also include simple, easy to use setback thermostat control.

Contractor shall allow 1 hour time to instruct the Owner as to the operation and maintenance of the system and shall provide a neatly organized, manual to the Owner which includes all lists of all equipment installed, their individual model numbers, warranty of individual equipment, manufacturer's names, addresses, telephone numbers, and parts lists for all equipment.

Water Heaters

New water heating system(s) must meet or exceed the efficiency requirements of ENERGY STAR for Homes' Reference Design. Insulate pipes to at least R-4.

Contractor shall obtain a permit for all water heater installation and they shall conform to all City of Longmont building codes and be Energy Star labeled. All work, installation and equipment shall be guaranteed for one full year after acceptance by the Owner. Manufacturer's warranties that exceed one year shall take precedence over Contractor's warranty of one year.

Water heaters shall include new water supplies, ball valve, and shut off. Contractor to inspect and repair/replace, as necessary, all components related to the water heater installation, including vent system, gas lines, etc. Water heaters shall also include a new temperature-pressure relief valve, drain pan (where required) with drains piped to the exterior of the dwelling (see code requirements for any water heater installed in the garage).

Handrails

Handrails shall be required for stairways having four or more risers. Handrails shall be placed not less than 34" and no more than 38" in height. The handgrip portion of the handrails shall comply with either the Type I or Type II rail description in the currently adopted IRC. The handgrip portion of handrails shall have a smooth surface with no sharp corners. Except for basement and attic stairs, interior handrails and newels shall be natural birch, Beech, Hard Maple, Pecan, or Oak quality select

grade mounted on standard handrail brackets. Required guards shall not have openings from the walking surface to the required guard height which allow passage of a sphere 4 inches in diameter.

Lumber

Composite wood products should be certified compliant with California 93120. If using a composite wood product that does not comply with California 93120, all exposed edges and sides must be sealed with low-VOC sealant.

Lumber products for exposed sheathing, fascia, barge rafters and similar items shall be framing lumber that is readily available and that meets the current industry standards with minimal knots. Exposed framing lumber shall also be pre-primed on all faces (including end grains), for example, pre-primed spruce pine or hardboard (where allowed by code). All exterior replacement shall have a minimum of one coat of primer paint.

Repairs of existing materials shall match the existing material as close as possible. Alternate materials shall be approved by the Owner.

Where lumber is exposed to weather, in ground contact, or in areas of high relative humidity, provide fasteners with a hot-dip zinc coating.

Painting

All interior paints and primers must be less than or equal to the following VOC levels: Flats- 50 g/L; Non flats- 50 g/L; Floor-100 g/L

Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting. After completing painting operations reinstall removed fixtures.

- Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
- The term “exposed surfaces” includes areas visible when permanent or built-in fixtures, closet interiors, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
- When wall or building component is patched or partially replaced paint the entire surface.
- Protect work of other trades, whether being painted or not, against damage by painting.
- Provide wet paint signs to protect newly painted finishes.

There are two levels of painting:

- **Standard:** Recommended level of prep and painting. This level is what the contract is based on unless specified otherwise.
- **Premium:** More extensive preparation and finishing.

The following chart contains requirements for the different levels. Where specific conditions are not listed; the chart shall be used as a guidance document.

Description of Task	Standard	Premium
Wet scrape all loose and peeling paint	X	X
Clean/Degloss	X	X
Prime	Spot prime all Bare wood areas	Spot prime all Bare wood area
Stain	Stain killing primer	Stain killing primer
Nails, hooks, insulators, miscellaneous	Remove, patch holes	Remove, patch holes
Set all nails and fill nail holes	X	X
Holes and voids: Fill when	Greater than 1/8" diameter	All holes
Caulk building envelope, vertical siding Joints, trim, casings	X	X
Mapping	Visible mapping. Edges shall be wet sanded to soften	Feather edge smooth Not visible at 6' under normal lighting
Pre-existing defects in paint, for example Runs, spatters, brush-marks	Visible. Sharp edges Shall be wet sanded to soften	Visible. Sharp edges shall be wet sanded To soften
Contractor caused damage: Raised grain, Scraping, gouges, etc	Repair by sanding or filling	Repair by sanding or filling
Visible Gran (from weathering)	No requirement	Fill, sand smooth

Interior Paint

All interior paints and primers must be less than or equal to the following VOC levels: Flats- 50 g/L; Non flats- 50 g/L; Floor-100 g/L

All walls, ceilings and wood trim shall be properly prepared for texture, *Note: textures and joint compounds may contain asbestos and matching ceiling texture could exacerbate the existing condition) priming and painting. All texture shall match the existing surrounding walls and ceilings as close as possible. All new walls, ceilings and wood trim shall have one (1) coat of interior primer installed before painting. All walls and ceilings shall be painted with a minimum of one (1) coat of interior semi-gloss latex enamel paint. Semi-gloss enamel used for kitchens and bathrooms shall include a mildicide added to inhibit mold and mildew growth.

Exterior Paint

All exterior surfaces to be painted shall be properly prepared by pressure washing or scraping and sanding, as needed. All exterior surfaces shall have one (1) coat of exterior primer installed where substrate is exposed, before painting. All exterior surfaces to be painted shall have one (1) coat of exterior paint.

All projects where lead-based paint is identified and disturbed by the proposed work shall conform to lead safe work practices. Projects with lead-based paint will receive project-specific scopes of work and specifications.

Contractor must establish a safe work area which includes but is not limited to the following:

- **Remove items from the work area. Cover items that cannot be removed.**
- **Tape the protective sheeting to the door opening.**
- **Wall and use heavy objects to weigh the other edges to the floor.**
- **Limit access to the work area by placing cones or saw horses and warning tape around a 20 foot perimeter of the work area.**
- **Clean the work area of paint chips each day.**
- **Make sure all windows and doors leading into the home are closed. Doors being used during rehab must have two layers of plastic sheeting in a manner that allows passage through while confining dust and debris to the work area.**
- **Post warning signs around work area.**

Plumbing

The plumbing system for this work includes all water distribution, vents and waste, floor drainage, condensate drains, plumbing fixtures and trim, and all other plumbing items indicated on the work write-up, plus all other plumbing items needed for a complete and proper installation. ALL ASPECTS OF PLUMBING SYSTEM TO COMPLY WITH ALL APPLICABLE PLUMBING, MECHANICAL AND HEALTH CODES.

Master Plumbers with current City of Longmont licenses must obtain permits and perform all work requiring permits and inspections. All installations, water tests, and pressure tests requiring a permit must pass the building code inspection. Install all equipment per manufacturer, recommendations and specifications.

- For re-piping projects, the Contractor shall ensure that all holes made through walls, ceilings, etc. must be repaired to match existing walls, ceilings, etc. and primed.
- The Contractor shall ensure that all drains are snaked out along with the main line from the house to street. All drains must be properly working at time of final inspection
- All trenches created for plumbing repairs are to be properly filled and compacted to ground level.
- Install all piping promptly, capping or plugging all open ends
- Install all supply piping generally level and plumb, free from traps, and in a manner to conserve space for other work. Install all sewer with proper fall.
- Inspect each piece of pipe, coupling, fillings, and equipment for defects and obstructions.
- Do not cover up or enclose work until it has been inspected and approved.
- Replacement of existing sewer service - the contractor is to furnish all material, labor, required permits, fees necessary to replace sewer service line from dwelling to main, including tap, as necessary installed in accordance with plumbing codes and LMC.

Plumbing fixtures:

Install or retrofit water conserving fixtures in all properties, use the following specifications:

- Toilets 1.28 gpf
- Urinals – 0.5 gpf
- Showerheads – 2.0 gpm
- Kitchen faucets – 2.0 gpm

- Bathroom faucets 1.5 gpm
- All tubs are to be “Americast” or equivalent.
- All fixtures shall match existing fixture, when appropriate.
- All faucet/valves will be handicapped designated when necessary
- All tubs/showers have anti-scaled guards.
- Kitchen sinks shall be 20 gauge stainless steel, double bowl with a depth of 8 inches.
- Shower pans should be Floorstone where possible or similar grade to resist puncture
- All supply pipes will be either copper or Pex line, NO Flowguard, Polybutylene, PVC or other.

All other materials not specifically described but required for a complete and proper installation of the work, shall be new first quality of their respective kinds, and as selected by the Contractor subject to the approval of the Owner.

Provide owner with copies of all equipment warranties.

Showers/Tub

A complete shower/tub enclosure repair/replacement shall include removal of existing wall coverings to stud wall, required structural repairs if any and installation of new material, as per work write-up. Type of finished for shower or tub wall surface material to be noted on work write-up. Ceramic tiles shall be standard 4” or 6” with mortar-backing on shower and tub surrounds. When replacing or repairing tub and/or shower enclosures, use non-paper-faced backing materials such as cement board, fiber cement board or the equivalent.

A complete shower/tub enclosure repair shall also include new thermostatic pressure balance faucet set. If replacement of the shower pan is necessary, it shall be noted on the work write-up. Shower pans shall be molded fiberglass, or other one-piece molded unit. All intersecting joints must be caulked.

Use materials that have durable, cleanable surfaces.

Sinks and Basins

Kitchen sinks shall be vitreous cast iron, vitreous china, or 20 gauge stainless steel with self-rimming. Type of sink and number of compartments to be noted on work write-up.

Drop-in basins for bathrooms vanities shall be cast iron or china, self-rimming. One-piece molded basins and vanity tops shall be cultured marble/onyx. Type of sink to be noted in work write-up.

All sinks and basins shall include a new strainer, tailpiece, trap, trap arm, stop valves, and water supply lines, and shall be Kohler, Delta, or American Standard or equivalent in quality and design. Color to be noted on work-write up.

When replacing or repairing sinks/basins use materials that have durable, cleanable surfaces.

Toilets

Toilets shall include new seat with lid, wax seal, flange bolts, stop valve and water supply line and shall be Toto, Kohler, or American Standard or equivalent in quality and design. Toilets shall be Grade A in quality and low water capacity type (1.6 gallon) and at 1.28 gpf

Roofs

When replacing or making a substantial repair to a roof, use radiant barrier sheathing or other radiant barrier material.

Obtain a building permit for all roof replacement and comply with currently adopted IRC when installing new shingles. All roof framing, decking, shingles, and roof trim workmanship shall be of high quality. All material must have the grade, mill, type, moisture content, specifications, etc. stamped and installed where it can be read. No seconds or defective material shall be used.

All roofs shall be stripped down to the existing substrate and inspected for damage. Any damage exceeding \$200.00 requires the Owners approval before proceeding with repair work.

All roof replacements shall be a minimum of 30 year asphalt shingle material with pitches 2 and 12 and greater. All material shall be installed in accordance with manufacturer's recommendations and building code requirements. Provide roofing felt in accordance with code. Provide ice barrier underlayment at eaves and extend 24" inside exterior wall line. Replace all penetration flashings. Repair all flashing, gutter hangers, chimney crickets and the like that will not provide a sound nailing for new roof surfaces. (Provide code compliant roof ventilation)

Mobile home roof replacement must conform to original manufacturer's approved materials and may be foam metal, composition shingle, or an approved sealant, such as elastomeric, subject to mobile home manufacturer specifications and mobile home park rules. Any old cracked/loose product must be scraped and disposed of. Power wash prior to install.

Gutters and Downspouts

All gutters and downspouts shall be seamless, pre-finished metal, properly hung with necessary downspouts. All gutter and downspouts must be secured to a part of the building. Downspouts must have a splash block, in areas where soil exists beneath the installed downspout and be capable of carrying runoff water away from the foundation. All gutters must have the proper slope as to empty the rainwater from the gutter.

Siding and Trim

These specifications represent the minimum standards by which the work is to be performed. Additional standards or particular requirements, if necessary, quantities and additional requirements will be listed on the work write-up.

General siding – Secure, replace or remove all loose existing siding to provide a sound nailing surface for new material. Install solid sheathing on all areas to receive siding. All siding repairs shall match the existing by design and material whenever possible.

Wood Siding – All siding must be D-select or good #1 for wood siding, no seconds on hardboard siding or any inferior composition sidings will be allowed. Plywood sidings must have APA rating stamp and be exterior grade. Plywood and hardboard siding shall have a minimum thickness of 3/8", and be placed over sheathing that has international Residential Code (IRC) approval. All siding shall be installed in accordance with manufacture's recommendations. Corner boards shall be used on all corners. Joints at all corners shall be caulked with latex caulk. All joints shall be tight, concealing shrinkage and excluding water.

Vinyl siding – Accessory trim moldings for the type of siding being used shall be installed at all endings and openings and shall include outside and inside corner corners. Reside all vertical surfaces of the building. The installation shall be made according to manufacturer recommendation and manufacturer's warranty shall be furnished to owner on completion. Owner shall have choice of style and color.

Vinyl or Aluminum Trim: replace or repair eaves, sills and/or vinyl coverage. Remove storm windows and doors. Build up window and door trim to bring at least flush with finished siding. Build up sills to protrude at least 1/2" beyond finished siding. New trim shall wrap onto blind stops on windows. Reinstall storm windows and doors in bead of caulk per manufacturer's recommendation.

Install aluminum or vinyl breaker stock covering on all soffits, fascia, overhangs, porch box beams, window and door casings and window sills except basement windows. Trim wrap shall be formed on a machine brake to insure a neat, tight fit.

Window and door trim: Windowsill covers are to be extended from exterior underside of sill up to the window stool. Saw cut the exterior casing and window frame at sill to slide metal underneath. Caulk all edges and voids of sills to make the coverage weather tight, including drip edge overhead.

Soffit: Soffit material on all horizontal edges of roof shall be vented unless otherwise noted. Where existing soffit material is unbroken, provide ventilation openings as required by code between rafters. Soffit material on rake edges shall be solid.

Fascia: Where fascia is deteriorated, replace with dimensional lumber of same width and minimum 3/4" thickness or 3/8" hardboard over 2X sub-fascia. Deteriorated rafter tails shall be sistered with 2x stock to provide sound nailing surface.

All exterior trim (i.e: corner boards, fasica and other moldings) shall be D grade. All exterior trim shall be caulked at trim and siding joint, horizontal and vertical. Miter joints shall be filled and finished. All exterior trim shall be fastened with finish nails (galvanized) and countersunk, and shall be filled and sanded to a smooth finish.

Insulation: (if applicable to building type)

- Attic – for attics with closed floor cavities directly above the conditioned space, blow in insulation per manufacturer's specification to a minimum density of 3.5 Lbs. per CF. For

attics with open floor cavities directly above the conditioned space, install insulation to meet or exceed 2009 IECC levels

- Flooring – Install \geq R-19 insulation in contact with the subfloor in buildings with floor systems over vented crawl space. Or, R-19, with vinyl wrap, over the exposed foundation wall ILO under joists is acceptable. Install a 6-mil vapor barrier in contact with 100% of the floor of the crawl space (the ground) overlapping seams and piers at least 6 inches.

Building Sealing (if applicable to building type)

- Building Envelope – Seal all accessible gaps and penetrations in the building envelope with low-VOC caulk or foam.
- Duct Sealing – In buildings with ducted forced-air heating and cooling systems, seal all penetrations of the air distribution system to reduce leakage in order to meet or exceed ENERGY STAR for Homes duct leakage standards

Drywall Repair

Use non-paper-faced backing material such as cement board, fiber cement board or equivalent in bathrooms

Repair ceiling and wall finishes to make surfaces smooth and uniform; free from any cracks, holes, loose joint tape, nail pops, indentations and loose and sagging drywall. Cut out cracks ¼” wide in a vee joint. Butterfly patches are acceptable on areas less than 2 square feet. Joint tape shall be used where repairs are needed at wallboard joints. Where holes or sagging drywall are present, the damaged drywall shall be replaced to the two nearest framing members, add backing to prevent future sag in sheetrock where practicable. Texture, prime and paint to match existing.

Pest Eradication

Seal all wall, floor, and joint penetrations with low-VOC caulking or other appropriate sealing methods to prevent pest entry.

A licensed pest control operator shall be used to inspect and/or treat the entire dwelling for an infestation. The Contractor shall provide the Owners with a copy of the report of inspection and/or treatment by the pest control operator. The company must use industry-approved methods and chemicals. A one-year guarantee shall be supplied to the owner.

Mold Remediation

Comply with all EPA HUD and OSHA regulations and laws with regard to performing mold remediation. Materials and structures showing signs of mold must be removed and replaced or treated per applicable regulations.

Smoke/Carbon Monoxide Detectors

Install detectors per the International Residential Code. Smoke detectors shall be located in each sleeping room, on each level/story of the dwelling and in the hallway leading to any bedroom and carbon monoxide detectors must be installed within 15 feet of any bedroom door.

Radon Testing and Mitigation

For buildings in EPA Radon Zone 1 and 2 (Colorado) test for radon using the current edition of American Association of Radon Scientists and Technologists (AARST) Protocols. Install radon mitigation systems in buildings with radon level of 4pCi/L or more, use ASTM E 2121 for single family housing or duplexes.