RESIDENTIAL HOUSING REHABILITATION STANDARDS

The Michigan State Housing Development Authority (MSHDA) Neighborhood Development Division (NDD) Residential Housing Rehabilitation Standards is a template for creating a minimum performance standard for a rehab program. The standards within this document are a guide for decision-making about what specifications should be applied in various situations to produce safe, decent, durable, and high-performing homes. NDD Residential Housing Rehabilitation Standards do not replace any local codes and ordinances.

NDD Residential Housing Rehabilitation Standards are designed to give clear directions to contractors in work write-ups that are incorporated in rehabilitation contracts. The standard is a tool for a Rehabilitation Specialist to accurately identify items to include a more detailed work write-up that becomes part of the contract documents. This Standard is designed to be used with single family detached, rental housing and/or 1-to-4-unit dwellings of three stories or less.

This document is a template and, as such, customization is required regionally throughout Michigan. In the process of customization, you should adapt these documents to your local climate, housing stock and program goals. Users should consider the following factors in their customization:

One-to-four unit single family building types:

- Costs and budget considerations
- Zoning codes
- Housing codes and ordinances
- Regulatory requirements
- Climate
- Marketability
- Local product availability

Regarding regulatory requirements, if a program is using CDBG funds, the regulations call for rather minimal decent, safe, and sanitary performance standards, while the MI-Neighborhood and New Housing Infill or Housing Development projects allow for improvements that make the home more marketable and enhance neighborhood impact such as installing façade improvements, energy star or DOE energy standards.

These standards also include basic requirements of regulatory agencies such as the Environmental Protection Agency (EPA); Housing or Zoning Codes; Federal, State Historic Preservation Office (SHPO) and local Historic Preservation requirements, Occupational Safety and Health Act. (OSHA) and Lead Paint section of Michigan Department of Health and Human Services (MDHHS).

This template provides an example of a standard but does not capture the specific requirements of your local or housing program. The successful implementation of the Residential Housing Rehabilitation Standards require research into the various regulatory requirements of your program, an analysis of your local market to determine standard treatments, and a clear vision of your project budgets. Careful review is required for every section of the document to ensure it reflects the requirements of your organization's programs, clients, housing stock and climate.

In the NDD Residential Housing Rehabilitation Standards, you will typically find both a Repair Standard and a Replacement Standard for each category or component listed. The Repair Standard defines how to meet the standard by repairing the respective component. The Replacement Standard defines how to meet the standard when replacing or installing the respective new component. There are limited instances where only one standard applies.

Mission and Housing Values

NDD provides financial and technical assistance through public and private partnerships to create and preserve decent, affordable housing for low-and moderate-income residents and to engage in community economic development activities to revitalize urban and rural communities. Improvements must substantially protect or improve the basic livability of a residential home and must be physically attached and be permanent in nature.

NDD ELIGIBLE FUNDING CATEGORIES

Activities

Improvements are outlined in the grant agreement and can be comprised of both exterior and interior activities of a single-family homes. A Program Overview is included within each specific grant agreement. Refer to the Program Overview for MI Neighborhood criteria.

NDD funding activities are limited to Housing only activities such as:

- New Unit creation of single family 1 to 4 units (Infill or Green Space Development)
- Community Based Public Amenity Funding
- Acquisition/Redevelopment/Resale (ARR) Infill-Scattered Site Development – Note: Acquisition leveraged funds only.
- Rental Redevelopment 1 to 4 units
- Mixed-Use Building (New Unit Creation) apartments, 1 to 4 units; commercial space improvements of any type are not eligible for grant assistance.
- Rental Rehabilitation of Single Family Homes (Property Owner must be applicant)
- Homeowner Rehabilitation

Format of the NDD Single-Family Housing Rehabilitation Standard

- Mission and Housing Values
- Applicable Laws and Regulations
- Categories of Standards
    1. Health and Safety
    2. Exterior Building Surfaces
    3. Roof
    4. Foundation & Structure
    5. Windows & Doors
    6. Site
    7. Insulation, Air Sealing and Ventilation
    8. HVAC
    9. Plumbing System
    10. Electric
    11. Appliances (EnergyStar)

APPLICABLE LAWS AND REGULATIONS

NDD intends to construct and maintain homes in full compliance with the following statutory and regulatory requirements:

- HUD Environmental Review: NEPA, as applicable
- Michigan Building Code: 2015 (1 to 4 Unit Dwellings)
- Michigan Residential Code: 2015 (1 to 4 Unit Dwellings)
- Michigan Rehabilitation Code: 2015
- Michigan Rehabilitation Code for Existing Buildings 2015
- Michigan Energy Code: 2015 Uniform Energy Code
- Michigan Plumbing Code: 2021
- Michigan Mechanical Code: 2021
- Michigan Electric Code: 2023
- Michigan Energy Code: 2015
- Housing Code: Current local housing code and ordinances
- Lead Paint: Evaluation and Control of Lead-Based Paint Hazards in Housing
- HAZMAT: HUD requirements for specific programs such as asbestos, lead, and confined entry when applicable.
- Michigan Accessibility: New Construction; MCL Act 182 of 2006 Inclusive Home Design Act, Units for accessibility by disabled residents (1 to 4 Units).
- Exceptions: On a case-by-case basis, deviations from the minimum requirements of this standard will be permitted with approval of the appropriate division or agency.

Property Insurance Requirement

Property Insurance is required for all activities except emergency situations where the activity is necessary to secure the insurance. MSHDA pre-approval is required for emergency situations that includes a letter from the insurance company verifying insurability post construction.

HEALTH AND SAFETY

LEAD BASED PAINT (LBP)

Repair Standard

For all houses constructed prior to 1978, suspect lead paint (assume lead paint) current EPA lead-based paint provisions need to be followed (work safe, work clean).

Exception: Community Development Block Grant Funding (CDBG), Housing and Urban Development (HUD) LBP rules and regulations apply.

EPA Certified Firms shall perform Lead-safe Work Practices on Interim Control projects.

Renovation, Repair and Painting Program: Firm Certification | Lead | US EPA

Replacement Standard

When stabilization of surfaces containing LBP is impractical, the most affordable solution for abatement of the component will be chosen. Walls containing LBP may be covered with drywall or gutted and replaced with similar materials. Lead safe work practices must be followed.

ASBESTOS

Repair Standard

Standalone asbestos remediation is prohibited in NDD projects. Non-friable, intact Asbestos materials that are not creating a hazard such as cementitious exterior wall shingles may be left intact and

painted if appropriate. Asbestos-resilient floor tiles may be labeled as such and covered with underlayment and new resilient flooring. CS 602 (michigan.gov)

Replacement Standard

Asbestos remediation for the NDD program is acceptable (when directly associated with approved activities). Friable asbestos components such as boiler or pipe insulation, badly deteriorated cementitious shingles or deteriorated flooring will be removed and, if necessary, replaced with non-hazardous materials. All LEO Asbestos Program laws and regulations apply. LEO - Asbestos Program (michigan.gov)

FIRE AND CARBON MONOXIDE ALARMS

Repair Standard

Existing fire and smoke, carbon monoxide systems that meet code will be repaired to operating condition. Repairs to existing fire and smoke components are likely limited to new batteries or cleaning.

Replacement Standard

Fire and CO Alarm installation is not allowed unless part of an approved rehabilitation activity. Directly wired smoke detectors are required on each dwelling floor and in all bedrooms. CO detectors are required with all fuel-burning furnaces and water heaters in sleep areas and on each floor level. Wireless smoke detectors may be used on rehabilitation projects only if approved by the Local Building Inspector and/or Fire Chief.

Chapter 9: Fire Protection Systems, Michigan Building Code 2015 | UpCodes

RADON

Repair Standard

All new construction and acquisition redevelopment resale (ARR) housing in the NDD program will be subject to a short-term radon test. If the result is a reading of 4 pCi/L or higher, a follow-up short-term will be performed. If the average is above 4pCi/L, remediation will be required.

Replacement Standard

New Construction or Acquisition Redevelopment Resale (ARR) projects with Radon test results of 4pCi/L or higher shall install a remediation system per the EPA guidance in the Consumer's Guide to Radon Reduction. NDD recommends testing of all federal or state assisted housing to determine Radon limits and remediate accordingly per EPA guidelines.

2013_consumers_guide_to_radon_reduction.pdf (epa.gov)

MOLD

Repair Standard

Any visual presence of mold "within an approved rehabilitation activity" is unacceptable and must be addressed. Mold remediation recommendation and clean up can be found at Mold Cleanup in Your Home | US EPA

Replacement Standard

All carpeting, drywall or other gypsum-based wall coverings or any other non-structural components with visible mold present will be removed and replaced utilizing EPA guidelines.

EXTERIOR BUILDING SURFACES

Exterior eligible repairs must make a visible impact from the street to the neighborhood and focus on safety, visibility, accessibility, and energy repairs. Multiple eligible repairs must be undertaken per property based on need. Grantees should not be offering just a standalone item.

Examples:
Roof, Soffit, Facia and Gutters, (no partial replacements)
Siding with no partial replacements unless preauthorized
Porch and deck repairs, column repairs, foundation repairs and/or porch replacement
Ramps preferably side, rear or through the garage
Private driveways and sidewalks
Fences
Doors
Windows

ROOFING - FLAT AND LOW SLOPE

Repair Standard

Built-up roofing that is leak-free will be re-coated and flashing and accessories repaired if their minimum life is questionable.

Replacement Standard

Ethylene Propylene Diene Monomer (EPDM), Thermoplastic Olefin (TPO) or Polyvinyl Chloride (PVC) is preferred over shingles with roofs at or less than 2/12 pitches. No more than 2 layers of roofing are permitted. When appropriate, install fiberglass, asphalt, architectural, class A shingles with a prorated 25/30-year warranty. When possible, vent the system with a continuous ridge vent installed over 30-lb felt with new drip edge on all edges. Ice and water shield and starter strips will be installed per local/state codes and manufactures specifications. Local and state codes shall take precedence when applying this replacement standard on low sloped roofs.

ROOFING - PITCHED

Repair Standard

Missing and leaking shingles and flashing will be repaired on otherwise functional roofs. Slate, metal, and tile roofs will be repaired when possible. Unused antennae will be removed.

Replacement Standard

No more than 2 layers of roofing are permitted. Install fiberglass, asphalt, 3-tab or architectural, class A shingles with a prorated 25/30-year warranty. When possible, a continuous ridge vent will be installed over 30-lb felt with new drip edge on all edges. Ice and water shield and starter strips will be installed per local/state codes and manufacturers specifications. NOTE: Local and state codes shall take precedence when applying this replacement standard on pitched roofs.

GUTTERS AND DOWNSPOUTS

Repair Standard

Gutters and downspouts must be in good repair, leak free and collect storm water from all lower and upper roof edges where needed. Concrete or plastic splash blocks will be installed to move water away from the foundation. The system must move all roof component storm water away from the building and prevent water from entering the structure. Downspout outlets will be a minimum of 3 feet away from the foundation. Leaf guards may be installed.

Replacement Standard

K-Style aluminum gutters & downspouts will be installed and collect storm water from all lower roof edges and upper roof areas where needed. Concrete or plastic splash blocks will be installed to move water away from the foundation. The system must move all storm water away from the building and prevent water from entering the structure. Downspout outlets will be a minimum of 3 feet away from the foundation. Leaf guards may be installed.

ROOF WATER RUNOFF GRADING

Repair Standard

All grading adjacent to the building and for a distance of at least 10 feet away from the building will slope away from the structure at a pitch of at least 1 inch per foot. All bare earth will be reseeded, or sod will be installed to cover.

Replacement Standard

New unit(s) only. All grading adjacent to the building and for a distance of at least 10 feet away from the building will slope away from the structure at a pitch of at least 1 inch per foot. All bare earth will be reseeded, or sod will be installed to cover.

ROOF VENTILATION

Repair Standard

1 SF (square foot) of free venting must be supplied for every SF of area directly under the roof if there is no soffit venting. 1 SF of free venting must be supplied for every 300 SF of area directly under the roof, if 20% of the venting is soffit vent and if the living space ceiling is directly below the roof.

Replacement Standard

The venting requirements are the same as with the Repair Standard above with a strong preference for a combination of ridge vents and soffit vents.

FOUNDATION & STRUCTURAL COMPONENTS

Repair Standard

Structural walls can only be repaired as part of an approved rehabilitation activity and cannot be a standalone repair.

Structural framing and masonry will be free from visible deterioration, rot, or serious termite damage, and be adequately sized for current loads. Prior to rehab, all sagging floor joist or rafters will be visually inspected and significant structural damage and its cause will be corrected.

Replacement Standard

New structural walls will be minimum 2" x 4", 16" OC (On Center). All exterior walls that are part of the building envelope, the air barrier and thermal barrier separating the conditioned space from the non-conditioned space will be insulated and sheathed to current Michigan Codes. Structural beams, columns or girders shall be sized properly per the Michigan Building Code: 2015 (1 to 4 Unit Dwellings). Architects shall be used to design and size structural members if the single-family residence is over 3,500 square feet or in mixed-use buildings. A licensed Michigan Builder can design and size structural members of homes below 3,500 square feet.

EXTERIOR CLADDING-SIDING

Repair Standard

Siding and trim will be intact and weatherproof. All exterior wood components will have a minimum of one continuous coat of paint or stain, and no exterior painted, or color-stained surface will have deterioration. Buildings designated as historic, will have exterior repairs approved by local historic district guidelines.

Replacement Standard

Buildings not designated as historic may have siding replace with vinyl siding to match the existing configuration. CertainTeed, Mastic and Wolverine brands are approved. All siding replacement shall use maintenance free materials where feasible. If replaced, soffit and facia material will be vinyl or aluminum.

PORCHES

Repair Standard

Deteriorated concrete porches will be repaired when possible. Unsafe wood porch components will be repaired with readily available materials to conform closely to the existing structure and/or porches in the neighborhood. Porch repairs will be structurally sound, with smooth and even decking surfaces. Deteriorated structural components will be replaced with non-decay type material, size and material profile will be replicated to original conditions as best possible.

Replacement Standard

Porches on buildings will be rebuilt to conform closely to historically accurate porches according to the house type and the neighborhood. Porch decks will be replaced with non-decay material, size and material profile will be replicated. Replacement railings will meet code and appropriate neighborhood railing styles. Replaced structural components will be non-decay type material and replicated to original conditions as best possible. All load bearing components will have locally approved footings. When replacing structural porch components, a local building permit is required.

HAND RAILING AND GUARD RAILING

Repair Standard

Existing handrails will be structurally sound. Guard rails are required on any accessible area with a walking surface over 30" above the adjacent ground level. Sound railings may be repaired if it is possible to maintain the existing style. On historic structures railing repairs will be historically sensitive.

Replacement Standard

Handrails will be present on one side of all interior and exterior steps or stairways with more than two risers and guard rails around porches or platforms over 30" above the adjacent ground level and will meet state and local codes. Handrails and guard rails will conform to the style of similar components in the neighborhood. On historic structures new hand and guard railings will be historically sensitive.

STEPS, DECKS, AND PORCH CEILINGS

Repair Standard

Steps, stairways, porch decks and ceilings will be structurally sound, reasonably level, with smooth and even surfaces. Repairs will match existing materials.

Replacement Standard

In non-historic structures, wood decking and steps may be replaced with non-decay type material. New steps will be constructed from pressure treated wood, concrete, or other environmentally friendly non-decay type material. Ceilings can be vinyl or aluminum. On historic structures, new wood decking and ceilings will be sensitive to original style for the neighborhood and existing building.

ACCESSIBLE RAMPS

Repair Standard

Accessible Ramps shall be free of decay and structurally sound. All guardrails shall be to code as provided in the Michigan Building Code. Untreated wolmanized lumber shall be painted, stained, or otherwise treated with decay resistant coverings.

Replacement Standard

- The Michigan 2015 Building Code – Ramp construction guidelines:
  - 1010.3 - Slope not to exceed 1” in 12”.
  - 1010.5 - The maximum rise of any ramp run shall be 30 inches.
  - 1010.7 - Must have landings at top, bottom, turning points, entrances, and exits and at doors, 60 inches long minimum, 2% maximum slope. Accessible Ramp | Code Requirements EXPLAINED (buildingcodetrainer.com)
- Guardrails shall be minimum 36’’ high where ramp is more than 30’’ above the ground. Guardrails, whether intermediate or ornamental shall have opening limitations of not more than 4 inches.
- Graspable Hand Railings shall be installed per the 2015 Michigan Building Code. graspable handrails on accessible ramps in michigan - Search Shopping (bing.com)
- Most common ramp materials are wood, metal, aluminum, composite, or cement. If wolmanized lumber is used to build a ramp, the grantee must make provisions to paint, stain or otherwise treat with decay resistant coverings within one calendar year of installation. It is recommended the use of metal, aluminum, composite, or cement ramps be used as they have less maintenance and do not need a return painting schedule.

ENTRY DOORS & STORM DOORS

Repair Standard

Exterior doors will be solid, weather-stripped and will operate smoothly. They will include a peep site or light panel, a dead bolt, and an entrance lock set keyed to match. Storm doors shall seal tight when closed.

Replacement Standard

Replacement doors at the front of the building will be historically sensitive to the neighborhood and existing home. Various styles of insulated steel light panel doors may be installed. Dead bolt and handle locks will be installed on all exterior doors keyed to match. All new doors will be weather-stripped to be airtight. New storm doors shall be insulated, seal tight when closed and ventilated with either one screen for full view or two screens with double glass.

WINDOWS

Repair Standard

All windows will operate, remain in an open position when placed there, lock when closed and the open section will be covered with a screen.

Replacement Standard

- Windows that are not repairable may be replaced and will meet the ENERGY STAR standard for geographic region. http://www.energystar.gov/index.cfmc=windows_doors.pr_anat_window
- Windows on key façades of historically sensitive properties will be of the style, size and profile of the existing windows and be locally approved. New windows on other properties may be vinyl and double-glazed. Please see the following websites for guidance on energy efficient windows.
  - Consumer Guide to Energy-Efficient Windows
  - ENERGY STAR Program Requirements for Windows, Doors & Skylights

BASEMENT WINDOWS

Repair Standard

Basement windows must be operable for ventilation, in good working order, and lockable.

Replacement Standard

- Basement windows may be replaced with glass block. If so, a minimum of 2 glass block windows on opposite sides of the building must have operable and lockable center vents. Hopper type windows may be replaced with like windows.
- Egress windows are required in all new sleeping and living areas unless other secondary means of escape requirements are met. The minimum dimensions for egress window clear openings are 20" wide by 24" tall, with a clear opening of 5.7 square feet. No bedrooms should be created in attics or basements unless life safety codes egress requirements are met.

BRICK, BLOCK, STONE VENEERS, FIREPLACES, AND CHIMNEYS

Repair Standard

- Masonry veneers shall be free from material cracks and mortar joint defects. Tuckpoint mortar joints to eliminate holes and cracks. Strike mortar joints to match existing conditions. Remove broken or severely damaged brick and install new brick to match existing style and shape.
- Clean brick using a proprietary cleaner from an established company. Do not use raw acids. Many proprietary cleaners will improve color depth and uniformity of brick, block, tile, or other masonry materials.
- Chimneys and Fireplaces. Follow the guidelines in the Michigan Residential Code 2015 Chapter 10. Chapter 10: Chimneys and Fireplaces, Michigan Residential Code 2015 | UpCodes

Replacement Standard

Masonry type veneers must be part of an eligible rehabilitation activity and cannot be a standalone activity. When masonry veneers need to be incorporated follow Chapter 21 of the Michigan Building Code 1015. Chapter 21: Masonry, Michigan Building Code 2015 | UpCodes

SITE IMPROVEMENTS

PRIVATE DRIVEWAYS AND SIDEWALKS

Repair Standard

Essential paving, such as front and entry sidewalks and driveways with minor defects, will be repaired to match. Tripping hazards greater than ¾" must be addressed. Non-essential unusable, paving, will be removed and appropriately landscaped.

Replacement Standard

Unrepairable essential walks and driveways will be replaced with permeable paving when financially feasible, concrete or asphalt per city ordinances. Accessible ramps are eligible; however, the design and style of such ramps must be approved by NDD.

FENCING

Repair Standard

If repairs are needed, replacing sections are permissible if the budget permits. Only missing or damaged fencing can be repaired with like material. All wood fencing will be treated with decay resistant paint, stain, or water-resistant coverings.

Replacement Standard

Replacement of deteriorated fencing is encouraged to remove blight visible from the street. The style of fencing must be generic with neighborhood conditions. Grantees must follow local codes and ordinances for property line placement and height of new fencing. New privacy or decorative fencing cannot be a standalone activity. All fencing projects must be pre-approved.

LANDSCAPE PAVERS OR BLOCKS

Repair Standard

- Landscape pavers and walls shall be free from obvious missing or damaged sections. Repair missing or damaged sections by utilizing existing components to reconstruct the area. Shorten or minimize the paver/wall structure using the existing materials.
- Clean using a nonabrasive proprietary cleaner.

Replacement Standard

- The installation of landscape pavers or walls are only allowed with new unit projects as part of a landscape plan to enhance curb appeal.
- When installing landscape pavers or walls, use new materials. Used material is not permitted.

TREE AND SHRUB REMOVAL

Repair Standard

Trees that are dead or hazardous will be removed. Removal will include cutting close to the ground, grinding of the stump to 12 inches below the finished grade, installation of topsoil and re-seeding. Priority will be given when removal addresses a structural issue for the home, roots getting into pipes and/or impacting the integrity of the foundation.

Replacement Standard

Replacement trees and shrubs are permitted if economically feasible. In placement of trees, attention should be paid to shading the house to reduce air conditioning costs. Also, trees should be located a sufficient distance from foundations, sidewalls, walkways, driveways, patios, and sidewalks to avoid future damage from root growth and branches brushing against the structure. Setbacks from structures should typically exceed half of the canopy diameter of a full-grown example of the species.

LAWN

Repair Standard

Bare section of lawn will be reseeded with Michigan native seed and drought resistant varieties.

Replacement Standard

Wholesale replacement of lawn grasses is allowed on a case-by-case basis. Overseeding is permitted with Michigan native drought resistant varieties.

EXTERIOR SECURITY LIGHTING

Repair Standard

Bulb Replacement use Department of Energy (DOE) recommended LED bulbs. If the current fixture does not allow for LED bulbs, the fixture shall be replaced per (Replacement Standard). This category would only be allowed when other exterior NDD activities are being undertaken.

Replacement Standard

- When replacement or installation of exterior lighting is performed, all new lighting fixtures and bulbs shall be energy efficient lighting per DOE standards. LED fixtures and bulbs shall be the replacement standard unless otherwise recommended by DOE.
- When designing outdoor lighting, consider the purpose of the lighting along with basic methods for achieving energy efficiency.

Outdoor lighting for homes generally serves one or more of purposes:

- Aesthetics – Illuminate the exterior of the house and landscape.
- Security – Illuminate the grounds near the house or driveway.
- Utility – Illuminate the porch and driveway to help people navigate safely to the house.
- Security utility lighting does not necessarily need to be bright to be effective.
- Consider LED flood lights with combined photosensors and motion sensors in the place of other security lighting options.
  Lighting Controls | Department of Energy
- Make sure outdoor light fixtures have reflectors, deflectors, or covers to make more efficient use of the light source.
- Whenever possible use outdoor solar lighting fixtures.
  Outdoor Solar Lighting | Department of Energy
- Use timers and other controls to turn decorative lighting on and off.
  Energy Efficient Lighting Information, Décor Ideas and Products.
- Lighting Design | Department of Energy
- Top 8 Outdoor Lighting Safety Tips to Keep You Safe (lightscoop.com)

GARAGES AND OUTBUILDINGS

Repair Standard

Garage repair is permitted on attached garages only. Detached garages may be repaired as determined by an NDD Champion on a case-by-case basis but must be visible from the street.

Replacement Standard

- Garages cannot be replaced with NDD funding.
- New unit projects are encouraged to install garages, attached, or detached depending on an approved site plan. New unit projects shall follow the Michigan Building Code: 2015 (1 to 4 Unit Dwellings)

HOUSE NUMBERS AND MAILBOXES

Repair Standard

All houses will have 4" house numbers clearly displayed near the front door, and a standard size mailbox, preferably wall-hung at the entrance.

Replacement Standard

All houses will have 4" house numbers clearly displayed near the front door, and a standard size mailbox, preferably wall-hung at the entrance. Color and style by owner.

INTERIOR

INTERIOR WALL AND CEILING COVERINGS

Repair Standard

Drywall or plaster holes, cracks will be repaired to match the surrounding surfaces only when associated with approved rehabilitation activities or part of a lead paint activity.

Replacement Standard

Standalone drywall or plaster and/or painting repairs are prohibited unless directly related to an improved rehabilitation activity. When repair is necessary, plaster will be replaced by gypsum board. Fire-rated assemblies will be specified on a project-by-project basis as required by local codes.

INSULATION

Repair Standard

Repair and/or replace visible damaged insulation. The insulating area must be part of a larger approved activity, in a habitable room, attic or basement.

Replacement Standard

- All insulating projects will be part of a larger activity in a habitable room or basement. Any insulating will be completed utilizing the Department of Energy (DOE) R-values and utilize approved insulation types that comply with Michigan Residential Codes. For the recommended R-Values per climate zone go to energy.gov to see the current recommended R-values. Insulation | Department of Energy
- Recommended insulation types are found at the following energy.gov website. Types of Insulation | Department of Energy
- New unit projects – the envelopes of all homes of units will have a continuous air barrier and a continuous thermal barrier that is in contact with the air barrier. Attic insulation shall be a minimum of R60 with soffit baffles installed when there are soffit vents to maintain ventilation at the eves. All exterior walls opened during renovations shall be insulated with un-faced fiberglass batts or damp spray cellulose to R13 for 2x4 framing and R19 for 2x6 framing. Whenever financially feasible, 1-inch, polyisocyanurate type foam board will be added under new siding. Rim joists will be insulated to R19 with either foil-faced foam board or Class 1-rated spray foam. Crawl space walls shall be insulated with minimum R-13 rigid type insulation board and a 6-mil plastic vapor barrier will be installed continuously over the ground to the sill plate with all seams sealed. The ENERGY STAR Thermal Bypass Inspection Checklist shall be completed for each home. ENERGY STAR Qualified Homes Thermal Bypass Inspection Checklist

AIR SEALING AND VENTILATION

Repair Standard

- Air seal limiting air loss through gaps and cracks to reduce the heating costs during winter. Air sealing should always be partnered with natural ventilation, which allows the control of the airflow when and where it is needed for home comfort.
- Use foam, felt or rubber strips as weatherstripping materials to seal gaps around doors and windows.
- Apply caulk around window frames, baseboards, and other areas where gaps exist. Common caulks are silicone in wet areas and acrylic latex caulk for general areas.
- Use expanding foam sealants (spray foam) to fill gaps and cracks around pipes, electrical wiring, walls, or ceilings.
- Install foam gaskets behind electrical outlets and switches.
- Inspect attics and basements for gaps and crack around pipes, vents, and electrical wiring. Use expanding foam or other appropriate sealing materials.
- Seal ducts with foil tape or mastic sealant. Insulate ducts to prevent heat loss or gain.
- Seal exterior walls around pipes, cables and other penetrations using appropriate sealants.

Replacement Standard

- Install air sealing and ventilation utilizing the Michigan Energy Code: 2015 Uniform Energy Code and the Michigan Residential Code: 2015 (1 to 4 Unit Dwellings)
- Incorporate the repair standard with all NDD projects.

BATH VENTILATION

Repair Standard N/A

Replacement Standard

Bathrooms shall have a bath fan with a switch at the entrance.

FLOORING

Repair Standard

Bathroom, kitchen, and other water-susceptible floor areas will be covered with water resistant flooring that is free from tears or tripping hazards.

Replacement Standard

Baths will receive resilient sheet goods over suitable underlayment products, and kitchens will receive medium grade resilient sheet goods or tile. Whenever possible, rooms other than kitchens and baths with existing wood flooring will be maintained as wood floors and refinished when appropriate. New basement slabs will be at least 4" thick and have a 6-mil vapor barrier.

HEATING SYSTEMS

Repair Standard

- Workable existing heating systems will be inspected and serviced to operate in a safe manner with the highest energy efficiency possible for the heating unit.
- Boiler Systems shall be inspected for proper operation and repaired as applicable for good operation and energy efficiency.
- Electric heating systems shall be removed and replaced unless such units have a current energy star approved rating.

Replacement Standard

- Gas-fired heating plants will be rated at $\geq$ 95% AFUE (Annual Fuel Utilization Efficiency) or better. Oil-fired boilers will be rated at > 85% AFUE or better. All heating units shall be properly sized utilizing the

climate zone & area square footage to determine British Thermal Units (BTUs). A professional Heating & Cooling Contractor shall perform all calculations and provide them to the homeowner.

- Michigan Boiler Codes: Microsoft Word - R 408.30501 to 408.30547 (state.mi.us). Specifically, Page 40
- Metrics for HVAC Systems & IECC Climate Zone Map; IECC climate zone map | Building America Solution Center (pnnl.gov)
- Programmable Thermostats shall be installed on all new heating systems regardless of type.

AIR CONDITIONING

Repair Standard

Non-functioning, non-repairable air conditioners will be removed and drained of all CFCs. Existing central air conditioning will be inspected, serviced, and refurbished to operate safely and efficiently. If the existing system cannot conform with the AC (replacement) standard, the system shall be replaced.

Replacement Standard

- The installation of whole house air-conditioning shall conform to the following most common Energy Star rating for AC Systems.
- Split system cooling capacity: 17,000-47,000 BTUs (1.4 -3.9 tons) SEER: 15.0 EER: 12.5-13. O Heat Pump Systems as written within these standards are acceptable for both air-conditioning and heating. CEE Directory | AHRI (ahrinet.org)

WATER HEATERS

Repair Standard

When repairing water heaters as part of an approved activity, each housing unit will have a working water heater less than 5 years old with a minimum capacity of 40 gallons if it is gas-fired. Repairs shall be conducted by a professional plumber or HVAC contractor.

Replacement Standard

- All New Water Heater units shall meet Energy Star Certification. Tank type units shall be a minimum 40-gallon, 40,000 BTU natural or propane gas-fired water heater with a 10-year warranty, installed to the mechanical code and electrical code as applicable.
- For homes that use 41 gallons or less of hot water daily, demand type water heaters can be 24% to 34% more energy efficient than conventional storage tank water heaters; therefore, homes that use 41 gallons or less, electric or gas (demand) type systems can be installed.
- Tankless or Demand-Type Water Heaters | Department of Energy
- Energy Star Certified Heat Pump Water Heaters can be installed when feasible. See Energy Star Savings & Pay Back Link Save More with ENERGY STAR Certified Heat Pump Water Heaters | ENERGY STAR
- Super-Efficient Water Heater | ENERGY STAR

PLUMBING

Repair Standard

- Waste and vent lines must function without losing the trap seal.
- All fixtures and faucets will have working, drip-free components. Toilets with greater than a 1.6 GPF rating will be replace with a maximum 1.3 GPF (Gallons Per Flush) model.

Replacement Standard

- When walls are removed exposing vent and waste lines, those lines will be reworked to the current mechanical code and/or plumbing code as appropriate.

- Single lever, metal faucets and shower diverters with 15-year, drip-free warranty and maximum 2.0 GPM flow. White ceramic low-flow toilets (1.3 Gal), double bowl stainless steel sinks, and fiberglass tubs with surrounds.

PLUMBING FIXTURES

Repair Standard

All bathroom plumbing repairs must be pre-approved.

Replacement Standard

Replacement plumbing fixtures are allowed when part of an approved rehabilitation activity. Single lever, metal faucets and shower diverters with 15-year, drip-free warranty and maximum 2.0 GPM (Gallons Per Minute) flow. White ceramic low-flow toilets (1.3 Gal), double bowl stainless steel sinks, and fiberglass tubs with surrounds.

WATER SUPPLY

Repair Standard

Water Supply is allowed when part of an approved rehabilitation activity. The main shut off valve must be operable and completely stop the flow of water to the house. All fixtures must be leak-free and deliver sufficient water.

Replacement Standard

Water Supply is allowed with part of an approved rehabilitation activity. The main shut off valve must be operable and completely stop the flow of water to the house and should be replaced if it does not. Lead and galvanized pipe that is part of the water service or the distribution system will be replaced with copper, plex or equivalent. All new fixtures will have brass shut off valves. Freeze-protected exterior hose bibs are required when replaced.

ELECTRICAL

GROUND FAULT INTERRUPTER CIRCUITS

Repair Standard

Non-functioning GFCIs will be replaced. Receptacles within 6' of a sink and/or water supply will be replaced with a GFCI-protected receptacle or protected by a GFCI device.

Replacement Standard

Receptacles within 6' of a sink and/or water supply will be replaced with a GFCI-protected receptacle or protected by a GFCI device.

PASSAGE LIGHTING

Repair Standard

All lights and switches in hallways, stairs and other passages will be operable and safe.

Replacement Standard

All halls, stairs, and rooms necessary to cross to other rooms and stairways must be well lit and controlled by a 3-way switch using concealed wiring. Attics, basements, and crawl spaces will have utility fixtures. All new light fixtures will be Energy Star.

ELECTRIC DISTRIBUTION

Repair Standard

- Existing receptacles, fixtures and switches will be safe and grounded.
- On new unit or gut rehabilitation projects, exposed knob and tube wiring will be replaced. Every room will have a minimum of two duplex receptacles, placed on separate walls and one light fixture or receptacle switched at each room entrance. Where the source wiring circuit is accessible, receptacles will be grounded. All switch, receptacle, and junction boxes will have appropriate cover plates. Wiring will be free from hazard, and all circuits will be properly protected at the panel. Floor receptacles will be removed, and a cover plate installed. Exposed conduit is allowed. There must be one electrical receptacle at the service panel. Basements will have a minimum of 2 fixtures switched at the top of the stairs.
- Distribution panels will have a main disconnect, at least 10 circuit breaker protected circuits, a 100-amp minimum capacity and be adequate to safely supply existing and proposed devices. When a working central air conditioning system is present, the minimum service will be 150 amp.

Replacement Standard

When rewiring is necessary, the National Electric Code (NEC), Michigan Electric Code (MEC) and Local codes will apply.

APPLIANCES

Repair Standard

All appliance units shall be in good working condition and comply to current Energy Star standards and be no more than 5 years old.

Replacement Standard

- New appliances shall be current ENERGY STAR-labeled and have current ratings. All new cooking ranges will be electric or natural gas. Propane is acceptable only within areas where natural gas is not available.
- Smart Energy Star Appliances are acceptable when budgets allow them. Current ratings Energy rating - appliances | energy.gov.au
- Appliances are limited to kitchen refrigerators, stoves, microwaves, dishwashers, laundry washer and dryers. All new installed appliances shall match.

See below for **INCLUSIVE DESIGN REQUIREMENTS** for MI Neighborhood projects.

MI NEIGHBORHOOD INCLUSIVE DESIGN REQUIREMENTS

MSHDA encourages the building of more accessible and adaptable housing with MI Neighborhood funding. Based on CDC data Michigan has a 27% disability rate among adults, meaning one out of every four adults in Michigan has a disability, with 12% being mobility, 6% hearing and 4% vision. The older adult population in the state is growing and so is the need to build housing designed to age in place. Investing in accessible and adaptable housing within the Missing middle Program will address these demands and further equitable housing opportunities.

When MSHDA talks about building accessibility we use the Michigan Building Code, International Code Council, Fair Housing Act, and the Uniform Federal Accessibility Standard as the source for 3 levels of accessibility. The construction industry uses the terms Type A, Type B, and Type C units from the building code. For Type C units, MSHDA reserve the right to allow for exceptions if, for example, topography makes the requirement unfeasible.

The minimum percentage of each unit type that is required by MI Neighborhood is described below.

RENTAL UNITS

New unit(s)

- 20% of the units must be adaptable/Type B with 4 or more attached units.
- Every unit must be at least visitable/Type C

Rehab

We encourage the developer to make as many units adaptable and/or visitable as possible but will not require either should it be unreasonable to retro-fit.

FOR SALE UNITS

New unit(s)

- 20% of the units must be adaptable/Type B with 4 or more attached units.
- Every unit must be at least visitable/Type C

Rehab

We encourage the developer to make as many units adaptable and/or visitable as possible but will not require either should it be unreasonable to retro-fit.

Physically Accessible Housing: Both privately owned and publicly assisted housing, regardless of whether they are rental or for sale units, must meet the accessibility requirements.

DEFINITIONS TO PROVIDE FURTHER CLARIFICATION & SPECIFICATIONS

Type A Units are designed for those residents who require a wheelchair to move around in the apartment.

1. Type A units are sometimes called accessible units.
2. Some elements that are constructed for accessibility. For example: 32” clear width doors with maneuvering clearances.
3. Designed and constructed to provide accessibility for wheelchair users throughout the unit.
4. Some elements that are constructed as adaptable, meaning that they are not built to be compliant at first occupancy, but are provided with the infrastructure to be made accessible. later if needed.

For example: kitchen wall cabinet height, roll under sinks, lowered kitchen sink and countertop that can be rolled under.

5. Type A units are distributed throughout a development and disbursed by the number of bedrooms in a unit.

Type B Units are dwelling units designed and constructed for accessibility in accordance with provisions for Type B units in ICC A117.1, consistent with the design and construction requirements of the federal Fair Housing Act. Since there aren't legal guidelines to define Universal Design, we use the legally defined Type B or a Fair Housing unit.

1. Type B units are sometimes referred to as Fair Housing units because they are intended to be consistent with the Fair Housing Design Manual.
2. Are constructed to provide a minimal level of accessibility.
3. Less accessible than Accessible Unit or Type A unit.
4. Type B units are designed for life or aging in place and are usable by a person in a wheelchair.

Type C Units, Visit-Ability, or visitable units are often intended for single family residences since Type A and Type B units are for multifamily developments. However, for MI Neighborhood new unit(s), Type C applies for both single family and multifamily developments as listed on page 1.

1. Applicable to new unit(s) single-family homes and duplexes which typically fall below any of the accessibility requirements.
2. The intent of Type C is planning for persons to be able to age-in-place, like Type B units.
3. At least one zero-step entrance approached by an accessible route on a firm surface no steeper than 1:12, proceeding from a driveway or public sidewalk.
4. 32 inches or more of clear passage space through interior doors, including bathrooms.
5. At least a half bathroom on the main floor.
6. Reinforcement in bathroom walls and showers for future grab bars.
7. Accessible placement of electrical and heating controls.
8. Use of lever door handles.

DIFFERENCES BETWEEN TYPE B AND TYPE C ACCESSIBLE UNITS

Type B Accessible Units

- These units comply with and, in some ways, exceed the requirements set by the Fair Housing Accessibility Guidelines (FHA).
- According to the FHA Design Manual, ANSI A117. 1 Type B units serve as a "safe harbor" for FHA compliance.
- Type B units are typically found in permanent multi-family housing, such as a apartments, condominiums, and townhouses (with four or more units).
- They are designed to accommodate residents with mobility impairment, including those who use wheelchairs.
- While not as comprehensive as fully accessible units, Type B units strike a balance between accessibility and practicality.

Type C Units

- These units are fully usable and adaptable dwelling units.
- Their requirements are primarily intended for residential applications.

- Unlike Type B units, which focus on mobility impairments, Type C units have slightly different criteria.
- They aim to provide flexibility and usability for a wide range of residents, regardless of specific mobility needs.

In summary, while Type B units cater to specific accessibility requirements, Type C units prioritize adaptability and usability in residential settings. Both play essential roles in ensuring equitable living spaces for diverse populations.