



Rental Housing Design and Construction Standards

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Chapter 1 – Overview

Minnesota Housing is committed to meeting Minnesotans’ needs for decent, safe, and sustainable affordable housing. Since building codes, local regulations and ordinances primarily focus on health, safety and/or protecting property values, they cannot be relied on to meet all of our expectations. Therefore, in an effort to better meet our customer needs and communicate our expectations, Minnesota Housing developed Design and Construction Standards for Rental Housing.

These design and construction standards replace all previous Minnesota Housing standards and are applicable to rental housing receiving Minnesota Housing financing for new construction or rehabilitation. Projects involving adaptive reuse or “gut” rehabilitation of rental housing shall comply with standards for rehabilitation and standards for new construction to the maximum extent feasible.

These design and construction standards are not intended to restrict innovation. Minnesota Housing welcomes new ideas and looks forward to implementing any new idea that will provide long-lasting benefits to our customers. Minnesota Housing encourages sustainable, healthy housing that optimizes the use of cost effective durable building materials and systems and that minimizes the consumption of natural resources during construction and in the long term maintenance and operation.

We encourage optimizing the use of cost-effective, renewable resources and energy, minimizing damage and impact to the environment, and maximizing the use of natural amenities such as (solar, wind, climate, and orientation) of the development’s site. If the proposal includes any alternative energy options Minnesota Housing will require a cost-benefit analysis for such options. For more information about consideration for funding of alternative energy options, please refer to Alternative Energy Options questions located within the [Multifamily Rental Housing Narrative Questions](#).

While developing design and construction standards for rental housing we sought input from our Funding Partners, Minnesota Housing Multifamily Advisory Committee (made up of Developers, Housing Managers, Architects, Contractors, and Attorneys) and members of Minnesota Housing Senior Staff. In addition, housing design standards required of other state housing finance agencies conducting business similar to us were reviewed and compared. Minnesota Housing determined these design standards fall within the mainstream of design standards required by other agencies.

Refer to the beginning summary section of each standard to learn whether the standard is applicable to the project at hand. The project activity and/or funding source generally dictate when and how a design and construction standard applies. When strict compliance to these standards is not feasible, please contact the Minnesota Housing Staff Architect assigned to the development to discuss whether a waiver or variance to these standards is justifiable.

If a newer version of this document is released after the Initial Award of Financing, the Developer and Architect may use the standards of the document that was current at the time the Formal Application was submitted.

Chapter 2 - General Occupancy New Construction Minimum Standards

Background

Once a decision is made to construct a new housing development to serve a particular housing need, selecting a smart site location is important. If Minnesota Housing financial assistance is needed to construct a new housing development, the decision to build on a particular site must include determining whether the site can be developed so that it complies with applicable Minnesota Housing standards.

The following standards are supplemental to basic standards established by applicable building codes, local zoning, and other applicable regulations. In addition, these standards are supplemental to other applicable design standards promulgated by Minnesota Housing. Where two standards govern the same condition, conformance to the most restrictive standard is required. Regardless of whether the local jurisdiction has adopted or not adopted Minnesota State Building Code, all improvements receiving Minnesota Housing financing must be in compliance with currently adopted Minnesota State Building Code.

Purpose:

To ensure rental housing financed by Minnesota Housing is decent quality, energy efficient, functional, sustainable, and effective in reducing long-term maintenance costs.

Requirements:

The following new construction standards involving site design, building design, mechanical and electrical systems, and building components shall be adhered to if receiving Minnesota Housing assistance for new construction:

- A. Site design – Site improvements shall comply with the following standards associated with grading/drainage, parking, garages, sidewalks, play equipment/area, signage, and landscaping as follows:
 1. Grading/Drainage – The site shall be well drained. Surface water must be directed away from structure. Snow removal/storage shall be addressed.
 2. Parking – Unless stricter zoning requirements apply, parking shall comply with the following minimum requirements:
 - a. At least one (1) parking space (off street/onsite) for each 1-bedroom dwelling unit;
 - b. At least two (2) parking spaces (off street/onsite) for each 2-bedroom or larger dwelling unit. (Exception: If on street parking is available on adjacent streets up to 0.5 spaces per dwelling unit may be used toward satisfying this requirement.)
 - c. Adaptive reuse type projects or single-room-occupancy (SRO) dwelling units may have less than one (1) parking space for each dwelling unit. Exact number shall be reviewed/approved by Minnesota Housing on a case-by-case basis.
 - d. Parking spaces shall be at least 8'-6" wide except at designated handicapped parking space(s) which shall be in compliance with applicable codes.
 - e. For high-density urban developments that require zero-lot-line coverage, consult Minnesota Housing to agree on how much onsite parking is needed for the proposed development.
 - f. *Parking spaces and access isles must be paved (concrete, bituminous, or other Minnesota housing approved material).* Also provide a poured concrete curb and gutter at outer perimeter of onsite drive lanes and parking. (Not required for semi-private driveway leading up to attached garage.)
 3. Garages – If private garages are provided, they shall conform to the following:
 - a. Each stall shall be partitioned to the roof with solid material;
 - b. Frost footing required at all attached garages and detached garages larger than 2-stalls; and
 - c. Minimum size requirements:
 1. Width:

- a. 11'-0" (single stall)
- b. 20'-0" (double stall)
- 2. Area:
 - a. 231 sq. ft. (single stall)
 - b. 420 sq. ft. (double stall)
- 3. Overhead Door:
 - a. 9'-0" wide (single stall)
 - b. 16'-0" wide (double stall)
- d. Garages for persons who are handicapped shall comply with minimum quantity/dimensions/clearances as required by applicable codes.
- 4. Exterior sidewalks – Sidewalks shall be 4 feet wide (minimum) and made of concrete reinforced with continuous wire mesh.
- 5. Play area/play equipment – A play area for children along with appropriate play equipment shall be provided for children to play unless exempt. The play area/equipment shall comply with the following:
 - a. Play area/play equipment is not required if any of the following conditions apply:
 - 1. Development contains only 1-bedroom or smaller dwelling units;
 - 2. Zero lot-line sites where Minnesota Housing agrees with the Owner/Developer that it is not economically feasible or viable;
 - 3. There is a public park with play equipment within ¼ of a mile (1,320 feet) of the development (measured from the closest property line to the public park as straight line distance, not travel distance), unless they are separated by busy street; **Or**
 - 4. Minnesota Housing Staff agrees with the Owner/Developer that it is not economically feasible or viable.
 - b. The size of the play area must be provided in proportion to the child population of the development. The child population for each unit shall be computed as follows:

<i>Unit Type</i>	<i>No. of Children in Unit</i>
Efficiency	0
One-Bedroom	0
Two-Bedroom	1.5
Three-Bedroom	3
Four-Bedroom	4.5
(Each additional Bedroom)	(1.5 Children per Bedroom)

- c. Based on the type and number of units in the development, the total development child population can be computed, and the size of the play area should be determined as follows:
 - A minimum size of the play area must be 24'-0" x 24'-0". This is good for up to one hundred children in the development. Add four square feet of additional play area per each additional child above one hundred children. The entire play area must be filled with natural or synthetic protective materials and equipped with reasonable play equipment for the size of the lot. The perimeter shall be designed to keep play area material from spilling, such as curb and/or sidewalk.
- d. The play area and play equipment must be in compliance with equipment manufacturer requirements. The play area does not have to be square or confined to one location as long as minimum play area size is complied with.
- e. Lumber treated with chromated copper arsenate shall not be used for play equipment.
- f. Avoid locating any play area(s) where children are required to cross driveways.
- g. Provide drain tile beneath all permeable play area surface materials with outlet to nearest storm sewer or drainage ditch.
- h. Provide shade, seating, and trash receptacle near all play areas.
- i. Play areas must be on an accessible route with accessible entrance onto the play area surface.
- 6. Signage – Signage shall be provided as follows:
 - a. Temporary construction project sign. If a temporary construction sign is provided it shall be at least 4'x8' in size and erected onsite at time of construction start. It shall contain development name, Minnesota Housing

Logo, names of other funders (or their logos – please confirm), Equal Housing Opportunity logo, Owner’s name, General Contractor’s name, Architect’s name, and leasing information/phone number.

- b. Permanent development sign. Every development shall be provided with a permanent development sign that is visible from nearest street. It shall provide name of development, Equal Housing Opportunity Logo, and leasing information/phone number. Night-time illumination is recommended.
 7. Landscaping – Landscaping and a landscape plan shall be provided as per Enterprise Green Communities Criteria.
- B. Building design – The building design shall be reasonably appropriate for the intended site, resident population, and anticipated market and shall be in compliance with the following minimum standards:
1. Laundry – Housing shall have access to laundry facilities and shall comply with the following requirements:
 - a. Common laundry is required unless laundry equipment is provided in each dwelling unit.
 - b. If common laundry, one (1) washer and one (1) dryer must be provided for every twelve (12) dwelling units. Provide folding table and seating area.
 - c. If laundry equipment is provided in each dwelling unit, stackable equipment is acceptable in non-accessible dwelling units.
 - d. Every clothes washer shall have a disaster pan with floor drain, or be located in a room with appropriate flooring whereby the floor slopes to floor drain.
 - e. Avoid locating clothes washers near areas with carpeting.
 2. Elevator – Housing required to have an elevator shall meet the following requirements associated with an elevator:
 - a. The maximum length of travel from any dwelling unit to an elevator shall not exceed two hundred fifty (250) lineal feet.
 - b. The number of required elevators in each building shall be dictated by the number of stories above grade as follows:
 1. (3 – 5) stories above grade: one (1) elevator required.
 2. (6 – 9) stories above grade: two (2) elevators required.
 3. (>9) stories above grade: consult Minnesota Housing.
 3. Dwelling unit – Housing shall meet the following requirements associated with decent living space:
 - a. Living room
 1. Least dimension shall be 11’-6” and appropriately sized for anticipated household size.
 2. Must have window (or glass patio door) to exterior for natural lighting.
 - b. Primary or Master bedroom
 1. Least Dimension shall be 10’-0”
 2. Least square footage shall be 115 sq. ft..
 3. Window to exterior for natural lighting.
 4. Closet (5 lineal ft. of net rod/shelf length).
 5. Door and walls to ceiling for privacy.
 6. Exception: Efficiency Dwelling Unit/Single Room Occupancy (SRO)
 - c. Secondary bedroom(s)
 1. Least dimension 9’-6”.
 2. Least square footage shall be 100 sq. ft..
 3. Window to exterior for natural lighting.
 4. Closet (4 lineal ft. of net rod/shelf length)
 5. Door and walls to ceiling for privacy.
 6. Exception: Efficiency Dwelling Unit/Single Room Occupancy (SRO)
 - d. Kitchen
 1. Kitchen countertop work area.
 - a. Minimum length shall be 6’-0” measured along the front footage (excluding sink and appliances) for one bedroom dwelling units;
 - b. 7’-0” for two and three bedroom dwelling units;
 - c. And 8’-0” for larger dwelling units.
 2. Snack bar or eat-in kitchen area. (Required in three bedroom and larger dwelling units.) Snack bar shall be 4’-0” long (minimum).

3. Range/oven in all dwelling units.
 - a. All units with two or more bedrooms must be equipped with 30" wide range/self-cleaning oven.
 - b. All other units shall be equipped with 24" (min.) range/self-cleaning oven.
 - c. Avoid locating range in corner or at the end of the counter.
 - d. A protective shield must be provided for the section of wall directly behind all ranges and on any abutting partition. Protective shields shall either be high-pressure plastic laminate, enameled steel or stainless steel.
4. "Frost Free" refrigerator/freezer with 15" minimum wide counter on latch side. A minimum size of 14 cu. ft. (min.) for one bedroom and smaller dwelling units. Appropriately sized for intended household for larger dwelling units.
5. Hard-surface flooring.
- e. Dining
 1. Dining room/area designated with hard-surface flooring distinct from living room is required in 2-bedroom and larger dwelling units.
 2. The dining room/area must be appropriately sized for the intended household size and accommodate the following:
 - a. 2-bedroom dwelling units: Table w/ four (4) chairs
 - b. 3-bedroom dwelling units: Table w/ six (6) chairs
 - c. ≥4-bedroom dwelling units: Table w/ seven (7) chairs
 3. Must have window to exterior, or opening to living room.
 4. Exceptions:
 - a. An eat-in kitchen may be substituted for dining room/area as long as kitchen and dining area are appropriately sized for the intended household size plus two (2) guests.
 - b. A 4' long snack bar located on rear side of kitchen countertop may be used in lieu of designated dining room/area in 1-bedroom and smaller dwelling units.
- f. Bathroom
 1. Definitions:
 - a. Full Bathroom: (vanity, water closet, and tub w/ showerhead)
 - b. (½) Bathroom or Powder Room: (vanity and water closet)
 - c. (¾) Bathroom: (vanity, water closet, and shower)
 2. A minimum of one (1/2) bathroom required at ground floor of any two-story dwelling unit.
 3. A minimum of one Full bathroom required at 2-bedroom and smaller dwelling units
 4. A minimum of (1 3/4) bathrooms required at 3-bedroom and larger dwelling units, an exception being a two story town home unit. In the case of multi level town houses, 1 1/2 bathrooms are allowable with the ½ bath located on the main level, provided no sleeping rooms are on the main level.
 5. Any "Split" bedroom design (bedrooms on opposite sides of living room): At least a 3/4 bathroom adjacent to any bedroom to avoid having to travel through living space when traveling from bedroom to a bathroom.
 6. In 3-bedroom or larger dwelling units, Minnesota Housing encourages *full* bathroom to be compartmentalized for simultaneous, multiple use.
 7. Minimum Accessories:
 - a. Medicine cabinet (at least one per dwelling unit);
 - b. Towel bar(s) (within reach of lavatory and tub/shower);
 - c. Toilet paper holder;
 - d. Shower curtain rod (if applicable); and
 - e. Mirror
- g. Storage space/closets
 1. Entry coat closet is required for 1-bedroom or larger dwelling units.
 2. Designated linen/towel storage space is required.
 3. General storage space for household cleaning supplies, vacuum, etc. is required.
- h. Multi-Story Dwelling Unit Living Areas
 1. Individual units with multi-stories shall have a kitchen/ kitchenette, living area, dining (or eat-in kitchen) on the same, main level.

2. See Visitability Standards for additional multi-story unit requirements.
- C. Mechanical and electrical systems – Housing shall have plumbing, mechanical, and electrical systems that comply with the following standards:
1. Independent technical analysis – Minnesota Housing reserves the right to require independent technical analysis of any or all building components to determine life expectancy and anticipated ongoing lifecycle costs, as well as a maximum of 10 year payback on energy-efficient investment premiums.
 2. Utility incentives – Minnesota housing encourages exploring design options with the local utility company early in the design development phase to determine if any Energy Conservation Improvement Program (CIP) resources or other utility rebate options are available.
 3. Plumbing systems – Plumbing systems shall meet the following requirements:
 - a. All kitchen sinks shall be double compartment (33"x 22" min.), 7" deep minimum. Exception: Efficiency dwelling unit/Single room occupancy (SRO) with dishwasher may have single compartment sink.
 - b. Disaster drain pan with floor drain shall be provided under any water heater and clothes washer located above ground level.
 - c. Water softening is required where the hardness exceeds 14 grains except where special circumstances exist. The system must conform to the following:
 1. Unsoftened water must be provided to all hose bibs and the cold water tap of each kitchen sink. All other water – hot and cold – is to be softened when water softening is required.
 - d. Plumbing chases and plumbing walls shall not be located in/at new building exterior walls. If required at existing buildings, chases shall be designed to keep plumbing from freezing.
 4. Heating, ventilating, and air-conditioning (HVAC) system – HVAC systems shall meet the following requirements:
 - a. Bathroom exhaust fans shall be ENERGY STAR-labeled and shall exhaust to the outdoors. Fans shall operate either continuously; or when the light is turned on; or with a humidistat and timer.
 - b. Exhaust ductwork for clothes dryers shall be rigid type and vented to outside.
 - c. Kitchen range hood shall meet the requirements of Enterprise Green Community Criteria:
 1. By providing direct exhaust to the exterior; Or
 2. By placing a re-circulating range hood as part of a heat recovery central ventilation system.
 - d. Intake and exhaust ductwork located in unheated spaces shall be insulated.
 - e. Air-conditioning shall be provided to all dwelling units.
 5. Electrical systems – Electrical systems shall meet the following requirements:
 - a. Ceiling or wall mounted light fixture in all bedrooms.
 - b. Task lighting above kitchen range and kitchen sink.
 - c. Each dwelling unit shall be capable of receiving hi-speed Internet access.
 - d. Exterior light fixtures and lamps shall be rated for -20 degree F weather.
 - e. Carbon Monoxide (CO) Alarms as required by 2006 state legislation.
- D. Building components – Minnesota Housing encourages the advancement of green/ sustainable building strategies. Refer to Chapter 8 – Sustainable Housing Standards for requirements and guidance in meeting Mandatory and Optional Criteria. The following building components shall also meet the following minimum standards:
1. Millwork
 - a. All new kitchen cabinets and new wood bathroom cabinets shall have solid wood face-frames, doors, and drawer fronts.
 - b. Drawer-box construction shall have dovetail or other Minnesota Housing approved reinforced joint construction.
 - c. All millwork shall meet the Kitchen Cabinet Manufacturers Association (KCMA) ANSI/KCMA A161.1 standards. KCMA Certification is suggested but not required.
 2. Exterior windows and doors
 - a. All new windows and doors must be ENERGY STAR-qualified.
 1. ENERGY STAR regularly updates its requirements for qualification. The applicable version current for qualification at the time windows and/or doors are ordered/ purchased shall be applied.
 2. ENERGY STAR "Qualified" is based upon standards set for the region in which the window/door is being installed. The applicable region for Minnesota shall be applied.

- b. All windows and windows within doors shall be furnished with window coverings for privacy and control of heat/solar shading.
 - c. All operable windows and operable windows within doors shall have insect screens.
 - d. The sill of all windows must be solid wood, stone, man-made solid surface material, or other material approved by Minnesota Housing.
3. Roofing
- a. Low Slope Roofing
 - 1. Shall have a minimum of ¼" inch per foot (finished) slope unless otherwise approved by Minnesota Housing Staff Architect and Building Official.
 - 2. Approved Systems include 60 mil adhered EPDM & TPO, or 4 ply asphalt/gravel built-up assembly.
 - 3. Ballasted or mechanically fastened single ply membranes are not accepted.
 - 4. A Minimum 20- year manufacturer's warranty required.
 - b. Sloped Roofing
 - 1. A minimum 25-year manufacturer's warranty required.
4. Patio and entrance slabs – All patio and entrance slabs shall comply with the following requirements:
- a. Stoop/footing frost protection required at all entrance slabs.
 - b. Where soils are frost susceptible, stoop/footing frost protection required at all patio slabs.
 - c. ¼" per foot maximum slope.
 - d. Protect front entrance slab from rain/snow accumulation. (i.e.: overhang, canopy)
5. Closet doors – Conventional, residential grade, bi-fold doors and hardware package are not acceptable in new construction. Side-hinged, swinging type or other Minnesota Housing approved doors shall be provided.
- E. Schematic design concept – The Borrower is required to develop a reasonable schematic design concept and cost estimate which conforms to all applicable Minnesota Housing standards. Refer to Formal Application section of **Minnesota Housing's Architect's Guide** for additional information regarding schematic design.
- F. Contract documents – Once the scope of work is finalized and approved by Minnesota Housing, the Borrower shall have prepared for approval, contract documents consisting of drawings and specifications setting forth in detail the requirements of the project. The project shall be in compliance with all applicable Minnesota Housing Rental Housing Design and Construction Standards. Refer to Loan Commitment of the **Minnesota Housing's Architect's Guide** for more information.
- G. Contractor procurement – Refer to **Minnesota Housing's Contractor's Guide** for requirements associated with selecting a Contractor and procuring Contractor services.

Chapter 3 – General Occupancy Rehabilitation Minimum Standards

Background:

The following standards apply to any rental housing project receiving Minnesota Housing rehabilitation assistance.

If the project involves **gut rehabilitation** or **adaptive reuse**, the housing shall also comply to the maximum extent feasible with General Occupancy New Construction Minimum Standards located in Chapter 2.

Architectural services are likely to be essential to the success of the project. Refer to Minnesota Housing [Architect's Guide](#) to determine if architectural services are required for the project at hand.

The following standards are supplemental to basic standards established by applicable building codes, local zoning, and other applicable regulations. Where two standards govern the same condition, conformance to the most restrictive standard is required. Regardless, if the local jurisdiction has adopted or not adopted Minnesota State Building Code, housing shall be in compliance with Minnesota State Building Code.

Purpose:

To ensure rental housing receiving Minnesota Housing rehab assistance is decent quality, energy efficient, functional, sustainable and effective in reducing long-term maintenance costs.

Requirements:

Housing that is undergoing rehabilitation with Minnesota Housing funds must meet the requirements associated with a physical or capital needs assessment, accessibility, environmental standards, other inspections, preliminary scope of work and cost estimate, contract documents, and contractor procurement as follows:

- A. Physical Needs Assessment (PNA) or Capital Needs Assessment (CNA) – Multifamily Developments planning rehabilitation and applying for funds through Minnesota Housing Consolidated RFP, Pipeline Application, or other Minnesota Housing funding, shall submit either a full Capital Needs Assessment or a Physical Needs Assessment.

If the applicant chooses to submit the Physical Needs Assessment, it shall consist of a completed Minnesota Housing [Physical Needs Assessment Template](#) and the Minnesota Housing [20 Year Capital Expenditure Template](#); or the preparer may use their own document with a similar format. When completing the 20 Year Capital Expenditure Template, it shall be completed “As Is” with the proposed immediate needs and rehabilitation scope of work noted in the “Year One” column.

If the applicant chooses to submit a full Capital Needs Assessment, it shall be completed by a third party qualified needs assessor and can be in any of the following established formats: USDA Rural Development, HUD/ FHA Project Capital Needs Assessment (PCNA), ASTM E 2018-08 Standard Guide for Property Conditions Assessment, or other Minnesota Housing approved format.

Developments not required to complete a PNA or CNA are new construction projects, gut rehabilitation projects and adaptive re-use projects.

Both the PNA and CNA shall provide a Life Expectancy analysis including Estimated Age, Expected Useful Life (EUL), and Effective Remaining Life (ERL) of the following minimum elements: Roof; siding/ exterior walls; windows; doors (interior/ exterior, and overhead garage); plumbing fixtures; HVAC Systems; and kitchen appliances. The inspection shall be conducted to identify deficiencies under applicable state and local codes, ordinances, and The Minimum Essential Physical Needs as described below:

The Minimum Essential Physical Needs:

1. *Structural integrity* – Structures shall be structurally sound and free of any pending or imminent structural collapse or failure. (i.e.: decks, basement columns, foundations, floors, walls, roof framing, headers, lintels, etc...)
2. *Building envelope* – The building envelope shall be weather and water tight. All openings susceptible to water and air penetration shall be sealed. Ensure envelope is adequately insulated or supplement the insulation to the envelope. Typically the attic is the cheapest and easiest to supplement, and will provide the greatest cost-to-benefit payback. Ensure that all attics are adequately ventilated to prevent ice-damming, and all attic bypasses are sealed/insulated.
3. *Site and roof drainage* – The site shall be well drained. There shall be no standing water in non-designated holding pond areas 12 hours after a rain event. Surface drainage must be directed away from the structure, to a designated ponding area, or to municipal storm sewer system. Include roof drainage provisions when assessing site drainage conditions.
4. *Plumbing and sanitation systems* – All plumbing systems shall be code compliant, adequately sized, and operable with an anticipated minimum 7 year life expectancy. No leaks allowed. Obsolete, water wasting fixtures shall be replaced. Minnesota Housing may require sanitary sewer lines to be video-scoped to detect if any unforeseen repair/maintenance is necessary.
5. *Mechanical systems* – All heating, air conditioning, and ventilation systems shall be code compliant, adequately sized, and operable with an anticipated minimum 7 year life expectancy. Bathrooms shall have an operating exhaust vent ducted to the exterior. Clothes dryers shall be connected to code compliant rigid type vent exhausting to the exterior. To the greatest extent feasible ensure that all dwelling units are air conditioned or equipped with A/C sleeve(s).
6. *Electrical systems* – All electrical systems shall be code compliant with circuit breakers, adequately sized for the structure and intended use. All electrical life safety fixtures shall be in place and functional including the following:
 - a. *Smoke detectors*. Smoke detectors meeting requirements of Underwriter Laboratories, Inc., approved by the International Conference of Building Officials, shall be furnished and installed in all areas as required for new construction. At least one smoke detector in each dwelling unit shall be hardwired (equipped w/ battery backup) and audible from sleeping rooms.
 - b. *Ground-fault circuit-interrupter (GFCI) protection*. GFCI protection shall be provided for receptacle outlets in locations as required by applicable regulations for new construction.
 - c. *Arc-fault circuit-interrupter (AFCI) protection*. AFCI protection shall be provided for receptacle outlets in locations as required per applicable codes/ regulations.
 - d. *Carbon Monoxide (CO) alarms*. Provide as required by 2006 State Legislation.
7. *Elevator* – If there is an existing elevator/hoistway in a building, it shall be made to be in compliance with 2007 Minnesota Elevator Code as applicable to existing buildings.
8. *Functional kitchen* – Kitchen shall be appropriately sized and equipped with appropriate cabinets, sink, and operational range/oven/hood/refrigerator appropriately sized for intended household.
9. *Dwelling unit*
 - a. Housing shall meet the requirements associated with decent living space outlined in the previous Chapter 2 (General Occupancy Rental Housing Minimum New Construction Standards)
 - b. Exception: the Moderate rehab of an existing building/ development may request a variance (as per Chapter 1 of this document) for the least dimension(s) and area of the Living Room and Bedrooms by 15%. If approved by Minnesota Housing, the 15% reduction shall be clarified as follows:
 1. Living Room. 11'-6" x 85% = **9'-9"**.
 2. Primary/ Master bedroom. 10'-0" x 85% = **8'-6"**. 115 sq. ft. x 85% = **96 sq. ft.**
 3. Secondary bedroom(s). 9'-6" x 85% = **8'-1"**. 100 sq. ft x 85% = **85 sq. ft**
10. *Parking* – Adequate parking satisfactory for the resident population shall be available for resident use. Any onsite pavement with initial signs of raveling, transverse cracks, longitudinal cracks, or minor block cracking shall have preventative maintenance which includes corrective measures such as crack sealing, seal coating, asphalt patching/repair. Any onsite pavement with severe cracking/damage shall be adequately repaired/ replaced. Hard surface parking shall be properly striped and any accessible parking spaces properly identified.

- B. Environmental Standards– It is essential to perform all environmental assessments early in the planning process to ensure that any mitigation measures and costs are integrated into the scope of work. Project activities must comply with the assessments for [Phase I Environmental Assessment](#), [Phase II Environmental Assessment](#), Lead Based Paint evaluation and reduction, Lead Based Paint visual inspection requirements and [Asbestos Inspection Survey](#). These requirements can be found in the Environmental Standards section on the Minnesota Housing website. Refer to this section of the Minnesota Housing website for additional requirements pertaining to historic preservation, contamination, visible mold and clandestine drug lab cleanup requirements. For details on radon mitigation, refer to Minnesota Housing’s [Minnesota Overlay and Guide to the 2011 Enterprise Green Communities Criteria](#).
- C. Accessibility –Refer to Chapter 6 for Accessibility requirements.
- D. Other Inspections – Minnesota Housing encourages the Borrower to engage the local building inspector, Minnesota Housing Staff Architect, and any other funder’s inspecting rehab specialist or architect in the initial inspection process. Conducting these inspections early in the development, planning and budgeting phase will ensure that all local property standards, local building code, and other deficiencies are identified and included in the preparation of the bid specification/scope of work.
- E. Preliminary scope of work/cost estimate – The Borrower is required to develop a preliminary scope of work and cost estimate which shall adequately address property deficiencies as required to ensure housing complies with applicable building codes and regulations, Minnesota Housing’s [Rental Housing Design and Construction Standards Chapter 3 – General Occupancy Rehabilitation Minimum Standards](#) (contained herewith), applicable Sustainable Housing requirements in Chapter 8, and applicable standards imposed by other funder(s) upon completion of scope of work. Refer to Chapter 2 - General Occupancy New Construction Minimum Standards of this document for minimum requirements for certain building components if being replaced or installed. In addition, work scope shall include any reasonable accommodation for persons with accessibility needs that are determined feasible.
- F. Contract documents – Once the scope of work is finalized and approved by Minnesota Housing the Borrower shall have prepared for approval contract documents consisting of drawings and specifications setting forth in detail the requirements of the project. The project shall be in compliance with all applicable Minnesota Housing Rental Housing Design/Construction Standards. Refer to Loan Commitment of the **Minnesota Housing Architect’s Guide** for additional information.
- G. Contractor procurement – Refer to **Minnesota Housing Contractor’s Guide** for requirements associated with selecting a contractor and procuring contractor services.
- H. Decent, safe, sanitary and in good repair – Unless local codes, ordinances and/or zoning requirements require more stringent standards, existing conditions (work outside the rehab scope of work) of housing shall be in compliance with [HUD’s Uniform Physical Condition Standards \(UPCS\) \(Title 24, Part 5, Subpart G\)](#). This type of assistance and funding will typically dictate which standard is applicable. If you are uncertain how UPCS applies to your property, contact your Minnesota Housing Management Officer (HMO)/ Compliance Officer. Regardless, the site, buildings and structures and all parts thereof shall be kept in good repair. All defective components shall be repaired or replaced.

Chapter 4 – Supportive Housing Minimum Design and Construction Standards

Background

The following design standards shall apply to all supportive rental housing receiving Minnesota Housing financing for new construction, rehabilitation, and/or adaptive reuse of an existing building and are in addition to other applicable Minnesota Housing standards.

These standards are supplemental to basic standards established by Minnesota Housing for new construction and rehabilitation of general occupancy housing (Chapters 2 and 3), applicable building codes, local zoning, and other applicable regulations. Where two standards govern the same condition, conformance to the most restrictive standard is required. Regardless, if the local jurisdiction has adopted or not adopted the Minnesota State Building Code, all site improvements receiving Minnesota Housing financing must be in compliance with the Minnesota State Building Code.

Purpose:

To ensure supportive rental housing financed by Minnesota Housing is decent quality, energy efficient, functional, sustainable, durable, and effective in reducing long-term maintenance costs.

Requirements:

- A. Durability – Emphasis will be placed on durability of construction materials and finishes that achieve cost effective life-cycle costs and reduce ongoing maintenance (i.e.: finish flooring, cabinet construction, windows, window treatments, solid-core doors, hardware, toilet accessories, etc.).
- B. Program space – If program space is provided, shall be appropriate for intended use and resident population and must be accessible via an accessible route. In addition, Minnesota Housing encourages program space be convertible into housing space in the future.

Chapter 5 - Housing Tax Credit Design Standards and Review Process

Background:

The Housing Tax Credit Program (HTC) is the longest running public/private affordable housing program in our nation's history. It is the primary form of federal assistance available today for the production of affordable housing. Minnesota Housing attempts to leverage HTC and other public, private and philanthropic funds for more quality, sustainable, affordable rental housing units. Developers, Architects, Contractors and local Zoning and Building Officials are encouraged to utilize their creative and technical talents to develop family friendly housing and site plans that will help contain the costs of the production of much needed affordable housing.

Purpose:

To ensure rental housing financed by the Housing Tax Credit (HTC) Program is cost reasonable and of similar quality and livability as any other housing financed by or in part with Minnesota Housing assistance. Minnesota Housing encourages sustainable, healthy housing that optimizes the use of cost effective durable building materials and systems and that minimizes the consumption of natural resources during construction and in the long term maintenance and operation.

Requirements:

A. Design/Construction Standards

1. The design and construction of any development receiving HTC funding shall comply with all applicable Minnesota Housing [Rental Housing Design and Construction Standards \(RHD/CS\)](#) in effect at time of initial HTC selection.
2. If developments claim and are awarded Large Family points, the Moderate Rehab 15% Reduction in room sizes noted in Chapter 3 of this document (RHD/CS) shall apply.
3. Additional design requirements may be applicable if points are claimed/ awarded which require the development to include specific design elements.

B. Cost Reasonableness

1. Minnesota Housing will evaluate the costs of each proposed project in comparison to current comparable projects to determine whether the proposed costs are reasonable taking into consideration unique characteristics of the project and its comparability to similar projects. Additional documentation will be required if the proposed costs are not comparable or reasonable.
2. Minnesota Housing will continue to use its predictive cost model to test cost reasonableness for all projects. The model uses cost data from tax credit properties, industry cost data from [RSMean](#), and regression analysis to predict total project costs. Based on a projects characteristics (building type, building characteristics, project size, project location, population served, financing, etc.), the model predicts the total development costs.

C. Submittals – To ensure rental housing meets the above referenced standards, the following shall be submitted to Minnesota Housing for review and approval.

1. Submittals at Initial Application: For information on submittal requirements refer to Minnesota Housing's [Architect's Guide- Chapter 7- Formal Application](#).
2. Construction Documents Submittals (after selection):
 - a. 50% completed construction documents, when available.
 - b. 100% completed construction documents, prior to awarding any work to Contractor(s).

D. Construction Monitoring – To ensure rental housing is constructed in accordance with approved construction documents, the following construction monitoring activities shall be permitted:

1. Minnesota Housing representatives shall be granted access to the site as necessary to monitor work in progress.

2. Minnesota Housing shall receive regular construction meeting minutes and regular observation reports from Architect of Record. See Minnesota Housing's [Architect Guide](#) and Minnesota Housing's [Contractor's Guide](#) for construction meeting requirements.
 3. Minnesota Housing shall be notified and receive copies of any change orders prior to execution or any other documentation that alters the approved design and contract work scope and completion date.
- E. Project Close-out/ End of Construction.
1. Minnesota Housing shall receive a copy of the Contractor's final application for payment (AIA Forms G702/G703), Certificate of Substantial Completion, and Certificate of Occupancy (if applicable).
 2. 2011 Enterprise Green Communities (EGCC) and the following MN Overlay submittals:
 - a. EGCC Compliance Report Worksheet with updated criteria which is located within the [EGCC Certification Workbook](#) or evidence of EGCC Certification.
 - b. Compliance Report Agreement which is located within the [EGCC Certification Workbook](#).
- F. Failure to comply – Owners who fail to comply as noted may be subject to penalty during subsequent HTC selections.

Note: The information listed in this Chapter 5 of the RHD/CS shall not supersede or have preference over any requirements of the Housing Tax Credit (HTC) Qualified Allocation Plan (QAP) and/or Procedure Manual.

Chapter 6 – Accessibility Standards

Overview:

In 2007 the Minnesota State Building Code for Accessibility incorporated and amended Chapter 11 of the 2006 International Building Code, which resulted in changes to the accessibility requirements applicable to multifamily housing. In an effort to provide housing that reduces barriers for persons with disabilities and to be compatible with the 2007 State Accessibility Code, Minnesota Housing has adopted these standards.

These Accessibility Standards apply to all new construction multifamily developments containing four or more dwelling units or sleeping units that are financed by Minnesota Housing, including developments receiving only housing tax credits allocated directly by Minnesota Housing. Developments receiving tax credits from a local sub allocator, and no other financing from Minnesota Housing, are exempt from this Standard; and only need to comply with the Minnesota State Building Code provisions and the sub allocator's requirements.

Regardless of whether or not the local jurisdiction has adopted the Minnesota State Building Code, all site improvements financed by Minnesota Housing must be in compliance with Minnesota State Building Code for Accessibility and other applicable zoning regulations. Where two standards govern the same condition, conformance to the most restrictive standard is required.

Requirements for New Construction with 4 or more units:

To promote housing that reduces physical barriers for persons who are physically disabled, meet the following:

1. A minimum of three percent (3%) of the total units (with its fraction rounded up) in the development must be designed and constructed to meet accessibility requirements for a 'Type A' unit as promulgated by the Minnesota State Building Code for Accessibility. This 3% requirement applies to two story townhouses as well as all other types of multifamily dwelling units or sleeping units.
2. Any required 'Type A' unit that is either a two story townhouse or some other type of two story dwelling unit shall have a minimum of two sleeping rooms be accessible.
3. Where three or more 'Type A' units are required, at least one 'Type A' unit shall be provided with an accessible roll-in shower.
4. If grab bars are not installed at time of initial occupancy in any 'Type A' unit as permitted by code, the Owner shall be responsible for installing code-compliant grab bars immediately upon request by a resident.
5. Accessibility Standards shall apply to substantial (gut) rehabilitation and adaptive reuse projects to the maximum extent feasible, and as mandated by the local code official. Existing developments undergoing rehabilitation shall not reduce or have the effect of reducing accessibility of a building or portion of a building. The applicant shall identify any resident requests for reasonable accommodation that remain uncompleted. These requests shall be studied to determine feasibility and incorporated into the scope of work accordingly.
6. These Accessibility Standards are in addition to the State of Minnesota Visitability Statute described further in Visitability Standards in Chapter 7.

Additional Considerations:

If Federal funds are involved in the financing of the project, the housing must meet the applicable accessibility requirements at [24 CFR part 8 of the Rehabilitation Act of 1973 \(29 U.S.C. 7894\)](#). If the improvements include an addition, covered multifamily dwellings, as defined at [24 CFR 100.201](#), must also meet the design and construction requirements [24CFR 100.205](#), which implements the [Fair Housing Act \(42U.S.C. 3601.3619\)](#). The Fair Housing Act Design Manual published by the US Department of Housing and Urban Development (HUD) is available at:

<http://www.huduser.org/portal/publications/destech/fairhousing.html>

Chapter 7 – Visitability Requirements

Visitability Requirements are Applicable if new construction and either: single-family homes, duplexes, triplexes, and multilevel townhomes. Exception: Receiving only Housing Tax Credit Allocation.

The 2001 Minnesota Legislature imposed a visitability requirement on certain new construction financed by Minnesota Housing. This requirement was promoted by the disability community.

The visitability requirement applies to the following types of new construction that is financed in whole or in part by Minnesota Housing:

- Single-family homes,
- Duplexes,
- Triplexes, and
- Multi-level townhomes.

The requirement does not apply to owner-occupied housing financed by Minnesota Housing mortgage programs except in cases where Minnesota Housing has also provided financing for the construction.

Visitability is defined as designs that allow persons with mobility impairments to enter and stay, but not live, in a residence. There are three (3) specific design elements that must be incorporated in the dwelling to satisfy the state visitability requirement. The dwelling must include:

- at least one no-step entrance;
- 32-inch clear opening doorways;
- at least a one-half bathroom on the main level that meets minimum clear floor space for half baths (Powder Room) as required by Fair Housing Act “Part B: Usable Bathrooms”.

The visitability requirement must be satisfied by all applicable new construction proposals that are first selected by Minnesota Housing in the Spring 2002 funding round or thereafter.

Chapter 8 – Sustainable Housing

Background

Minnesota Housing Sustainable Housing Standards are applicable for all new construction and rehabilitation and require compliance with the [2011 Enterprise Green Communities Criteria \(EGCC\)](#) and [Minnesota Overlay & Guide to the 2011 Enterprise Green Communities Criteria](#).

Sustainable Housing requirements can be found at the following links:

- [Minnesota Overlay & Guide](#)
- [2011 Enterprise Green Communities \(EGCC\)](#)
- [Enterprise Green Communities Certification Workbook](#)
- Previous Enterprise Green Communities & Minnesota Overlay Versions
 - [2009-2010 Minnesota Overlay](#)
 - [2008 Method of Satisfying Green Communities Criteria](#)

Exception:

The State of Minnesota Sustainable Building Guidelines are applicable for developments receiving Publicly Owned Housing Program (POHP) funds, also referred to as general obligation bond proceeds. Refer to Minnesota Housing POHP Program Guide for more information. The Minnesota Housing Sustainable Housing Standards do not apply.

Chapter 9 – Design and Construction Standards Supplement for Federally Funded Projects

Background:

This supplement was created in an effort to consolidate Minnesota Housing Rental Housing Design and Construction Standards with standards required for federally funded projects.

The standards identified in this chapter may be modified by either statute or regulatory action of the federal government. When so modified, the changes will be effective on the effective date of the change. When approved designs are affected by new federal actions, owners should discuss with Minnesota Housing the effect of the change on the project and whether already approved plans and specifications must be altered.

Projects receiving Housing Tax Credit (HTC) program allocation/ funding are not considered Federally Funded Projects. Therefore, this chapter does not apply to HTC projects.

Purpose:

Minnesota Housing has created design and construction standards which encourage sustainable, healthy housing that optimizes the use of cost effective durable building materials and systems and that minimizes the consumptions of natural resources during construction and reduce long term maintenance and operation costs.

In addition to our standards, the federal government has additional standards and requirements for projects receiving federal funding. The federally funded projects shall encompass the following requirements.

Requirements:

A. Federal Regulations – Housing and Urban Development (HUD)

1. New construction, Gut Rehabilitation and Adaptive Reuse Housing receiving federal funding must also comply with the following supplemental requirements:
 - a. Minimum Property Standards (MPS) for Housing, HUD Handbook 4910.1.
 1. Section 100-2 Housing for the Elderly. (Only for housing with an elderly component). Included by reference.
 2. Section 402-1 Living Unit Entry Doors.
 - a. At least one entrance to each dwelling unit shall be a side-hinged, swinging type door not less than 3'-0" wide and 6'-8" in height.
 - b. All dwelling unit side-hinged, swinging, entrance doors shall have a dead bolt lock (unless prohibited by Minnesota State Building Code or other regulations)
 - c. Entry door locks shall not require the use of a key or tool for operation from the inside.
 - b. Title 24- Code of Federal Regulations (CFR) part 51, Environmental Criteria Standards. Subpart B – Noise Abatement and Control. Included by reference.
 - c. Title 24 – Code of Federal Regulations (CFR) Parts 92.741 – 92.742. In addition to meeting Mandatory energy efficiency requirements of the Enterprise Green Communities Criteria (current applicable version), all new construction and gut rehab projects four or more stories must exceed ASHRE Standard 90.12007, Appendix G by 20%.
 - d. Title 24 – HUD, Part 982, Subpart I Dwelling Unit, Section 982.401 Housing Quality Standards (HQS). Item (f) Illumination and electricity. (2) Acceptability criteria. (i) There must be at least one window in the living room and in each sleeping room.
 - e. Title 24 Code of Federal Regulations (CFR) part 8 (Section 504 of the Rehabilitation Act of 1973). Subpart C – Program Accessibility, Section 8.22 (b) a minimum of five percent of the total dwelling units or at least one unit in a multifamily housing project, whichever is greater, shall be made accessible for persons with

mobility impairments. ([Minnesota State Building Code Type A Accessible Unit](#)). An additional two percent of the units, but not less than one, in such a project shall be accessible for persons with hearing or vision impairments.

- f. [Title 24 Code of Federal Regulations \(CFR\) Part 100 Discriminatory Conduct Under the Fair Housing Act. Subpart D – Prohibition against Discrimination Because of Handicap. All sections \(100.200 - 100.205\).](#) Included by reference.
- g. The rule, “Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance,” as contained within [Title 24 of Code of Federal Regulations \(CFR\) part 35 \(24 CFR 35\)](#), shall apply to projects receiving federal funding, whenever applicable. Minnesota Housing’s [Lead-Based Paint Policy](#) shall defer to the rule. A detailed description of the lead hazard evaluation and lead hazard reduction requirements associated with the rule has been developed by Minnesota Housing; [Lead Hazard Evaluation and Reduction - HOME Assistance](#).

B. Section 3 & Labor Standards/ Federal Cross-Cutting Requirements

Projects receiving Minnesota Housing Federal funding shall review and include [applicable Section 3 and Women or Minority Owned Business Compliance](#).

C. Completion Documentation

- 1. Completion Documentation shall be provided as per End of Construction and Project Close-out requirements noted in Minnesota Housing’s [Architect’s Guide](#) and [Contractor’s Guide](#).
- 2. Additional Completion Documentation shall include:
 - a. Pictures of completed work.

Chapter 10 – Definitions

Building Envelope: Is the division of air barrier and thermal barrier that separates exterior from interior space.

Moderate Rehab: Rehabilitation of a development where the improvements do not alter major systems or the building envelope.

Multifamily (MF): Is defined as any project or Dwelling Unit (DU) where the occupant(s) are renters and do not own the property. Multifamily projects may include single family homes, duplexes, townhomes, elevated buildings, multi-storied buildings, etc. and are generally administered by Minnesota Housing's Multifamily Division. Please contact Minnesota Housing's Staff Architect for clarification if needed.

Single Family (SF): Is defined as single family homes, duplexes and townhomes where the occupant owns the dwelling and the project is administered through Minnesota Housing's Single Family Division.

Substantial/ Gut Rehab: Rehabilitation of a development that involves extensive (substantial) rehabilitation in terms of total removal and replacement of all interior (non-structural) systems, equipment, components or features of the existing structure. Gut rehabilitation may also include structural and nonstructural modifications to the exterior of the structure.