

Achieving Access and Function
in Affordable Housing in
Massachusetts

Part Two: State & Federal Code Comparison

Kessler McGuinness Associates, LLC
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COMPARISON OF REQUIREMENTS

521 CMR, The Rules and Regulations of the Massachusetts Architectural Access Board, generally require equal or greater access than either the FHA or UFAS or HUD's regulations implementing Section 504 of the Rehabilitation Act¹. There are, however, some exceptions. If a developer used 521 CMR as well as those FHA or UFAS standards that exceed 521 CMR a project will meet all minimum accessible design standards for accessible housing in Massachusetts. This chapter presents selected sections of the multiple family requirements of 521 CMR, and integrates FHA and UFAS requirements when these federal standards require more accessibility than 521 CMR. Where FHA or UFAS are the same as 521 CMR or require less accessibility than 521 CMR, they are not included.

The comparison includes portions of the sections from 521 CMR that contain requirements for accessible multi-family housing.

- 5 Definitions
- 9 Multiple Dwellings
- 10 Public and Common Use Areas
- 42 Group 1 Bathrooms
- 43 Group 1 Kitchens
- 44 Group 2 Bathrooms
- 47 Group 2 Kitchens

How to Read this Comparison

Where a section of 521 CMR is followed by a (✓), that section requires the most accessibility. Where a section of 521 CMR is not followed by a (✓), it is followed by requirements of FHA (⬆) and/or UFAS (●) that require more accessibility than 521 CMR. The symbol ⬆ indicates an FHA reference. The symbol ● indicates a UFAS reference.

In addition to regulatory comparisons, there are underlined notes indicating accessible design features that CBH prefers in the projects or units it is funding. The CBH preferences include elements that increase a development's "visitability" and "usability" by people with disabilities. Together these elements help achieve the CBH program goal of providing integrated housing for people with disabilities especially those individuals who are living in institutions or at risk of institutionalization. This includes persons with physical, hearing, sensory, cognitive, emotional and other types of disabilities.

CAUTION: This comparison is intended to be a resource in providing full compliance with relevant state and federal accessible design standards, as well as detailing the accessible design features preferred in CBH-funded projects. It is not, however, legal advice. Architects should refer to current editions of 521 CMR, FHA, and UFAS and their statutory context.

¹ Section 504 of the Rehabilitation Act of 1973 prohibits discrimination against persons with disabilities in the operation of programs receiving Federal financial assistance. HUD regulations implementing Section 504 contain accessibility requirements for new construction and rehabilitation of housing as well as requirements for ensuring that the programs themselves are operated in a manner that is accessible to and usable by persons with disabilities. (See 24 CFR Part 8).

521 CMR 5.0 DEFINITIONS²

521 CMR: ACCESSIBLE: A site, building, facility or portion thereof that complies with 521 CMR and can be approached, entered, and used by persons with disabilities. When the term “accessible” is used, it shall mean both physical and communication accessible unless otherwise noted in 521 CMR.

↑ **FHA:** “Accessible”, when used with respect to the public and common use areas of a building containing covered multifamily dwellings, means that the public or common use areas of the building can be approached, entered, and used by individuals with physical handicaps. The phrase “readily accessible to and usable by” is synonymous with accessible. A public or common use area that complies with the appropriate requirements of ANSI A117.1-1986, a comparable standard or these FHA guidelines is “accessible” within the meaning of this paragraph.

521 CMR: BUILDING: A structure enclosed within exterior walls or fire walls (as defined in 780 CMR), built, erected and framed in a combination of any materials, whether portable or fixed having a roof, to form a structure for the shelter of persons, animals or property. For the purposes of this definition, “roof” shall include an awning or similar covering, whether or not permanent in nature. The word “building” shall be construed where the context requires, as though followed by the words “or part or parts thereof”. For application of 521 CMR, each portion of a building which is separated from other portions by fire walls (as defined in 780 CMR) and are not dependent on the existing building for accessible elements shall be considered as a separate building.

↑ “Building” means a structure, facility or portion thereof that contains or serves one or more dwelling units.

↑ **FHA:** Dwellings built within a single structure but separated by a firewall are treated as a single building. Where dwelling units are connected, such as by stairs or a walkway that is structurally tied to the main body of the building, they are considered a single building and ground floor units in such buildings without elevators are covered.

521 CMR: DWELLING UNIT: A unit providing living facilities for one or more persons. (See **521 CMR 8.00: TRANSIENT LODGING FACILITIES** for more detailed information.)

↑ **FHA:** “Dwelling unit” means a single unit of residence for a household of one or more persons. Examples of dwelling units covered by these guidelines include: condominiums; an apartment unit within an apartment building; and other types of dwellings in which sleeping accommodations are provided but toileting or cooking facilities are shared by occupants of more than one room or portion of the dwelling. Examples of the latter include dormitory rooms and sleeping accommodations in shelters intended for occupancy as a residence for homeless person.

521 CMR: ENTRANCE: Any access point to a building or portion of a building or facility used for the

² Only those definitions in 521 CMR that have conflicting UFAS or FHA counterparts are included in this document.

purpose of entering. An entrance includes the approach walk, stairs, lifts, ramp or other vertical access leading to the entrance platform; the entrance platform itself; vestibules, if provided; the entry door(s) or gate(s); and the hardware of the entry door(s) or gate(s).

▲ **FHA:** “Building entrance on an accessible route” means an accessible entrance to a building that is connected by an accessible route to public transportation stops, to parking or passenger loading zones, or to public streets or sidewalks, if available. A building entrance that complies with ANSI A117.1-1986 (See Section 5, Requirements 1 of these Guidelines) or a comparable standard complies with the requirements of this paragraph.

521 CMR: GROUP 1: Applies to *dwelling units* that have features that can be modified without *structural change* to meet the specific functional needs of an occupant with a disability.

▲ **FHA:** FHA's 'covered dwelling units' meet the design requirements of the FHA Guidelines and are sometimes referred to as 'adaptable dwelling units' or units that meet 'certain features of accessible design.'³

'Covered multifamily dwellings' are:

1. all dwelling units in buildings containing four or more dwelling units if such buildings have one or more elevators, and
2. all ground floor dwelling units in other buildings containing four or more units.

These include:

- Apartments
- Condominiums, even if they are pre-sold as a shell and the interior is designed and constructed by the buyer.
- Single-story townhouses
- Vacation time-shares
- College dormitories
- Apartment housing in private universities
- Sleeping accommodations intended for occupancy as a residence in a shelter.
- Continuing care facilities or retirement communities with and without health care, provided the facility includes at least one building with 4 or more dwelling units (except if used for a 'brief' period of time.)

521 CMR: GROUP 2A⁴: Applies to *dwelling units* that have features similar to Group 1, but have the additional feature of greater floor space to accommodate the needs of occupants who need such space due to their disability.

521 CMR: LOFT: An intermediate level between the floor and ceiling of any story, located within a

³ FHA 'covered dwelling units' are very similar to AAB's Group 1 units.

⁴ UFAS "accessible units" are similar to but not quite the same as Group 2A units.

room or rooms of a dwelling.⁵

521 CMR: MULTIFAMILY DWELLING: Any *building* containing more than two dwelling units.

521 CMR: MULTIPLE DWELLING: A lodging or residential facility for hire, rent, lease, or sale, containing three or more *dwelling units*.

Dwellings built within a single structure but separated by a firewall are treated as a single building.

↑ **FHA: “Covered Multifamily dwellings” or “covered multifamily dwellings subject to the FHA”** means buildings consisting of four or more dwelling units if such buildings have one or more elevators; and ground floor dwelling units in other buildings consisting of four or more dwelling units. Dwelling units within a single structure separated by firewalls do not constitute separate buildings.

521 CMR: PUBLIC USE: Describes interior or exterior rooms or spaces that are made available to the general public. Public use may be provided at a *building* or *facility* that is privately or publicly owned.

521 CMR: TOWNHOUSE: A *dwelling unit* with finished living space on more than one *story*.

↑ **FHA: “Multistory dwelling unit”** means a dwelling unit with finished living space located on one floor and the floor or floors immediately above or below it.

↑ **FHA: Public use and common use areas** are those in a covered multifamily dwelling (with 4 or more covered dwelling units) that can be used by residents and their guests.

⁵ Unlike FHA, 521 CMR does not exempt lofts from the accessible route requirement for Group 1 or Group 2 units.

The following are terms used in the FHA with no comparable term defined in 521 CMR:

“Assistive device” means an aid, tool, or instrument used by a person with disabilities to assist in activities of daily living, Examples of assistive devices include tongs, knob-turners, and over rack pusher/pullers.

Requirement. The seven (7) specific FHA design and construction requirements with which new buildings and dwelling units must comply.

“Single-story dwelling unit” means a dwelling unit with all finished living space located on one floor.

“Slope” means the relative steepness of the land between two points and is calculated as follows: The distance and elevation between the two points (e.g. an entrance and a passenger loading zone) are determined from a topographical map. The difference in elevation is divided by the distance and that fraction is multiplied by 100 to obtain a percentage slope figure. For example, if a principal entrance is ten feet from a passenger loading zone, and the principal entrance is raised one foot higher than the passenger loading zone, then the slope is $1/10 \times 100 = 10\%$.

“Undisturbed site” means the site before any construction, leveling, grading or development associated with the current project.

“Vehicular or pedestrian arrival points” means public or resident parking areas, public transportation stops, passenger loading zones, and public streets or sidewalks.

521 CMR 9.0: MULTIPLE DWELLINGS**521 CMR: 9.1 GENERAL (✓)****521 CMR: 9.2 APPLICABILITY**

New construction: *Multiple dwellings*, for which building permits for new construction are issued on or after September 1, 1996¹ shall meet the requirements of 521 CMR 9.3, Group 1 Dwelling Units and 521 CMR 9.4, Group 2 Dwelling Units.

- ↑ **FHA** design and construction requirements apply to dormitories in addition to apartments, condominiums, etc.
- ⊙ **UFAS** has been enforceable for multiple dwellings constructed with federal funds since 1984.

521 CMR 9.2.1 Renovation and reuse: Any building previously occupied for any purpose, which is converted, renovated, reconstructed, altered or remodeled for residential use after this date is exempt from 521 CMR 9.3 Group 1 Dwelling Units

- ↑ **FHA:** FHA does not apply to buildings built before March 13, 1991, EXCEPT:
 1. In cases where the façade of a building is preserved, but the interior of the building, including all structural portions of floors and ceilings is removed, and a new building is constructed behind the old façade, the building is considered a new building for the purposes of the FHA. Thus, it is covered and must comply with the FHA Guidelines.
 2. When an addition is built as an extension to an existing building, the addition of four or more units is regarded as a new building and must meet the design requirements of the FHA Guidelines. If any new public and common use spaces are added, they are required to be accessible.

 **CBH** prefers to fund renovation and reuse developments that include Group 1 type units.

521 CMR 9.2.2 Renovation and reuse of dwelling units is subject to 521 CMR 9.4, Group 2 Dwelling Units through 521 CMR 9.5, Dwelling Unit Interiors provided the work being performed, in a three year period, exceeds 30% of the full and fair cash value of the building (See 521 CMR 3.3.2). Work performed to public use and common use areas however, is subject to all of 521 CMR 3.3.

HUD 24 CFR 8.23(a) Alterations of existing housing facilities

(a) *Substantial alteration.* If alterations are undertaken to a project (including a public housing project as required by §8.25(a)(2)) that has 15 or more units and the cost of the alterations is 75 percent or more of the replacement cost of the completed facility, then the provisions of §8.22 shall apply.²

¹ Earlier versions of 521 CMR applied to multiple dwellings. 521 CMR 9-10 and 42-47 were added in 1996.

² "Replacement cost is calculated as current costs for a new facility of the same size and type as that being altered. Note that this calculation is different than that being used in 521CMR, which used 'full and fair cash value' derived from assessed value, or in the case of publicly funded multi-family projects, \$73.32 per square foot." Paul Warkentin, Mostue & Associates Architects, Inc.

521 CMR 9.3: GROUP 1 DWELLING UNITS

In *multiple dwellings*, for which building permits for new *construction* are issued on or after September 1, 1996, that are for rent, hire, lease or sale and that are equipped with an elevator, all *dwelling units* must be constructed as *Group 1 Dwelling Units*, except those covered in **521 CMR 9.4, Group 2 Dwelling Units**. In *multiple dwellings* that are for rent, hire, lease, or sale but are not equipped with an elevator, only units on the *ground floor* must be constructed as *Group 1 Dwelling Units*. *Group 1 units* must comply with **521 CMR 9.5**, and, **521 CMR 42.00: GROUP 1 BATHROOMS**; **521 CMR 43.00: GROUP 1 KITCHENS**; and **521 CMR 46.00: GROUP 1 BEDROOMS**.

- ↑ **FHA:** "Covered multifamily dwellings" means buildings built for first occupancy after 13 March 1991.... (See full definition below.)
- ⊙ **UFAS 4.34.4 Consumer Information.** To ensure that the existence of adaptable features will be known to the owner or occupant of a dwelling, the following consumer information shall be provided in each adaptable dwelling unit available for occupancy:
 1. Notification of the alternate heights available for the kitchen counter and sink, and the existence of removable cabinets and bases, if provided, under counters, sinks and lavatories.
 2. Notification if the provisions for the installation of grab bars at toilets, bathtubs, and showers.
 3. Notification that the dwelling unit is equipped to have a visual emergency alarm installed.
 4. Identification of the location where information and instructions are available for changing the height of counters, removing cabinets and bases, installing a visual emergency alarm system, and installing grab bars.
 5. Notification that the dwelling unit has been designed in accordance with this *Uniform Federal Accessibility Standards*.

In addition, the *parties who will be responsible for making adaptations* shall be provided with the following information:

1. Instructions for adjusting or replacing kitchen counter and sink heights and for removing cabinets.
2. A scale drawing showing methods and locations for the installation of grab bars.
3. A scale drawing showing the location of adjustable or replaceable counter areas and removable cabinets.
4. Identification of the location of any equipment and parts required for adjusting or replacing counter tops, cabinets, and sinks.
5. Instructions for installing a visual emergency alarm system, if the dwelling unit is equipped for such an installation.

 **CBH** prefers funding developments where:

- All units are visitable, i.e. that meet Group 1 unit requirements and are located on an accessible route. Although 521 CMR does not require an elevator in all multifamily dwellings, CBH is likely to only fund units that are on an accessible route.

- All multistory buildings are equipped with elevators^{1 and 2}.
- Group 1 and 2A units are provided in new construction as well as alterations.

521 CMR 9.4: GROUP 2 DWELLING UNITS

In multiple dwellings that are for rent, hire, or lease (but not for sale) and contain 20 or more units, at least 5% of the dwelling units must be Group 2A units. Group 2A units must comply with **521 CMR 9.5, Dwelling Unit Interiors**; and **521 CMR 44, GROUP 2 BATHROOMS**; and **521 CMR 45, GROUP 2 KITCHENS**; and **521 CMR 47, GROUP 2 BEDROOMS**.

⊙ **UFAS 4.1.4(11)(b)&(c)**

(b) Residential occupancies in multiple dwellings where the occupants are primarily permanent in nature, including:

Facilities	Application
Multifamily housing (Apartment houses):	
Federally assisted	5 percent of the total, or at least one unit, whichever is greater, in projects of 15 or more dwelling units, or as determined by the appropriate Federal agency following a local needs assessment conducted by local government bodies or states under applicable regulations.
Federally owned ³	5 percent of the total, or at least one unit, whichever is greater.
Dormitories	5 percent of the total, or at least one unit, whichever is greater.

(c) Residential occupancies in one (1) and two (2) family dwellings where the occupancies are primarily permanent in nature and not classified as preceding residential categories or as institutional.

Facilities	Application
One and two family Dwelling:	

¹ 521 CMR 28.8.2 requires the maximum height of an elevator button to be 54". UFAS 4.10.3 allows a maximum of only 48". Where elevators are provided in federally funded projects the maximum height of the elevator buttons should be 48".

² UFAS 4.10.9 requires that "the floor area of elevator cars provide space for wheelchair users to enter the car, maneuver within reach of the controls, and exit from the car..." Although 521 CMR 28.7 allows a minimum elevator cab size of 48" by 48", the UFAS 4.10.9 may require a larger cab.


³ Although 521 CMR exempts condominiums from Group 2 requirements, UFAS requires 5% of condominiums to be accessible.

Federally assisted, rental	5 percent of the total, or at least one unit, whichever is greater, in projects of 15 or more dwelling units, or as determined by the appropriate Federal agency following a local needs assessment conducted by local government bodies or states under applicable regulations.
Federally assisted, homeownership	To be determined by home buyer.
Federally owned	5 percent of the total, or at least one unit, whichever is greater.

521 CMR 9.5: DWELLING UNIT INTERIORS

521 CMR 9.5.1: Doorways: All doorways⁴ and all openings that allow passage in a *Group 2* unit must comply with **521 CMR 26.2, Double Leaf Doorways**, through **521 CMR 26.11, Door Hardware**. All doorways and all openings that allow passage in *Group 1* units shall be capable of complying, without *structural change*, with **521 CMR 26.2, Double Leaf Doorways**, through **521 CMR 26.11, Door Hardware**. For door types such as bifold, pocket, and accordion doors, the clear opening is measured when the door is in its most fully open position. See Fig. 26b and 26c. For *Group 1* units, only the common area and apartment entrance door hardware are required to comply with **521 CMR 26.11, Door Hardware**.

- ↑ **FHA:** Doors in covered dwelling units must be designed and installed so that there is sufficient maneuvering space and clear floor space at the time of first occupancy.
- ⦿ **UFAS 4.34.2(6)-(7) and 4.13** require that at least one entrance door and all doors that are intended for passage within an accessible dwelling unit be accessible.

 **CBH** prefers funding units where there is a shelf located just outside and just inside the unit entry door.


521 CMR 9.5.4: Accessible routes: An accessible route at least 36 inches (36" = 914mm) wide shall be provided to all rooms and spaces in the *dwelling unit* including exterior decks, patios, balconies, attached garages, and storage closets. An accessible route shall be provided to mechanical spaces, only if the resident is expected to service, adjust or maintain the equipment therein.

- a. Patios, Terraces, and Balconies: Where it is necessary to use a door threshold or a change in level between the interior and exterior, greater than ½ inch (½" = 13mm) to protect the integrity of the unit from water or snow damage, equivalent facilitation such as raised decking or a ramp shall be provided or capable of being provided.

⁴ 521 CMR requires that all entry doors – including garage doors and back doors – be accessible and be on an accessible route to the sidewalk, bus stop, or public way. If a backdoor leads to a stoop, and there are stairs to/from that stoop, a ramp or lift is required at the time of first occupancy. Similarly, if a back door leads to a raised deck, and there are stairs from the deck to the backyard, a ramp or lift is required at the time of first occupancy.

↑ **FHA:** When a secondary exterior door exits onto decks, patios or balcony surfaces constructed of impervious materials, the outside landing surface may be dropped a maximum of 4 inches (4") below the finished floor level of the interior of the dwelling unit (or lower if required by local building code) to prevent water infiltration at door sills. If the exterior surface is constructed of pervious material, such as a wood deck that will drain adequately, that surface must be maintained to within ½ inch (1/2") of the finished interior floor level. At a primary entrance door, the change in level allowed is ½ inch (1/2") for impervious construction, and 0 inches (0") for pervious construction (wood decking with spaces).

⊙ **UFAS 4.34.2(15)(d)** requires that patios, terraces, balconies, and garages be accessible.

 **CBH** prefers to fund developments with more space than state and federal minimum standards require to accommodate individuals in larger wheelchairs and scooters:

- Increased hallway widths
- Generous turning radius for power chairs in all rooms
- More open space, i.e. fewer walls and corners


 **CBH** prefers to fund developments with:

- 24" wall protection (such as wainscoting or other non-institutional material) to protect walls and corners from being damaged by wheel spokes and motors.
- Wood or vinyl floors (versus carpet). Where carpet must be used, it should be a dense, low pile.
- Paddle or rocking light switches located between 15" – 48" AFF.
- Flush transitions from interior to exterior areas.
- Decks, patios, or garden space that include shaded areas.
- Wiring for an automatic door opener in all units so that one can easily be added at a later date.

 **CBH** prefers to fund developments where Group 2 (accessible) unit entrances all have:

- Automatic door openers
- "Straight" approaches with no turns or barriers
- Minimum 36" doors
- Wiring for visual alerting system for doorbells or door knockers

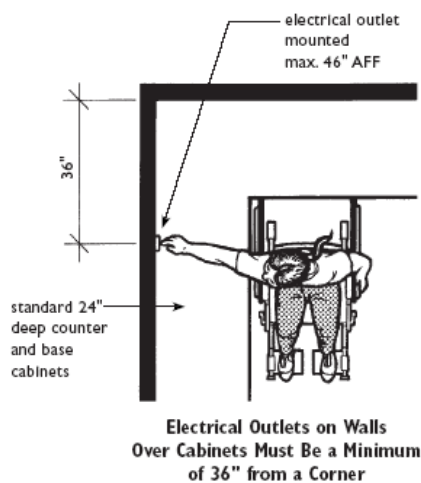
521 CMR 9.5.5 Laundry Facilities: If a washer or dryer is provided in a Group 1 or Group 2A unit, it shall be front loading or capable of being replaced with a front loading appliance. If a washer or dryer is provided in a Group 2B dwelling unit, it shall be front loading. Operating controls for washers and dryers shall be located within the zone of reach. If residents are expected to operate shut off valves for the washer, the shut off valves shall be located within the zone of reach. For common area laundry facilities, see **521 CMR 10.8, Laundry Facilities.**

 **CBH** prefers to fund developments where laundry facilities are accessible to people using wheelchairs and the laundry machines are usable by people with visual disabilities, i.e. with

knob versus LED or soft-panel controls.

521 CMR 9.5.6 Outlets: Electrical outlets, telephone outlets, cable TV jacks, and other wall outlets shall be located between 15 inches (15" = 381mm) and 48 inches (48" = 1219mm) above the floor, measured at the centerline of the lowest receptacle. All outlets shall be located no less than 18 inches (18" = 457mm) from interior corners.⁵ When outlets are located on walls above counters or other fixtures that are 22 inches (22" = 559mm) or greater in depth, they shall be no higher than 44 inches (44" = 1118mm). In *Group 1* and *2* units, at least one electrical outlet must be provided on the same wall as the telephone outlet and the door chime. Wherever exterior decks, patios, and balconies are provided, an exterior electrical outlet shall also be provided. In *Group 2B* units, all telephone outlets must have an electrical outlet located within 12 inches (12" = 305mm) for installation of a *TTY*.

- ↑ **FHA:** Electrical outlets on walls over cabinets must be a minimum of 36" from a corner (see figure below).⁶



🏠 **CBH** prefers to fund developments with additional electrical outlets to accommodate medical equipment and assistive technology. Some of these outlets should be located higher than the minimum 18" AFF.

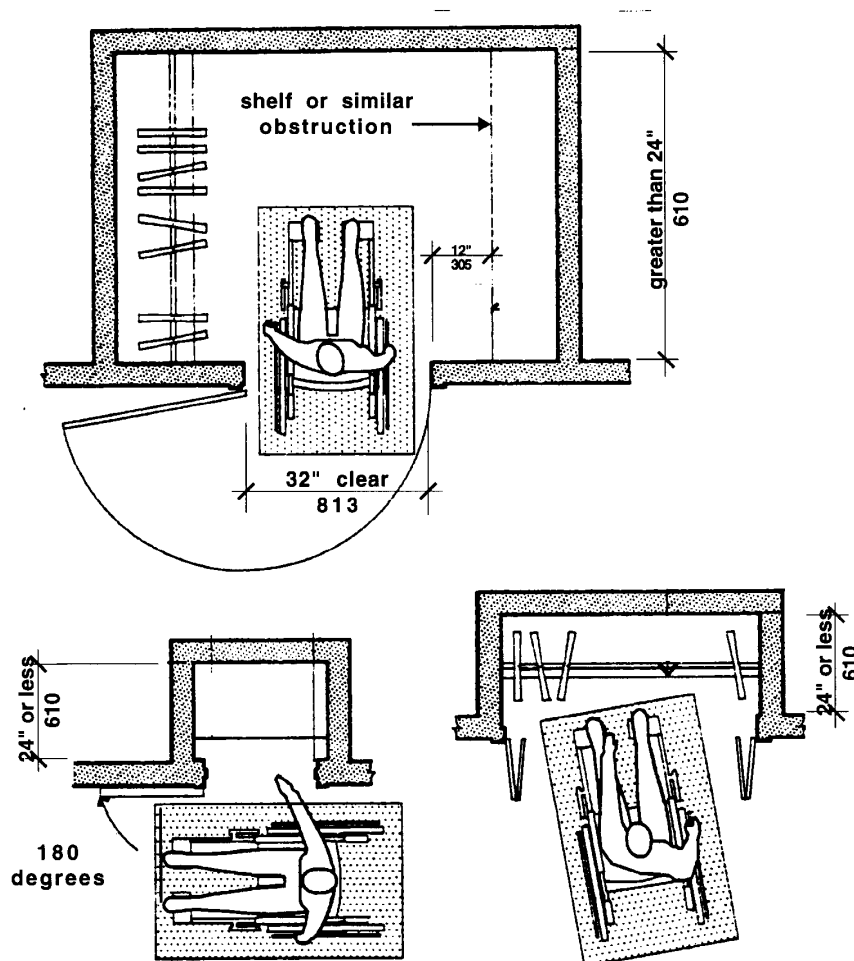
521 CMR 9.5.8 Closets/pantries and linen closets: Shall comply with the following:

- a. Closet shelves/poles: Closet walls shall be structurally capable of supporting the installation of shelves and poles which are relocatable from 42 inches to 72 inches (42" to 72" = 1067mm to 1829mm) to the top of shelf or pole whichever is higher.
- b. Closet depth: Where the interior depth of the closet exceeds 24 inches (24" = 610mm), the doorway must comply with 521 CMR 26.5, Width so that a disabled person can enter the closet. The bottom track of the closet door must also be recessed with no more than 1/4 of an inch (1/4" = 6mm) change in finish material. For *Group 2* units, when the interior

⁵ The Massachusetts Architectural Access Board has published an Advisory Opinion that it is not enforcing the "18" from an interior corner" requirement at unit entrance doors.

⁶ This requirement is not in the FHA Regulations and only appears as a note to an illustration in the FHA Accessible Design Manual.

depth of the closet is 24 inches (24" = 610mm) or less, it shall be open to the room to permit a person with a disability to reach all parts of the closet. See Fig. 9b.



Closets
Figure 9b

CBH prefers to fund developments with:

- Closet layouts that include shallow, wall-length closets with lower shelves and bi-fold doors. While folding doors are considered high maintenance by many housing managers, door that have tracks on the top and bottom will be more successful. Closets should have lowered hangers or at least the ability to have two different height levels.
- At least two (2) additional storage areas. Examples: storage for linens in the bathroom; storage for equipment and durable medical goods in bedroom or other area within the apartment. Where storage is provided outside the units, it should be accessible.

521 CMR 9.6: TOWNHOUSES - GROUP 1 UNITS ONLY**RESERVED until further notice. In the interim, they are exempt.**

↑ **FHA:** When multistory dwelling units are in buildings with elevators, the dwelling unit is covered and the story that is served by the building elevator must be the primary entry to the unit and must meet the requirements of the FHA Guidelines. In multistory units the story that is served by the elevator must:

1. Be the primary entry to the unit,
2. Comply with Requirements 3-7 of the Guidelines for all rooms located on the entry floor level, and

If there is both a bathroom and a powder room on the entry level of a multistory unit, then the bathroom must meet Requirement 7 of the FHA Guidelines and the powder room needs to meet only Requirements 3, 4, and 5 of the FHA Guidelines. In cases where only a powder room is provided on the entry level, it is treated as a bathroom and must:

- a. Be on the accessible route,
- b. Have a door with a 32-inch (32") nominal clear width,
- c. Meet the maneuvering and clear floor space requirements at toilets and lavatories,
- d. Allow the user to enter the room, close the door, use the facilities, and reopen the door to exit,
- e. Have reinforcing around the toilet for future installation of grab bars, and
- f. Have switches, outlets, and controls in accessible locations.

⦿ **UFAS** does not exempt Townhouse units. UFAS 4.34.2(15) does require that the following spaces be on an accessible route:


- a. The living area
- b. The dining area
- c. The sleeping area, or the bedroom in one bedroom dwelling unit, or at least two bedrooms or sleeping spaces in dwelling units with two or more bedrooms

 **CBH** *has a strong preference for flats v. townhouse units.*

521 CMR 9.7 SLEEPING ACCOMMODATIONS FOR PERSONS WHO ARE DEAF OR HARD OF HEARING.


In addition to those units required to be accessible by 521 CMR 9.4, Group 2 Dwelling Units, 2% of the total number of dwelling units in the complex or project, but not less than one shall comply with the following:

....

 **CBH** *prefers that all units it funds are wired for the future installation of smoke/fire/safety alarms, visual signal devices, telephones, televisions, alarm clocks, and climate controls so that any unit can easily be modified for persons with hearing disabilities.*

521 CMR 10.00: PUBLIC USE AND COMMON USE SPACES IN MULTIPLE DWELLINGS**521 CMR 10.1: GENERAL**


The public use and common use spaces of multiple dwellings in existing buildings consisting of twelve or more units in a building, shall be accessible and shall comply with 521 CMR. The public use and common use spaces of multiple dwellings in new construction consisting of three or more units shall comply with 521 CMR. Public and common use spaces are those spaces inside or outside a building that are used by residents and/or visitors. Public use and common use spaces shall include but not be limited to community facilities, meeting rooms, restaurants, recreation spaces¹, health facilities, pools, public toilet rooms, laundry areas, trash areas, storage areas, mailboxes, walks, sidewalks, parking lots and garages, entrances, elevators, lobbies and foyers, as well as corridors and stairways leading to dwelling units.

 *CBH prefers to fund developments where all public use and common use spaces are accessible, regardless of the number of units in each building. The public use and common use spaces in developments with fewer than twelve (12) units per building should be accessible.*

521 CMR 10.2: ACCESSIBLE ROUTES

There shall be an *accessible route* at least 36 inches (36" = 914mm) wide connecting *accessible parking, accessible entrances, public and common use spaces, and dwelling units*. Wherever possible, the *accessible route* shall be the shortest possible route, see **521 CMR 20, ACCESSIBLE ROUTE**.

- ↑ **FHA:** FHA references ANSI A117.1 (1986) for common use areas. It has two standards that require greater access than 521 CMR:
1. Detectable warnings where a walk crosses a vehicular way without curb cuts or rails, and at the top and bottom of stairs except those in dwelling units, enclosed stair towers, or set to the side of the path of travel. See 1986 ANSI Figs. 40 & 42.

 *CBH prefers funding developments where accessible routes are wider than 36" whenever possible.*

¹ 521 CMR 19.7 requires "an accessible route be provided to reach playground equipment and around that playground equipment." ADAAG 15.6 provides technical requirements for playgrounds. Although this section of ADAAG is not yet enforceable, it provides excellent guidance for meeting the ADA's general prohibition against discrimination in the design and construction of playground facilities that are "readily accessible to and useable by" people with disabilities.

521 CMR 10.3: PARKING SPACES FOR DWELLING UNIT OCCUPANTS


Where parking is provided, it shall comply or be capable of complying with the provisions of **521 CMR 23.2, Number** through **521 CMR 23.8, Valet Parking**.² The number of accessible spaces shall not be limited in number by **521 CMR 23.2.1, Number** but shall be provided in sufficient numbers to meet the needs of the *dwelling unit* occupants.³ If parking spaces are assigned to individual units, those spaces designated for accessible units shall have *signage* reserving said space. An international symbol of accessibility need not be used.

↑ **FHA:** FHA requires a minimum of two percent (2%) of the parking spaces serving covered dwelling units be made accessible (ANSI A117.1-1986) and be located on an accessible route. For example, if 100 units are covered, then a minimum of two accessible spaces is required. If the development provides different types of parking, such as surface parking, garage, or covered spaces, at least one of each must be made accessible. At least one space for each type of parking should be made accessible even if this number exceeds two percent. ANSI A117.1-1986 specifies vertical clearance of 108" at accessible passenger loading zones.

⊙ **UFAS 4.1.1(5)(d)(i-ii)**

(d) Parking spaces at accessible housing complying with 4.6 shall be provided in accordance with the following:

- (i). Where parking is provided for all residents, one accessible parking space shall be provided for each accessible dwelling unit; and
- (ii). Where parking is provided for only a portion of the residents, an accessible parking space shall be provided on request of the occupant of an accessible unit


 **CBH prefers funding projects where accessible parking is provided for each accessible unit. If covered parking or garage parking is available, accessible parking should be included there. Direct, i.e. covered, access between the garage and the development is preferred.**

521 CMR 10.3.1 Visitor Parking Spaces: Where parking is provided for visitors, it shall comply fully with the requirements of **521 CMR 23, PARKING AND PASSENGER LOADING ZONES**.

↑ **FHA:** FHA requires a minimum vertical clearance of 108" at accessible passenger loading zones.

521 CMR 10.4: DOORS

All doorways and openings located in *common use* and *public use* spaces, and along accessible routes shall comply with **521 CMR 26.2, Revolving Doors** through **521 CMR 26.11, Door Hardware**.

 **CBH prefers to fund projects where all common entrance and interior doors have automatic door openers and intercom systems with visual and audible components so that they are accessible to persons who are deaf or hard of hearing and to people who are blind or have limited sight.**

² AAB requires that garages serving individual units provide 98" vertical clearance and be capable of providing a van accessible parking space (8'-0" wide) and adjacent access aisle (8'-0" wide).

³ The Mass. Architectural Access Board has provided guidance that the development should be capable of providing at least 5% of the parking spaces as accessible spaces.


- ⦿ **UFAS 4.13.12** requires that power operated doors meet ANSI A156.10.1979. Where power operated doors are provided include this ANSI reference in the specifications.

521 CMR 10.5: STORAGE (✓)
521 CMR 10.6: ALARMS (✓)
521 CMR 10.7: HEIGHT OF CONTROLS (✓)

521 CMR 10.8: LAUNDRY FACILITIES

521 CMR 10.8.1 Location: Laundry facilities shall be on an accessible level and on an accessible route.

- ↑ **FHA:** FHA requires 30" x 48" clear floor space allowing either a front or parallel approach be provided in front of at least one of each type of appliance, soap dispenser, and other elements (sink, folding table, etc.) within the laundry area. It also requires a 60" or T-turning radius within the room.

 CBH prefers to fund developments where laundry facilities are accessible to people using wheelchairs and the laundry machines are usable by people with visual disabilities, i.e. with knob versus LED or soft-panel controls.


521 CMR 10.9: KITCHEN FACILITIES

Sinks, counters, and cooking facilities provided in common use spaces shall comply with **521 CMR 32, KITCHENS.**

 CBH prefers to fund developments where common use kitchen facilities provide 66" minimum turning radius

TRASH FACILITIES⁴

- ↑ **FHA:** FHA specifically requires clear maneuvering space outside the swing of the door on both sides of the door to trash areas; 30" x 48" clear floor space allowing either a front or parallel approach at one of each type of trash or recycle bin; and a 60" or T-turning radius within the room.


 CBH prefers to fund developments with a trash room that provides minimum 66" turning radius

MAILBOXES⁵

- ↑ **FHA:** FHA references ANSI for common use spaces. ANSI does not contain specifications for mailboxes. Therefore the FHA Design Manual recommends using performance specifications such as those outlined in ANSI 4.2 Space Allowances and Reach Ranges, 4.3 Accessible Route, 4.4 Protruding Objects, 4.5 Ground and Floor Surfaces, 4.25 Controls and Operating Mechanisms.

⁴ Although not explicit, 521 CMR requires that trash facilities be on an accessible route and be accessible to residents with disabilities.

⁵ Although not explicit, 521 CMR requires that mailboxes be on an accessible route and be accessible to residents with disabilities.

 **CBH** prefers to fund developments with mailboxes that can be used independently by people with disabilities. At least a portion of the mailboxes should be located within accessible reach ranges; and management should permit relocation of a tenant's mailbox, if needed, to accommodate his/her disability.

521 CMR 42.00: GROUP 1 BATHROOMS**521 CMR 42.1 GENERAL**

In *Group 1 dwelling units*, (see **521 CMR 9.2, Applicability**) *bathrooms and half bathrooms* shall comply with the following:

521 CMR 42.1.1 Number: ¹ If more than one *bathroom* is provided, whether a full bath or *half bath*, and one *bathroom* is a *captive bathroom* (a *bathroom* only entered through a bedroom) then both must comply unless the *captive bathroom* has two entries, one from the *bedroom* and one from the *corridor*, then only the *captive bathroom* is required to comply. If two common *bathrooms* are provided, then only one full *bathroom* must comply. If two *captive bathrooms* are provided, then both must comply.

↑ **FHA:** FHA requires that all bathrooms must:

1. Be on an accessible route
2. Have 32" nominal clear width doorways
3. Have switches, outlets, and controls in accessible locations
4. Have reinforcing around toilets, tubs, and showers, and
5. Meet the clear floor space requirement of Specification A or B.

Developers choose between two types of full bathrooms – Specification A and Specification B – with different requirements for clear floor space. If Specification A is used, it applies to all bathrooms, and all fixtures in those bathrooms must be usable. If Specification B is used, it applies to one bathroom, and one of each type of fixture must be usable. Additional bathrooms in the unit are exempt only from maneuvering and clear floor space requirements at fixtures.²

521 CMR 42.4-6: Requires that 'clear space shall be provided or be capable of being provided without structural change' at doors, water closets, and sinks.

↑ **FHA:** FHA requires that doors are hung at the time of first occupancy so that clear floor space is provided within the bathrooms; and that knee spaces have walls and floor surfaces finished at the time of first occupancy, even if covered by a removable base cabinet.

521 CMR 42.6.1 Vanity Cabinets: If a cabinet is provided under a sink, it shall be capable of being removed without structural change.


 **CBH** *prefers to fund units with no vanities.*

521 CMR 42.7: BATHING FIXTURES

If more than one bathing fixture is provided in a bathroom, at least one must meet the requirements of 521 CMR 42

¹ UFAS has no requirement comparable to 521 CMR's Group 1 requirements or FHA's requirements 'usable' standards. UFAS requirements, where more stringent than 521 CMR, will appear in 521 CMR 44: Group 2 Bathrooms.


² The 521 CMR and FHA analysis must be done separately, and both minimum requirements must be met.

 **CBH** prefers to fund units with:

- Blocking in place for grab bars in all units
- Roll-in, rimless showers in one- and two-bedroom units. These should have a flush transition and protective, waterproof membranes under the door inside and outside the shower area.
- Combination roll-in showers and tubs in larger size units such as 3 and 4 bedroom units.

521 42.7.1 Bathtubs shall comply with the following:

- a. Size: Bathtubs shall be at least a nominal 60 inches (60" = 1524mm) long.
- b. Clear Floor Space: At the bathtub, as defined in **521 CMR 42.2, Clear Floor Space** shall be parallel to the face of the tub.
- c.
- d.

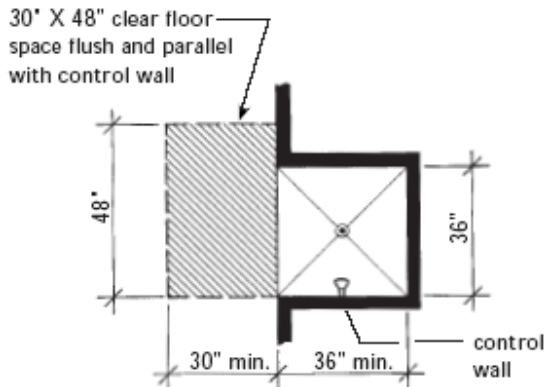
 **CBH:** In units that are accessible, CBH prefers to fund units with roll-in showers. However, when there is a tub, CBH prefers:

- Shelf within tubs and showers for storing bathing amenities (soap, shampoo, etc.).
- A tub sturdy enough to support a lift. The tub should not be fiberglass.
- Full, 48" parallel access to tubs (v. 30" front approach).
- Tub with wide edge or rim seat to facilitate transfer or assistance.
- Tub controls mounted close to the open side of the end wall for easier access from within or out of the tub.
- Clear Hot/Cold markings - easy to see and understand.

521 CMR 42.7.2: Showers shall comply with the following:

- a.
- b. Minimum Clear Floor Space: At the shower, as defined in **521 CMR 42.2, Clear Floor Space** shall be located parallel to and centered on the shower stall opening.
- c. – g.

 **FHA:** FHA does not allow any fixture to overlap the clear floor space at a 36" x 36" shower.



Guideline Requirements for Clear Floor Space at Showers

NOTE: The requirements of 521CMR and FHA are intended to be the same. The FHA illustration makes the requirement very clear.



CBH prefers to fund units where:

- There is adequate space for a wheelchair to extend beyond the shower wall of a transfer shower (only when a roll-in shower is not feasible).
- There are clear Hot/Cold markings that are easy to see and understand

521 CMR 42.8: OUTLETS AND CONTROLS

Shall comply with **521 CMR 39, CONTROLS.**



FHA: FHA requires that outlets over cabinets be located at least 36" from a corner when located over a counter.



CBH prefers to fund units where outlets and 'medicine cabinets' are located adjacent to the sink so they are reachable without moving or reaching across the sink.

521 CMR 43.00: GROUP 1 KITCHENS

521 CMR 43.1: GENERAL

In all Group 1 Dwelling units, kitchens shall be designed so that when a unit is adapted a person in a wheelchair has access to the sink, cooking surface, refrigerator, and a food preparation surface and can turn around without having to leave the kitchen. ¹

521 CMR 43.2: CLEAR FLOOR SPACE

Shall be measured at the face of the base cabinets or appliances, (excluding cabinet hardware and appliance hardware) and shall be provided at the time of first occupancy as follows:

- ↑ **FHA:** Unless knee space is provided, a 30" x 48" clear floor space to execute a parallel approach must be provided at ranges, cooktops, and sinks. The parallel clear floor space at ranges, cooktops, and sinks must be centered on the bowl or appliance. The clear floor space at the refrigerator can be a forward or parallel approach, but must be centered.

A 30" x 48" clear floor space oriented for front or parallel approach is required at the oven, dishwasher, refrigerator, freezer, trash compactor, wall-mounted oven, and microwave oven.

521 CMR 43.2.2

U-shaped kitchens shall provide a minimum *clear floor space* of 48 inches (48" = 1219mm) between opposing base cabinets or appliances.

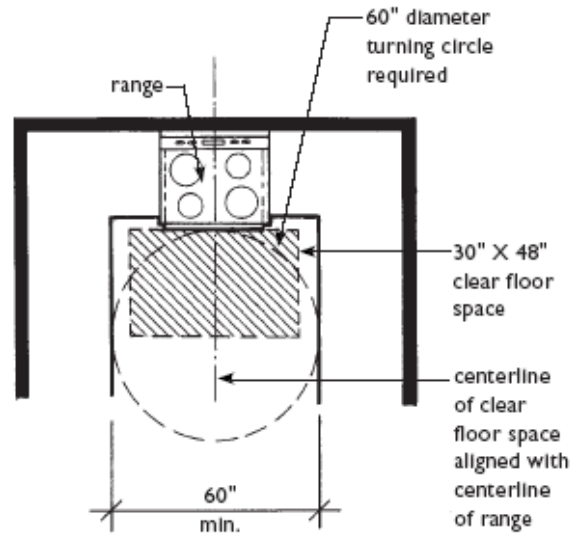
- ↑ **FHA:** A 60-inch (60") diameter turning circle is required in a U-shaped kitchen that has a sink, range, or cooktop at its base....

In addition to the turning space, the kitchen must be arranged so there is a 30-inch (30") x 48-inch (48") clear floor space for a parallel approach centered on the sink, range, or cooktop. The centerline of the fixture or appliance must be aligned with the centerline of the clear floor space.

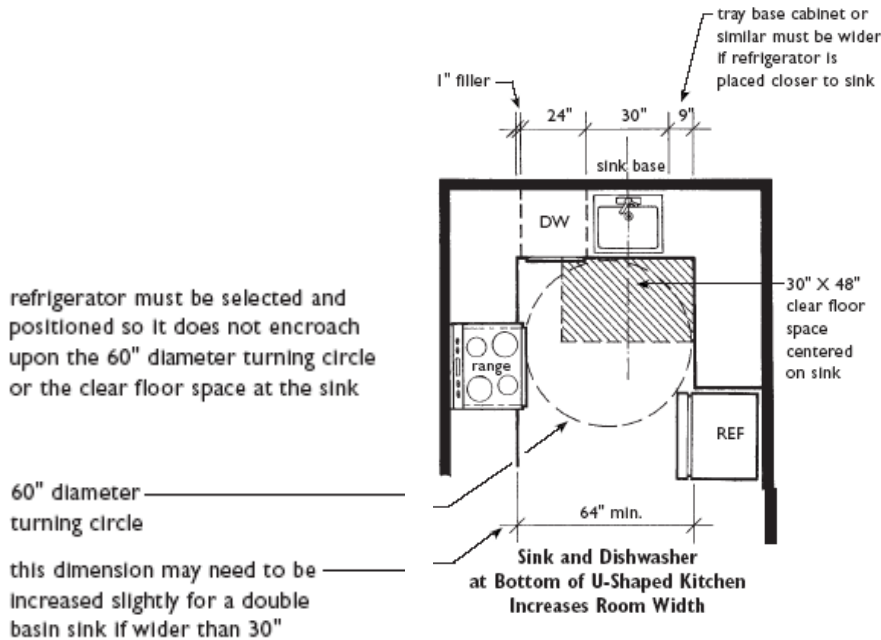
When a sink, even a standard single basin sink, is at the bottom of the U and a dishwashing machine is planned to be included adjacent to the sink, the distance between the legs of the U must be greater than 60-inches (60") to allow for a full centered approach at the sink.


EXCEPTION: Where there is a sink or cooktop at the base of a U-shaped kitchen and there is a removable base cabinet below, then a minimum clearance of 40-inches (40") is required.

¹ UFAS has no requirement comparable to 521 CMR's Group 1 requirements or FHA's requirements 'usable' standards. UFAS requirements, where more stringent than 521 CMR, will appear in 521 CMR 44: Group 2 Bathrooms.



60" Diameter Turning Circle when Sink (Only), Cooktop, or Range is at Bottom of U-Shaped Kitchen



 CBH prefers to fund units with a minimum 66" turning radius for power wheelchairs and scooters.

521 CMR 43.3: SINKS

Shall comply with the following:

521 CMR 43.3.1 Sink Cabinet: The base cabinet under the sink shall be capable of being removed to provide a kneespace of 30 inches (30" = 762mm) in width.


- ↑ **FHA:** FHA requires that knee spaces have walls and floor surfaces finished at the time of first occupancy, even if covered by a removable base cabinet.²

521 CMR 43.4.1 In-Counter cooktops: If a cooktop is provided, its base cabinet shall be capable of being removed to provide future kneespace the width of the cooktop but not less than 30 inches (30" = 762mm) wide. Cooktops shall have controls located at the front or side of the unit.

- ↑ **FHA:** FHA requires that knee spaces have walls and floor surfaces finished at the time of first occupancy, even if covered by a removable base cabinet.³

521 CMR 43.5: WALL CABINETS


Walls shall be capable of structurally supporting wall cabinets at any location from 42 inches to 54 inches (42" to 54" = 1067mm to 1372mm) from the floor to the bottom of the inside of the cabinet.

-  **CBH** *prefers to fund units where there is a shelf mounted below the lowest overhead cabinets for easy access to frequently used items.*

521 CMR 43.6: BASE CABINETS

Each base cabinet shall be capable of being removed to provide kneespace for persons using wheelchairs.


- ↑ **FHA:** FHA requires that knee spaces have walls and floor surfaces finished at the time of first occupancy, even if covered by a removable base cabinet.

-  **CBH** *prefers to fund units in new construction and alterations with:*
 - *Adaptable levels for cabinets, food prep areas, and sinks.*
 - *Sliding interior storage doors and "round-about" corner cabinets.*

521 CMR 43.7: REFRIGERATORS

Space shall be provided so that the refrigerator can be located so that its doors can be opened to 180 degrees. If doors cannot be opened to 180 degrees, a minimum of 30 inches (30" = 762mm) of counter space next to the refrigerator shall be provided.

- ↑ **FHA:** Refrigerator cannot encroach on the 40" - 60" minimum clear width in the kitchen (depending on kitchen layout).⁴

-  **CBH** *prefers to fund units that provide:*
 - *Side by side refrigerator/freezer with doors that can be opened 180°.*
 - *Counter space immediately adjacent to the refrigerator.*

² Although not explicit in its regulations the Mass. Architectural Access Board enforces the same "finish" standards as the FHA.


³ Ibid.

⁴ The depth of the actual refrigerator is often greater than shown on the plans, resulting in inadequate clear floor space in the built condition.

521 CMR 43.8: OUTLETS AND CONTROLS

Shall comply with **521 CMR 39, CONTROLS**.

- ↑ **FHA:** FHA requires that outlets over cabinets be located at least 36" from a corner when located over a counter.

-  **CBH** prefers to fund units with kitchen appliances that have sound- or touch-based on-off ignitions for burners and stove and are not LED, as these are not usable by people who are blind or have sight impairments.

521 CMR 44.00: GROUP 2 BATHROOMS**521 CMR 44.1: GENERAL (✓)****521 CMR 44.2: WHEELCHAIR TURNING SPACE (✓)****521 CMR 44.3: DOORS**

Shall comply with 521 CMR 26.5, Width through 521 CMR 26.11, Door Hardware. Doors shall swing out, fold or slide. Doors may swing into the bathroom only if the door does not impede the wheelchair turning space.

⦿ **UFAS 4.34.5.1 DOORS**

Doors shall not swing into the clear floor space required for any fixture.

521 CMR 44.4: WATER CLOSETS (✓)**521 CMR 44.5: SINKS**

Shall comply with the following:

....

521 CMR 44.5.2 Vanity Cabinets: Where a cabinet or vanity is provided under a sink, it shall be removable or replaceable to provide a knee space that complies with 521 CMR 44.5.4 and 44.5.5.

....

 **CBH prefers to fund units with:**

- No vanities
- Outlet and 'medicine cabinet' located adjacent to sink so it is reachable without moving or reaching across the sink.

521 CMR 44.6: BATHING FIXTURES

If more than one bathing fixture is provided in a *dwelling unit*, one shall be a shower unit complying with **521 CMR 44.6.2**. If a jacuzzi or whirlpool tub is the only bathing facility, it must meet the requirements of **521 CMR 44.6.1**. Where one bathing fixture is provided it may be either a shower unit or a bathtub.

 **CBH prefers to fund units with:**

- Roll-in, rimless showers in one- and two-bedroom units. These should have a flush transition and protective, waterproof membranes under the door inside and outside the shower area.
- Combination roll-in showers and tubs in larger size units such as 3 and 4 bedroom units.

521 CMR 44.6.1

Bathtubs shall comply with the following:

- a. Fixtures: Bathtubs shall be a minimum, nominal dimension of 60 inches (60" = 1524mm) long. The rim shall be between 16 and 18 inches (16" and 18" = 406mm and 457mm) above the floor.
- b. Minimum floor area: A clear floor area 30 inches (30" = 762mm) wide and at least 72 inches (72" = 1829mm) long shall be provided adjacent to the tub. At least 12 inches (12" = 305mm) of

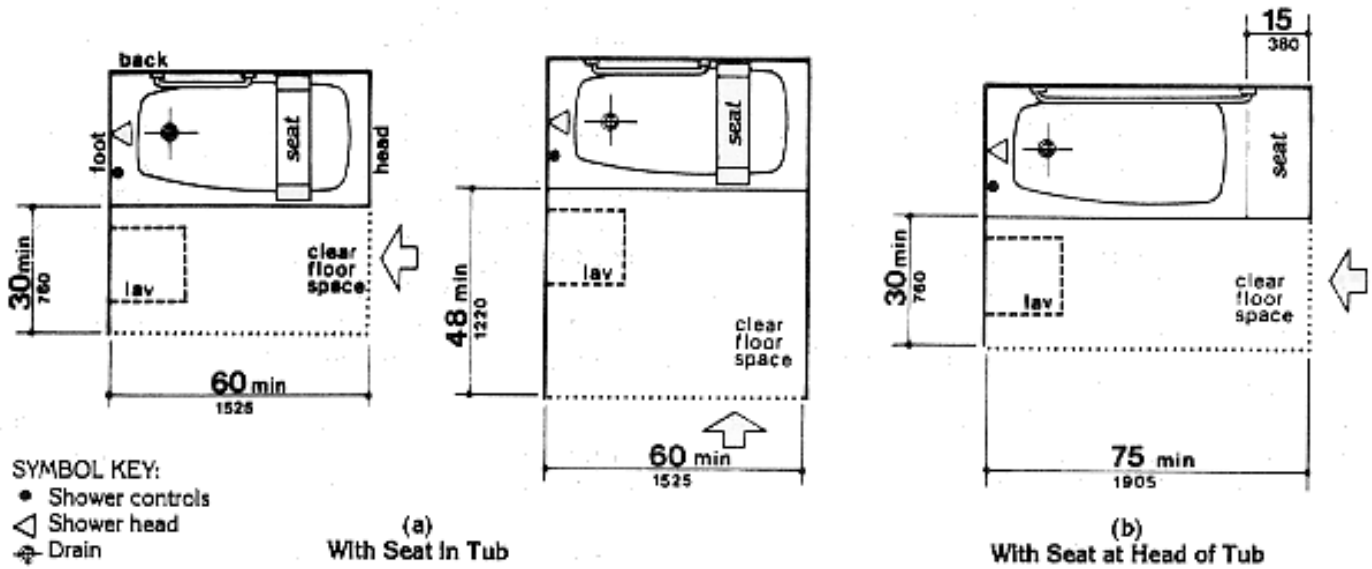
the *clear floor* area length shall extend beyond the drain end of the tub if the tub is 60 inches (60" = 1524mm) long.

- c. Wall reinforcement: All walls of the tub shall have structural reinforcement to allow the future installation of grab bars at any location from the rim of the tub to a height of 60 inches (60" = 1524m) above the tub bottom.
- d. Tub material: Plastic or fiberglass tubs shall be structurally capable of accepting the installation of a lift that clamps onto the rim.
- e. Hardware: Faucets shall be operable with a closed fist and shall not require grasping, pinching, or twisting of the wrist.
- f. Hardware location: Faucets and mixing valves shall be centered horizontally on the long wall of the tub, 28 inches (28" = 711mm) above the floor. The tub spout shall be located on the end wall above the drain and a shower head may be located on either the end wall or long wall. If hardware is installed in locations other than those specified, piping shall also be provided and capped in the wall.
- g. Hand-held showers: A hand-held shower head with a flow regulator, attached to a 60 inch (60" = 1524mm) long flexible hose and an adjustable mounting bar, shall be provided or be capable of being installed on the long wall of the tub.

☉ **UFAS 4.34.5.4 BATHTUBS.** If a bathtub is provided, then it shall have the following features:¹

- (1) Floor space. Clear floor space at bathtubs shall be as shown in Fig. 33.
- (2) Seat. An in-tub seat or a seat at the head end of the tub shall be provided as shown in Fig. 33 and 34. The structural strength of seats and their attachments shall comply with 4.26.3. Seats shall be mounted securely and shall not slip during use.
- (3) Grab bars. Structural reinforcement or other provisions that will allow installation of grab bars shall be provided in the locations shown in Fig. 48. If provided, grab bars shall be installed as shown in Fig. 34 and shall comply with 4.26.
- (4) Controls. Faucets and other controls shall be located as shown in Fig. 34 and shall comply with 4.27.4.
- (5) Shower unit. A shower spray unit with a hose at least 60 in (1525 mm) long that can be used as a fixed shower head or as a hand-held shower shall be provided.

¹ 521 CMR requires tub controls centered on the long wall; UFAS requires tub controls to be offset along the head wall and closest to the open side of the tub. The only way to satisfy both is to have two sets of controls.



UFAS Figure 33
 Clear Floor Space at Bathtubs

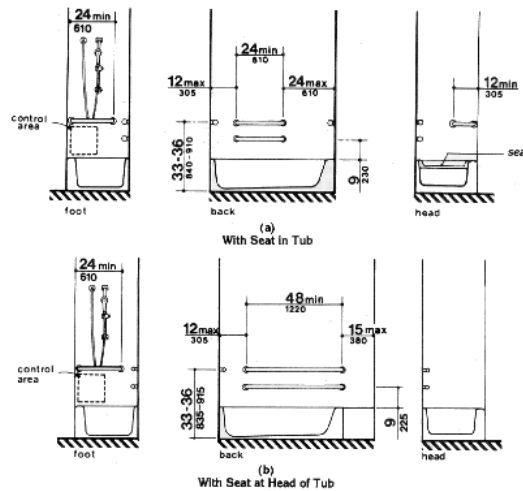


Figure 34
 Grab Bars at Bathtubs

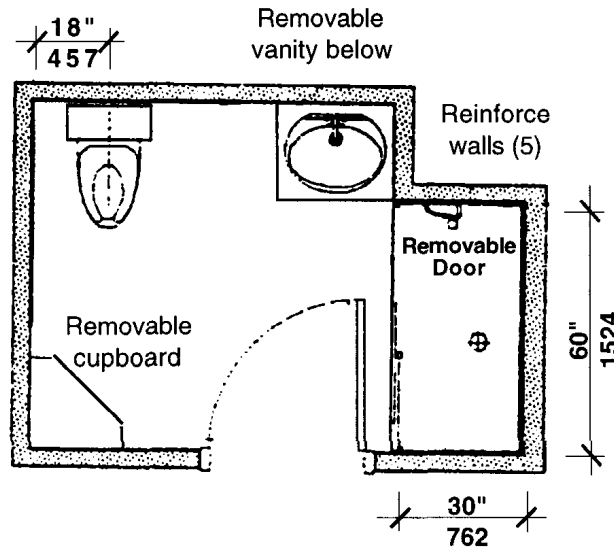
CBH prefers to fund units with:

- Shelf within tubs and showers for storing bathing amenities (soap, shampoo, etc.).
- A tub sturdy enough to support a lift. The tub should not be fiberglass.
- Full, 60" parallel access to tubs.
- Tub with wide edge or rim seat to facilitate transfer or assistance.
- Tub controls mounted close to the open side of the end wall for easier access from within or out of the tub.

- Clear Hot/Cold markings - easy to see and understand.

521 CMR 44.6.2 Showers shall comply with the following:

- a. Fixture size: The shower shall be the wheel-in type with a minimum, nominal size of 30 inches by 60 inches (30" x 60" = 762mm x 1524mm). The long side shall be fully open. In the alternative, the stall may be 36 by 60 inches (36" x 60" = 914mm x 1524mm) with a 24 inch (24" = 610mm) wing wall on the 60 inch (60" = 1524mm) side. The slope of the shower floor shall not exceed 2%. The curb shall have no more than a ½ inch (½" = 13mm) maximum lip, beveled at a slope no steeper than 1:2. See **Fig. 44b**.



**Group 2A Bathroom w/shower
Figure 44c**

- b. Wall reinforcement: All walls of the shower shall have structural reinforcement to allow the future installation of a seat and grab bars, at any location from the floor to a height of 60 inches (60" = 1524mm) above the floor.

In Group 2B bathrooms, one grab bar 48 inches (48" = 1219mm) long shall be installed on the long wall, at a height of 36 inches (36" = 914mm) above the floor.

- c. Seat: A hinged, padded shower seat shall be installed or be capable of being installed on a wall adjacent to the opening. The seat shall be mounted with the edge as close as possible to the opening to provide a safe transfer. The top of the seat shall be 17 to 19 inches (17" to 19" = 432mm to 483mm) above the shower floor.
- e. Hardware location: Mixing valves shall be centered horizontally on the long wall. The centerline of the control shall be mounted 38 inches to 48 inches (38" – 48" = 965mm to 1219mm) above the shower floor.
- f. Hand held shower: A hand held shower head attached to a 60 inch (60" = 1524mm) long flexible hose and an adjustable mounting bar shall be provided or be capable of being installed in the shower.

☉ **UFAS 4.34.5.5 SHOWERS.** If a shower is provided, it shall have the following features:

- (4) Controls. Faucets and other controls shall be located as shown in Fig. 37 and shall comply with 4.27.4.

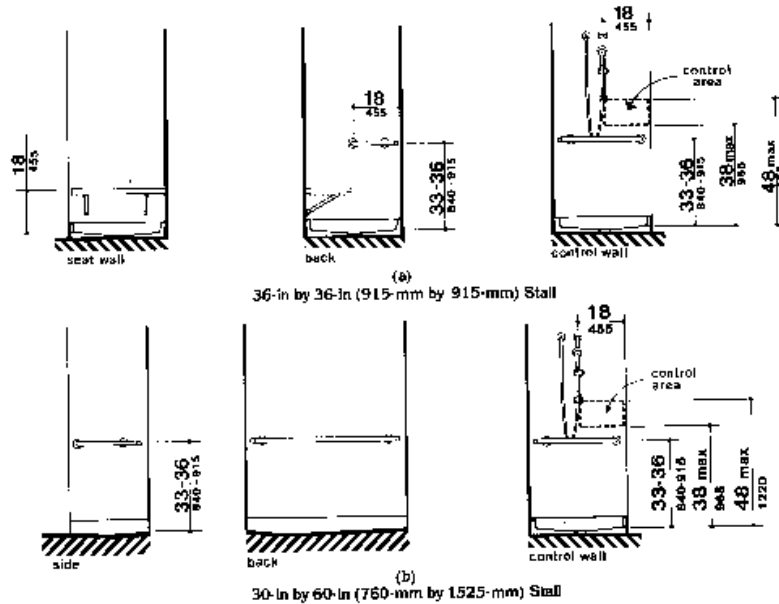



Figure 37
Grab Bars at Shower Stalls

UFAS 4.34.5.6 BATHTUB AND SHOWER ENCLOSURES. Enclosures for bathtubs or shower stalls shall not obstruct controls or transfer from wheelchairs onto shower or bathtub seats. Enclosures on bathtubs shall not have tracks mounted on their rims.²

 **CBH prefers to fund units where:**

- There is adequate space for a wheelchair to extend beyond the shower wall of a transfer shower (when a roll-in shower is not feasible).
- There are clear Hot/Cold markings that are easy to see and understand.

521 CMR 44.8: MIRRORS

Shall comply with the following:

521 CMR 44.8.1


A mirror over a sink shall be installed at or be capable of being relocated to a height of 40 inches (40" = 1016mm) from the floor to the bottom edge of the mirror's reflecting surface.

- ☉ **UFAS 4.34.5.3(3)** If a medicine cabinet is provided above the lavatory, then the bottom of the medicine cabinet shall be located with a usable shelf no higher than 44 in (1120cm) above the floor.

² 521 CMR requires tub controls centered on the long wall; UFAS requires tub controls to be offset along the head wall and closest to the open side of the tub. The only way to satisfy both is to have two sets of controls.

521 CMR 44.9: MEDICINE CABINETS

If medicine cabinets are provided, one medicine cabinet shall be installed or be capable of being relocated so that the inside bottom surface is at a height of 40 inches (40" = 1016mm) above the floor. If the medicine cabinet is also the only mirror, the bottom of the mirror shall be no higher than 40 inches (40" = 1016mm) above the floor.

 **CBH** *prefers to fund units where medicine cabinets are located adjacent to sink so it is reachable without moving or reaching across the sink.*

521 CMR 45.00: GROUP 2 KITCHENS

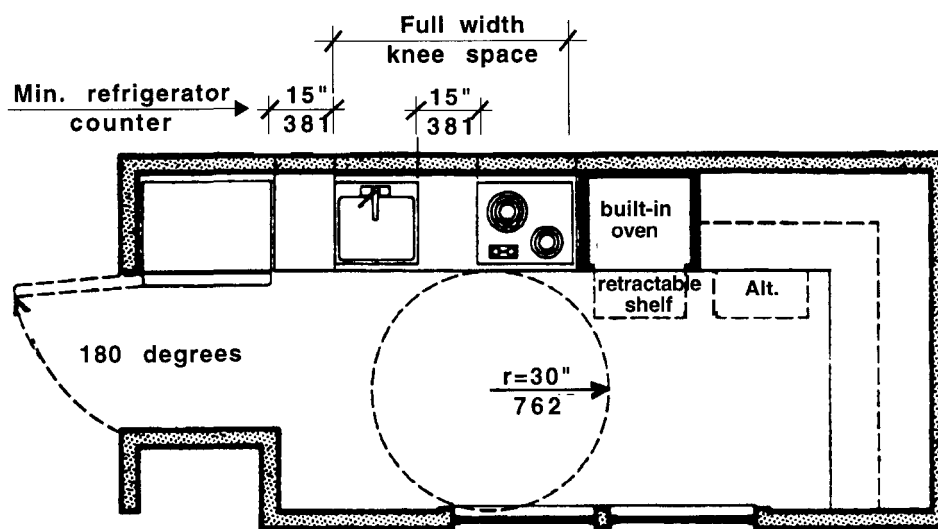
521 CMR 45.1: GENERAL

In all dwellings required to be Group 2A units (see 521 CMR 9.4 Group 2 Dwelling Units) all kitchens shall comply with 521 CMR 45, exclusive of the bold and italicized text which refers to Group 2B units. In facilities required to provide Group 2B units, such as hotels, motels, and inns, the kitchen shall comply with 521 CMR 45 plus the bold and italicized text that refers to Group 2B units.


521 CMR 45.2: CLEAR FLOOR SPACE (✓)

521 CMR 45.3: WHEELCHAIR TURNING SPACE

Shall comply with **521 CMR 6.3**, Wheelchair Turning Space, to permit a person using a wheelchair to turn around without coming into contact with any fixtures. In addition, when a sink and a cooktop are located 15 inches (or less) ($15" = 381\text{mm}$) apart, the counter shall provide or shall be capable of providing continuous clear knee space at least 29 inches ($29" = 737\text{mm}$) in height. See Fig. 45a.



Group 2 Kitchen
Figure 45a

 CBH prefers to fund units with a minimum 66" turning radius for power wheelchairs and scooters.

521 CMR 45.4: SINKS (✓)

521 CMR 45.5: COOKTOPS (✓)

521 CMR 45.5.3

Height: The cooktop shall be capable of being relocated vertically in the future, without *structural change* to the walls of the kitchen.

☉ UFAS 4.34.6.6 Ranges and Cooktops

...If ovens or cooktops have knee spaces underneath, then they shall be insulated or otherwise protected on the exposed contact surfaces to prevent burns, abrasions, or electrical shock...

521 CMR 45.6: OVENS


All microwave ovens, if built-in, and at least one conventional oven shall comply with the following:

521 CMR 45.6.3

Control location: Oven controls shall be located within the zone of reach as defined by 521 CMR.

☉ UFAS 4.34.6.7

...Ovens shall have controls on front panels; they may be located on either side of the door.

 **CBH** prefers to fund units with kitchen appliances that have sound- or touch-based on-off ignitions for burners and stove and are not LED, as these are not usable by people who are blind or have sight impairments.

521 CMR 45.7: WALL CABINETS

Walls shall be capable of structurally supporting wall cabinets so that the inside bottom surface of the cabinet is capable of being located between 42 inches (42" = 1067mm) and 54 inches (54" = 1372mm) above the floor.

☉ **UFAS 4.34.6.10(1) KITCHEN STORAGE:** Cabinets, drawers, and shelf areas shall comply with 4.25 and shall have the following features:

1. Maximum height shall be 48" for at least one shelf of all cabinets and storage shelves mounted above work counters (see Fig. 50)
2. Door pulls or handles for wall cabinets shall be mounted as close to the bottom of cabinet doors as possible. Door pulls or handles for base cabinets shall be mounted as close to the top of cabinet doors as possible.

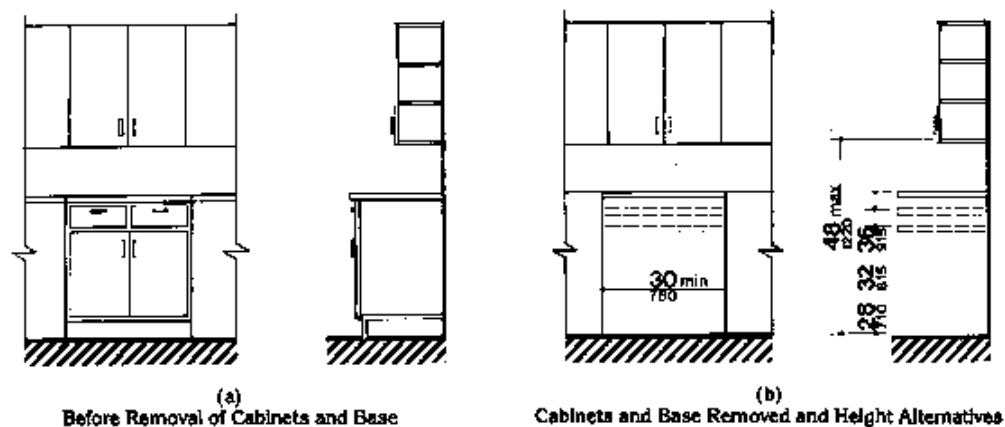



Figure 50
Counter Work Surface

 **CBH:** Prefers to fund units where there is a shelf mounted below the lowest overhead cabinets for easy access to frequently used items.

521 CMR 45.8: BASE CABINETS

Shall comply with the following:

521 CMR 45.8.1

Each cabinet shall be capable of being removed to provide *clear* kneespace for persons using wheelchairs.¹

- ◎ **UFAS 4.34.6.4 WORK SURFACES:** At least one 30" section of counter shall provide a work surface that complies with the following requirements (see Fig. 50:
 - (1) The counter shall be mounted at a maximum height of 34 in (865 mm) above the floor, measured from the floor to the top of the counter surface, or shall be adjustable or replaceable as a unit to provide alternative heights of 28 in, 32 in, and 36 in (710 mm, 815 mm, and 915 mm), measured from the top of the counter surface.
 - (2) Base cabinets, if provided, shall be removable under the full 30 in (760 mm) minimum frontage of the counter. The finished floor shall extend under the counter to the wall.
 - (3) Counter thickness and supporting structure shall be 2 in (50 mm) maximum over the required clear area.
 - (4) A clear floor space 30 in by 48 in (760 mm by 1220 mm) shall allow a forward approach to the counter. Nineteen inches (485 mm) maximum of the clear floor space may extend underneath the counter. The knee space shall have a minimum clear width of 30 in (760 mm) and a minimum clear depth of 19 in (485 mm).
 - (5) There shall be no sharp or abrasive surfaces under such counters.

 **CBH** *prefers to fund units in new construction and alterations with:*

- Adaptable levels for cabinets, food prep areas, and sinks.
- Sliding interior storage doors and "round-about" corner cabinets.

521 CMR 45.9: CABINET HARDWARE (✓)

521 CMR 45.10: REFRIGERATORS

When the refrigerator is provided with the unit, it may be combination refrigerator-freezers with two doors side by side, or may be two door freezer-above-the-refrigerator units, provided the floor of such freezer is no higher than 44 inches (44" = 1118mm) above the floor, and shall be self-defrosting.

- ◎ **UFAS 4.34.6.8 REFRIGERATOR/FREEZER.** Refrigerator/freezers shall comply with 4.34.6.3. Provision shall be made for refrigerators which are:
 - (1) Of the vertical side-by-side refrigerator/freezer type; or
 - (2) Of the over-and-under type and meet the following requirements:
 - (a) Have at least 50 percent of the freezer space below 54 in (1370 mm) above the floor.
 - (b) Have 100 percent of the refrigerator space and controls below 54 in (1370 mm).

521 CMR 45.11: OUTLETS AND CONTROLS

Shall comply with the applicable parts of **521 CMR 39 CONTROLS.**

¹ Although not explicit, the Massachusetts Architectural Access Board requires that floor, wall, and cabinets be finished so that, when removed, the floor, wall, and cabinet match existing finishes.

↑ **FHA:** FHA requires that outlets over cabinets be located at least 36" from a corner when located over a counter.

🏠 **CBH** prefers to fund units with kitchen appliances that have sound- or touch-based on-off ignitions for burners and stove and are not LED, as these are not usable by people who are blind or have sight impairments.

521 CMR 45.12: ALARMS

Shall comply with the applicable parts of **521 CMR 40 ALARMS.**

- ⦿ **UFAS 4.34.2(10)** Emergency alarms as required by 4.1 and complying with 4.28.4 shall be provided in the dwelling unit

UFAS 4.28.4 Auxiliary Alarms. Accessible sleeping accommodations shall have a visual alarm connected to the building emergency alarm system or shall have a standard 110-volt electrical receptacle into which such an alarm could be connected. Instructions for use of the auxiliary alarm or connection shall be provided.