

THE VIRGINIA HOUSING DEVELOPMENT AUTHORITY

2018 GUIDELINES FOR THE DEVELOPMENT OF

UNIVERSALLY DESIGNED UNITS

New Construction & Rehabilitation

The Virginia Housing Development Authority (VHDA) recognizes the need to create housing that is usable by all people while maintaining aesthetics and affordability. Universal Design has emerged as a set of design features that enhance the usability and marketability of such units. VHDA provides specific incentives for developers wishing to use these features to create spaces that serve the needs of all people regardless of ability and an aging population while providing an environment that is easy to market and easy to use.

VHDA views Universal Design not as a building code or accessibility standard but rather as a set of features that should integrate seamlessly into the design of a dwelling unit, providing market appeal and the possibility for residents to age-in-place. Whether applied to standard units or units designed under an accessibility code, the challenge of Universal Design is to produce as normal and appealing an outcome as possible.

Questions or comments about these requirements can be directed to Josh Holloway at VHDA by email - Josh.Holloway@vhda.com.

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Essential Elements

Each qualifying Universally Designed Unit in the LIHTC program must contain all of the essential elements listed below. Universal Design is not a safe harbor for other required accessibility codes such as ANSI A117.1, UFAS or the Fair Housing Act. It should be used as a supplement to required accessibility codes and building codes.

1. Route

1.1 Accessible Route - An accessible route shall consist of a minimum 36" wide continuous, stable, firm and slip-resistant surface, free of obstructions and changes in level greater than a ¼" vertical. Running slopes shall not exceed 1:20 and cross slopes shall not exceed 1:50. A minimum 60"x60" passing space must be provided at reasonable intervals not to exceed 200'. Routes requiring 180° turns must have a clear width of 60" during the turn. Cross walks must be striped and may not travel directly behind parking spaces. Vertical means of transportation, other than fully handicap accessible elevators, must be presented to and approved by VHDA prior to submission of the tax credit reservation application.

1.2 Accessible Parking –

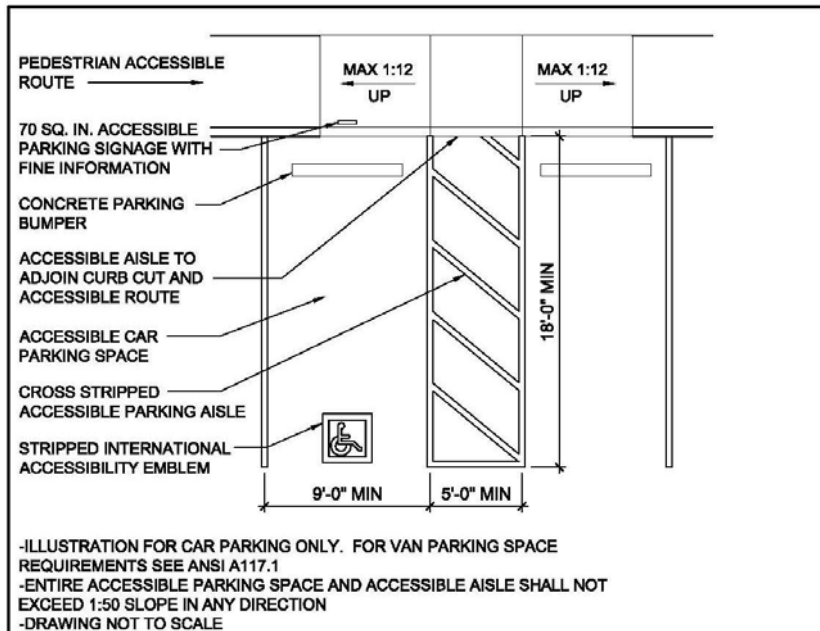
1.2.1 - Where parking is provided for all residents, one accessible parking space on an accessible route shall be provided for each qualifying UD unit. Accessible parking spaces shall comply with figure 1.2. Accessible spaces must be sufficiently dispersed to serve each qualifying unit. Van accessible spaces required for public accommodation shall not count towards the number of accessible spaces required for qualifying units.

Exception:

Where more than 15% of units are qualifying UD units, a minimum 10% of off-street parking must be accessible spaces. Accessible parking spaces shall comply with figure 1.2. Accessible spaces must be sufficiently dispersed to serve qualifying units, and must be located on an accessible route. Van accessible spaces required for public accommodation shall not count towards the 10% requirement.

1.2.2 - Where parking is provided for only a portion of residents, a minimum 5% of off-street parking must be accessible spaces. Accessible parking spaces shall comply with figure 1.2. Accessible spaces must be sufficiently dispersed to serve qualifying units, and must be located on an accessible route. Van accessible spaces required for public accommodation shall not count towards the 5% requirement.

Figure 1.2



1.3 Garbage Collection - Each qualifying unit shall be located on an accessible route complying with 1.1 that leads to the resident garbage drop off area. Compactor controls and garbage shoots/dumpster openings shall be within the reach range complying with 3.2. Residents in qualifying units should not rely on property management to directly pick up their trash unless this amenity is provided to all residents.

1.4 Common Spaces - Each qualifying unit shall be located on an accessible route complying with 1.1. which allows pedestrian access to the leasing office, community room, laundry facility, mailboxes and public transportation pick up areas if available to the facility.

Exception:

Alternative vehicular connectivity for impractical sites must be presented to and approved by VHDA prior to submission of the tax credit reservation application. Each vehicular connected amenity must include two parking spaces compliant with figure 1.2 in addition to the total number of spaces required by 1.2.

1.5 Curb Cuts - Shall comply with figure 1.5 (a) or 1.5 (b). The minimum width of a curb ramp landing shall be 60" exclusive of flared sides or the running slope. Flared side slopes shall not exceed 1:12. When possible, running slopes should not exceed 1:20. If a curb cut similar to that shown in figure 1.5 (b) is provided, there shall be a minimum 36" wide clear unobstructed walk way immediately behind the curb cut with cross slopes not exceeding 1:50. Built up ramps located on the parking lot side of the curb line are not permitted.

Figure 1.5 (a)

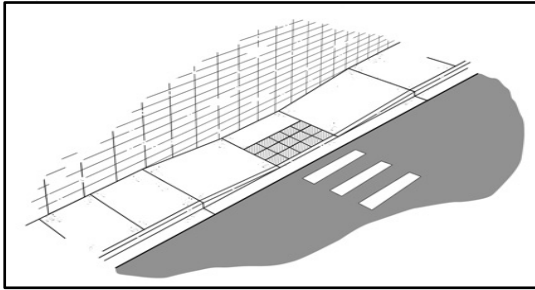
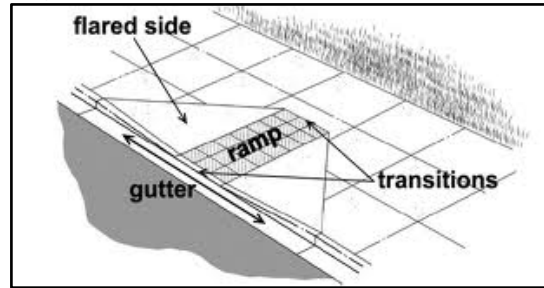


Figure 1.5 (b)



1.6 Ramps – In cases where topography and space limitations create the need for a ramp; running slopes shall not exceed 1:12. If a ramp rise is greater than 6” or if the horizontal projection is greater than 72”, handrails must be provided on both sides. Ramps shall be constructed of concrete, brick or similar cementitious/slip-resistant materials.

2. Movement -

2.1 Exterior Walkways - All existing exterior walkways on an accessible route shall be a minimum of 36” wide. New exterior walkways shall be a minimum of 48” wide. Curb cuts shall be required to allow access to accessible areas. Walkways shall be constructed of concrete or similar cementitious materials with a slip-resistant surface free of any obstructions and changes in level, with a cross slope not exceeding 1:50 and a running slope not exceeding 1:20.

2.2 Interior Passageways – Interior passageways shall have a minimum 42” clear width. A minimum 36” clear width between vertical surfaces is acceptable when traveling less than 36”.

2.3 Level Space at Entry ways – Unit entryways shall have a minimum 60”X60” clear level floor space at both the interior and exterior side of the door. A maximum 1:50 slope is permitted at the exterior side of doors to allow water shed.

2.4 Clear Space on Pull Side of All Doors - Doors shall have a clear floor space that extends a minimum 18” past the latch on the pull side of the door.

2.5 Interior Passage Doorways - All interior passage doorways between rooms deeper than 24” shall have a minimum clear opening of not less than 32” with a threshold level change not exceeding 1/2” (maximum 1/4” vertical rise + 1/4” 1:2 slope).

2.6 Exterior Doorways and Unit Entry - All exterior and unit entry doors shall be no less than 36” wide with a threshold level change not exceeding 1/2” (maximum 1/4” vertical rise + 1/4” 1:2 slope).

3. Approach

3.1 Clear Floor Space - Each qualifying unit must have clear floor space complying with 3.1 (a) or 3.1 (b) in front of all controls.

Figure 3.1 (a)

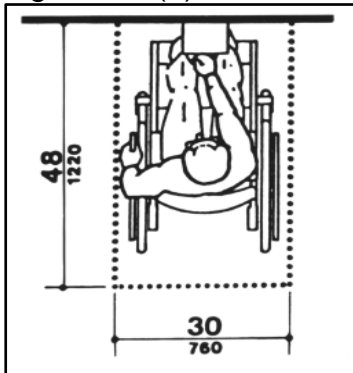
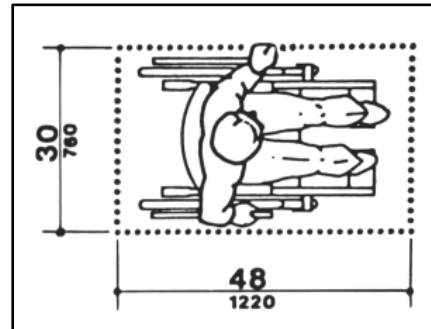
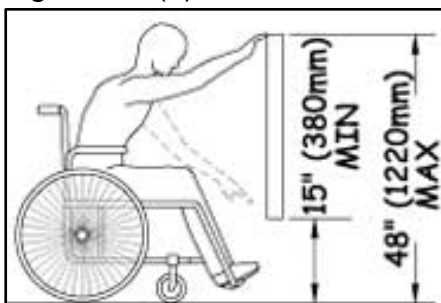


Figure 3.1 (b)



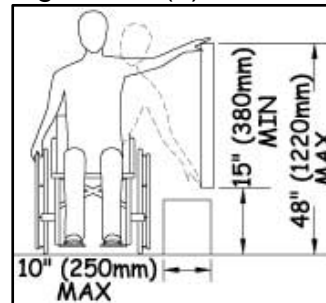
3.2 Reach Range – Controls shall be located in the following reach ranges.

Figure 3.2 (a)



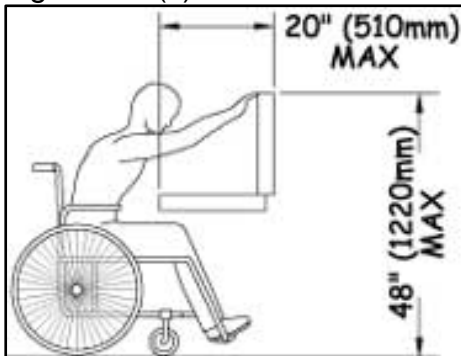
Unobstructed Forward

Figure 3.2 (b)



Unobstructed Side

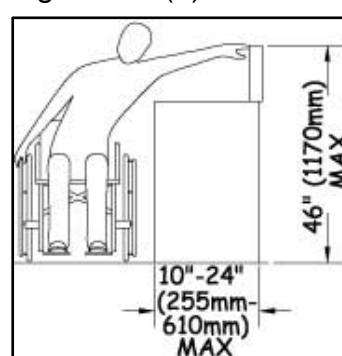
Figure 3.2 (c)



Obstructed Forward

Illustrations from ANSI A117.1

Figure 3.2 (d)



Obstructed Side

Exception: Existing electric panels do not require relocation unless new feeder and/or branch wiring is provided.

3.3 Operation – Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbs.

3.4 Door hardware – All doors shall have lever handles. All privacy locksets shall be push-button type. Thumb-turn deadbolts are acceptable.

3.5 Plumbing Fixtures – All plumbing fixtures shall be lever type.

4. Kitchens

4.1 Clear Floor Space - Each qualifying unit must have a minimum clear floor space complying with 3.1 centered on all appliances. The minimum clear floor space may be positioned for forward or parallel approach.

Exception: Dishwasher may have either a parallel approach offset 24” maximum from appliance centerline or an immediately adjacent, permanent roll-under kitchen sink for forward approach.

4.2 Range – Range controls must comply with reach range requirements in 3.2. The location of controls for ranges and cook-tops shall not require reaching over burners. Ranges shall be self-cleaning.

4.3 Refrigerator – The water, ice, and temperature controls must comply with reach range requirements in 3.2, or within 54” A.F.F. given a parallel approach. Refrigerators shall be side-by-side type.

Exception: Top freezer type refrigerators may be installed in studio and efficiency apartments for new construction, adaptive reuse and renovated developments. Top freezer type refrigerators may be installed in one bedroom apartments for renovations only. Mid-height of freezer compartment shall be no more than 54” above the finished floor, and control placement for both the refrigerator and freezer shall comply with reach range requirements in 3.2.

4.4 Sink - Each qualifying unit shall have a rear drain sink with drain pipes concealed behind a removable 30” wide concealment panel or removable sink base. Concealment panel shall comply with UFAS for knee and toe clearances. If a sink base is provided, it shall be a minimum of 30” wide and easily removable using only a screwdriver. The kitchen floor finish must extend under the removable cabinet, the wall behind the cabinet must be finished, and a baseboard matching that installed in other areas of the dwelling unit shall be permanently installed behind the cabinet.

4.5 Multiple Height Work Surfaces - All qualifying units shall have multiple height work surfaces including at least one at 30” above the finished floor such that a person in a sitting position can work comfortably. The surface must be a minimum of 24” wide x 20” deep, and cannot be portable. Pull-out type boards are acceptable, but must carry a minimum 50 lb. load

4.6 Base Cabinets – Each kitchen shall provide a minimum of one base cabinet, 15” wide or greater, with top drawer available for utensils.

5. Bathrooms

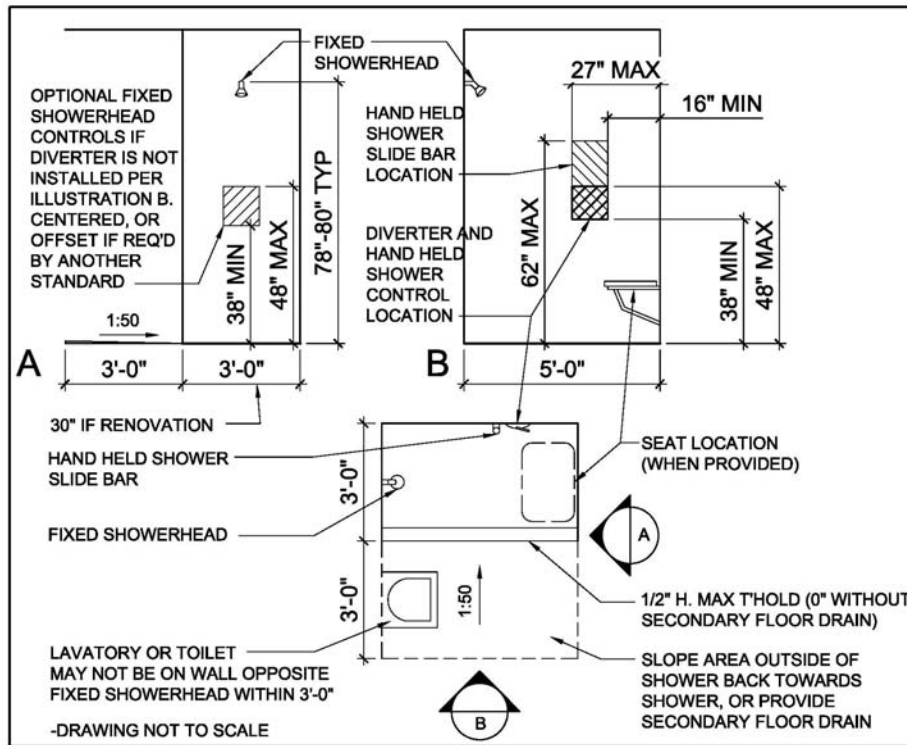
5.1 Bathroom Type - Each qualifying unit shall have at least one bathroom complying with ANSI A117.1–2009 Type B - Option A.

5.2 Bathing Areas - Each qualifying unit having two or more full bathrooms shall have one step-in shower with a curb height between 2”-4”.

5.3 Roll-in showers - At least 1/2 of the qualifying units with two or more full bathrooms shall have one roll-in showers with a level change no greater than 1/2” - (maximum 1/4” vertical rise + 1/4” 1:2 slope). Roll-in showers for new construction shall have a clear inside dimension of 60” minimum in width and 36” minimum in depth. Roll-in showers for renovations shall have a clear inside dimension of 60” minimum in width and 30” minimum in depth. Roll-in showers may be used as an offset to requirement 5.2. Therefore a development with 20 qualifying units, all with two full bathrooms, must have at a minimum one roll-in shower in 10 of the 20 units. The design team may choose to install either a step-in shower or a roll-in shower in each of the remaining 10 units.

5.4 Shower fixtures – All step-in and roll-in showers shall contain both a handheld shower and a fixed shower head per figure 5.4. Handheld showers controls and diverter shall be located on the rear wall between 38” and 48” from the floor, and 27” maximum from the end wall. Handheld showers shall have a minimum 60” hose, a slide bar attachment and a locking mechanism operable with a closed fist, and should be located no more than 27” from the end wall. The fixed shower head shall be installed at the standard height and standard location. The designer has the option to either install a diverter within the hand held shower control area that directs the flow of water to either the handheld shower or the fixed shower head, or provide separate controls for both the handheld shower and the fixed shower head.

Figure 5.4



6. Laundry

6.1 Side by Side, Front Loading Equipment – Laundry equipment in qualifying units, other than tenant supplied equipment, shall be side by side, front loading type. Where hookups only are provided, laundry closets shall be sized to accommodate side by side equipment. Control placement must comply with reach range requirements in 3.2.

Optional Elements

New construction developments qualifying as Universally Designed in the LIHTC program must contain a minimum of ten of the optional elements listed below. Developments being renovated must contain a minimum of five of the optional elements listed below. Adaptive reuse developments must meet new construction requirements.

7. Route

7.1 Weather Sheltered Entryways – Provide covered entrances to reduce or eliminate water infiltration and provide protection for user while leaving or entering the qualifying unit.

7.2 Signage – Characters and symbols on all signage shall contrast with their background - either light characters on a dark background or dark characters on a light background. Provide Braille character translations on all interior signage. Use standard Braille conventions for location on signage. Sizing and spacing per standard Braille publications is acceptable.

8. Movement

8.1 Access to All Common Areas from the qualifying unit via an accessible pedestrian route

8.2 Operable Patio Double Doors – Provide extra wide access, weather sealed without intermediate jamb. Head and/or sill locks to auxiliary door may be outside reach ranges of 3.2. Primary door must comply with 2.6.

9. Approach

9.1 Accessible Windows - Must comply with all three elements below. Minimum of one compliant window in each bedroom and living room.

9.1.1 Maximum sill height of 36" above finish floor.

9.1.2 Clear floor space complying with 3.1.

9.1.3 Locks within reach range specified in 3.2, and easily operable with one hand.

10. Kitchens

10.1 Extra Floor Space - Provide a full 60", unencumbered turning radius within the kitchen boundary of each qualifying unit.

10.2 Roll-Under Range – Provide a drop in range in each qualifying unit affording the user the ability to roll under with unobstructed clear floor space. Knee space shall be

insulated or otherwise protected on the exposed contact surfaces to prevent burns, abrasions, or electrical shock.

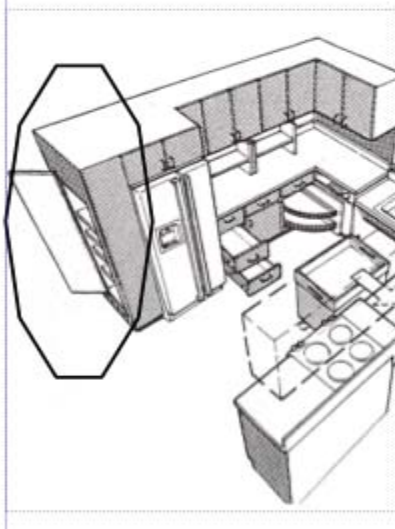
10.3 Cabinet Hardware - All cabinetry in a qualifying unit shall have D type pull handles or touch latches such that a person with limited dexterity may operate the cabinetry easily.

10.4 Full Extension Drawers and Pull-out Shelves – All base cabinetry drawers in a qualifying unit shall be full extension. In addition, a minimum of one base cabinet, 24” wide or greater, shall have high/low pull out shelving; A 24” wide pantry cabinet with at least two pull out shelves below 36” above finish floor is also acceptable.

10.5 Task Lighting – In addition to general kitchen lighting, provide task lighting at all counter surfaces. With general kitchen lighting turned off, task lights must provide a minimum of 30 foot-candles uniformly distributed across all counter surfaces.

10.6 Full Length Pantry Style Cabinet in Each Kitchen - See Figure 10.6 for one example of this feature; pantry may be part of cabinetry or it may be a conventional closet type and comply with 2.4, 2.5 and 3.2.

Figure 10.6



11. Bathrooms

11.1 Extra Floor Space – In each qualifying unit; provide at least one bathroom with a full 60”, unencumbered turning radius.

11.2 Roll-Under Vanity or Sink – In each qualifying unit; provide at least one bathroom with a roll under sink or removable vanity base. If a removable vanity base is provided, it shall be a minimum of 30” wide and easily removable using only a screwdriver. The bathroom floor finish must extend under the removable cabinet, the wall behind the cabinet must be finished, and a baseboard matching that installed in other areas of the dwelling unit shall be permanently installed behind the cabinet.

11.3 Tilt Mirror – Provide an adjustable tilt/pivot style mirror in at least the Option A bathroom of each qualifying unit. Mounting height should allow mirror to be easily used in both a standing and seated position.

11.4 Extra, Non-glare Lighting – In each qualifying unit, provide a minimum of two separate fixed light fixtures. Light sources shall be indirect and/or have frosted lenses without exposing bulbs directly to the occupant.

11.5 Solid in-wall blocking – Installed on walls around toilet, tub and shower for new or future grab bars and shower seat. Blocking must be suitable to carry a minimum 250 lbs. load. Molded shower surrounds shall have integral plywood backing, or, reinforcing is required fully between surround and wall blocking at grab bar and seat locations.

12. Bedrooms

12.1 Closets - In each unit; provide a versatile and adjustable closet organization solution allowing for a more efficient and usable storage area. A single or double adjustable height shelf and rod will not be accepted.

13. Audio/Visual

13.1 Audio/Visual Doorbell – Provide an A/V doorbell in all qualifying units. Doorbell control location to comply with reach range requirements in 3.2.

13.2 Visual Alarm – Provide electrically powered internally illuminated emergency alarms located in all habitable spaces including bathrooms shall flash as a visual emergency notification in conjunction with audible emergency alarms. The flashing frequency of visual alarm devices shall be less than 5 Hz. Connect visual alarms to an emergency power source, similar to audible emergency alarms.

13.3 Thermostats - In each qualifying unit; provide either a digital talking thermostat or a rotary style thermostat designed for the visually impaired which incorporates larger numbers and a dial with audible clicks representing degree changes.

14. Innovation

14.1 Innovation – VHDA is interested in alternative features which increase the usability of spaces for all people. Proposed alternatives must be presented to and approved by VHDA prior to the mandatory pre-construction meeting.

All qualifying units must also comply with the Virginia Housing Development Authority's Minimum Design and Construction Requirements, and Minimum Cabinet Requirements.

Solid vertical lines in margins show technical changes, additions and deletions to VHDA's 2017 Universal Design Guidelines. Format changes such as reorganization, number changes, and phrasing are not identified.