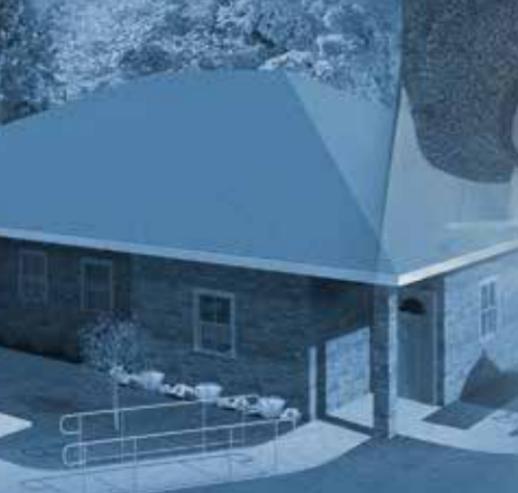


The Accessible HOME



ET&ADRC

East Texas Aging &
Disability Resource Center



TABLE OF CONTENTS

Page 1	Introduction
	OUTDOOR AREAS
	Parking
Page 2	Sidewalks
	Ramps
Page 3	Stairs
Page 4	Porches
	DOORS AND GATES
Page 5	Door and Gate Maneuvering Clearances Table
Page 6	LIVING ROOM AND FURNITURE
	Floor
Page 7	Furniture
Page 8	Controls
Page 9	BATHROOMS
	Turning Space
	Toilet
Page 11	Lavatory
	Showers
Page 14	Bathtub
Page 15	Bathroom Storage
	KITCHEN
	Kitchen layout
Page 16	Counter
	Sink
Page 17	Storage
	Controls
	Appliances
Page 18	BEDROOM
Page 19	LAUNDRY ROOM
Page 20	RESOURCES

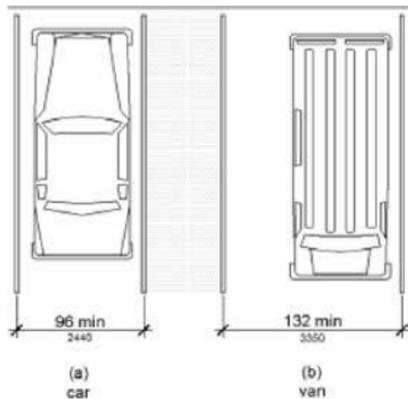
Accessibility and design aesthetics do not have to be mutually exclusive. Integrating accessible design into your residential projects can be done with a little effort and information. 4 out of 5 Americans over the age of 45 would like to remain in their current residences for as long as possible. (AARP Sept 2012). Even if they need help, older Americans prefer receiving services that allow them to stay in their current homes. Independence is the key.

Residential builders can gain technical and practical information specifically for the accessible home in this book, on the DVD, or online at www.ETxADRC.org. We will cover dimensions and recommendations for the residential built environment along with additional resources. Our hope is that you will develop functional accessible homes for your clients that have physical challenges and for your clients who are aging in place.

1. OUTDOOR AREAS:

Parking

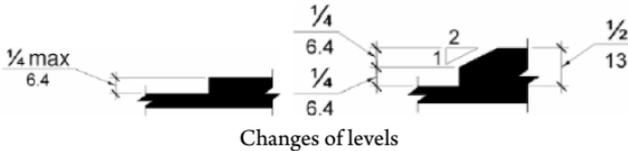
A parking space for an accessible vehicle should be located on the shortest accessible route to the home entry. This accessible parking area may be located in a parking lot, on the street, a driveway, carport, or in the garage. The parking space for a car should be at least 96" wide. If a van is used, then the parking space should be at least 132" wide. A 60" wide minimum access aisle should be provided on at least one side of the car to load and unload from the vehicle. If the vehicle is parked in a garage, the access aisle should not be obstructed by another vehicle, or other items stored in the garage. The parking space and the access aisle must be level (slopes not exceeding 2% or 1:48 in any direction). A route from the car to the home entry should be at least 36" wide unobstructed.



Parking

Sidewalks.....

Sidewalks from the street, or parking area, to the entrance should be at least 36" wide. They must not have any change of level over 1/4" high vertically or 1/2" high with a bevel.



The running slope (the direction of travel) of the sidewalk must not be steeper than 5% (1:20 or 5/8" per foot) and the cross slope of a sidewalk must not be greater than 2% (1:48 or 1/4" per foot). If a sidewalk has a slope greater than 5% or a change of level higher than 1/2", then an accessible ramp will be needed.

Consider adding a 36" wide accessible path around the perimeter of the home for monitoring children and home maintenance.

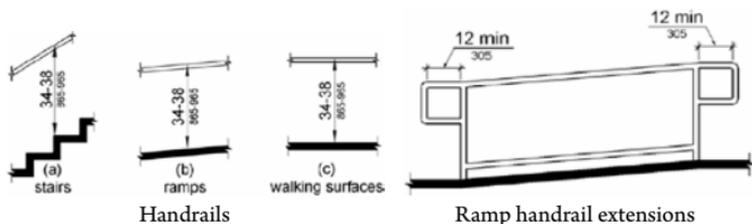
Ramps.....

Simply providing a sloped surface between two levels does not constitute a functional ramp for people with disabilities. There are several elements that are necessary on a ramp to provide safe and independent travel. Ramps must be at least 36" wide measured between the handrails. The ramp surface must be firm, stable, and slip-resistant. Non-textured metal or painted wood ramps can be very slippery in wet conditions and would not be safe ramp surfaces. A running slope on a ramp must not exceed 8.33% (1:12 or 1" per foot) and the cross slope must not exceed 2%. The length of any ramp run should not be more than 30 feet. A ramp must have a landing on the bottom and at the top of the ramp run. The width of the landings must be at least as wide as the ramp run. The length of ramp landings must be at least 60". If a ramp changes direction between ramp runs, then a landing that is 60" wide minimum by 60" long minimum must be provided. If a doorway is located adjacent to the ramp landing, the maneuvering clearance required

at that door can overlap the landing. Ramp landings must be level (slopes not exceeding 2% in any direction).

Ramps must have handrails on both sides of the ramp run. The handrails must continue the full length of the ramp run and extend at least 12" past the top and bottom of the run in the same direction as the ramp run. These handrail extensions are essential for the safe transition between a sloped walking surface to a level surface.

The handrails must be mounted 34" to 38" above the ramp surface. The handrail gripping surface must be shaped to permit users to reach the fingers outward or downward to grasp the handrail. Handrails should always return to the wall, post or ground.

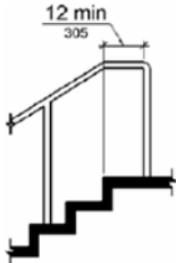


Stairs.....

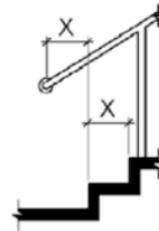
Although ramps are the best accessible route, some residences, because of site constraints or existing homes, may have stairs that will need to be modified for ambulatory use. All steps on a flight of stairs should have the same riser height and same tread depth. The risers should be 4" minimum to 7" maximum high. Treads should be at least 11" deep. Consider providing visual contrast on the tread nosings so that the edges of the steps are more visible for people with low vision.

Stairs must have handrails on both sides of the steps. The handrails specifications are the same as for a ramp with the exception of the required handrail extension location. The handrail at the top of a stair flight must extend horizontally for 12" minimum beginning directly

above the first riser nosing. At the bottom of the stairs, handrails must extend at the same slope of the stair for a horizontal distance equal to one tread depth beyond the last riser nosing. Handrail extensions are important to provide stability while transitioning on to, and off of, steps.



Handrail extension at the top of stairs



Note: X = tread depth

Handrail extension at the bottom of stairs

Porches.....

Consider providing a front door table or ledge near door that is between 28" to 36" high for packages (UPS/FedEx, mail) so no lifting will be required from the porch floor.

2. DOORS AND GATES:

Doors are critical maneuvering areas for people with disabilities. Doors (including gates) must have a clear opening of at least 32" wide. A clear door width of 36" is preferable for people using wider mobility devices. Older homes with narrow doorways present a problem for accessibility. Sometimes, changing the direction of the door swing or replacing the existing door hinges with offset hinges may provide better maneuvering through difficult doorways.

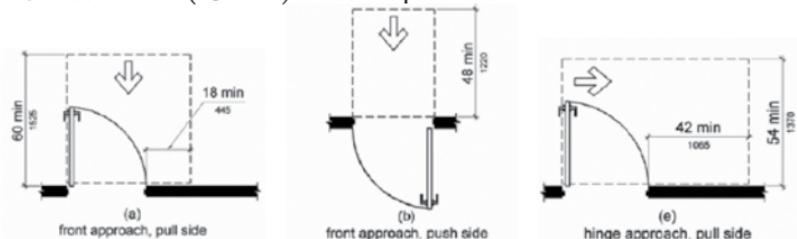
The door maneuvering clearances are essential. Check both the push and the pull side of each door for the minimum space needed to open the door. On the pull side of a door, with a forward approach, the maneuvering clearance will be the width of the door plus 18" minimum on the latch side of the door for a depth of at least 60". On the push side of a door, an unobstructed space of the door width for

a depth of 48" minimum will be needed for a forward approach. If a closer is provided on the door, the required maneuvering clearances may increase in size.

DOOR AND GATE MANEUVERINGS CLEARANCES

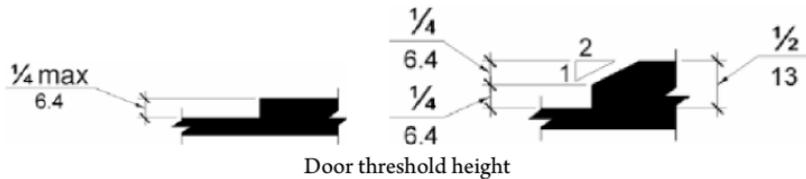
Type of Use		Minimum Maneuvering Clearance	
Approach Direction	Door or Gate Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch side unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm) ¹
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm) ²	22 inches (560 mm) ³
From latch side	Pull	48 inches (1220 mm) ⁴	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm) ⁴	24 inches (610 mm)

1. Add 12 inches (305 mm) if closer and latch are provided.
2. Add 6 inches (150 mm) if closer and latch are provided.
3. Beyond hinge side.
4. Add 6 inches (150 mm) if closer is provided.



The floor or ground surface within the needed door maneuvering space must be level (slopes not exceeding 2% or 1:48).

Door thresholds, if provided, must not be higher than $\frac{1}{2}$ " and must be beveled.



Door and gate handles, pulls, latches and locks must not require tight grasping, pinching or twisting of the wrist to operate. This can be accomplished with a lever-type door handle. Knob handles are not functional for persons with arthritis, paralysis, or weak hand motor skills. Sliding glass doors are not advisable in an accessible home since the thresholds tend to be higher than $\frac{1}{2}$ " without a bevel, the door usually has a heavy opening force, and the door track is a maintenance issue to clean independently.

The door and gate surfaces should be smooth within 10" of the floor or ground. Ornate moldings or open ironwork on the lower 10" of the door/gate surface catches the toe rests on a wheelchair.

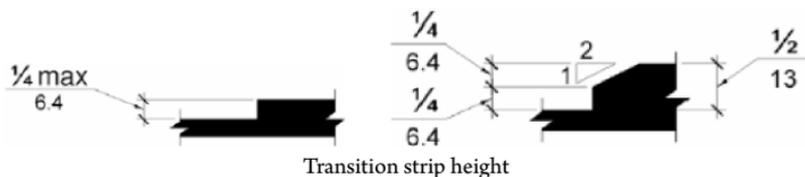
3. LIVING ROOM AND FURNITURE:

Circulation paths (including hallways and paths between furniture) should be at least 36" wide. Mobility devices can be hard on walls and millwork. Plan your wall surface materials accordingly to maintain the beauty of the interior with minimal dings and scuffs.

Floor

Floors in accessible homes must be firm and slip resistant. If carpet is used specify a low pile or a commercial grade carpet with no pad. (A padded carpet is very difficult for maneuvering in a wheelchair and will bunch up over time with wheelchair use.) Glue the carpet down.

Transition strips between flooring materials can be like speed bumps to people who use mobility devices, and are tripping hazards for ambulatory people with gait or balance issues. Plan appropriately, if possible, to eliminate all transition strips for a smooth change of level between flooring materials. In existing homes, when a transition strip is needed, the height of the strip must not be more than $\frac{1}{4}$ " vertically or $\frac{1}{2}$ " with a bevel.



Furniture

Consider putting heavy furniture on casters with locks for easier independent cleaning.

There are several factors that are important when choosing a chair in an accessible home. The chair height should be 18" to 19" for best seat transfer. The key issue is the knees cannot be higher than the hip in a seated position. When the hip is lower than the knees, rising and sitting becomes difficult and unsafe for people with weak quadriceps, gluteus medius, gluteus maximus and hip abductors muscles. Nerve fibers that connect to these muscles degenerate causing muscle weakness in the normal aging process.

Seating depth of a chair/sofa should be 20" minimum to 24" maximum. Chair/sofa arms should be 25" to 27" high above the floor and must extend to the front of the seat to support the weight of persons with weak core strength who lean on them in order to stand or sit unassisted. The structural strength of a chair/sofa should support 250 lbs. A stable chair prevents tipping for users with lower back and thorax muscles that need support for spine and pelvis stabilization. Seating cushions must be firm to prevent the person's hip from sinking lower than the knee in a seated position. Specify fabric with texture to help prevent slipping when seated. Seating fabric should be easy to clean for people with incontinence issues.

For those with low vision, visual clues are vital. Increase visual contrast between the furniture and floor colors to prevent falls. Also, furniture contrast from wall color (light to dark or dark to light) provides good visual clues for safe maneuvering and way finding.

Tables (including dining table, computer desk, and hobby/work tables), must be stable without tipping. Senior adults and others with balance issues tend to push down on a tabletop when rising to a standing position. An accessible height for a tabletop is between 28" to 34". Knee and toe clearance of 27" minimum for at least a depth of 17" should be provided under the table. The edge of table should significantly contrast with the floor color.

Controls

Environmental controls (thermostats, ceiling fan, etc.), security alarm activation, light switches and receptacle outlets should be within the accessible reach range (15" minimum low reach to 48" maximum high reach). These controls must not require tight grasping, pinching or twisting of the wrist to operate (knob handles are not accessible).

Consider using lamps with rocker controls and motorized window blinds or window coverings.

For the hearing impaired, provide wiring for visual fire alarms, doorbell and telephone visual notification devices.

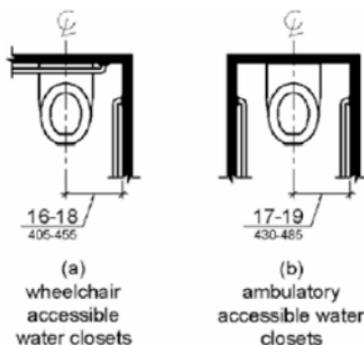
4. BATHROOMS:

Turning space

A clear and unobstructed 360 degree turning space is needed in an accessible bathroom. Typically, a 60" minimum diameter circle has been sufficient turning space for manual wheelchair users. This 60" diameter turning space will most likely not accommodate an electric wheelchair or a scooter. A 98" diameter turning space accommodates all types of mobility devices.

Toilet

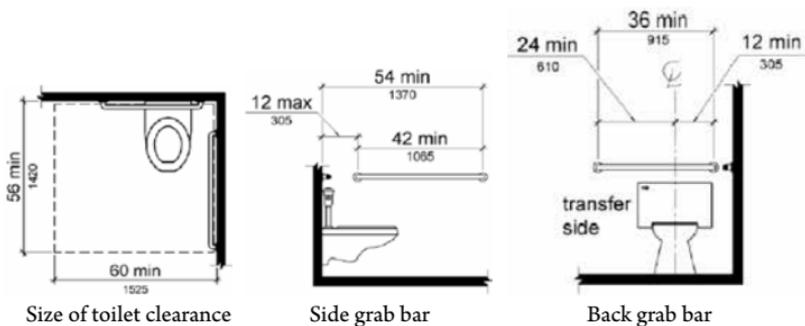
The toilet centerline should be located between 16" to 18" from the adjacent side wall for wheelchair users. For people with ambulatory issues (people using a walker or forearm crutches or those with gait and balance issues), the toilet centerline should be located 17" to 19" from the adjacent side wall.



Wheelchair toilet

Ambulatory toilets

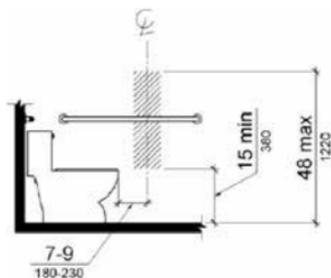
The clear floor space around an accessible toilet must be 60" minimum wide by 56" minimum long without obstruction. This allows for transfer from a mobility device to the toilet and also allows space for an assistant to aid in transfer to the toilet.



Accessible toilets need grab bars. For wheelchair users, a 36" minimum grab bar should be mounted on the back wall above the toilet. A 42" minimum grab bar should be mounted on the side wall adjacent to the toilet. For ambulatory people, grab bars should be mounted on both side walls adjacent to the toilet. The side walls for ambulatory toilets should be 35" to 37" apart. All toilet grab bars should be mounted 33" to 36" high above the floor.

For new construction/adaptation projects, reinforcement should be added in the walls to permit the installation of grab bars at a future time, when needed. Also, adding wiring for a future integrated toilet/bidet is helpful for people who have incontinent issues.

The toilet should be 17" to 19" to the top of the seat. The flush control on a toilet for wheelchair users should be on the open (transfer) side. The toilet paper dispenser should be mounted on the side wall 7" to 9" in front of the toilet and between 15" to 48" above the floor.

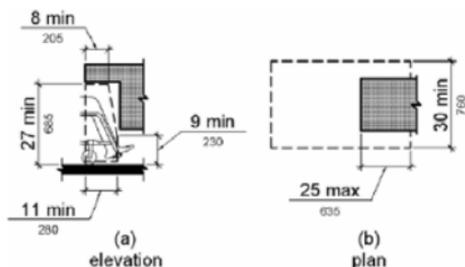


Toilet paper dispenser location

Storage for bladder control supplies/catheters/feminine hygiene/ etc. must be within the reach range (24" maximum side reach) of the toilet and not located above the toilet.

Lavatory

Accessible lavatories must have an unobstructed clear floor space for a forward approach that is 30" wide minimum by 48" deep minimum. The height to the lavatory rim or counter surface must be 34" maximum above the finished floor. Knee and toe clearance must be provided under the lavatory. The bottom of the lavatory, or cabinet, must be at least 27" above the floor for a depth of at least 8" from the front edge of the lavatory/counter. Toe clearance that is at least 9" above the floor must be provided for at least 17" deep from the front edge of the lavatory/cabinet. The faucets should be operable without tight grasping or twisting of the wrist (knob faucet handles are not accessible). Any exposed pipes under the lavatory should be insulated or protected to avoid skin damage.



Knee and toe clearance

Pedestal lavatories and base cabinets with doors under the lavatory are not accessible since they obstruct the needed knee and toe clearance.

Showers

There are two types of accessible showers; a transfer type and a roll-in type.

Transfer showers have a definite dimension of 36" wide by 36" deep. This size allows for appropriate space to maneuver while keeping the grab bars and shower controls within functional reach range. A clear floor space of 36" minimum deep by 48" minimum wide is necessary for mobility devices to maneuver into position for a safe transfer. At

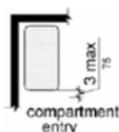
least 12" of this clear floor space must be provided behind the seat wall in order for a wheelchair user to position for a lateral transfer to the shower bench. If a shower door is provided, the door must swing out and not into the shower. The shower bench can be folding or non-folding. It must be located across from the shower control wall. The bench should be mounted between 17" to 19" above the finished floor. The bench should extend, as much as possible, the full length of the shower wall. It should be positioned no further than 3" from the shower entry and 1-1/2" from the back shower wall. The best configuration for a shower seat is an L-shaped seat. This enables users to lean in the shower corner to help stabilize a weak upper body and also provide an area on the seat to put soap, razor, and washcloth within easy reach. The shower seat material should provide some resistance. Some seats with glazed or glass tile allow users to slip off the seat and a heavily textured tile will rub skin raw.

Transfer shower grab bars should be mounted on the control and back walls. They should be mounted 33" to 36" above the finished shower floor. These grab bars must withstand at least 250 pounds of force, so appropriate blocking should be provided. Peened grab bars give a texturized finish gripping surface. Grab bars with LED lights can help reduce falls and injury and also provide way finding for persons with low vision. For adaptation projects, reinforcement should be added in the walls so as to permit the installation of a seat and grab bars at a future time, when needed.

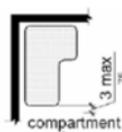


Note: Inside braced dimensions measured at the center points of opposite sides.

Transfer shower

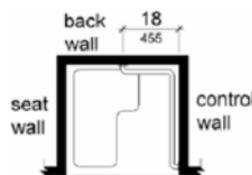


(a)
rectangular



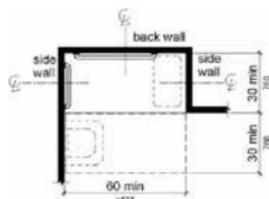
(b)
L-shaped

Shower seat configurations

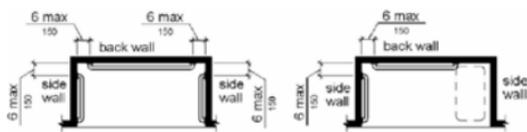


Transfer shower grab bar location

Roll-in showers are another type of accessible shower. They take more room than a transfer shower. The dimension of a roll-in shower is 60" minimum wide by 30" minimum deep. This size allows for persons to wheel their mobility device into the shower. Grab bars should be mounted on the back and side walls.

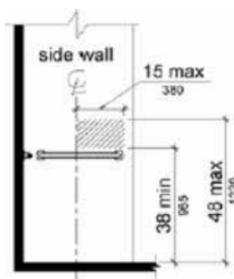


Roll-in shower

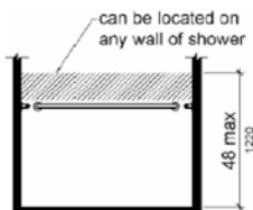


Roll-in shower grab bar location

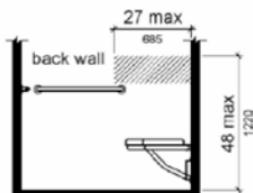
The shower controls on both types of accessible showers should be able to be operated with one hand and not require tight grasping, pinching or twisting of the wrist (knob handles are not accessible). A shower spray unit that can be used as both a fixed position shower head and as a hand-held shower should be provided. The controls in a transfer shower should be located on the side wall opposite the bench between 38" to 48" above the shower floor. The controls should be mounted 15" maximum from the centerline of the seat toward the shower opening. The controls in a roll-in shower may be located on any wall. If a seat is provided in the roll-in shower, then the controls and shower spray unit should be located 27" maximum from the seat wall.



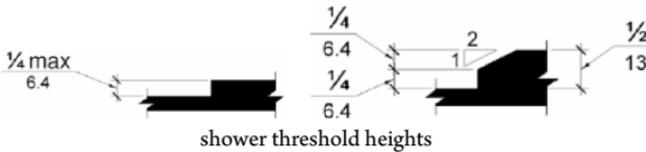
Transfer shower control location



Roll-in shower control location

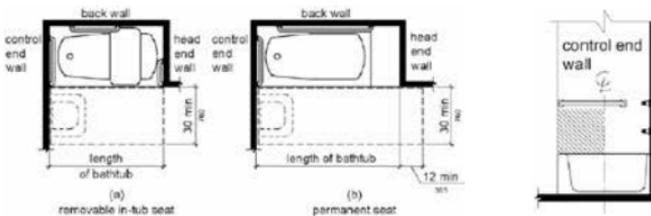


The shower thresholds in both types of accessible showers must be no higher than $\frac{1}{2}$ " with a bevel. Consider using a linear drain that provides a flush floor surface with no change of level at the shower entrance.



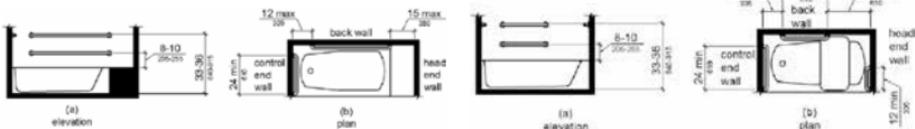
Bathtub.....

Accessible bathtubs need either a permanent seat at the head end of the tub or a removable in-tub seat for transfer into and out of the tub. A clear floor space of at least 30" deep for the width of the tub will be needed to safely maneuver. Two grab bars should be installed on the back wall of the accessible tub. The lower grab bar should be mounted 8" to 10" above the tub rim, and the higher grab bar at 33" to 36" above the floor. A 24" long grab bar should be mounted horizontally on the control wall at the front edge of the tub. For bathtubs using a removable seat, an additional grab bar that is 12" long minimum should be mounted horizontally on the head end wall at the front edge of the tub.



Clearance for bathtubs

Bathtub control location



Grab bars for bathtubs with permanent seat

Grab bars for bathtubs w/ removable in-tub seat

Bathtubs should have a shower spray unit that can be used as both a fixed position shower head and as a hand-held shower. The shower spray unit and the tub controls should be located on an end wall between the tub rim and grab bar on the open side of the bathtub. Doors on bathtubs must not have tracks installed on the rim of the open face of the tub and must not obstruct the controls of transfer from wheelchairs onto the tub seat.

For people with low vision, a high color contrast (light to dark, or dark to light) between the bathroom floor/wall and all fixtures/counters is helpful.

Bathroom storage

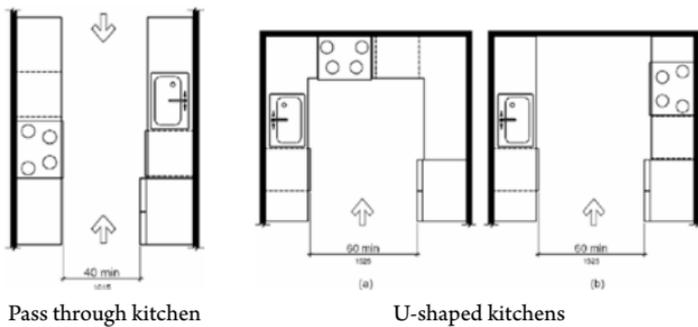
Cabinet storage, clothes hooks, and towel bars should be within accessible reach range (15" minimum low reach to 48" maximum high reach). Cabinet pulls must not require tight grasping, pinching or twisting of the wrist. Consider providing walker and wheelchair storage at shower/tub areas for ease and safety of transferring and moving in the bathroom. A rolling hamper is very helpful in independently transferring dirty/clean clothes and towels to and from the laundry area. Consider providing an area for the hamper in the bathroom.

7. KITCHEN:

Kitchen layout.....

Pass through kitchens (where the cabinet, counters, or appliances are on two opposing sides with two entries) must have a clear width space of 40" minimum between the opposing cabinets/appliances.

A U-shaped kitchen (a space enclosed on three continuous sides) must have a clear width space of 60" minimum.



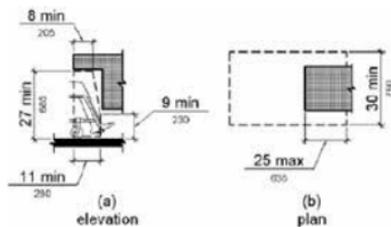
Counter

A work space in the counter should be provided that is at least 30” wide and 34” high, maximum. This accessible work space should have accessible knee and toe clearance so a wheelchair user can function at the counter in a forward position.

Sink.....

Accessible sinks must have an unobstructed clear floor space for a forward approach that is 30” wide minimum by 48” deep minimum. The height to the sink rim or counter surface must be 34” maximum above the finished floor. Knee and toe clearance must be provided under the sink. The bottom of the lavatory, or cabinet, must be at least 27” above the floor for a depth of at least 8” from the front edge of the sink/counter. Toe clearance that is at least 9” above the floor must be provided for at least 17” deep from the front edge of the sink/cabinet. The disposal may need to be offset to maintain the under sink knee clearance. The faucets should be operable without tight grasping or twisting of the wrist (knob faucet handles are not accessible). Any exposed pipes under the sink should be insulated or protected to avoid skin damage.

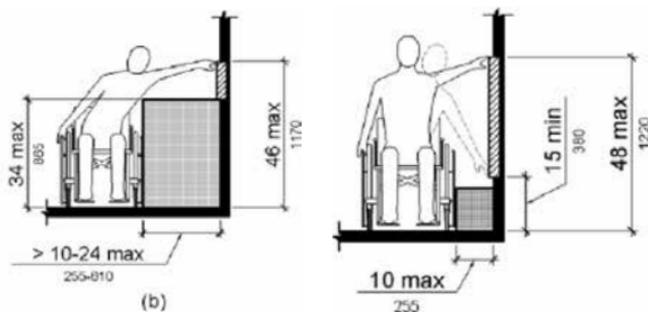
Base cabinets with doors under the sink are not accessible since they obstruct the needed knee and toe clearance.



Knee and toe clearance

Storage.....

At least 50% of shelf space in the kitchen should be at an accessible reach range. The lowest unobstructed reach is 15" above the floor and 48" maximum for a high reach. If the reach is over a 24" deep base cabinet, then the side reach range lowers to 46" maximum above the floor. Pull down cabinet inserts can be retrofitted into existing cabinet boxes in remodeling projects to aid in reach range issues. Cabinet pulls must be in this reach range and must not require tight grasping, pinching, or twisting of the wrist to operate.



(b) Side reach range over a counter

(c) Unobstructed reach range

Controls

Controls for appliances (including vent hoods), light switches, disposal switches, and receptacles should be within an accessible reach range. At least one receptacle over each base cabinet run should be no higher than 46" above the floor.

Appliances.....

All kitchen appliances should have controls that do not require tight grasping, pinching or twisting of the wrist to operate (knob controls are not accessible). All appliance controls should be within accessible reach range. A clear unobstructed floor space of 30" by 48" minimum should be provided at each appliance. An appliance located in a corner may not be able to be used effectively because someone who uses a mobility device may not be able to get close or within reach range.

Bottom-hinged dishwashers present a reach range problem when mounted lower than 15" above the floor. Consider raising the dishwasher so the lowest rack is 15" above the floor or using drawer dishwashers at accessible reach ranges.

Ranges and cooktops controls must be located so that people are not required to reach across burners. A forward approach under a cooktop may be desired for those who use a wheelchair. Accessible knee and toe clearance should be provided in this case. The underside of the cooktop must be insulated or configured to prevent burns, abrasions, or electrical shock.

Oven heights, including the microwave, must be within accessible reach range. Providing sufficient counter space adjacent to the ovens is important so hot dishes can easily and safely be transferred.

An oven with a side-hinged door is helpful in accessible homes. Be sure to position the open side of the door toward the adjacent counter. Specify ovens with roll-out racks that can support heavy dishes.

5. BEDROOM:

Accessible turning space will be needed in the bedroom. Allow for at least 36" clear width on both sides of the bed for transfer and independent bed making. This also allows for space for walker/wheelchair to be in close proximity to the bed.

Specify a bed mattress height of 16"-18" above the floor. A mattress with a firm edge aids in rising, sitting, and transfer.

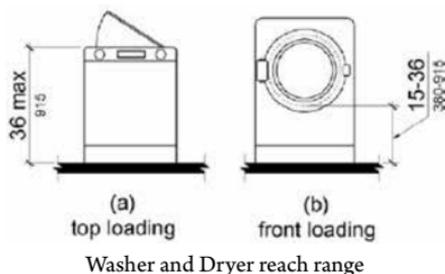
Control heights (light switches, ceiling fan control, outlets, etc.) should be at an accessible reach range of 15" to 48".

Consider providing space for a chair in the closet, or near the closet, for ease in dressing. Closet rod lifts that can be raised and lowered may be helpful in renovation projects where closet storage space is limited and out of reach range.

6. LAUNDRY ROOM

Accessible turning space will be needed in the laundry room. Additionally, space for a rolling laundry cart is advisable in this room. A clear and unobstructed floor space for a parallel approach of 30" by 48" minimum should be centered on both the washer and the dryer.

Specify a washer and dryer that have operable parts (controls, door, lint screens, and detergent and bleach compartments) that do not require tight grasping, pinching or twisting of the wrist (knob controls are not accessible). Top loading machines should have the door no higher than 36" above the floor. Front loading machines should have the bottom of the door opening no lower than 15" above the floor.



If clothes hooks, racks, or cabinets are provided in the laundry room, they should be at an accessible reach range of 15" to 48".

RESOURCES:

- 2010 ADA Standards for Accessible Design:
www.ada.gov/2010ADASTandards_index.htm
- American Foundation for the Blind; 11030 Ables Lane, Dallas, TX 75229 (214) 352-7222 Tour a “model home” designed for persons with low or no vision
- Texas Accessibility Standards
www.tdlr.state.tx.us/ab/2012TAS/2012tasComplete.pdf
- Anthropometry of Wheeled Mobility Project:
www.udeworld.com/anthropometrics.html
New extensive research of the study of the dimensions and abilities of the human body in wheelchairs and scooters
- All figures used in this document are from the 2010 ADA Standards for Accessible Design.

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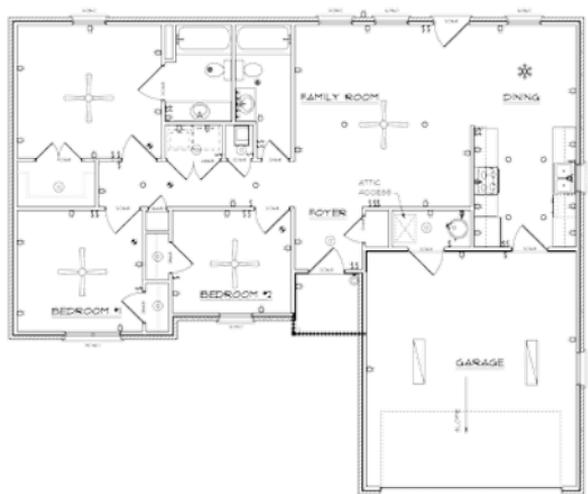
Project Concept:

Lee Brown, Community Healthcore
Karen Holt, Housing Navigator, ETxADRC
Deborah Nash, ASID, RID, RAS; Accessibility Consultants of Texas, Inc.
Doug Camp, AIA, Architect, Johnson & Pace Incorporated
Casey Beddingfield, East Texas Builders Association
City of Longview Housing Authority

Project Execution:

3D Design – John Tyson, Johnson & Pace Incorporated
Written By – Deborah Nash, Accessibility Consultants of Texas, Inc.
Video Production – Joe Fuentes, Media Quest
Graphic Design – Cale Smith, Media Quest
Copy Editor – Cliff Hale, Media Quest

STANDARD CONSTRUCTION PLAN



MAIN FLOOR PLAN Scale 3/16"=1'

STANDARD CONSTRUCTION ESTIMATE

Detail Sheets	Est. Cost or Bid
Permit and Fees	\$300.00
Architecture & Engineering	\$1,300.00
Temporary Utilities	\$280.00
Liability Insurance	\$224.00
Subtotal - Project OH & Lot	\$2,104.00
Earthwork	\$3,500.00
Foundation	\$8,951.00
Concrete Flatwork	\$3,854.00
Utility Laterals	\$2,750.00
Framing Material	\$10,703.00
Framing Labor	\$4,647.50
Entry Doors	\$1,000.00
Garage Doors	\$1,650.00
Windows	\$1,150.00
Plumbing	\$8,032.00
Air Conditioning	\$4,950.00
Electrical	\$5,120.00
Light Fixture Allowance	\$1,200.00
Roofing	\$4,655.00
Insulation	\$1,100.00
Drywall	\$4,788.05
Finish Carpentry	\$2,250.00
Finish Carpentry Labor	\$1,859.00
Painting	\$5,900.00
Floor Coverings	\$5,600.00
Cabinets	\$3,800.00
Counter-top	\$1,400.00
Appliances	\$1,650.00
Hardware & Mirrors	\$1,200.00
Brick	\$7,405.82
Gutter	\$875.00
Deck	\$1,000.00
Clean-up	\$1,316.03
Landscaping	\$4,500.00
	\$106,806.40
Total Hard Costs & Proj. OH	\$108,910.40
Builder's Margin Based on a 10% fee	\$12,341.79
	\$123,512.95

Total Sales Price:	Cost Per Square Foot Living Space
\$120695.40	85.3

ACCESSIBLE CONSTRUCTION ESTIMATE

Detail Sheets	Est. Cost or Bid
Permit and Fees	\$300.00
Architecture & Engineering	\$1,300.00
Temporary Utilities	\$280.00
Liability Insurance	\$225.00
Subtotal - Project OH & Lot	\$2,105.00
Earthwork	\$3,500.00
Foundation	\$10,279.60
Concrete Flatwork	\$3,854.00
Utility Laterals	\$2,750.00
Framing Material	\$10,703.00
Framing Labor	\$4,647.50
Entry Doors	\$1,000.00
Garage Doors	\$1,650.00
Windows	\$1,150.00
Plumbing	\$8,663.16
Air Conditioning	\$4,950.00
Electrical	\$5,120.00
Light Fixture Allowance	\$1,200.00
Roofing	\$4,655.00
Insulation	\$1,100.00
Drywall	\$4,788.05
Finish Carpentry	\$2,250.00
Finish Carpentry Labor	\$1,859.00
Painting	\$5,900.00
Floor Coverings	\$5,600.00
Cabinets	\$4,100.00
Counter-top	\$1,400.00
Appliances	\$1,650.00
Hardware & Mirrors	\$1,200.00
Brick	\$7,405.82
Gutter	\$875.00
Deck	\$1,000.00
Clean-up	\$1,316.03
Landscaping	\$4,500.00
	\$109,066.15
Total Hard Costs & Proj. OH	\$111,171.15
Builder's Margin Based on a 10% fee	\$12,341.79
	\$123,512.95

Total Sales Price:	Cost Per Square Foot Living Space
\$123512.95	\$87.29



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