

# Home Modification

## LOOK BOOK

Examples of common home modifications for people with disabilities



Developed by the Colorado Department of Local Affairs/Division of Housing for  
Home Modification Programs

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**COLORADO**  
Department of Local Affairs  
Division of Housing

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# INTRODUCTION

This Look Book was developed as a guide in providing home modifications available through four specific waiver programs, BI/EBD/SCI/CMHS, which are administered by the Colorado Department of Health Care Policy and Financing. Other programs may or may not follow the same guidance.

The purpose of this Look Book is to provide basic information about the most common types of home modifications for people with disabilities. By no means does this Look Book include every possible home modification that someone with a disability might need in their home.

Examples of home modifications are provided in order to help people better understand what their home modification could look like. Being able to visually understand the scope of a home modification can be difficult for some people. For example, what is the size of a properly constructed ramp or the difference between a roll-in shower and a walk in shower?

This book also contains tips and reminders to help encourage dialogue about which home modifications are more appropriate. Discussing the pros and cons of a particular home modification can also lead to making better decisions.

# RAMPS

There are a number of factors to consider when deciding on a ramp system. Before you get too far, you need to decide if a ramp is actually the best available option!

Consider these points once you have decided that a ramp is the best solution:

Who is the primary user?

What type of assistive device does the person use (cane, crutches, walker, manual or electric wheelchair, motorized 3-wheel cart)?

Will the person use the ramp independently or will help be needed?

Who will provide help and what are that person's abilities?

Where does the person want to go most often (garage, driveway, front sidewalk)?

Where is the best place to access transportation or the driveway?

If there is an attached garage, can a ramp be placed inside?

How will the ramp affect available yard space?

Are there barriers such as trees, shrubs, poles, etc.?

How will the ramp appear?

What are the local zoning requirements for lot lines and setbacks?

## **Step #1: Determine the best access point:**

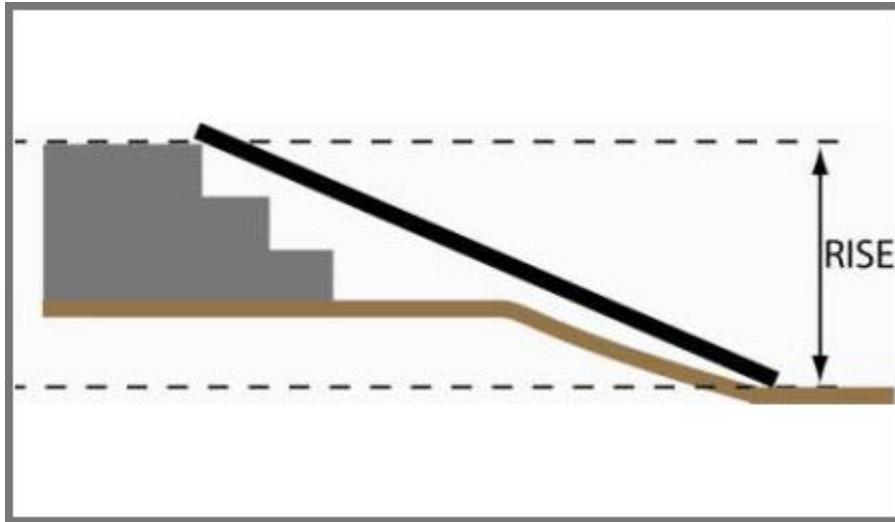
- **Access Door**

- Make sure that the doorway you want to use is wide enough to accommodate a wheelchair. Also look at the interior arrangement just inside that door and the path inside the home after entering. Make sure that there is a clear space to approach the door. Look at the placement of the existing door handles and the swing direction of the door.

## Step #2: Measure the rise:

- **Rise**

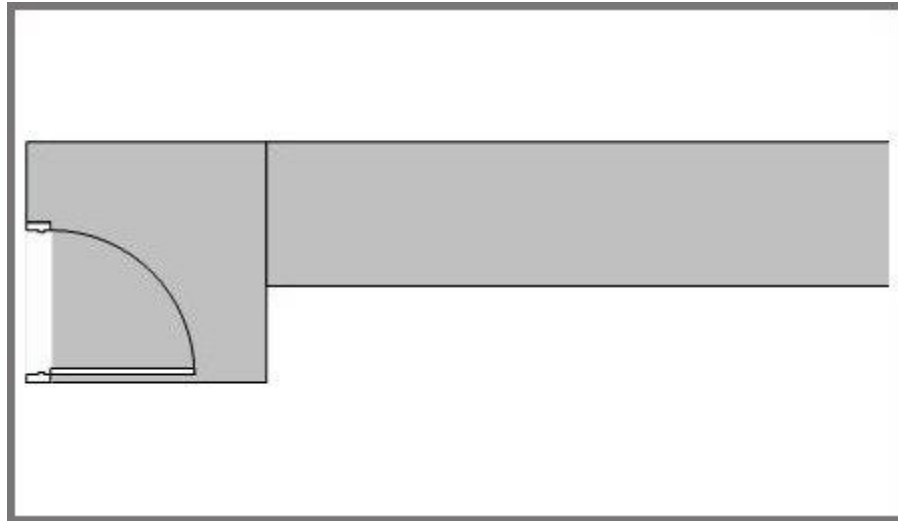
- Measure the rise from the door threshold or from the landing outside the door to the flat area that the other end of the ramp will rest on. Keep in mind that the ground may slope away from the bottom of the steps. (see diagram)



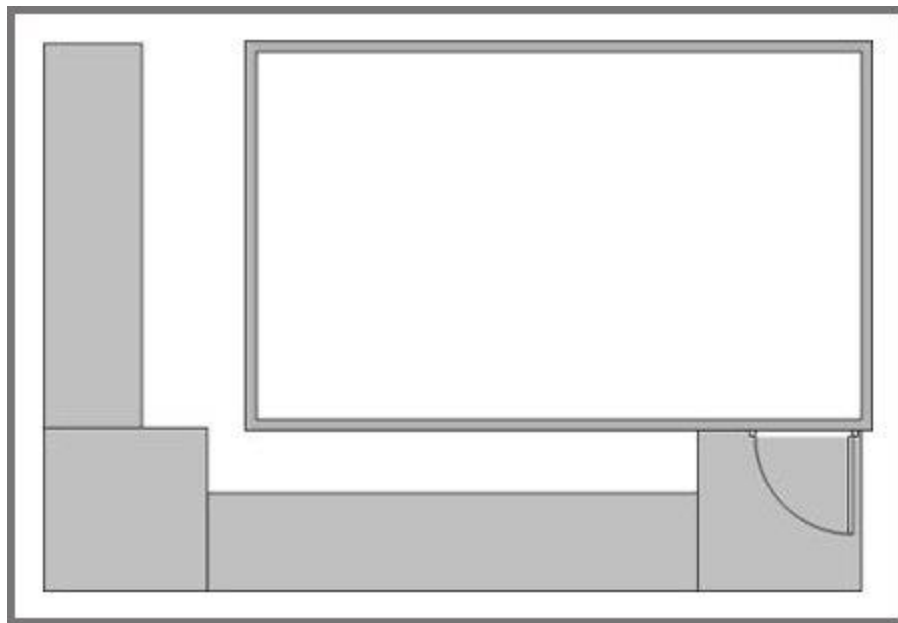
- NOTE: If the measured rise is greater than 30", it might be more cost effective to consider a motorized lift instead of a ramp system.
- Almost all ramps with a rise greater than 30" will require a building permit and in some cases, permits will be required for ramps with a rise less than 30".
- If the rise is less than 3 inches, then consider threshold ramp.

### Step #3: Determine the Best Layout:

- **Straight In** - This is best if you have room for the entire length of the ramp to project straight out from the entrance. (see diagram)

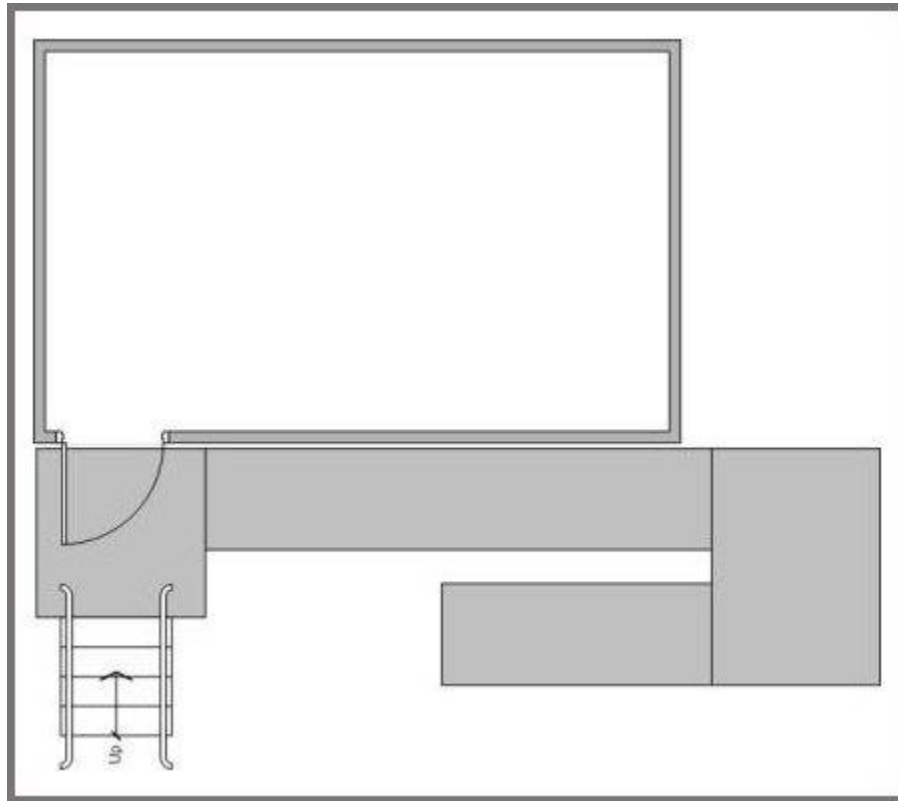


- **L-Shape** - If you don't want the ramp projecting straight out of the entrance, or if your desired landing area is on a different side of the building, you can "wrap" the ramp around a corner. (see diagram)



Don't forget about which way the door will swing. Make sure there is enough room for someone to maneuver their wheelchair on the landing in order to open the door.

- **Switch Back** - This is best if you want to minimize the total amount of space that the system takes up on your property. (see diagram)



- **Addition of Stairs** - If you decide to use the primary building entrance for your ramp system, consider the other people that will be using this entrance. Do you want to force them to walk up the ramp? If not, think about providing steps that go directly from ground level to the top of the highest platform of the ramp system. (see diagram above)

# WOOD RAMPS

These are a couple of examples of what your wood ramp can look like. These examples are based on the minimum construction standards that were developed for the HCBS Home Modification program. A local building code may require other features.



**Ramps with less than a 30" rise may not require handrails but they can still be installed if needed. Wood ramps will require on-going maintenance but are more aesthetically pleasing than a metal or concrete ramp.**





# CONCRETE RAMPS

These are a couple of examples of what your concrete ramp can look like. These examples are based on the minimum construction standards developed for the HCBS Home Modification program. A local building code may require other features.



**Concrete and metal ramps are typically more expensive than a wood ramp but require less maintenance. Concrete and metal ramps tend to look more “institutional” than a wood ramp.**



# METAL RAMPS

Metal and/or Modular Ramps are constructed by the manufacturer and are required to meet ADA standards.



**Metal ramps can be moved and re-used in another location. Metal ramps can look institutional, are low maintenance but cost more than a wood ramp.**

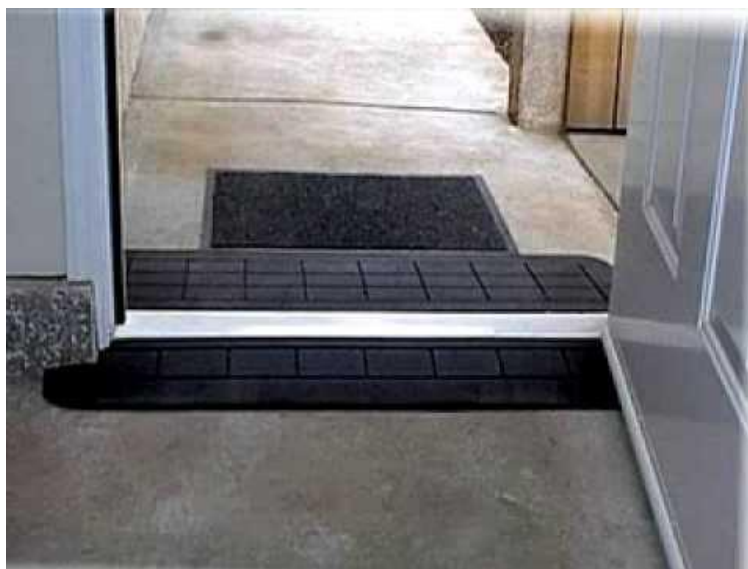


# THRESHOLD RAMPS

Threshold ramps, either metal or rubber, are prefabricated by the manufacturer. Ideally, threshold ramps should be used for thresholds that are less than 3 inches high.



Be sure the threshold ramp is as wide as the door and that a wheelchair cannot drop off the side edge of the threshold ramp.



# PORTABLE RAMPS

Portable ramps are also prefabricated by the manufacturer. This type of ramp is primarily used when a ramp is needed on a temporary basis or when someone is renting and anticipates moving to another location.



Although this type of ramp is meant to be portable, be sure it is secure so that the ramp does not slip out of position when someone is using it. Also, consider the weight limitations of the portable ramp.



# EASY STEPS

In situations where an individual either does not need or want a ramp, but still has difficulty using stairs, Easy Steps could be an option.

These steps have a deeper tread and the rise is lower than standard stairs. The deeper tread can accommodate a mobility device, such as a walker.

The lower rise is good for people who are not able to lift their legs/feet very high.



Deeper tread – can accommodate a mobility device

Lower rise

# ACCESSIBLE SHOWERS: Roll In Showers and Walk In Showers



Roll in shower pans are barrier free, allowing a wheelchair or other wheeled mobility device to 'roll' into the shower.

This is an example of a fiberglass shower pan with fiberglass shower walls.

Fiberglass is less expensive than tile or cultured marble but it is also less durable.

Fiberglass can scratch easily so non-abrasive cleaners should be used.

Showers pans and stalls made from fiberglass are prefabricated by the manufacturer.



This is an example of a tiled shower pan and tiled shower walls.

This type of shower is more durable than fiberglass and when installed and maintained properly, can last a lifetime.

Due to the potential for grout lines to become dirty, this type of shower will require regular cleaning and maintenance.

A Walk-In or Step-In shower is not wheelchair accessible.  
This type of shower requires the user to be able to 'step' over the shower pan threshold.



Tiled Shower Pan and Shower Walls



Cultured marble is man-made from marble shavings and resin. It is comparable in price to a mid-grade ceramic tile. Although this type of shower is durable, a non-abrasive cleaner should be used.



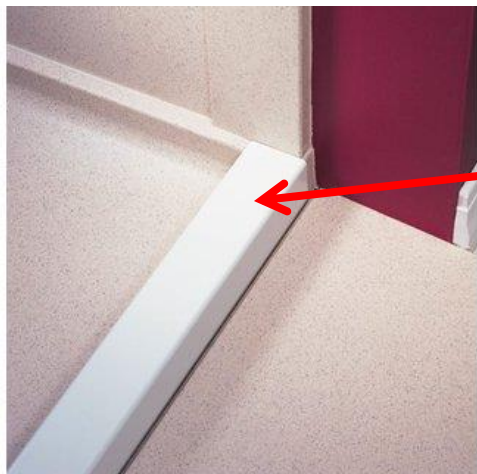
Regardless of which type of shower pan you chose, water will end up on the bathroom floor...

**If someone does not dry off completely in the shower**

**If someone pushes out the shower curtain**

**If the shower hose is misguided**

**A shower chair is rolled back onto the bathroom floor**



Consider installing a collapsible shower threshold or "water dam" when using a roll-in shower pan.

Temporary thresholds can also be installed.

SHOWER DOORS can be installed in order to prevent water from ending up on the bathroom floor BUT REMEMBER shower doors can also restrict the user's movement while in the shower.

Shower doors should NEVER be used to support the user.



# SHOWER ACCESSORIES



Wall mounted shower chairs and benches come in a variety of styles and sizes.

It is important to consider the size and weight requirements of the user when determining which seat/bench to install.

Another factor to consider is whether or not the user needs additional supports like arm rests.

Don't forget to account for the space used by the chair/bench, either in its upright position or when pulled down.



**DON'T FORGET TO CONSIDER!!**

Can someone reach the shower faucet when sitting on the built in seat?



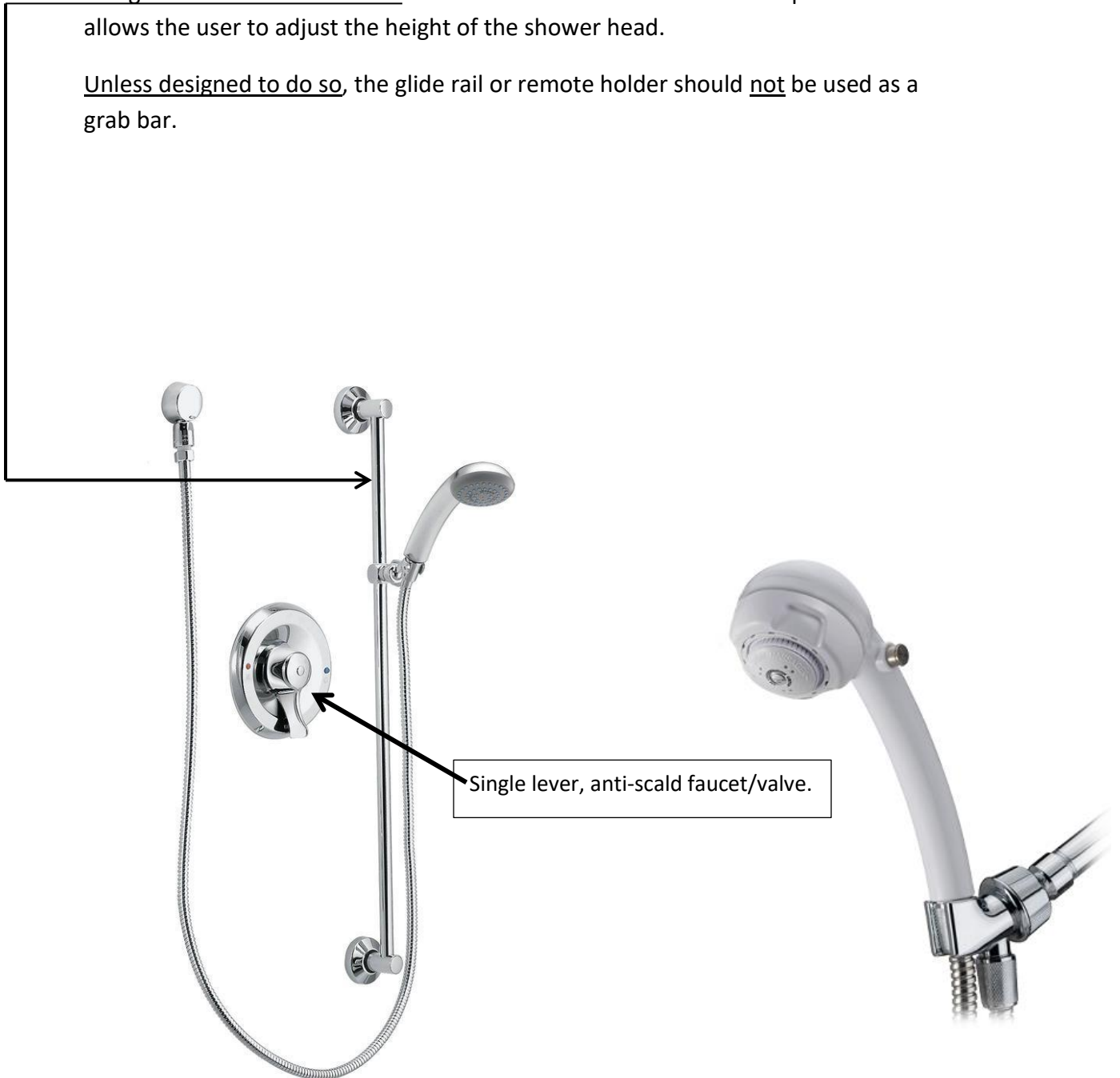
Hand Held Shower Hoses come in a variety of styles.

They should come with a diverter that allows the user to turn on/off the water spray coming from the hand held shower head.

The hand held shower head is typically either chrome or white plastic.

The glide rail or remote holder is used to “hold” the shower head in place and also allows the user to adjust the height of the shower head.

Unless designed to do so, the glide rail or remote holder should not be used as a grab bar.



# TOILETS

Comfort Height or Chair Height toilets are also referred to as an ADA Toilet. The standard height of this type of toilet is 16 ½ inches tall.



Toilet Risers can add approx. 3 1/2 "

Toilet Frames are considered Durable Medical Equipment (DME), come in a variety of styles and can be ordered through the DME Benefit.



# TOILET SEATS



**Bariatric Toilet Seat**  
Be sure there is enough room to accommodate this size of seat.



The "Wingman" toilet seat can assist with transfers.  
Be sure there is enough room to accommodate this style of toilet seat.



# GRAB BARS and SAFETY POLES

Grab Bars come in variety of sizes and styles. They are considered DME, unless part of a larger home modification project.



## Flip Up or Fold Down Grab Bar

It is very important to consider weight capacity of the bar.  
This type of bar is typically installed when a fixture, like a toilet, is not adjacent to a wall.



Tub Mounted Grab Bar



Wall-to-Floor Grab Bar

A Flip Up/Fold Down Grab Bar could also be used in this situation.



Safety Poles



# ACCESSIBLE SINKS

A Wheel Chair accessible sink provides space for a wheel chair to be pushed or rolled under the sink. Accessible sinks can be designed in a variety of ways.

Base cabinet removed with drawers for storage.



Don't forget to install pipe protection to prevent the pipe from causing burns when the hot water is in use.



Wall hung counter top with sink. This design does not provide any storage under the counter top.

A wall hung sink will have minimal storage space along the rim of the sink and does not have a base cabinet for storage space under the sink.



Pipe protection

Pedestal Sinks come in a variety of styles and sizes. Consider the pedestal and how it can impede a wheelchair.



When removing or modifying an existing base cabinet/vanity, the floor covering will need to be addressed. Typically, these fixtures are installed prior to the floor covering so when they are removed/modified, the floor space once occupied by the base cabinet/vanity will not be covered by the floor covering. The wall covering may also need to be addressed.

At **NO** time should a sink/vanity/countertop be used to support the weight of a person.



Create more space in a small bathroom or ½ bath  
by using a corner wall mounted sink



Create more space under the sink  
by using an off-set drain

## Examples of Lever Faucets



Dual Lever Faucet



Single Lever Faucet

## Walk In Tubs



Can the user reach the faucets and hand held hose from a seated position?

Can someone close the door once seated?

Will their knees get in the way?

Consider the height of the tub door threshold.

Will the user be able to step over the threshold?



What is the justification for a walk in tub vs an accessible shower?

If a jetted tub is justified, remember that this type of tub will require an additional electrical circuit, adding costs to the project.

Walk In tubs use a large amount of water. This can result in higher water bills and the need for a large water heater. Medicaid typically will not pay for a water heater.

How will the client stay warm while the tub fills with water or drains? Installing a heat fan will add costs to the project.

Consider the need and location of grab bars. Is a hand held shower hose needed?

Is the tub door wide enough? Can the client fit in the tub? Can they get up from a seated position?

How will the client close the door once in a seated position?

If someone uses a wheelchair, will they be able to transfer onto the built in seat?



### **OTHER IMPORTANT CONSIDERATIONS**

When installing a walk in tub in a mobile home or above a basement, additional support will be needed. This can add to the cost of the project.

**Can the walk in tub fit through the bathroom door or down a hallway in order to get the tub in the bathroom so it can be installed?**

If the bathroom door needs to be widened in order to allow the walk in tub to be installed, will the door remain widened? Will the door be restored back to its original width?

## What if the installation of a walk in tub is not possible?

Using a hydraulic bath lift could be an option. This type of bath seat would be considered DME.



The user would need to be able to transfer onto the bath seat, so consider the location of grab bars.

Also, the user would need to be able to swing their legs over the tub, with or without assistance.

He/she would also need to be able to support themselves while using the bath seat.

The user would not have to wait for the tub to fill or drain before getting out of the tub.

This option would also use less water.

The user is able to lower him/herself down into the tub in order to soak.

He/she would need to be able to fit in a standard size tub.

When using a hydraulic bath seat, consider the size and weight of the person that will be using the seat.



# Tub Cuts

A tub cut with a door allows for the use of the shower as well as the tub.

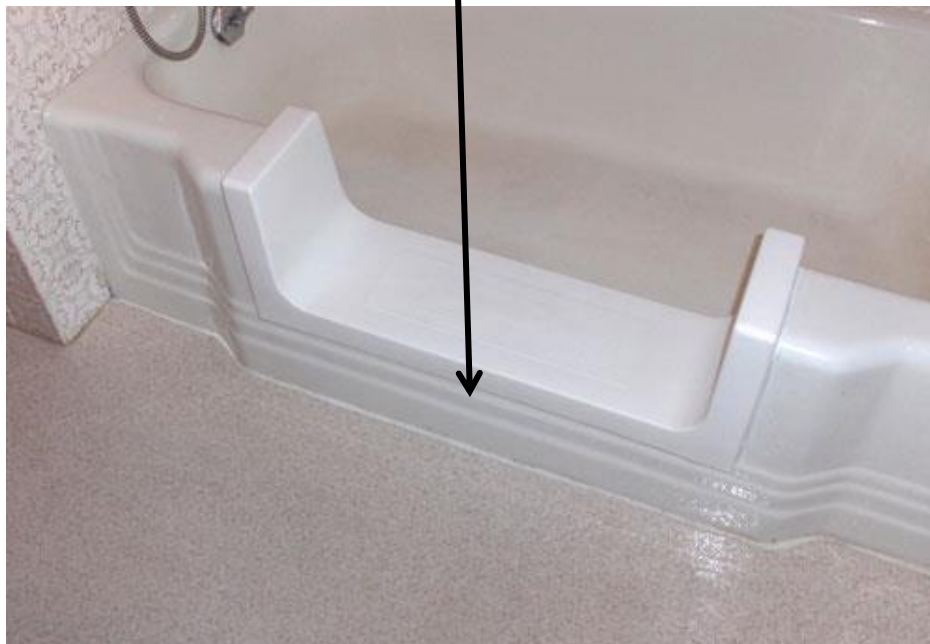
Don't forget about grab bar placement.

Consider the location of a hand held shower hose and glide rail.

A hydraulic bath seat may be needed and can be purchased through the DME benefit.



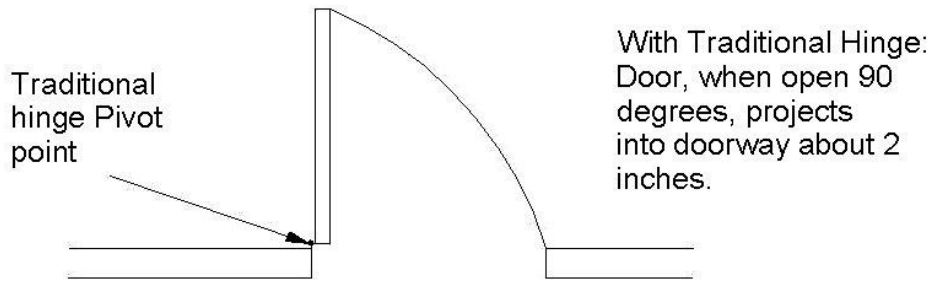
In either situation,  
don't forget about the  
threshold height.



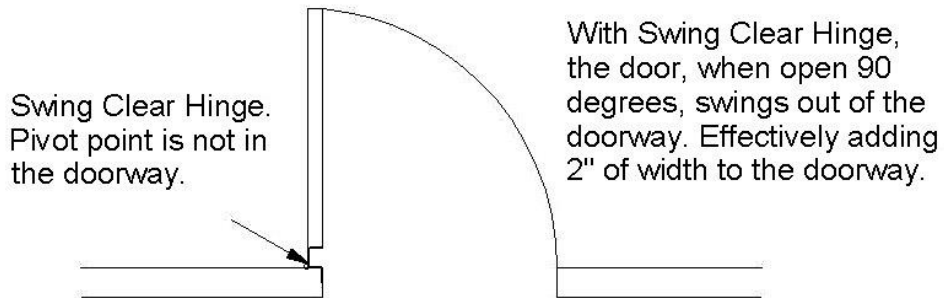
A tub cut can also be used when an accessible shower is needed but it is not possible to install either a roll in shower or a walk in shower.

# DOORS

## Doorway with Regular Hinge



## Doorway with Swing Clear Hinge



Is there a smooth transition?

## Barn Door



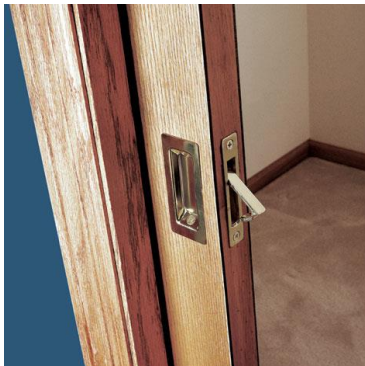
## Pocket Door



Will light switches, outlets, temperature controls, alarm key pad, etc., need to be relocated in order to allow room for the barn door or pocket to operate? If so, be sure to relocate in an accessible area.

Consider user friendly door pulls

Typical hardware on a pocket door may be difficult for some people to use.





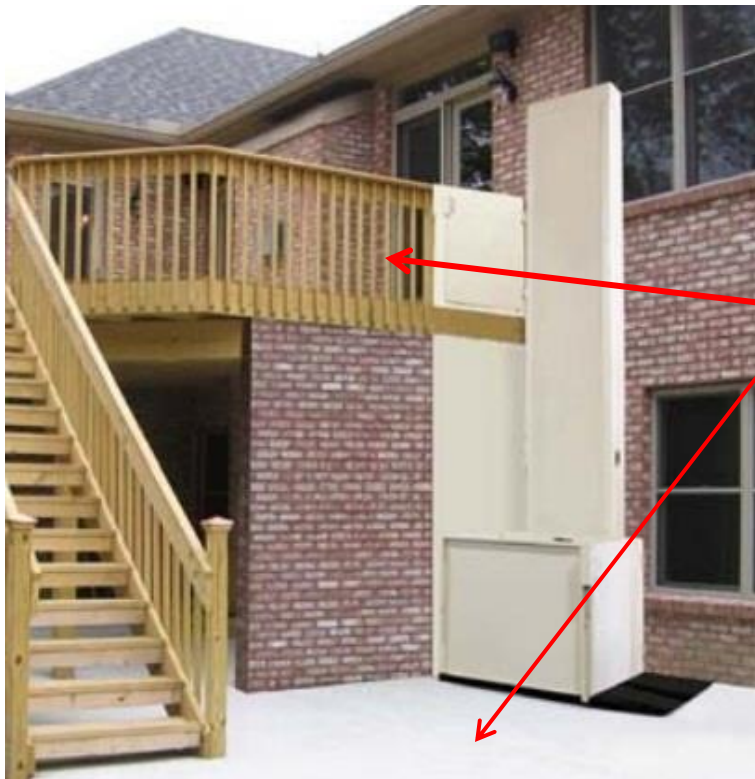
# EXAMPLES OF SINGLE LEVER DOOR HANDLES



## VERTICAL PLATFORM LIFTS (VPL)



A VPL will require a dedicated electrical circuit. This will add cost to the project.



Be sure there is an accessible route to the lift and that there is enough room for someone in a wheelchair to access the lift from the top and bottom!

# STAIR GLIDES

Stair glides are an option to provide access to different levels within the home when a ramp is not possible.



Is a curved or straight stair glide needed?

Consider the size and weight capacity of the seat.

Does the seat need to swivel?

Are additional supports needed, like arms rests or a seat belt?

How much space will the lift occupy?

How much space is needed for someone to mount/dismount from the seat?

Will the user be able to mount/dismount either with or without assistance?

An additional electrical circuit may be needed, which will add costs to the project.

Will the end of the track create a tripping hazard? If so, consider a hinged folding track (either auto or manual).

Don't forget that a stair lift needs to be maintained. Repairs can be costly.



# CEILING TRACK SYSTEM



Additional electrical circuits might be needed, adding cost to the project.

Don't forget about doorways



# FLOORING

There is an abundance of flooring options! Too many to list! So how do you choose the right type of flooring?

## TIPS for CHOOSING the RIGHT FLOORING

Thick carpet can become a tripping hazard and can also become an obstacle to a wheelchair or other mobility device. If carpet is being used, choose a low pile carpet. It is also a good idea to use carpet tiles, which make repairs easier and less expensive.

When using laminate, it is important to use a grade that will hold up to wheelchair use.

Vinyl is water resistant. When possible, use vinyl tiles instead of sheet vinyl. If the vinyl is damaged, then only the damaged tiles will need to be replaced. As with laminate, it is important to use a grade that will hold up to wheelchair use. This will typically be a commercial grade.

Tile is water resistant and a good choice for a bathroom or kitchen. Larger tiles can crack under the weight of a wheelchair. Tile is also durable but requires maintenance to keep grout lines clean. Over time, the grout may also start to chip.

Choose flooring that is slip resistant.

Avoid high transitions between different types of flooring.



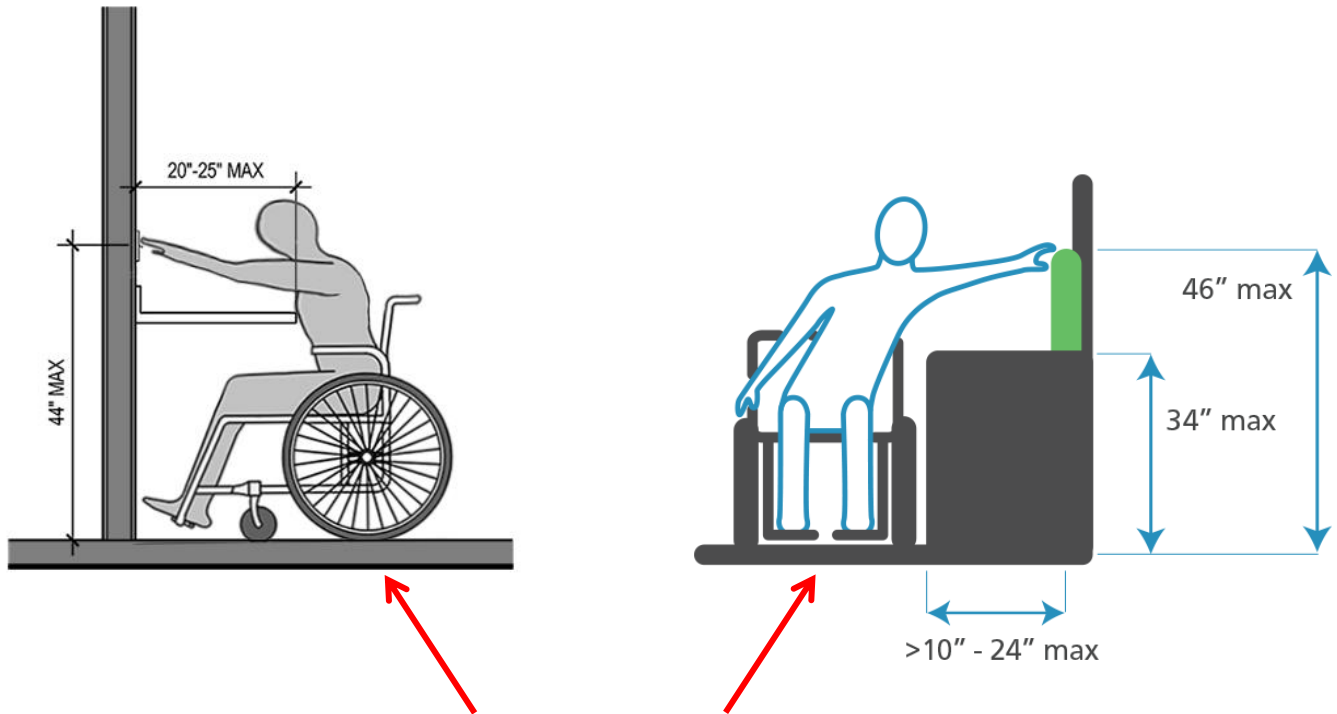
# COMMON KITCHEN MODIFICATIONS

Pull out shelving for base cabinets and pull down shelving for top cabinets.



Accessible shelving for a corner cabinet can help eliminate the need to bend and reach back for items.

Consider the height and depth of the counter.  
Can someone in a seated position use the counter and reach the outlets or switches located on the back wall?



These dimensions are intended to be used as a guideline and would not be required for a home modification.

**REMEMBER** that each person with a disability will use their space differently.



Not everyone that needs an accessible kitchen uses a wheelchair.  
Some people have difficulty bending and need higher counters.

## Different kitchen designs for different needs and abilities

When opened, these cabinet doors will slide back under the sink area.  
The doors can then be closed when access is not needed.



- 1 Open space for wheelchair to roll under sink
- 2 Higher toe kick for footrest on wheelchair
- 3 Front controls on stove
- 4 Accessible work space next to stove



Tilted mirror so individuals can see food on rear burners

Front controls on cook top to avoid reaching over hot burners



Lowered built in oven

Faucet installed at side of sink

Lowered wall cabinets

## WHAT IS ELIGIBLE FOR HOME MODIFICATION FUNDING?

Below is a list of examples of modifications eligible for home modification funding through the following four Home and Community Based Services (HBCS) waiver programs: BI/EBD/SCI/CMHS. Eligible modifications must be supported by an OT or PT evaluation. This list is **NOT ALL inclusive**.

Accessible showers to include the shower accessories necessary to make the shower functional for the individual such as hand held shower hose, faucet, built in shower seat, grab bars, storage shelves for toiletries, curtain rod and weighted shower curtain

Walk in tubs to include the tub accessories necessary to make the tub functional for the individual such as hand held shower hose, faucet, built in seat, grab bars, storage shelves for toiletries

Ramps, Threshold Ramps, Portable Ramps (must be secured to a surface)

Railings, Handrails, 'Easy' Steps and replacement or repair of existing railings/handrails/steps

Toilets

Accessible sinks and Accessible vanities/cabinets

Sink faucets – user friendly faucets like lever type faucets

Widening of doors and installation of Clear Swing Hinges for access

Door handles – user friendly handles

Vertical Platform Lifts (VPL), Stair Glides, Ceiling Track Systems

Slip resistant flooring or flooring specifically for wheelchairs or other mobility devices

Accessible Routes providing access or egress to/from the home such as a sidewalk

Auto Door Openers

Installation of additional electrical circuits for wheel chair lifts, stair glides, jetted walk in tubs, ceiling track systems or to satisfy a code requirement associated with a home modification

Plumbing and electrical that is necessary in order to complete the home mod and/or to satisfy a code requirement associated with the home modification\*

Repairs to an existing home modification and/or repairs necessary to complete a home modification. For example, replacement of rotting studs in order to install the walls for an accessible shower\*

**\*PLEASE NOTE:** Even when plumbing, electrical and/or repairs are needed in order to complete a home mod, scope of work and projects costs will still need to be considered and approved. In some situations, the client may need to seek other funding to cover the costs.

**Below is a list of examples of modifications not eligible for home modification funding or modifications that could be considered on a case-by-case basis through the following four HCBS waiver programs: BI/EBD/SCI/CMHS. This list is NOT ALL inclusive.**

Home modifications not supported by an OT/PT evaluation

General home repairs or maintenance not associated with a home modification

Upgrades to or replacement of existing fixtures or finishes for aesthetic purposes

Duplication of Services – For example, to complete the same modifications in more than one bathroom within the same home. Some situations can be considered on a case-by-case basis

Vehicle Modifications

Decks and Porches of a size that exceeds what would be necessary to provide access for a client

Computers, cell phones, and televisions

DME (Durable Medical Equipment)- Equipment that can be purchased through another funding source such as but not limited to: portable shower chairs, hydraulic bath seats, bedside commodes, toilet frames and portable toilet seats, bed rails, hospital beds, bed pans, mattresses, wheelchairs, canes, walkers, scooters or other mobility devices and grab bars that are not part of a larger home modification project.

Furniture

Home modifications that do not meet a required code or specification

Home modifications for someone other than the client – For example, providing a home modification solely for the benefit of another family member or caregiver

Driveways and Carports – considered on a case-by-case basis

Air Conditioning, Heating and Appliances– considered on a case-by-case basis

### **FEDERALLY FUNDED AFFORDABLE HOUSING**

When compliance with Section 504 of the Rehabilitation Act of 1973 is required, modifications for clients residing in federally funded affordable housing would not be eligible for home modification funding. Please discuss your needs with your property manager and/or owner and follow their process for requesting a home modification.

## CONTACT INFORMATION

For more information or questions please contact:

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