PLANNING TODAY FOR TOMORROW

UNIVERSAL DESIGN

HAMPTON ROADS DISABILITIES BOARD
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Presented by
Shirley Confino-Rehder cid
scr@univdesign.com     www.univdesign.com
757-513-4880
 UNIVERSAL DESIGN

“The concept of designing all products and the built environment to be aesthetic and usable to the greatest extent possible by everyone regardless of their age, ability or status in life” …Ron Mace

Some Universal Design principles:

• Safety
• Functional
• Financially feasible, affordable
• Used by most everyone
• Easy to understand, easy to use
• Adaptable
• Aesthetically appealing.
DESIGNING FOR REALITY

In a survey of 5 million people at the Joint Center for Housing Studies - Harvard University:
  • 1.1 million people have trouble reaching
  • 1.8 million people have trouble bathing

• Change in our abilities changes the standards of anthropometric measurements currently used for reaching, sitting, and working.

• Change in our hearing require changes in the acoustical controls in our home.

• Change in our vision require changes in our lighting and tactile needs.

• Change in your communication allows for home care without leaving your home.
Automation
ACCESSIBLE HOUSING
Fixed features installed during construction
No-step entrances
Slip resistant flooring
Pre-wiring for remote controls
Wider entries and interior doorways
Reinforced walls
Accessible, adaptable bathrooms and kitchens

ADAPTABLE HOUSING
Enabling features added when needed
Grab Bars
No twist hardware such as lever door handles, faucet controls
Security systems
Any type of assistive technology
The KITCHEN
The heart of the home
- Stove tops
- Raised ovens
- Counter top microwaves
- Rear drain
- Lever controls
- Cabinet pulls
- Few/no overhead cabinets
- Remote Control window shades
- Adjustable work surface furnishings
- Fully charged fire extinguisher near stove area

Pull out cabinets
Wider corner opening
Clearance
Shallow storage
Bi-fold doors
Adaptable cabinetry

“U” shaped handles

Counter height micro and oven

Slip resistant floor

9” toe kicks

Good task lighting

Drawers outfitted for dishes, pot/pans and glassware
Pull out cutting board(s); Feature textured strip on counters
Use open storage, or side-hinged cabinets.
Easy to reach controls for light and vent

Shallow, wide sink with rear drain. Stove top- easy to read, tactile cues, side or front controls.
Low relief stripe on all countertops.
Install automatic shut offs for stove and water, gas leak alerts
Shallow French Door
Bottom Freezer

*Clearance space to open doors completely*
Pull out drawers

Pull out refrigerator shelves

Front loading washing machine/dryer
BATHROOMS

Accident
An unexpected occurrence which causes injury, loss, death, or any unfortunate result.

Potential Accidents
Does not just happen, they are planned and are waiting to happen.

An estimated 235,000 accidents occur in bathrooms annually.

Bathrooms are the second major site of drowning in the home.

Human ergonomics are seldom a factor in designing bathrooms.
Twist knobs

Free hanging Shower head

Unattached Water plug
Adapt – Make Bathrooms Safer

- Grab bars – installed properly, inside tub
- Wide ledge to sit on to get inside and exit tub
- Glass blocks to cover space of seat
- Add phone, lever controls, hand held shower
Reinforce a wall for a grab bars (handrails)

- Grab bars outside diameter gripping surface 1¼” to 1½”
- Mount grab bars 1½ from adjacent wall.
- Grab bars mounted 33” and 36” from floor.
tub bend
turn trap flat against wall
knee space

Drain Pipe Clearance for Future Knee Space
Safe seating for bathing

- Portable seat
- Attached fold down seat that is properly secured to wall, not super glued
Adapt - Replace

Tush-Push
a portable electric toilet lift

Remote controlled bidet

Toilets - heights from 14.5”-19”, raised if needed

Toilets/Seats can open, closes, flushes, clean automatically

Contrast color from floor/walls
Flush control  Sensor faucet  Soap dispenser

Good even lighting - Audio/visual alarms for fire,
No lock on door - No glass - Secure bath mats
Automatic showers - Body dryers – Soap dispensers
Natural light, privacy

Roll-in shower

Comfort height commode

Plexiglas mirror

Rounded corners

Drain pipe covers

Lever handles
Remove bathtub and replace with roll-in shower.

Remote control shower and dryer
- Trench Drain – no change in slope of floor
- Grate same level as floor
- Concrete channel with a drain under the finished floor
Roll-in Shower Design options
**Confirm sloping goes into Shower!**

Floor transition
/slope

Floor
Room floor

1:2 slope max shower

Beveled Transition

1/2” Max.
Roll-in shower, seating, nature light
NOTE:
Exterior mounted sliding doors require no major structural changes

DOORS SWINGS INTO ENTRY
Swing-away hinges – or - Swing Clear Offset Door Hinges

Used to widen doorways up to two full inches hinges work with most regular sized doors and most existing hinge holes without the time or expense of modifying the door frame. Your may have to remove partial door stop.
SPACE & ETC.
Avoid wasted space. Multi-depth storage 12”-18“ Reinforce Hooks

Stacked closet can be future elevator shaft
Avoiding clutter in the closet

- Divide closet into sections.
- Adjustable Rods  -  Adjustable shelves
- Bi-fold doors  -  Sliding doors
- Lighting in closet
- Hooks, Hooks, Hooks
Wider doorways
No thresholds
Lever door handles
Easy to read controls

** Mark escape routes and toilet routes with reflective tape.
No glare flooring
Slip resistant finishes

Equal risers
Contrast treads
Non-glare lit stairs
Handrails, securely installed on both sides of staircase
Eliminate raised threshold from the outside deck to the inside of the house.
Otodor®- Automatic Swing Door Opener
For interior doors up to 42" wide and as heavy as 100 lbs. Easy to install. A handyman or locksmith should be used to install the electric strike.
Berm pathway to eliminate steps
Add ramp and decorate with landscape
No step entrances. Easy entry access
Lever hardware
No step entrance
Automatic light sensors
Non-slip exterior floors
Window to see visitor before opening door
Landscape to control water drainage, encourage birds, a variety of smells, sound of water.

Create secure walking paths for exercise, accessible planters, shaded seating.

Full view of paths, gardens, exercise areas from inside of home.
More Home Features for People Using Wheelchairs

• Corner guards
• Reinforced railings around the house
• Slip resistance flooring
• Easy to open windows
• Lowered front peep holes, with closures
• No-step entrances, No thresholds
• Lower mirrors in bathroom
• Level stable walkways on to garden and patio
More Home Features
For People Who are Deaf

Alerting devices that feature a loud tone, flashing lights or vibrations to alert people with a hearing loss to various environmental sounds -

- Door bells
- Telephones
- Fire/smoke alarms
- Carbon Monoxide detectors
- Security alarms

Audible, visual alarms in bathroom, bedroom, kitchen, garage, work stations.
More Home Features for People Who are Blind

Use labels with tactile markings and with Braille for major buttons and functions:

- W/D
- Dishwashers
- Ovens and stoves
- Refrigerators
- Thermostats
- Control panels
- Counter top tactile guides
- Don’t change/add furniture placement unless you tell the person with is blind.
More Home Features

- Contrast colors, brightness, and textures of walls, fixtures, floors, and doorways.
- Task lighting in areas of bathing, toileting, kitchen.
- Flooring - slip resistant, secure, low pile, antibacterial
- Round edges for safety.
- Noise control for heating/air conditioning units
- Use hardware that is operable with a closed fist
- Place working surfaces near electrical outlets
- Create open space under work counters, minimum 30” width, 19” deep and 27” clearance from floor.

Safety and security in and around the home should never be sacrificed for aesthetics
Ageing in Place

Challenges

Any Questions?

Presentation by Shirley Confino-Rehder cid
www.univdesign.com
scr@univdesign.com 757 513-4880
Resources

- http://www.abledata.com/abledata_docs/icg_hear.htm
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