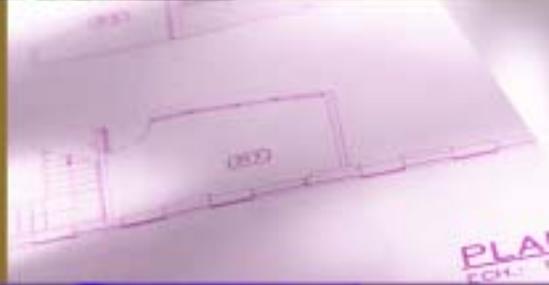




# Design Tools for Life-Long Homeownership



This resource guide presented by  
Tomorrows Home Foundation



# Resource GUIDE

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## Introduction

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Single-family residential construction is not currently regulated by the Americans with Disabilities Act (ADA) or Federal Fair Housing laws. Therefore, this guide is to be used as a reference to assist home manufacturers, retailers and consumers in constructing factory-built homes that will be usable by people with unique levels of physical ability.

No two humans are identical, including people with disabilities. When constructing a home for someone with a disability, it is crucial to remember that the home needs to accommodate his or her own personal physical ability. There is never just one access feature that accommodates all individuals with a disability. As with all residential construction, it needs to be personally tailored to fit the homebuyer's needs. No one floor plan will fit every person.



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## Why Serve This Market?

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### **Why Market to this segment? The better question is.... Why not?**

Would a good entrepreneur eliminate 20% of the U.S. population from his/her list of potential customers? Of course not! Unfortunately, that is exactly what many HUD Code and modular retailers and manufacturers that do not accommodate people with disabilities are doing.

The U.S. Census Bureau estimates that one out of five Americans has a disability. Nationally, that equates to roughly 49 million Americans. With the population of America aging, and the likelihood of having a disability increasing with age, growth in this number is expected to accelerate at a rapid pace in the coming decades. In fact, if the current trends hold true, Americans 65 years old and over will make up over 20 percent of the total population by the year 2030.

The need to market the factory-built housing product to aging Americans is even more apparent when consideration is given to population statistics. The baby boom generation accounts for people born between 1946 and 1964. This generation controls seventy percent of the wealth in the United States and they are aging, which in turn means the need for accessible housing is on the rise.



## Universal Design

Universal design is a concept that incorporates very low cost design modification in housing that makes the home more suitable for many levels of ability. There are many reasons, both practical and economic, for creating a habitat that almost everyone can use. Designing homes for the ability to age in place makes perfect sense. The cost of retrofitting an existing home is far greater than incorporating a few simple principles in the initial building or manufacturing stage. Universal Design principles can easily be incorporated into the design of almost any factory-built home. The following is a list of some of the most common items that may be considered Universal Design:

- Zero step entrance
  - At a minimum of one exterior entrance
  - Entry door from garage to house
- Door widths at 36"
- Lever handles on doors & plumbing fixtures
- Grab bars or wall bracing for grab bars should be installed near commodes and bathing areas at the time of construction
- Hallways wide enough to accommodate a turn by a wheelchair into a room (36" - 42" minimum width)
- Bathroom large enough to accommodate 5' turning radius, or T-turn
- Bedroom on the main floor large enough to accommodate 5' turning radius, or T-turn
- Other Considerations
  - Cabinets under sinks should have knee space or have easily removable doors or front panels
  - Electrical outlets should be raised to a height reachable from a wheelchair (18" - 24" minimum height from floor)
  - Thermostats should be lowered to be within reach for someone in a wheelchair [48"] (larger thermostats for someone with low vision)
  - The primary electrical service or fuse box should be on the main floor

## Visitability Trends

Visitability is an advocacy movement that is gaining momentum throughout the United States. It suggests that single-family homes should be designed so that people of all ages and abilities can visit the home. Some municipalities and counties such as Naperville, IL and Pima County, AZ have passed legislation that mandates visitable design in certain homes in which any type of subsidy is used. This concept generally requires at least one no-step entrance, doors and hallways wide enough to navigate through (generally a 32 inch clear passage through), and a main floor bathroom big enough to get into in a wheelchair and still be able to close the door.

Eleanor Smith, founder of a disability rights group called Concrete Change told the New York Times, “When someone builds a home, they are not just building it for themselves—that home is going to be around for 100 years, these things hurt nobody and they help a lot of other people.” To a great extent this is true and any person building a new home may want to consider issues that may not currently affect them or their visitors, but it may affect them in the future.

The benefits of building a visitable home include:

- Elderly residents are more likely to be able to remain in their existing homes, rather than having to move out or do extensive, expensive renovation, if their home has visitability features.
- Sale and re-sale of the home is enhanced in an era where the senior demographic is growing rapidly and baby boomers are attracted to homes that welcome their aging parents and provide easy-use homes for themselves.
- Visitability features cost little up front—unlike the higher after-the-fact cost of renovation for widening doors and adding ramps.
- All residents find it easier to bring in baby strollers, groceries, heavy furniture, etc.

### Funding Sources for Disabled Consumers

Whether a person rents or owns a home, it involves a monthly payment of either rent or a mortgage. Often, the only thing that stands in the way of homeownership is the down payment. The down payment becomes a major obstacle on Medicaid recipients and others because of asset restrictions. With the assistance of federal, state and charitable programs designed to increase homeownership for low-income families, these down-payment woes can often be lessened or even eliminated. Homeownership for these families provides long-term financial stability for the homeowner, their family, the community, the economy, and the school system. With programs like these, everyone wins!

#### **Case Example: The Winnen family purchased a home with \$27,900 in down-payment assistance.**

When Ralph and Julie Winnen of Green Bay, Wisconsin thought of owning their own home, they felt it was an “impossible” dream. Ralph worked full time at a recycling company making \$25,000 annually. The Winnen’s had been married 20 years and had triplet daughters, Brandi, Carol and Dawn. Brandi was born with Cerebral Palsy and her condition required Julie to stay at home to care for her. Brandi’s family had been forced to carry her to bed each night up a flight of steps for seventeen years because the only affordable rental home they could find had steps.

With the help of several agencies, the Winnen’s dream of homeownership became reality. Julie Winnen contacted Options for Independent Living and told them that because of back problems caused by carrying her seventeen-year-old daughter, her family desperately needed a wheelchair accessible home, but they could not afford the down payment. The Independent Living Center contacted the WI Manufactured Housing Association (now Wisconsin Housing Alliance) to see if manufactured housing was less expensive and if factory-built homes could be made wheelchair accessible. Soon, a retailer and a manufacturer, who specialize in accessible housing, stepped in and everything started to come together.



## Funding and Fairness

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Construction costs for a fully accessible home were calculated at \$110,281, plus roughly \$20,000 of in-kind contributions. This was roughly \$25,000 less than the site built home that was proposed by an area builder. In addition to the reduced cost of the home, the Tomorrow's Home Foundation, the charitable affiliate of the WI Manufactured Housing Association (now Wisconsin Housing Alliance), offered a \$2500 grant to the family under their Universal Access Grant program.

Things were looking up for the Winnen's. Other sources contributed the following down payment funds:

\$5000	The Green Bay Mayor's Neighborhood Resource Board
\$4900	Community Action of Green Bay
\$5000	WI Housing and Economic Development Authority Site Improvement Grant
\$7500	Affordable Housing Program funds through the Federal Home Loan Bank
\$3000	Neighborhood Housing Services Grant

All of this combined with a 4% low interest loan from the WI Housing and Economic Development Authority made the total package very affordable for this well deserving family.

### **Where can a retailer send his customer to find this type of assistance?**

First of all, it takes some time and effort to pull all of the funding together. Projects like the Winnen's require patience and persistence, but they are well worth it for retailers and for their customer. Once a retailer has observed this process the first time and jumped through all of the hoops, it can be easily repeated for other customers who would otherwise not be able to afford a home.

Programs similar to those mentioned above exist everywhere throughout the United States. Affordable housing is a top priority among state and federal legislators, as well as, local non-profit organizations. Now is a great time to utilize these funding mechanisms. Factory-built

housing is the perfect solution for the affordable housing crisis and the manufactured and modular retail network must be on the front line in promoting the product at all levels.

### Federal Sources

#### Federal Home Loan Bank

#### Affordable Housing Program (AHP)

The AHP subsidizes the cost of housing for very low-income and low- or moderate-income owner-occupied and rental housing. The subsidy may be in the form of a grant (“direct subsidy”) or a below-cost interest rate on an advance (loan) from the Federal Home Loan Bank to a member lender. AHP subsidies must be used to fund the purchase, construction or rehabilitation or refinancing of:

- ***owner-occupied housing*** for very low-income and low- or moderate-income households (at or below 80% of area median income (AMI)); or
- ***rental housing*** in which at least 20% of the units will be occupied by and affordable for very low-income households (50% of AMI). (AHP funds may also be used to fund additional units targeted to households with incomes up to 80% of AMI.)

Each of the 12 Federal Home Loan Banks contributes at least 10% of its annual net earnings to its AHP. In 2001, a combined total of \$246 million was available for the AHP. The majority of the AHP subsidy is made available through a competitive application process at each of the Federal Home Loan Banks. Member lenders submit applications for subsidy on behalf of the sponsors of eligible housing projects. The rest of the subsidy is made available through an optional homeownership set-aside process.

Retailers and consumers can access information about programs through their local federal home loan bank community investment office. You can access the Federal Home Loan Bank nearest you via the web at

[http://www.fhfb.gov/FHLB/FHLBS\\_districts.htm](http://www.fhfb.gov/FHLB/FHLBS_districts.htm). These subsidies can be as much as \$10,000, so it is well worth the effort to find an agency that sponsors these programs in your area.

### **Section 8 Homeownership Option**

Until recently, the Section 8 Housing Choice Voucher could only be used to assist families with the cost of a rental unit. On October 12, 2000 a final rule was issued under the Section 8 program that gave Public Housing Authorities (PHA) the ability to offer homeownership programs for mortgage payments. These programs are available at the option of the local public housing authority. Most PHA's are just now starting to get the home ownership programs up and running. These programs are generally available only to first time homebuyers.

The Public Housing Authority is most often the administrator of this program, but they can contract with local non-profit agencies, so a consumer has to do some checking to see if this program may be available to them in their area. These programs can be in the form of down-payment assistance or monthly subsidies of the mortgage. The Housing Authority has the option of how they choose to implement the program. In either case, the housing has to meet quality standards.

### **US Department of Housing and Urban Development (HUD) HOME Program Funds**

HOME provides formula grants to States and localities that communities use, often in partnership with local nonprofit groups, to fund a wide range of activities that build, buy, and/or rehabilitate affordable housing for rent or homeownership or provide direct rental assistance to low-income people.

HOME is the largest Federal block grant to State and local governments designed exclusively to create affordable housing for low-income households. Each year it allocates more than \$1 billion among the States and hundreds of localities nationwide.

In order to locate the HUD office in your area, you can go to <http://www.hud.gov/offices/hsg/sfh/hcc/hccprof14.cfm> and click on your state. This provides a link to housing agencies in a particular state that administer HOME funding programs and often provide housing counseling.

### **Community Development Block Grant Funds**

The State CDBG Program provides States with annual direct grants, which they in turn award to smaller communities and rural areas for use in revitalizing neighborhoods, expanding affordable housing and economic opportunities, and/or improving community facilities and services.

Since 1974 CDBG has been the backbone of improvement efforts in many communities, providing a flexible source of annual grant funds for local governments nationwide. With the participation of their citizens, communities can devote these funds to a wide range of activities that best serve their own particular development priorities, provided that these projects (1) benefit low- and moderate-income families; (2) prevent or eliminate slums or blight; or (3) meet other urgent community development needs.

### **USDA Rural Development**

#### **Loan Guarantee Program (Section 502)**

Under the Guaranteed Loan program, the Rural Housing Service (RHS) guarantees loans made by private sector lenders. (A loan guarantee through RHS means that, should the individual borrower default on the loan, RHS will pay the private financier for the loan.) The individual works with the private lender and makes his or her payments to that lender.

Under the terms of the program, an individual or family may borrow up to 100% of the appraised value of the home, which eliminates the need for a down payment. Since a common barrier to owning a home for many low-income people is the lack of funds to make a down payment, the

## **Funding and Fairness**

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availability of the loan guarantees from RHS makes the reality of owning a home available to a much larger percentage of Americans.

USDA Rural Development also has other self-help housing programs and loan programs that you can find by accessing the Federal Register or through their web site, which is <http://www.rurdev.usda.gov>.

### **State, County and Local Funds**

Every state has some funding programs to promote housing and economic development. Most states have a state housing agency and finance authority, such as Wisconsin's Division of Housing and the Wisconsin Housing and Economic Development Authority. These type of agencies should be a tremendous resource to point a consumer in the direction of housing counseling that includes referrals to down-payment assistance programs, low interest loans sources, and even credit counseling.

Metropolitan cities almost always have a Neighborhood Housing Services agency. These non-profit organizations often have funding sources for affordable housing. They frequently have redevelopment money for city infill projects and neighborhood specific programs for affordable housing.

### **Non-Profit Agency Funds**

Non-profit organizations often have down-payment assistance funds for low-income families. Some agencies specify funding for specific minority groups, the elderly, first time homebuyers or people with disabilities. These organizations often announce their programs in local newspapers and magazines.

### **Please... Watch Your MOUTH!**

Most of these programs will assist with home projects that use manufactured or modular housing on permanent foundations. They most likely will not provide funding in a manufactured home community. And

they will absolutely never fund trailers and mobile homes. So... be careful what terminology you use. It can mean thousands of dollars in funding for the consumer. Please see definitions listed on page 44 for accurate terminology.

### **Fair Housing**

Many businesses avoid business transactions that involve people with disabilities due to lack of knowledge about the laws regarding fair housing or fear of litigation. Simply knowing the law can ease these fears. It is important to know that there are currently no federal or state laws regarding accessibility for non-subsidized, single-family housing. The main issue to keep in mind when building a home for a person with a disability is that you need to meet the needs of the individual that will be living in the home. It may be helpful to consult the Fair Housing Act Design Manual designed by HUD, or the ANSI 117.1 standards for Accessible and Usable Buildings and Facilities, however, these guidelines and codes are only required for multi-family housing or public facilities.

Public facilities such as retail sales centers should comply with the American's With Disabilities Act (ADA). This is important not only to be certain that a business is safe from expensive fines and litigations, as well as, making certain that the business is not eliminating an entire segment of potential customers from transacting business. Having an accessible showroom or office welcomes all customers and makes a statement that they are dealing with someone who wants their business.



## How to Begin

The first step to assisting a customer that has mobility impairment is to assess what their needs are. This can be an uncomfortable conversation because it involves delving into their personal care needs. To assist in this process, a needs assessment or checklist is crucial. Each individual's situation is unique and his or her distinctive needs must be considered when building for accessibility.

## Using the Needs Checklist

An Accessibility Needs Checklist, located on page 46, will assist a consumer in determining what features are necessary for their individual situation. The list provides a room-by-room questionnaire to provide comprehensive worksheet for a potential homeowner. The homebuyer should take the list home and contemplate each issue to determine if their particular disability requires home modification. Assistance from a local Independent Living Center, a physical therapist or an occupational therapist is also recommended.



To find an Independent Living Center near you,  
go to: [www.ilusa.com](http://www.ilusa.com)

## Bathroom Options:

### Sinks:

- A cut out area in front of the sink to allow for knee space
- Single lever handles for ease of use

### Showerhead:

- Hand-held showerhead with an adjustable height sidebar can be a good options for some.
- Anti-scald devices (see safety) should be incorporated in all homes.

### Bathtubs and shower stalls:

- Barrier free shower stalls (with a lip no steeper than 1/4 inch) can be very helpful to a person with a disability and their caregiver. These showers provide gentle, easily crossed thresholds that keep water in the shower area but allow a homeowner to roll in with a showerchair or walk in without having to step over a high tub wall.
- Fold-down shower seats can be very convenient for those who prefer to sit while showering. The shower seat attaches permanently to the shower wall and folds up when not in use. It is a great device for those who tire easily and cannot stand for long periods of time.
- Portable shower benches are also available from medical equipment providers. These are adjustable for each persons needs.
- Bathtubs with a built-in or portable transfer benches can help anyone having difficulty getting in or out of a bathtub. These tubs feature a wide shelf on which a person can sit before getting into the tub.



### Grab Bars:

- Look for a grab bar that:
  - Will bear up to 250 pounds.
  - Has no corners or edges.
  - Has a diameter that is 1-1/4 to 1-1/2 inches. The 1-1/4-inch diameter is comfortable for most people. When placed on a wall, the grab bar should have 1-1/2 inch space between the wall and the grab bar.
  - Has textured surfaces for easy gripping.
  - Colored grab bars are available in a range of colors to match decor.

## Design Specifications

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### Toilets

- An elevated toilet is about 18 inches high, compared to the standard toilet, which is 16 inches high. It also has an elongated front that makes it easier to transfer to the toilet from a wheelchair. Consider installing an elevated toilet if you have difficulty bending or sitting. The height of an elevated toilet puts less strain on legs, knees, and back. In addition, tall people sometimes find them more comfortable to use than standard toilets. Some manufacturers claim that elevated toilets work better than standard toilets because they have better water depth, which aids the unit's flushing action.
- Insulated or "sweat proof" tanks help to eliminate slippery floor surfaces caused by condensation.

### Turning Radius and Space Considerations

- Maneuvering space in a bathroom is important. A minimum 32-inch clear door opening with an accessible route to and into the bathroom is essential. A clear door opening is the measurement between the door stop and the closest part of the door when the door is fully open.
- A 5 foot turning radius is ideal.

### Bathroom Safety

**More than 5,000 children and older people are scalded each year by water that's too hot.** Most hot water systems, typically set at 140 degrees, can seriously burn skin in seconds, especially if a bather slips in the shower and is caught under running water. That's why anti-scald devices are a must for every bathroom and kitchen. These devices prevent scalding by making sure that bathroom water always stays at the temperature you preset, usually recommended at between 98 and 115 degrees Fahrenheit.

**Depending on its design, an anti-scald device will protect you from burns by:**

- **Reacting to changes in water pressure.** When the anti-scald valve senses a drop in cold-water pressure flowing from a

showerhead — for instance, when someone flushes the toilet — it immediately reduces the hot-water pressure. When the cold pressure is restored, the valve then raises the hot-water pressure again, always maintaining the same temperature setting.

- **Reacting to changes in temperature.** If the water temperature rises above the temperature you selected, the anti-scald device slows the water to a trickle, or turns it off completely.
- **Making it physically impossible to use water that is too hot.** Devices with a hot water “child stop” let you set the on/off lever so that it can’t be moved too far toward the “hot” position.

Falls are the most common household accident, and the bathroom—with its wet, soapy tile, marble, or porcelain surfaces—can be an extremely dangerous place. Grab bars help people of all ages steady themselves on these slippery surfaces or any place additional support is needed.

In case of an emergency, a telephone jack placed within reach of the floor in the bathroom is an added safety feature to consider.

### Kitchen Options

- Cabinets are one of the most used features in the kitchen. Cabinet solutions can range from high tech adjustable height cabinets to simple features like U-shaped handles on the cabinets. Some optional features that individuals may need are:
  - Color contrast on counter edge (for visual impairments)
  - Roll out shelves to minimize reach.
  - Cook tops that can be set into a kitchen counter with no under counter cabinet can allow for a wheelchair user to get up close for cooking.
  - Wall mounted side-swing ovens make it easier for children or wheelchair users to use the oven safely and comfortably.
  - Dishwashers that are raised eight inches off the floor can be easier to load and unload with a minimum of stooping and bending.
  - Side-by-side refrigerator/freezers make reaching both compartments possible from a wheelchair.
  - Lever faucets and a spray nozzle on the kitchen sink can make clean up in the kitchen easier.



## Entrances and Hallways

- A person in a wheelchair needs 32 inches of clear width for forward movement, and a 5-foot diameter or T-shaped clear space to make turns.
- Doorways need to be at least 32 inches clear.
- The lighter the door pull, the better.
- Thresholds should be lowered to no more than 1/2 inch or a mini-ramp or transition wedge should be installed.
- Ramps up to an entrance generally are no steeper than a one-in-twelve inch slope. This means that there is one foot of ramp for every one inch of rise. (See complete ramping guidelines on Page 29)

## Doors

- An 8ft. overhead garage door can be helpful for someone with a raised roof van.
- Must be equipped with accessible handles (operable with a closed fist), 48 inches high or less.
- Lever doorknobs that operate easily are best.
- Door locks should be sturdy, yet easy to operate. A keyless lock can be a positive solution for someone with severe arthritis.
- Interior pocket doors can offer savings in floor space to accommodate larger maneuvering space.
- Power assist mechanisms may be helpful.
- Electrical receptacles may be placed above the door.

## Electrical and Lighting

Proper lighting and electrical outlet placement can become a safety issue as people age or become disabled. Improper lighting can cause injuries because of falling down poorly lit stairs, tripping over extension cords, etc. Excessive bending to plug or unplug electrical lights and appliances can cause back injuries if not done properly. Below are some

suggestions for proper lighting and electrical outlet placement.

- Use night-lights throughout the home or consider lighted switches.
- Raise electric outlets to at least 27 inches above the floor so they can be reached without bending. Outlets placed between 30 and 44 inches from the floor may even be more convenient.
- Place outlets so no extension cords are needed.
- Motion sensor switches can be helpful.
- Use rocker panel light switches instead of toggle switches.

### Flooring and floors

- Carpet should be low pile and securely fastened to the floor so that a wheelchair or walker can navigate easily. Commercial grade carpeting with 1/4" nap or less and no padding works well for wheelchair maneuverability.
- Hard surface flooring should be of a slip free variety.
- Floors in manufactured and modular homes should generally not require any additional support due to the use of a wheelchair.  
Below are general weights of wheelchairs.

- Weight of Wheel Chairs
  - Manual 70-110 lbs
  - Electric 330-380 lbs w/batteries
  - Scooters 275 lbs w/batteries



# Addressing Disabilities That Are Not Related to Mobility

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## Vision Disabilities

Visual problems can range from a complete absence of sight to low visual ability. People with no vision often rely on other senses, such as sound or smell. Therefore, audio signals might be helpful and require additional outlets placed throughout the home.

Customers with low vision can benefit from lighting enhancements such as heightened or special illumination at selected locations in the kitchen, in reading areas, in the bathroom and on the stairs. Large letters with significant spacing is helpful. Light switches that glow in the dark add safety and convenience as well. Skylights can enhance vision in otherwise dark spaces. Non-glare and low-gloss finishes on floors and walls are best.



Enhancing color perception is very helpful as well. Bright, contrasting colors might be used to differentiate the edge of countertops and the edge of steps. Different floor surfaces can offer tactile cues for navigation: for example, tile in the entrance foyer, carpeting in the living room, hardwood in the hall, vinyl in the kitchen.

## Hearing Disabilities

People who have trouble hearing may not be able to hear any sounds or they may have difficulty with high or low tones. Around the home, these issues make it difficult to hear routine alerts such as doorbells, telephones, alarm clocks, timers and other auditory signals. Most troublesome is that it impairs the ability to hear safety alerts from smoke, fire and carbon monoxide alarms.

When amplification is not sufficient or possible, an alternative approach is to replace auditory signals with other sensory signals. Examples of visual signals replacing auditory ones are a simple flashing light attached to a doorbell or a timer, and a strobing smoke alarm. Another device is a TDD (telecommunications device for the deaf), which enables a person who is deaf to communicate over the telephone. There are also sound-activated devices that shake the bed for example,

## **Addressing Disabilities That Are Not Related to Mobility**

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rather than an alarm clock. A lighted switch for appliances such as garbage disposals, fans over stoves, and others help to inform someone who is deaf that the appliance is on or off.

To accommodate these devices usually just requires that electricity be available at locations where the device needs to be located. If a consumer requires special devices, it is crucial to know where placement will be.

Another useful strategy to accommodate those with reduced hearing ability is to try to decrease background noise. For example, installing insulating material around noisy appliances like dishwashers and washing machines can reduce unnecessary background noise.

### **Other**

Disabilities affect people in many ways. Unfortunately, there is not enough space in this resource guide to address all disabilities. For more detailed information on specific disabilities, you may need to consult other resources. There is a wealth of information available via the Internet.

Autism and Alzheimer's may require that a home have extra secure or reverse locks on the windows and doors, or possibly a gated yard. As with all disabilities, safety is a major concern. Barriers to accessing dangerous household items such as sharp knives, chemicals and electrical equipment should be considered. Even severe allergies can require the use of home modifications based on which items the homeowner is allergic to.

### **Etiquette**

The number one rule when dealing with someone who has a disability is to relax and be yourself. An important thing to remember is to talk to the person with a disability, not their spouse, assistant, interpreter, or others nearby. Maintain eye contact and body language that you would normally use during any other conversation. Do not be afraid to ask questions.

For further recommendations, see "The Ten Commandments" on the following page.

## THE TEN COMMANDMENTS

### For Communicating with People with Disabilities

- I.** Treat adults as adults. Never patronize people in wheelchairs by patting them on the head or shoulder. Talk to people with disabilities the same way you would talk to anyone else.
- II.** Place yourself at eye level when speaking with someone in a wheelchair.
- III.** Do not lean against or hang on someone's wheelchair. People with disabilities treat their chairs as extensions of their bodies.
- IV.** Offer to shake hands when introduced. People with limited hand use or an artificial limb can usually shake hands, and offering the left hand is an acceptable greeting.
- V.** If you offer assistance to a person with a disability, wait until the offer is accepted. Then listen or ask for instruction on how to provide assistance.
- VI.** Always identify yourself and others who may be with you when meeting someone with a visual disability. When conversing in a group, remember to identify the person to whom you are speaking.
- VII.** Tap a person who has a hearing disability on the shoulder or wave your hand to get his or her attention. Look directly at the person and speak clearly. Talk at a conversational level and do not exaggerate. If the person is trying to read lips, try to face the light source and keep your hands, pencils, and food away from your mouth when speaking.
- VIII.** Speak directly to the person with the hearing loss rather than his or her sign language interpreter.
- IX.** Listen attentively when talking with people who have difficulty speaking and wait for them to finish. If necessary, ask short questions that require short answers, or a nod of the head. Never pretend to understand; instead, repeat what you have understood and allow the person to respond.
- X.** Relax. Don't be embarrassed if you happen to use common expressions such as "See you later" or "Did you hear about this?" that seem to relate to a person's disability.

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715-369-5040 V/TTY  
715-369-5043 FAX  
1-800-311-5044 V/TTY  
www.newnorth.net.milc

MILC (Wausau Office)  
10101 Market Street  
Suite B  
Mosinee, WI 54455  
715-241-6927 V/TTY  
715-241-8168 FAX  
1-877-711-6452 V/TTY  
www.newnorth.net.milc

MILC (Stevens Point Office)  
3262 Church Street, Ste. 1  
Stevens Point, WI 54481  
715-344-4210 V/TTY  
715-344-4414 FAX  
1-800-382-8484 Toll Free  
www.newnorth.net/milc

CILWW (Rice Lake Office)  
113 N. Main Street  
Rice Lake, WI 54868  
715-736-1800

CILWW  
2920 Schneider Avenue E  
Menomonie, WI 54751  
715-233-1070 V/TTY  
715-233-1083 FAX  
1-800-228-3287  
www.cilww.com

Independent Living Resources  
4439 Mormon Coulee Road  
LaCrosse, WI 54601  
608-787-1111 V  
608-787-1148 TTY  
608-787-1114 FAX  
1-888-474-5745 V/TTY  
www.ilresources.org

Independent Living Resources  
149 East Mill Street, Suite A  
Richland Center, WI 53581  
608-647-8053 V/TTY  
608-647-7783 FAX  
877-471-2095  
www.ilresources.org

Access to Independence  
2345 Atwood Avenue  
Madison, WI 53704  
608-242-8484 V  
608-242-8485 TTY  
608-242-0383 FAX  
1-800-362-9877 Toll Free  
www.accesstoind.org

WCILC  
6320 Monona Drive, Ste. 408  
Madison, WI 53716  
608-819-1300 V/TTY  
608-819-1301 FAX  
moryan@charter.net  
1-800-690-6665

IndependenceFirst (Main Office)  
600 W. Virginia Street  
4<sup>th</sup> Floor  
Milwaukee, WI 53204-1516  
414-291-7520 V/TTY  
414-291-7525 FAX  
www.independencefirst.org

Society's Assets  
5200 Washington Avenue, Ste. 225  
Racine, WI 53406  
262-637-9128 V/TTY  
262-637-8646 FAX  
1-800-378-9128  
www.sai-inc.org

Options for Independent Living (Main Office)  
555 Country Club Road  
P.O. Box 11967  
Green Bay, WI 54307  
920-490-0500 V  
920-490-0600 TTY  
920-490-0700 FAX  
www.optionsil.com

Options for Independent Living (Appleton Office)  
820 W. College Avenue, Ste. 5  
Appleton, WI 54914  
920-997-9999 V/TTY  
920-997-9381 FAX  
www.optionsil.com

Society's Assets (Kenosha Office)  
5727-6<sup>th</sup> Avenue  
Kenosha, WI 53140  
262-657-3999 V/TTY  
262-657-1672 FAX  
1-800-317-3999  
www.sai-inc.org

# Wisconsin Coalition of Independent Living Centers (WCILC)

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## **Access to Independence**

(www.accesstoind.org)

2345 Atwood Avenue

Madison, WI 53704

608-242-8484 (V)

608-242-8485 (TTY)

608-242-0383 (fax)

1-800-362-9877

Wendy Hecht, Executive Director

wendyh@accesstoind.org

Tracy Miller, Assistant Director

TracyM@accesstoind.org

*Counties served: Dodge, Green, Dane, Columbia*

## **Center for Independent Living for Western Wisconsin (CILWW)**

2920 Schneider Avenue E

Menomonie, WI 54751

715-233-1070 (V/TTY)

715-233-1083 (fax)

1-800-228-3287 (toll-free)

Tim Sheehan, Executive Director

sheehan@cilww.com

Kay Sommerfeld, Assistant Director

sommerk@cilww.com

*Counties served: Polk, Barron, Rusk, St. Croix, Dunn, Chippewa, Pierce, Pepin, Eau Claire, Clark*

## **Independent Living Resources**

(www.ilresources.org)

4439 Mormon Coulee Road

La Crosse, WI 54601

608-787-1111 (V)

608-787-1148 (TTY)

608-787-1114 (fax)

1-888-474-5745 (toll-free)

Kathie Knoble-Iverson, Executive Director

Kathie.ki@ilresources.org

Michelle Olson, Assistant Director

Michelle.olson@ilresources.org

*Counties Served: Crawford, Richland, Sauk, Iowa, Grant, LaFayette, Vernon, La Crosse, Monroe, Jackson, Trempealeau, Buffalo, Juneau*

## **IndependenceFirst**

(www.independencefirst.org)

### *Main Office*

600 West Virginia Street

4th Floor

Milwaukee, WI 53204-1516

414-291-7520 (V/TTY)

414-291-7525 (fax)

### *Ozaukee County Outreach Office*

The Volunteer Center

Family Enrichment Center

885 Badger Circle

Grafton WI 53024

262-376-4183 (Voice only)

### *Washington County Outreach Office*

West Bend Joint School District #1

District Administrative Offices

735 South Main Street

West Bend WI 53095

262-306-6717 (Voice only)

### *Waukesha County Outreach Office*

ACAP

# Wisconsin Coalition of Independent Living Centers (WCILC)

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First United Methodist Church  
121 Wisconsin Street  
Waukesha WI 53186  
262-521-1664 (Voice only)

Lee Schulz, Executive Director  
414-212-2800 (direct #)  
lee@independencefirst.org  
Karen Avery, Associate Director  
kavery@independencefirst.org

*Counties served: Milwaukee, Waukesha,  
Washington and Ozaukee*

## **Midstate Independent Living Consultants (MILC)**

(www.newnorth.net/milc)

Rhineland Office  
P.O. Box 369  
203 Schiek Plaza  
Rhineland WI 54501  
715-369-5040 (V/TTY)  
715-369-5043 (fax)  
1-800-311-5044 (toll-free)

*Stevens Point Office*  
3262 Church St., Ste 1  
Stevens Point WI 54481  
715-344-4210 (V/TTY)  
715-344-4414 (fax)  
1-800-382-8484 (toll-free)

*Wausau Office*  
10101 Market St., Suite B  
Mosinee WI 54455  
715-241-6927 (V/TTY)  
715-241-8168 (fax)  
1-877-711-6452 (toll-free)

Julie Krueger, Executive Director

jakmilc@charter.net  
Jenny Fasula, Assistant Director  
jafmilc@charter.net

*Counties Served: Marathon, Wood,  
Portage, Adams, Taylor, Lincoln,  
Langlade, Oneida, Vilas, Forest,  
Florence*

## **North Country Independent Living, Inc. (NCIL)**

Main Office  
2231 Catlin Avenue  
P.O. Box 1245  
Superior, WI 54880  
715-392-9118 (V/TTY)  
715-392-4636 (fax)  
1-800-924-1220 (toll-free)

*Ashland Branch Office*  
422 W. 3rd St.  
Suite B114  
Ashland, WI 54806  
715-682-5676 (V/TTY)  
715-682-3144 (fax)  
1-800-499-5676 (toll-free)

John Nousaine, Executive Director  
nciljohn@cpinternet.com  
Dee Truhn, Assistant Director  
ncildee@cpinternet.com

*Counties served: Douglas, Bayfield,  
Ashland, Iron, Price, Sawyer, Washburn,  
Burnett*

# Wisconsin Coalition of Independent Living Centers (WCILC)

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## Options for Independent Living, Inc.

(www.optionsil.com)

Main Office  
555 Country Club Road  
P.O. Box 11967  
Green Bay, WI 54307  
920-490-0500 (V)  
920-490-0600 (TTY)  
920-490-0700 (fax)

Appleton Office  
820 W College Ave, Suite 5  
Appleton WI 54914  
920-997-9999 (V/TDD)  
920-997-9381 (fax)

Tom Diedrick, Executive Director  
tomd@optionsil.org  
Kitty Barry, Assistant Director  
kittyb@optionsil.org

*Counties served: Door, Kewaunee,  
Manitowoc, Brown, Calumet,  
Sheboygan, Fond Du Lac, Green Lake,  
Marquette, Waushara, Winnebago,  
Outagamie, Waupaca, Shawano,  
Menominee, Oconto, Marinette*

## Society's Assets

5200 Washington Ave., Suite 225  
Racine, WI 53406  
262-637-9128 (V/TTY)  
262-637-8646 (fax)  
1-800-378-9128

Kenosha Office  
5727 6th Avenue  
Kenosha, WI 53140  
262-657-3999 V/TTY  
262-657-1672 Fax  
1-800-317-3999

Elkhorn Office  
35 S. Wisconsin Street  
Elkhorn, WI 53121  
262-723-8181 V/TTY  
261-723-8184 Fax  
1-800-261-8181

Bruce Nelsen, Executive Director  
bruce.nelsen@sai-inc.org  
Karen Olufs, Director of Independent  
Living Services  
karen.olufs@sai-inc.org

*Counties served: Racine, Kenosha,  
Walworth, Jefferson, Rock*

## Wisconsin Coalition of IL Centers

106 E. Doty Street, Ste. 3A  
Madison, WI 53703  
608-251-9151 (V/TTY)  
608-251-9152 (fax)  
1-800-690-6665 (toll-free)

Maureen Ryan, Executive Director  
mryan@gdinet.com

## Wheelchair Ramp - Residential Guidelines

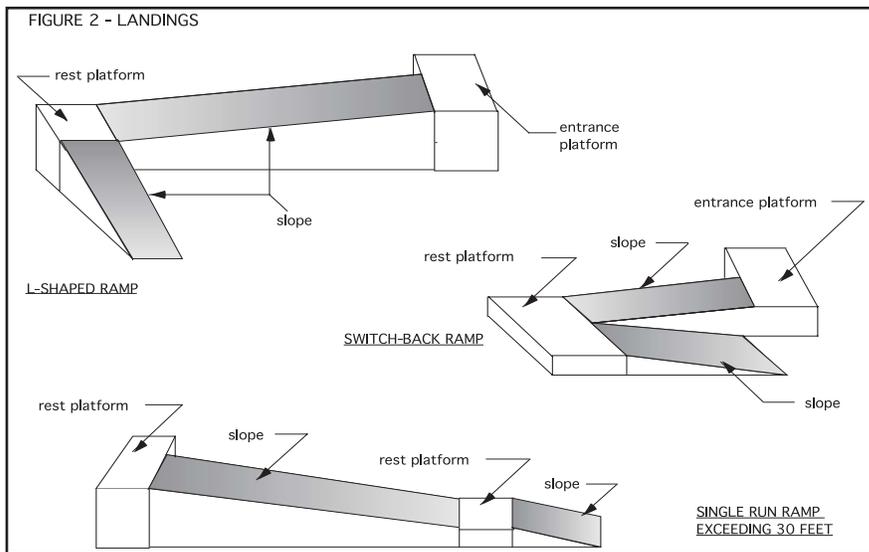
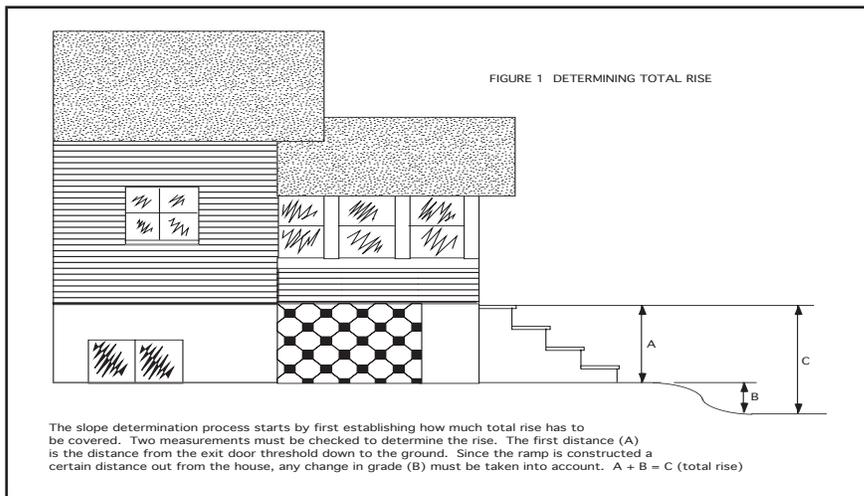
Area:	Dimension:	Description:
Location	To be determined	Evaluate and consider each entrance to the building before making a final decision on the ramp placement. The most obvious ramp location may not necessarily be the most practical. Factors such as interior room location, door placement, gas/electric utility locations, geographic location and proximity to the driveway are important considerations. In some instances, the installation of a new entrance is necessary.
Rise	To be determined	The rise is the distance from the ground (at the anticipated end of the ramp) up to the door threshold. The rise will dictate the length of ramp needed. Grade variations must be considered and calculated. Figure 1 shows how to determine the total rise.
Slope	1:12	The slope is a term to describe how steep a ramp is. In most cases, a one-in-twelve inch slope is recommended. This means that there is one foot of ramp for every one inch of rise. Example: If there is 14 inches of rise from the ground up to the level you are ramping, the ramp should extend 14 feet. Ramps should not have a slope or gradient greater than 1 in 8 or one foot of rise in 8' of run. A 1 in 8 or a 1 in 10 slope should be utilized as a last resort and only if it is not possible to install a 1:12 slope.

## Wheelchair Ramp - Residential Guidelines

Area:	Dimension:	Description:
Ramp Width	36" - 48"	The minimum ramp width allowed by code is 36" (between handrails). An overall width of 48" is most common.
Landings	To be determined	Provide a level landing at the top, bottom, and at any change in direction of the ramp (Fig.2). A 5' x 5' (minimum) landing is recommended at the top of the ramp. A common mistake is to start the ramp immediately from the door threshold. Some municipalities require that the top landing is frost protected. Intermediate landings or rest platforms should be as wide as the ramp and measure 4' to 8' in the direction of travel. Maintain 5' level area between the end of the ramp and any other structure or obstacle.
Handrail Height	30" - 38"	Ramps that are between 8" and 24" above the ground require handrails on at least one side of the ramp. Ramps over 24" above ground require handrails on both sides of the ramp. The handrail should have a minimum height of 30", and a maximum height of 39" above the ramp surface. The area below the handrails should be protected by intermediate rails or an ornamental pattern to prevent the passage of a sphere with a diameter of 6" or larger. Maintain at least 1-1/2" of clear space between the handrail and any adjoining wall. The handrail grasp should measure 1-1/2" thick.

# Wheelchair Ramp - Residential Guidelines

Area:	Dimension:	Description:
Door Approach	18" on pull side of door	Maintain a minimum of 18" of clear space outside of the door swing on the pull side of the door. This will ensure that the wheelchair can clear the door swing. The 18" rule may not apply to automatic doors.
Door Hardware	Usable for individual	Install door closers on the top of door. Lever style door handles are preferable versus round handles. Doors with a threshold over 1/2" high should be modified or replaced with a low profile threshold.



# Wheelchair Ramp - Residential Guidelines

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## **MATERIALS:**

Draw an overhead view of the ramp. The drawing will assist the carpenter or building material supplier to compile a materials list. Green treated lumber is most commonly utilized in ramp construction. See your local building supply for information on other types of construction materials.

### **Posts**

4" x 4"

Install deck posts at the entry door 42" - 48" into ground for frost protection. Also install the two posts at the end of the ramp to secure the handrails. Do not exceed an 8' span between posts. Spans over 8' are prone to excessive warpage and can affect the strength of the handrails.

### **Stringers & Joists**

2" x 8"

Install stringers 16" on center. Recess the stringers into the ground at the end of the ramp to eliminate any rise. If the end of the ramp lands on top of a solid surface, bevel the stringers accordingly or install a two foot section of 3/4" plywood at the end of the ramp. Bevel the plywood to reduce the 1/2" rise.

### **Decking**

5/4" x 6", or

3/4" plywood Use 5/4" x 6" decking for exterior ramps. Use 3/4" plywood for interior ramp only. The finished deck surface should be flush with the door threshold or a maximum 1/2" rise.

### **Handrails**

2" x 6" top rail

2" x 4" lower rail

2" x 2" spindle

Fasten a 2" x 6" (horizontally and on edge) on the post for the top rail.

Fasten a 2" x 4" (horizontally and on edge) on the post for the lower rail.

Install both rails on the inside of the post. Install 2" x 2" vertical spindles every 6" on center on the outside of the top and lower rails. Allow a 5-3/4" space under the lower horizontal railing for snow removal.

### **Handrail Alternatives**

3 - 2" x 6"

1-1/2" banister

Install three 2" x 6" horizontal handrails (on edge) spaced evenly to prevent the passage of a sphere with a diameter of 6" or larger. Allow a 5-3/4" space under the lower horizontal railing for snow removal. Install a 1/2" round banister handrail fastened to the top rail. A banister handrail can be utilized by someone to pull themselves up the ramp or for an ambulatory individual who needs the rail for stability.

### **Non-skid Surface**

Paint and silica sand

Sprinkle silica sand on wet paint for a textured surface. Apply a second coat of paint to adhere silica sand to ramp surface. Contact a paint professional for information on ready-made textured paint. This process may need repeating once a year or every other year depending on ramp usage. Most wooden ramps with a 1:12 slope (or less) are considered non-skid.

The installer should know and follow all local building requirements and obtain the necessary permits. For further information contact your local building inspector or your Independent Living Center.

### **AUTOMATIC DOOR ENTRANCES**

#### **Automatic Entrances of WI, Inc**

1712 Paramount Court

Waukesha, WI 53186

(262) 549-8600

1-800-776-7122

(262) 549-8604 (fax)

Automatic door operators.

Contact John Hegedus Ext. 111

#### **LaForce Hardware**

Brian Sigmund

1060 W Mason St

Green Bay, WI 54303

(920) 497-7100

1-800-236-8858

Fax: (920) 477-4955

Door openers (operators), Door hardware, Grab bars (commercial type)

#### **Wisconsin Automatic Door, Inc.**

John Lobue

5462 S Westridge Dr.

New Berlin WI 53151

(414) 860-2225

Fax: 1-800-777-4069

Door operators

#### **Hoffer Glass**

Thomas Peck

2146 Pershing St

PO Box 1756

Appleton WI 54913

(920) 731-8101

1 (800) 236-2413

Fax (920) 731-8272

Door operators (mostly commercial types)

### **Bathroom Resources**

#### **Aquarius Bathware, LLC**

Praxis Industries, Inc.

435 Industrial Road

Savannah, TN 38372

(800) 443-7269

<http://www.aquariusproducts.com> - This web site displays the company's "Lifestyle Collection", which includes eight popular shower models that are ADA compliant. Some of the featured showers have fold up seats, while other have built in seats and different size showers.

#### **Best Bath Systems**

4545 Enterprise

Boise, Idaho 83705

(800) 727-9907

<http://www.best-bath.com> - This web site gives product information on bathtubs for people with all abilities, as well as grab bars, seats, hand held showers, ramps and more. The site contains sketches for accessory equipment that can be printed for use.

#### **Clarion Bathware**

44 Amsler Ave.

Shippenville, PA 16254

(800) 576-9928

<http://www.carionbathware.com> - This web site shows pictures of products available for accessible toilets and showers with grab bars and seats.

#### **Kohler Design Center**

444 Highland Drive

Kohler, WI 53044

(800) 456-4537

<http://www.us.kohler.com/designkb/designcenter/designcenter.jsp> - This web site features Kohler products for the bathroom and kitchen.

## Resource List

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### **Bemis Manufacturing company**

Consumer Toilet Seats

300 Mill Street

PO Box 901

Sheboygan Falls, WI 53085-0901

(920) 467-4621

<http://www.bemismfg.com> - This web site shows the variety of Bemis toilet lifts.

### **Access One, Inc.**

25679 Gramford Ave.

Wyoming, MN 55092

(800) 561-2223

<http://www.beyonebarriers.com> - This website provides information regarding toilet seats and toilets, bath facilities and faucets and grab bars. This manufacturer also sells products designed for the kitchen, wheelchair ramps, van ramps, lifts, hoists and outdoor recreation products.

### **Bobrick Washroom Equipment, Inc.**

11611 Hart Street

North Hollywood, CA 91605

(818) 982-9600

<http://www.bobrick.com> - This web site features bathroom accessories and product information.

### **Lasco Bathware**

8101 E. Kaiser Blvd.

Anaheim, CA 92808

(800) 877-2005

<http://www.lascobathware.com> - This web site features the Lasco Freedom Line of accessibility and barrier free products to accommodate all ability levels.

### **RD Equipment, Inc.**

230 Percival Drive

West Barnstable, MA 02668

(508) 362-7498

<http://www.rdequipment.com> - This web site describes the tub slide shower chairs available.

### **Rehab Designs, Inc.**

11700 Commonwealth Drive

Louisville, KY 40299

<http://www.rehabdesigns.com> - This web site features bath aids, ramps and other product.

## **Kitchen Resources**

### **Kohler Design Center**

444 Highland Drive

Kohler, WI 53044

(800) 456-4537

<http://www.us.kohler.com/designkb/designcenter/designcenter.jsp> - This web site displays the Kohler Design Center products for the kitchen, including the ASSURE complete work station.

### **ADAS**

94 N Columbus Road

Athens, OH 45701

(740) 593-5240

<http://www.ad-as.com> - This web site shows accessible kitchen and bath products for adjustable sinks, cabinets and stove.

## **Lifts, Stairlifts and Elevators**

### **Access Industries**

4001 E 138th Street

Grandview, MO 64030

(800) 925-3100

## Resource List

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<http://www.accessind.com> - This web site displays stairway lifts, inclined and vertical lifts and elevators for home and business.

### **Garaventa Accessibility**

PO Box 1769

Blaine, WA 98231-1769

(800) 663-6556

<http://www.garaventa.ca> - This web site shows a variety of wheelchair lifts for home or business. Also provides resource links to specification guidelines.

### **Inclinor Company of America**

2200 Paxton Street

PO Box 1557

Harrisburg, PA 17105-1557

(800) 343-9007

<http://www.inclinor.com> - This web site displays stair lifts, elevators, and vertical lifts for home or business.

## **Portable Ramps**

### **AlumiRamp Inc.**

90 Taylor Street

Quincy, MI 49082

(800) 800-3864

<http://www.wheelchairramps.com> - This web site displays a variety of ramps..

### **American Access, Inc.**

17405 Hwy. 196N

Eads, TN 38028

(888) 790-9269

<http://www.wheelchairramps.com> - This web site provides a description of the wheelchair ramps and daily living aids available.

### **Discount Ramps.Com, LLC**

415 N Main St.

West Bend, WI 53090

(888) 651-3431

<http://www.discount-wheelchair-ramps.com> - This web site sells Discount ramps and provides links to other products.

### **Handi-Ramp**

510 North Avenue

Libertyville, IL 60048

(800) 876-7267

<http://www.handiramp.com> - this web site contains manufactured wheelchair ramps.

## **Remotes**

### **Gamma Manufacturer, Inc.**

Crisp Solutions

17588 Rowland St., #158

City of Industry, CA 91748

(626) 839-2798

<http://www.crispsolutions.com> - This web site provides information on touch-sensitive universal remotes.

### **Enerzone Systems**

4103 Pecan Orchard Drive

Parker, Texas 75002

(888) 782-8698

<http://www.enerzone.com> - This web site shows programmable thermostats, communicating thermostats, remote sensors, ventilation control and smoke and fire safety products.

### **Market Dynamics**

25975 Diamon Lake Rd.

Mundelein, Il 60060

(847) 566-5290

<http://www.intellinetcontrols.com> - This web site features controls which manage energy, home security, heating, ventilation, air conditioning, lighting, audio systems, home theaters, streaming internet audio, web information services and more.

## **VISUAL & HEARING EQUIPMENT**

### **Bureau for the Blind**

State of Wisconsin

PO Box 7851

Madison WI 53707

(888) 879-0017

### **Bureau for the Blind**

Green Bay DVR

200 N Jefferson Suite 311

Green Bay WI 54301

(920) 448-5277

### **LS&S Group Inc**

Myles Schnieder

PO Box 673

Northbrooke, IL 60065

1-800-468-4789

Fax: (847) 498-1482

TTY: 1-800-317-8533

e-mail: [LSSGRP@AOL.COM](mailto:LSSGRP@AOL.COM)

Web site: <http://WWW.LSSGROUP.COM>

Catalog. Every major brand of superior quality magnifiers plus the largest selection of CCTV, computer, deaf and hard of hearing devices

### **HiTEC**

Debbie Crabbe

8160 Madison Ave

Burr Ridge IL 60524

(800) 288-8303 voice

(800) 536-8890 tty

info@hitec.com

Phone equipment, Amplified hearing devices, TTY's

### **North Central Technical College**

Joe Mielczarek

1000 Campus Dr

Wausau, WI 54401

(715) 675-3331 ext 231

Visual and Hearing devices.

### **Tele Sensory**

Steve Wehrle

519 Reed St

Plymouth, WI 53073

(414) 892-2202

CCTV

### **Wisconsin Council of the Blind**

354 W Main Street

Madison Wi 53703

(800) 783-5213

### **Books**

#### **Building for a Lifetime: The Design and Construction of Fully Accessible Homes**

By: Margaret Wylede, Adrian Baron-Robbins, and Sam Clark

Publisher: Taunton Press

Available from: Amazon.Com

This book describes how to build homes that can be converted for accessibility in the event of an accident or the effects of aging. The book addresses appropriate sites and accessible approaches such as driveways, pathways, ramps and entrances. The book also discusses the selection of hardware, appliances and systems that work best for doors, windows, stairways, kitchens and bathrooms.

#### **Accessible Home Design: Architectural Solutions for the Wheelchair User**

By: Thomas D. Davies, Jr. and Kim A. Beasley

Available from: Paralyzed Veterans of America, Publications Center, PO Box 753, Waldorf, MD 20604 (888) 860-7244

#### **Universal Kitchen and Bathroom Planning: Designs that Adapt to People**

By: Mary Jo Peterson

Available from: Professional Booksellers

Publisher: McGraw-Hill, NY

### Internet Resources

#### Accessible Home Information

- About Accessible Homes –  
<http://www.mindspring.com/~accesshm/who.htm>
- Accessible Home Information –  
<http://www.design.ncsu.edu:8120/cud>
- Accessible Design – <http://www.makoa.org/accessable-design.htm>
- Building for a Lifetime – [http://hometime.com/store2/b\\_0141.htm](http://hometime.com/store2/b_0141.htm)
- Architecture & Home Modification –  
<http://www.disabilityresources.org/ARCHITECTURE.html>
- Typical Accessible Floor Plan –  
<http://www.mindspring.com/~accesshm/flrpln.htm>
- Wheelchair Accessible Homes – <http://www.waccess.org>

#### Universal Design

- AARP's The Universal Home –<http://www.aarp.org/universalhome>
  - Interactive Tour – <http://www.aarp.org/universalhome/tour.html>
  - Kitchen –  
<http://www.aarp.org/universalhome/kitchen/home.html>
  - Bathroom –  
<http://www.aarp.org/universalhome/bathroom/home.html>
  - Doors & Doorways –  
<http://www.aarp.org/universalhome/doors/home.html>
  - Storage & Closets –  
<http://www.aarp.org/universalhome/storage/home.html>
  - Outside Your Home –  
<http://www.aarp.org/universalhome/outside/home.html>
  - Electrical & Lighting –  
<http://www.aarp.org/universalhome/electrical/home.html>
- Iowa State -Universal Design –  
<http://www.extension.iastate.edu/housing/elderly/udha-ud.html>
- Principles of Universal Design –  
<http://www.adaptenv.org/universal/index.php>
- UW Resources – [http://trace.wisc.edu/world/gen\\_ud.html](http://trace.wisc.edu/world/gen_ud.html)

#### Visit-Ability

- Concrete Change – <http://www.concretechange.org>

### **Accessible Home Design**

Designing a home for a person with a disability to meet their specific accessibility needs.

### **Factory-Built Homes**

Many types of structures are built in the factory and designed for long-term residential use. In the case of manufactured and modular homes, units are built in a factory, transported to the site and installed. In panelized and pre-cut homes, essentially flat subassemblies (factory-built panels or factory-cut building materials) are transported to the site and assembled. The different types of factory-built housing can be summarized as follows:

**Manufactured Homes:** These are homes built entirely in the factory under a federal building code administered by the U.S. Department of Housing and Urban Development (HUD). The Federal Manufactured Home Construction and Safety Standards (commonly known as the HUD Code) went into effect June 15, 1976. Manufactured homes may be single- or multi-section and are transported to the site and installed. The federal standards regulate manufactured housing design and construction, strength and durability, transportability, fire resistance, energy efficiency and quality. The HUD Code also sets performance standards for the heating, plumbing, airconditioning, thermal and electrical systems. It is the only federally-regulated national building code. On-site additions, such as garages, decks and porches, often add to the attractiveness of manufactured homes and must be built to local, state or regional building codes.

**Mobile Homes:** This is the term used for factory-built homes produced prior to June 15, 1976, when the HUD Code went into effect. By 1970, these homes were built to voluntary industry standards that were eventually enforced by 45 of the 48 contiguous states.

**Modular Homes:** These factory-built homes are built to the state, local or regional code where the home will be located. Modules are transported to the site and installed.

**Panelized Homes:** These are factory-built homes in which panels - a whole wall with windows, doors, wiring and outside siding - are transported to the site and assembled. The homes must meet state or local building codes where they are sited.

**Pre-Cut Homes:** This is the name for factory-built housing in which building materials are factory-cut to design specifications, transported to the site and assembled. Pre-cut homes include kit, log and dome homes. These homes must meet local, state or regional building codes.

### Universal Design

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. Some people incorporate features into their home at the time of construction that can be considered universal design. For more information on UD contact the Center for Universal Design.

### Visit-ability

Visit-ability is the concept of making a home visit-able by persons with mobility limitation. Most homes have steps at every entrance, and have bathroom doors that are narrower than other interior passage doors.

“Visit-able” homes have: One entrance into the home with no steps; A 32 inch clear passage through doors and hallways; and A useable bathroom on the main floor.

*Note: Visitable homes do not include full accessibility features for people with disabilities; however, visitability allows a person with a mobility limitation to at least enter and visit the occupants of the house.*

# Accessibility Need Checklist

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This checklist should be used to assist a homebuyer in determining his or her own personal needs. Not all questions will be relevant to all homebuyers with a disability. It should be used as a starting point in determining individual needs.

## Entry

Is there a level entryway that does not require the use of stairs? Yes  No

If an entry has steps, does it have a handrail if needed? Yes  No

Is the route of travel stable, firm and slip resistant? Yes  No

Is the opening at least 36 inches wide? Yes  No

Is there at least 18 inches of clear wall space on the pull side of the door, next to the handle? Yes  No

Is the threshold edge 1/2-inch high or less? Yes  No

Does the front door have a lever door handle rather than doorknobs? Yes  No

Is the height of the door handle no higher than 48 inches? Yes  No

## Accessibility Need Checklist

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Is there a single action deadbolt lock on the inside of the front door at an accessible height?      Yes       No

Is the walkway/porch well lit and free of obstacles?      Yes       No

Is there a peephole or window at an accessible height at or near the door?      Yes       No

Do curbs on the accessible route have curb cuts at the driveway?      Yes       No

### Ramps

(See ramp installation guideline included on Page 29)

Is the slope of the ramp no greater than 1:12?      Yes       No

Do all ramps longer than 24 feet have railings on both sides?      Yes       No

Is the width between railings at least 36 inches?      Yes       No

Is the ramp rise no more than 30 inches between landings?      Yes       No

## Accessibility Need Checklist

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### Bathrooms

- Is the doorway a minimum of 32 inches clear? Yes  No
- Is there an adequate turning radius for a wheelchair or scooter? Yes  No
- Does the door have accessible lever handles? Yes  No
- Are there grab bars located over, behind or beside the toilet and the sidewall of the tub to assist the person in getting up and down? Yes  No
- Is the faucet hardware easy to operate (It is best if the faucet can be operated with a closed fist)? Yes  No
- Is the lavatory rim no higher than 32 inches? Yes  No
- If installing a barrier free shower, is there enough room allowed for assistance by an attendant? Yes  No
- Does the shower have an anti-scald mixing valve? Yes  No
- Is there a handheld and adjustable height showerhead? Yes  No
- Is the mirror mounted with the bottom edge of the reflecting surface 40 inches high or lower? Yes  No
- Is the toilet seat 17 to 19 inches high? Yes  No

### Kitchen

Is lighting adequate? Yes  No

Do shelves roll out to minimize bending? Yes  No

Is cabinet hardware operable without pinching or grasping? Yes  No

Is adequate knee space provided near the stovetop and under sinks? Yes  No

Is the oven accessible? (Wall mounted with side-swing door and front mounted controls work best.) Yes  No

Is the sink easily accessible? Yes  No

Are the sink controls workable with a closed fist? Yes  No

Are fire extinguishers reachable, lightweight, easy to use and located away from the oven? Yes  No

### Flooring

Is carpeting low-pile, tightly woven, and securely attached along edges? Yes  No

Is there non-skid flooring in bathrooms? Yes  No

## Accessibility Need Checklist

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### Electrical

Are switches and thermostats located no more than 48 inches from the floor for easy access? (54" with side access.)

Yes  No

Are there rocker-switch plates?

Yes  No

Can electrical outlets be placed at 18 inches from the floor?

Yes  No

Is the electric service panel located on the main floor within reach of a person in a wheelchair?

Yes  No

Are there adequate electrical outlets for electric lift chairs and other auxiliary items?

Yes  No

### General

Are windows easy to open? (Windows that tilt out at the base, casement and sliding windows make opening easy.)

Yes  No

Does floor space permit adequate turning radius (5') by a wheelchair in all areas?

Yes  No

Is there space for a front load washer and dryer on the main level?

Yes  No

### Visual Impairment Needs Checklist

Can a person using a cane detect objects protruding into any paths?      Yes       No

Is there color contrast on counter edges and stairwells?      Yes       No

Are there switches with locator lights in them for those with low vision?      Yes       No

### Hearing Impairment Needs Checklist

Are there warning lights for appliances?      Yes       No

Are there adequate outlets for warning devices?      Yes       No

For information on factory-built housing or to find a sales center, visit the Wisconsin Housing Alliance website at [www.welcomehomewisconsin.com](http://www.welcomehomewisconsin.com).

