

Madison's Inclusive Community Gardens

INTRODUCTION:

Community gardens provide common ground for growing plants that feed and heal and provide aesthetic pleasure. They are civic spaces where people work and recreate to nourish themselves, their families and friends. The gardeners' shared labor also builds a stronger sense of belonging to their physical environment and connection to other gardeners. Community gardens are the collective effort of people with the patience and determination to make things grow.

The individuals, families and households with plots in Madison's community gardens are a diverse group. They include people of all ages, many races and levels of income. Many have come to Madison from other parts of the United States and from other countries, bringing with them their connection to the earth and a wealth of gardening skills. Those with physical and other challenges can still find gardening a valuable and satisfying activity.

BACKGROUND:

The City of Madison supports community gardening as an activity for everyone. While it may not be possible for every garden to have the facilities needed by a particular gardener, the goal is to provide anyone that could to garden.

This document provides suggestions for community gardens to incorporate universal design principles that will make them more accessible to any gardener. These principles could be incorporated into the design of new gardens when they are created and could be helpful when an established garden wishes to add features that will improve its design. It is also intended to be a resource for anyone interested in how the principles of universal design can be applied to community gardens.

UNIVERSAL DESIGN:

Universal Design is a broad, comprehensive "design-for-all" approach. It recognizes the changing diversity of needs important to all people regardless of their age, ability or condition during an entire lifespan. By comparison,

"accessibility" has traditionally focused on addressing the needs of a few people with separate circumstances from those of the public at large.

Universal Design is a worldwide movement that approaches the design of the environment, products and communications with the widest range of users in mind, without the need for adaptation or specialized design. Origins of this philosophy in the U.S. date back three decades to the disability rights movement, when it was recognized that most of the features needed by people with disabilities were useful to others, justifying their inclusion as common practice. The intent of UD, according to the Center for Universal Design at North Carolina State University, is to simplify life for everyone by making products, communications and the built environment more usable by as many people as possible at little or no extra cost, thereby benefiting people of all ages and abilities.

The ADA currently does not have accessibility standards that apply to community gardens, other than those decided on a case-by-case process called reasonable modification. A qualified person with a disability who needs a garden space modified for their needs should contact the garden management organization (for most Madison community gardens, the Community Action Coalition) and request the accessibility features they need.

The request would begin a process of negotiations to reach a reasonable balance of what the person needs and what the organization can afford--a process that often puts programs in the position of having to retrofit needed accessibility features.

Incorporating UD standards in the creation or remodeling of garden spaces makes gardens welcoming to all, including those that may not have a disability, without the cumbersome retrofit process currently available through the ADA.

The seven governing principles of Universal Design are:

1. Equitable Use – designed to be useful and marketable to people with diverse abilities without segregating, stigmatizing or disadvantaging any group of users.
2. Flexibility In Use – designed to accommodate a wide range of individual preferences and abilities.
3. Simple and Intuitive Use – designed to be easily understood regardless of the user's experience, knowledge, language skills, or current concentration level.
4. Perceptible Information – designed to communicate necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. Tolerance for Error – designed to minimize hazards and the adverse

- consequences of accidental or unintended actions.
6. **Low Physical Effort** – designed to be used efficiently and comfortably and with minimum fatigue.
 7. **Size and Space for Approach and Use** – appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Examples of Universal Design for Community Gardens to consider:

- **Main public entryways** and spaces should be level or ramped, useful for small children, seniors, and people with mobility difficulties.
- **Parking** with disability access
- **Design that blends with existing landscape and is unobtrusive** -- the ability to move confidently through the landscape or garden is the key to enjoyment. Regardless of vision, dexterity, balance, endurance or mobility, it should be easy to find your way around (or your way back).
- **Steps** -- Replace steps with long ramps. Slopes should be flat or gentle.
- **Pathways** – should be firm, wide, flat, level, well drained and maneuverable. Avoid abrupt or extreme drop-offs and pavement edges. Paths need to be 36" wide for a wheelchair, five feet wide for two people to walk side by side. A five-foot turnaround area is required for wheelchairs. (See resources below for more information and resources for pathways.)
- **Water** in a garden setting is almost essential. Assure that the water spigot height is accessible to people using wheelchairs. A lever handle is advantageous because it can be operated without a tight grasp or twisting. An added benefit of water in gardens is that the look and sound of water attracts both people and wildlife.
- **Bench** -- A comfortable bench to rest on is a welcome addition to any garden. One that allows easy transfer from a wheelchair is an added plus.
- **Portable Toilets ADA/Wheelchair accessible** --- include a full-width handrail, ground floor access designed for wheelchair access, an oversize door frame, roomy interior allowing for caregiver assistance and the interior allows for wheelchairs to turn a full 360 degrees. These larger units are beneficial for parents or guardians with children.
- **Raised garden boxes** provide spaces for gardening by seniors, children and persons using wheelchairs or with limited mobility. A variety of styles and heights can be used. If possible, use a mixture of heights to accommodate the greatest range of individuals.
 - o Raised garden boxes to allow seniors, children, and people using wheelchairs to do gardening.
 - o Containers—Whiskey barrels, hanging baskets, large pots (on the ground or on platforms with casters) can make plants accessible without excessive bending or banging knees.
 - o Vertical Gardens — Trellises, arbors and fences allow vining plants to be used in the landscape.

- **Tool storage** provides a secure, waterproof place in the garden to store hand tools, gloves and other gardening items.
- **Tools that are lightweight**, made from plastic or light metal such as aluminum are less tiring to use.
 - o Long-handled tools offer greater leverage and are critical for gardening from a seated position.
 - o Telescopic tools that can be adjusted to various lengths are designed to allow gardeners to reach into the garden bed from a seated position.
 - o Ergonomically designed lightweight pruners and floral shears, as well as other hand tools are available from several vendors.
- **Gadgets** such as
 - o Kneepads or foam kneeling pads offer support for gardening on the ground.
 - o Gloves with nonslip, sticky grips on the palms improve grasp.
- **Garden carts** for moving plants, mulch or other heavy objects are easier to maneuver and better balanced than wheelbarrows.
- **Signage or information kiosks** should be easily understood ,and if possible include voice-enabled output.
- **Web sites** should be compliant with accessibility standards and use the languages of the participants. Web accessibility impacts everyone. Following web accessibility standards or guidelines will make a Web site easy to read in screen readers, PDAs, mobile phones and other emerging technologies.

DEFINITIONS:

Community can be defined in many ways. For purposes of this discussion, community is defined as a group of different populations (Planetpals Ecology Dictionary <http://www.planetpals.com>). Different populations include children, youth, seniors, inter-generational groups and people with different languages, cultures and abilities. Ideally, gardens should be accessible to people of diverse ages, abilities, and cultural backgrounds and accommodate gardeners with differences, including physical, psychological or mental challenges. These differences should be considered as community gardens are designed, developed, expanded and maintained.

Accessible environments are covered in the codes, standards, and regulations, beginning with the Architectural Barriers Act in 1968 and culminating with the Americans with Disabilities Act (ADA) of 1990 enacted by the federal government. These laws require public places and publicly funded projects to provide physical and programmatic accessibility to people with disabilities. It covers employment, state and local government services, telecommunications for the deaf and public accommodations.

An estimated 49 million Americans in the United States have some form of physical disability (U.S. Census Bureau, 1990). Accessibility is a mandate addressing why and how to make gardens adaptable to persons with mobility or functional limitations, including accessible routes between parking areas, sidewalks and common areas. While providing access to all is a legal requirement, incorporating Universal Design concepts assures ease of use for as many individuals as possible and makes gardens more usable by everyone, including people with disabilities.

Public accommodations are any place, building or outdoor space that a member of the public can enter with or without a fee. A public accommodation cannot deny goods or services because a person has a disability or is associated with a person with a disability. It cannot offer only unequal or separate benefits and must offer services in the most integrated setting possible. A newly constructed public accommodation must meet all of the physical access requirements of the ADA Access Guidelines (which can be found at www.access-board.gov/adaag/html/adaag.htm), unless a state standard is stricter. For community gardens, see the sections pertaining to grades, widths, and material options, etc.

RESOURCES:

Pathways -- Grass can be uneven and difficult for a person using a wheelchair to navigate, and a person using a walker may be thrown off balance by its uneven surface characteristics. Grass does benefit the natural environment, however, by absorbing heat and stormwater, as well as its natural aesthetic appeal in a garden setting.

A path that is hard and stable enough for wheelchairs, strollers and garden carts to roll on should also cushion a person's fall. Here are some materials that will accommodate both needs.

- Fibar is a product that is used for accessible playgrounds solves both of these problems. It is a surface composed of 8-12" of specialty shredded wood fibers. The fibers lock together to form a solid surface that resists movement of material www.fibar.com 800-342-2721.
- Wood Carpet is a similar product used for the same playground surfaces. It is another engineered, wood-like product designed for public playground accessibility. This is 6-8" for trails/paths for playgrounds. Prices vary per quantities, but these are not inexpensive alternatives www.woodcarpet.com (800) 346-8524.
- Presto, Geo Runner is a plastic open mesh, flexible access system for

pedestrian and wheelchair use. These units have an 87% open area that allows the grass to grow in between but still provide a solid level strolling surface www.prestogeo.com (800)-548-3424

- Eco-Trak is a product similar to Presto in 2'x4'x2" panels that can be temporarily connected for portability available from Bike Track Inc. www.biketrack.com (802)-457-3275
- Privacy (Long Life Lattice) Lattice serves the same purpose and is very affordable. It is plastic that allows a rolling surface and grass to grow through it and costs about \$20 per 4'x8'.
- Recycled rubber mats that combine textured surfaces and provide cushioned comfort www.bigsunproducts.com (800) 366-9645
- P.A.T.H.S (Providing Access Through Hard Situations) for areas that are sand and a variety of other soft surfaces www.paths.com (416) 816-7130.
- Brik-Trak is a common hard material of crushed brick, often referred to as brick dust. Crushed limestone and Bedford Plastic Timbers are good choices for wetland areas www.plasticlumber.com.
- National Center on Accessibility (Recreation-Parks-Tourism) has a website to research various surfaces for all kind of outdoor recreation areas including stabilizers available that bind dirt and stone together, making them one solid surface <http://www.ncaonline.org/about/>.

Raised planters -- should not be wider than four feet for a two-sided planter and two feet for a one-sided planter. Length should be limited to 10-20 feet to prevent over exertion while circling the bed. It should be 28-30" high, which will allow for a sitting surface as well. Plastic timbers or Keystone Walls are good material choices as railroad timbers may cause creosote stains and are not environmentally friendly. Remember: mulching is a must with most raised planters as it slows evaporation of water from the beds and keeps the soil cool for the roots.

A raised planter with or without wheels can be built as well. The bottom of this should not be lower than 30", which will allow a wheelchair to roll underneath. These should be no longer than 6'-0". They should have pressure treated 4x4 posts at all four corners and two in the middle on both sides. This will provide 4 3' wide sitting positions around the planter. It will also provide the required support. Put casters on all six legs, which will allow it to roll. Use pressure treated 2x10's or 2x12's which will provide a deep enough planting area. Use pressure treated or marine grade plywood for the box/ 3/4" thick. Provide a 1/4" slope at the bottom, fill with 2 "deep washed gravel for drainage and provide drainage holes 2' on

center, cover with a plastic geo mesh so the gravel does not fall out. Line the box with a 6 mil. Visqueen vapor barrier to protect the wood box and fill with topsoil.

For people in wheelchairs or using walkers, provide smooth, wide pathways and beds built high enough to reach into easily. Design beds so that the center can be reached comfortably without stretching.

Twelve inches is a good depth for planting boxes, but remember that wet soil is heavy. Construction must be sound. Shallower boxes are sufficient for many plants such as annual flowers and herbs.

Provide a place for tool storage that is close to the garden, either a small shed, a cabinet, or even a large mailbox mounted on a fence or fencepost, or on the edge of an elevated garden bed. Adapt tool pouches into hanging pouches that can be hung from wheelchairs, walkers, and the edges of raised beds.

Tools

- A variety of adaptive gardening tools are available including those with longer handles, with adaptive handles and tools that are lightweight and have comfort grip. The handles of traditional gardening tools can be modified with tape, foam, or bandage material for gardeners with limited muscle strength, coordination, or dexterity of the hands. You can also use simple household items such as ice cream scoops and long-handled spoons.
- Gardeners who have difficulty in carrying items can wear an apron with pockets or secure a lightweight bag or basket on their wheelchair or walker.
- If possible, provide a tool storage shed in or near the habitat.
- Kneelers, kneepads and small stools can increase the comfort of gardeners have gardeners or joint pain or difficulty in bending.
- Use tools with brightly colored handles or paint or tape the handles in a contrasting color to provide contrast for gardeners with low vision.

Signage:

- Interpretive signs should not be text heavy; text should be in large, no-glare block letters. When possible, utilize pictures and/or symbols.
- Make Braille plant labels for raised bed sensory gardens.
- For larger public gardens, incorporate an auditory interpretation system into signage.

Furniture:

- Add benches for people to rest. Benches should have back supports and an arm rest on at least one end for safety purposes. If possible, place benches in shade. Recommended spacing for benches is no greater than 100 feet, depending on the size of the habitat.

REFERENCES

General: The National Center on Physical Activity and Disability (NCPAD) is an information center concerned with physical activity and disability <http://www.ncpad.org/> that provides a wealth of information and resources for assuring people with disabilities have access to public or community gardens, including information about:

- Adapt the Garden for Access, Comfort and Safety
- Getting Around in the Garden
- Containers - 1, 2 & 3 – a variety of materials, sizes, shapes and colors
- Raised Beds - 1 & 2
- Vertical Gardening

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http://www.universaldesignonline.com/images/The_Enabling_Garden-Winter2004.pdf

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