

CHAPTER 3: ACCESSIBLE AND INCLUSIVE GARDENS

Opportunity for All

As a public park, it is important to plan your community garden to ensure everyone can gain access and participate in similar activities. If you take it one step further and design your garden to enable all people to garden side by side, your garden is not only accessible, it is *inclusive*.

Typical community gardens are surrounded by lawn, mulch, or some other loose material that cannot be traversed by a person using a wheelchair, walker, or cane. Loose and bumpy surfaces pose problems for persons who have walking difficulties or for those who can scoot but not walk. Garden beds are recommended to be raised. However, they are often not raised enough to provide access from a wheelchair. The width of the bed can also pose problems for persons with limited reach. These conditions, among others, are barriers to participation by all.

When developing your plans, make sure to incorporate the requirements set forth by the *Americans with Disabilities Act (ADA)* for accessible public facilities (US Access Board, 2002) and the strategies identified in the [*National Parks and Recreation Association: NRPA Position Statement on Inclusion*](#) (NRPA, 1999) relative to accessible parks.

Simple additions and modifications to your garden can provide opportunities for everyone to participate. Your design for inclusion should focus on four key aspects:

1. accessible route
2. facilities
3. accessories
4. opportunities

Designing for Inclusion

A. How people move, play, and work

People get around in a variety of ways (e.g., walking, rolling, scooting, shuffling, and detecting). An inclusive community garden is designed with the proper surface to accommodate people using all modes of travel to and around the garden. Those who roll or shuffle when traveling need a hard, smooth surface. However, those who scoot need a soft, clean surface as they scoot on their bottoms or lower portions of their bodies to get around. People with low vision need high contrast and edges to detect. How does one provide all of this in one surface type? Review your options for surfacing and your community needs to determine your goals. A properly designed accessible route will ensure everyone can get to the garden. Further, if you provide properly designed areas, facilities, and equipment/tools, you will ensure everyone can use the garden.

B. Accessible routes – the basics

When planning and constructing routes to and around your garden area, there are several criteria to consider:

1. **Location** – Generally, the accessible route should originate from an accessible building, parking lot, drop-off, or bus stop. Accessible parking spaces should be made available near the garden.

2. **Size** – The route should measure 4 to 5 feet wide at a minimum. The distance from the accessible parking spaces, drop offs, or buildings integral to your garden site should be kept to a minimum. However, the unique characteristics of your site and existing vehicular access will be factors that determine the length of the accessible route.
3. **Slope** – Routes should not run steeper than a 5 percent (1:20) slope. This means that there should be 1 foot of vertical rise for every 20 feet of horizontal run. If your accessible route to your garden runs steeper than 5 percent, a ramp will be required to transition your slope to a level surface before reaching the garden. Ramps should not exceed 8.33 percent (1:12) or 1 foot of vertical rise for every 12 feet of horizontal run.



Figure 3.1. Compacted, decomposed granite surfacing provides accessibility to the garden beds. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

4. **Edges or Contrast** – Persons who are blind or have low vision will benefit from an accessible route that has a 70 percent contrast from the adjoining surface, such as grass or mulch. For example, a concrete path will stand out in contrast to the adjoining surface. Raised edges such as curbs can also provide a cue to cane-users as to the direction of the path.
5. **Surface Material** – An accessible material creates a firm and stable surface that is smooth, even, and slip-resistant. Select a material that is appropriate for your local conditions. It is also important to consider the maintenance activities that may be required to maintain accessibility of the material over time. The figure below has been adapted from The National Center on Accessibility (2010) reference for accessible surfaces. Commentary on access and maintenance considerations as they relate to public parks and community gardens has been added (Figure 3.1).

Figure 3.1. Accessible surface material options

| Material/Product | Description and Product Examples | Access and Maintenance Considerations |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engineered wood fiber | This product looks like wood mulch but is engineered wood fiber. The wood fibers mesh to create a firm, stable surface. Product names include: Fibar and Wood Carpet. | This is a loose material that can be easily displaced. It is best used where edging can contain the material and minimize displacement. It will be necessary to rake the material back to the desired locations and to maintain a consistent depth. Due to its appearance, it is common for ordinary mulch to be added by mistake, which will render the area inaccessible. |

| Material/ Product | Description and Product Examples | Access and Maintenance Considerations |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flexible plastic open grid access systems | These systems include a square plastic, grid-like module that can connect together. The grid is open to allow, soil, sand, grass, or other plants to fill in flush with the top of the grid surface. The grid modules can be connected to form unlimited sized areas or pathways. Product names include: Presto GeoRunner® and Eco-Trak. | These systems are good for wheelchairs and walkers with shoes when the grid can be spanned. However, the open grid can be penetrated by canes or other small objects. Grass can be grown within the open grid, but these surfaces are not comfortable for people who may be scooting to get around the garden. |
| Mats, tile, and poured-in-place rubber surfaces | Mats and tile products can be made of rubber or plastic. Some have solid textured surfaces, and some have openings. These materials can be placed temporarily or used permanently. Poured-in-place surfaces can be laid like an asphalt path. Many of these products can be seen on playgrounds. Product names include: Privacy (Long Life) Lattice, SofTile, Diamond Rubber Mat, and Vitriturf. | Mats and tile are great accessible surfaces when installed over a smooth sub-surface. A lumpy sub-surface will create sustainability challenges. Avoid mats and tiles that can be easily displaced. Install them permanently to ensure your accessible route is maintained at all times. These materials are mostly maintenance-free and easy to sweep clean. Another advantage of these surfaces is that they are softer on the body. Therefore, they are great for those who are scooting to get around or sitting or laying when gardening. However, the soft surface can create an unstable condition for a person with a cane. A disadvantage is that they can be expensive. |
| Roll-away walkways | These products were originally developed for beaches. They typically come in long rolls. The product is pinned or anchored to a soft surface, such as sand or soil below. They can be wood, plastic wood, or fabric. Product names include: Tuff Roll, Mobi-mat, Roll out Path System, and Porta-Floor. | Roll-away walkways are a good retrofit solution in addition to an option for a new garden. Many of these materials are meant to be portable or temporary. Avoid materials that can be easily displaced. Install them permanently to ensure your accessible route is maintained at all times. Watch out for heavily textured surfaces that hinder accessibility and can be dangerous to children, those who are scooting to get around, or individuals sitting or laying when gardening. These materials are mostly maintenance-free. However, make sure to research the longevity of the fabric products before selecting these materials for your route. |

| Material/ Product | Description and Product Examples | Access and Maintenance Considerations |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wood or recycled plastic decking | These products are recycled wood and/or plastic composite lumber that can be a substitute for wood lumber. It can be used to construct board walks like traditional lumber. Product names include: PlasTeak, Trex, and Evolve. | A boardwalk made of this material provides a stable, smooth, and accessible surface. It is also rot-resistant and low maintenance. These materials are marketed with the promise that they are slip-resistant. Review your climate and site conditions to determine if this material is right for you. This type of lumber can be made into almost anything and is volunteer-build friendly. |
| Stabilized soil, crushed stone or brick (Figure 3.1) | These are products that are added to your native soil, crushed stone, or crushed brick to stabilize the surface. When compacted, the surface is stable and smooth. The availability of stone or brick will depend on where you are located in the country. Product names include: Road Oyl, Stabilizer, Brik-Trak, Poly Pavement, and Top Shield. | Proper installation and compaction is required to achieve an accessible surface. Proper drainage is also important. These surfaces can be easily eroded and destroyed by misdirected storm water. From an aesthetic point of view, these products achieve a wonderful, natural appearance that blends with the surrounding of the garden. This is a step in the right direction when looking to achieve inclusion (i.e., all paths appear the same and provide access for all). |
| Hard-surface pavements | These include concrete, asphalt, brick paving, stone paving, and others. | Paved surfaces are the most reliable accessible materials. Of the materials listed, concrete is the best accessible hard-surface material due to its flexibility and durability. It can be formed into any shape, colored, and printed, and it has durable edges. Decorative concrete, brick, and stone paving options are endless and can make a statement of permanence and quality for your project. Asphalt is also a good accessible surface, but it is hot and the edges crumble over time when not installed with edging. Hard-surface pavements tend to be more expensive, but they are the most inclusive. |

C. Facilities

Your garden should include facilities that can be used by all. Designing for inclusion requires attention to the details when planning your garden. This effort will ultimately lead to a garden and facilities that are flexible, well-used by everyone, and easier to program. Your facilities should include some or all of the following:

1. **Benches** – Places to stop and rest are great for gardeners and very important for those with mobility challenges. Locate them in the shade, if possible, along the accessible route, and

throughout the garden. Benches can be purchased or made of many natural materials, such as boulders or tree trunks. Make sure your benches are stable, adjacent to the accessible route, and have a smooth, level seat area. The seat height should be within 16 to 24 inches above the ground. Benches can also be used as transfer spots. (See item C.5 below.)

2. **Accessible Restrooms** – Evaluate your park building for accessibility and make modifications as necessary. If you do not have an adjacent park building and restroom facility, provide an accessible portable restroom and hand washing station. The accessible ones are larger and easier for everyone to use, including parents who are helping children. A portable restroom can be positioned in a picnic shelter-type enclosure to make it look attractive in the garden. Locate a portable restroom near an access road or drive for servicing and drop-off/pick-up. Also, consider locating it in a shaded area, if possible.
3. **Shade** – Most gardening occurs in the summer months. Heat can pose potential dangers for people who fail to keep their bodies cool and hydrated. Provide places for people, particularly those most at risk (e.g., children, elderly, people with medical conditions), to access the shade. Shade can be provided under trees, garden structures, and picnic shelters or within an adjacent building.
4. **Water** – Water for plants and people is important in the garden. Harvest rain water for plant watering if possible, and provide a potable drinking fountain for people. Be sure both are well labeled so gardeners don't accidentally drink non-potable water. The drinking fountain should be an accessible, commercial type used in your parks or can be an attachment to a potable water source. Provide an accessible set-up for plant watering by locating the spigot and hose at a height of 30 inches above the ground. Provide a hand-activated lever to start the flow of water. For more information about harvesting rainwater, see *Chapter 4: Organic and Sustainable*.
5. **Transfer Spots** – People who travel with wheelchairs or scooters or who have walking challenges can transfer onto a platform or series of stepping platforms to provide access up to something or down to the ground. Use transfer points to provide access to soft mats on the ground for direct access to the soil. Consider using a transfer spot to achieve access to a table-height garden.
6. **Garden Beds** – Design your garden bed width for the maximum reach for an adult and a child. If your beds have access on both sides, design your bed to be twice the width of the maximum reach. Not all beds need to be the same size, width, or length. Work with the opportunities of your site. (See *Chapter 2: Building Your Community Garden*.)
7. **Table-height Gardens** – Plantable tables can be purchased or constructed out of simple materials such as wood. Table-height gardens are great ways to include children and people with disabilities or limited mobility in gardening activities (Figure 3.2). The table height allows for a person in a wheelchair to have direct access to the soil. Likewise, these tables are easier for groups of young children to use while standing which can increase your programmatic options.



Figure 3.2. An accessible garden plot in Sacramento.
Photo courtesy of City of Sacramento Department of Parks and Recreation

8. **Vertical Gardens** – Look for creative ways to hang your garden on a wall (Figure 3.3), or train your plants to grow vertically. Harvesting your vertical crop can be much easier for gardeners in wheelchairs or others who have difficulty moving or bending over. Vertical gardens are also at child-height and therefore easy for children to use. (See *Chapter 6: Edible Recreation* for unique ways to grow your garden.)



Figure 3.3. A hanging basket at Missouri Botanical Garden can be lowered for easy access. Photo courtesy of Laurel Harrington

9. **Equipment and Tools** – Loose tools and the storage for them should be included in your planning. Here are some specific pieces of equipment to include when looking to plan for inclusion:

- a. **Garden Cart** – Provide a cart in place of a wheelbarrow, which can tip over easily.
- b. **Garden Tools** – Provide light-weight tools, some with long handles and some with short handles; individuals will find the ones that work for them. Tools with extensions are also helpful.
- c. **Gloves** – Provide a supply of cotton jersey gloves that can be washed and re-used. Also keep surgical gloves on hand for any individual who should not have direct contact with the dirt due to a medical condition.
- d. **Buckets** – Provide light-weight buckets or baskets for collecting weeds and harvesting crops. Buckets should have large, flat bottoms to enable them to rest on an individual’s lap and to ensure they do not tip easily.
- e. **Soft Mats and Kneepads** – Provide large mats in addition to kneepads to allow individuals who garden in a prone position to be comfortable, too.

References

United States Access Board. (2002). *ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)*. Retrieved from <http://www.access-board.gov/adaag/html/adaag.htm>

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