



CHICAGO BOTANIC GARDEN

Gardening

as a **Social Enterprise: Including People**

with Disabilities



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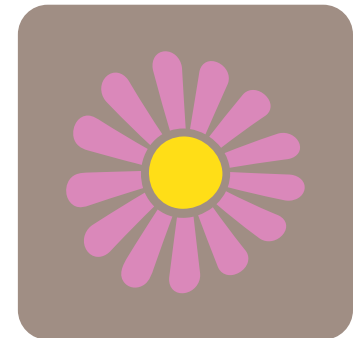
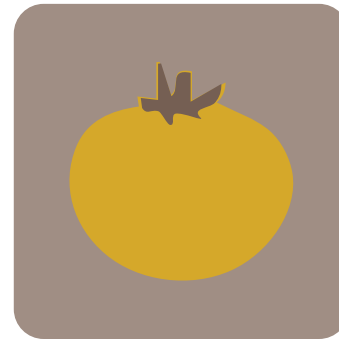
Introduction

Garden-based social enterprises contribute directly to the development of healthy communities, resilient local food systems, and the conservation of biodiversity. *Gardening as a Social Enterprise: Including People with Disabilities* is a guide designed to help social entrepreneurs and groups interested in developing garden-based programs to support the full inclusion of people with disabilities.

Many of the examples and insights offered in this guide are based on the Chicago Botanic Garden's ongoing programs for community-based horticultural therapy, urban-agriculture education, and local food-system services. Beyond our goal to increase the sheer number of local gardens, the Chicago Botanic Garden works to increase the relevance of gardens in the socioeconomic and cultural life of communities.

The Chicago Botanic Garden thanks our many community partners including the U.S. Department of Labor's Disability Employment Initiative and the Illinois Department of Commerce and Economic Opportunity for their support of our work and this guide. Special acknowledgment for guide research and development goes to the Garden's Urban Agriculture, Horticultural Therapy, and Communications staff, to the Julie and Michael Tracy Foundation (JMTF), and to sustainability management consultant Demetria Giannisis.

It is our collective hope that an inclusive garden enterprise sector will grow and flourish in our region and beyond through the contributions of people of all abilities.



What is a Social Enterprise?

According to the Social Enterprise Alliance (SEA), “a social enterprise is a business whose primary purpose is the common good...using the methods and disciplines of business and the power of the marketplace to advance it’s social, environmental, and human justice agendas.”

Growth in the Social Enterprise Sector in the United States

The 2012 results of a national census documenting social enterprises indicate that the current U.S. social enterprise sector represents \$300 million in revenue and employs more than 14,000 people throughout 28 states. Agriculture and workforce-development organizations represented the largest share of firms measured by revenue in the 2012 census.

Most firms also reported a workforce of fewer than ten employees and more than half reported zero to four employees. This is not surprising since 29 percent of the firms represented in the census were just established in 2011. Organizations founded after 2005 typically registered as for-profit, “C” corporations or Limited Liability Corporations (LLCs). Visit the census project online at www.socialenterprisecensus.org for more information.

Another emerging social enterprise-based designation is the B-corp., or benefit corporation. This type of for-profit business incorporation is designated for firms with a dual mission of earning shareholders profits while pursuing longer-term social good. Essentially, B-corp. designation replaces short-term returns as an indicator of business value in favor of better serving society as a whole.



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Inclusive Social Enterprise Development

Early models for “sheltered workshops” and other variations on segregated disability employment practices have been extensively evaluated. Among U.S.-based philanthropic foundations with established programs for social enterprise development, the Kessler Foundation specifically supports organizations dedicated to people with disabilities.

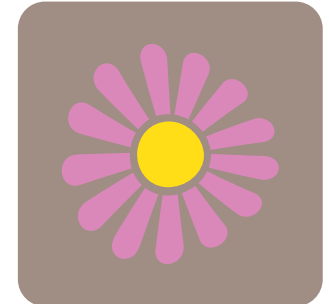
The Kessler Foundation’s rigorous examination of past disability workplace models is the basis for its current funding criteria. The following four funding guidelines of The Kessler Foundation provide insight into best practices for the development of an inclusive social venture.



- People with disabilities work in integrated community jobs side by side with people without disabilities.
- Individuals with disabilities are paid at least minimum wage and, preferably, the prevailing market wage.
- Individuals with disabilities have choice in deciding whether to work for the social enterprise business.
- There is regular skill assessment for people with disabilities and the opportunity for advancement and promotion where appropriate, or movement to another job with another employer.

The John J. Heldrich Center for Workforce Development and the Kessler Foundation’s joint research reports further examine what makes inclusive social enterprise firms succeed or fail.

For more in-depth information, refer to the 2011 report “Social Enterprise Business: A Strategy for Creating Good Jobs for People with Disabilities,” by Elaine Katz and Ronnie Kauder, *Disability and Work Research Report, A joint publication from the John J. Heldrich Center for Workforce Development and the Kessler Foundation*, May 2011, available at <http://bit.ly/14umyMx>.



Disability Trends and Inclusive Enterprise Planning

Defining and understanding your market and customers is essential to the development of the vision, strategy, financial model, and operating structure of your enterprise. As you review the basic demographic and related data for disability trends, consider how your enterprise will segment, target, and position its services or products. [Click here](#) for an explanation of these terms.

The World Health Organization's most recent data indicates that 15 percent of the world's growing population includes people with disabilities. Local workplaces operate as crucial components of sustainable, livable, community systems and should naturally mirror the composition of their entire community.

Overall, approximately 19.6 percent of people with disabilities are either employed in a paid position or actively seeking employment, compared to 69.6 percent of the general population in 2013. See www.bls.gov/news-release/empsit.to6.htm for U.S. Department of Labor Statistics, 2013. This trend has remained essentially constant over the last decade and contributes to the fact that people with disabilities are about three times more likely to be classified as living at or below existing U.S. poverty thresholds.

Social enterprises designed to change the employment status of people with disabilities must also grapple with broader public policy issues and workforce system constraints. A further complication is the recognized disincentive for people with disabilities who receive Social Security income or insurance benefits to engage in work because of current financial asset limits.

Across the United States, programs and services are beginning to address these disincentives by ensuring that qualifying people with disabilities are able to work without losing their full Medicaid healthcare benefits.

For example, in Illinois, the current Health Benefits for Workers with Disabilities (HBWD) program serves workers with disabilities between the ages of 16 to 64 with associated incomes of up to \$3,258 per month for a single person and \$4,413 per month for couples. Depending on income levels, participants in HBWD may pay a monthly premium to continue to receive comprehensive healthcare coverage while working. Another key differentiator of this program, as opposed to most Medicaid programs, is HBWD's program allowance for participants to have up to \$25,000 in financial assets.

Insurance is only one factor contributing to high poverty levels among people with disabilities. Utilizing the specialized skills of a social worker during the planning stages of an enterprise and potentially as a member of any inclusive team is a sound investment. Determining the mix of services available at an early stage in planning will assist you to properly scope and scale the enterprise's mission, financial model, and related operations.

The U.S. Department of Labor's Disability Employment Initiative and state government employment agencies are working to better align employer requirements with job seekers. Public information regarding how to effectively recruit and retain talent may be available through American Job Center's disability resource coordinators.

THE FORGOTTEN DIVERSITY SEGMENT

Realizing full disability and workplace diversity is a complex, multi-faceted challenge. It requires a focus on the needs of a diverse workforce, the ability to attract and retain talent, and the ability to create a workplace environment that is inclusive and supportive of all employees.

DISABILITY AND AMERICA'S WORKFORCE

- 20% of the U.S. population has a disability
- People with disabilities are the largest minority group in the country
- 88% of people with disabilities have the highest rate of unemployment in the country

NOD AND SIROTA STUDY

PURPOSE: To better understand the employment experiences of people with disabilities

GOALS: Make awareness in companies about disabilities in the workplace

SCOPE: The study was the first of its kind in terms of both size and scale

RESULTS:

- 800,000: The number of employees surveyed
- 5 YEARS: The length of the study
- Many of the largest differences were related to educational background, employee role, and company

The greatest difference, however, was that employees with disabilities had more low opportunity for advancement in their current positions and reported they felt less frequently encouraged to advance.

The factors that distinguished engaged employees with disabilities from those that are disengaged included:

- Feeling connected to team/management
- A job that makes good use of their skills and abilities
- Feeling the opportunity to receive additional training and learn on the job
- Being included in decisions

BOTTOM LINE: What makes people with disabilities happy in the same way as what makes people without disabilities happy in the workplace.

TAKE THE DIVERSITY CHALLENGE

Make your workplace more diverse to include employees with disabilities by taking the diversity challenge:

- 1 THINK DIFFERENTLY**
It's okay not to do things the usual, tried-and-true way. Look at your current practices and see if there are any that are not working.
- 2 BE DELIBERATE**
Establish a plan and move forward. Know what success looks like for your company and don't let it go.
- 3 BE DEDICATED**
Showing employment happens in a moment, not a moment. Push through challenges and obstacles to be more inclusive.

CONNECT WITH NOD
Facebook, Twitter, LinkedIn, YouTube

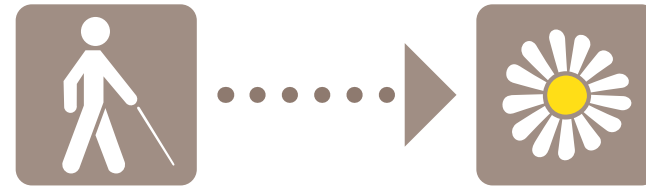
NATIONAL ORGANIZATION ON DISABILITY
SIROTA

Disability Trends and Inclusive Enterprise Planning (continued)

Some progress is occurring in the hiring practices of major business employers according to recent analysis by the Society for Human Resource Management (SHRM) and Cornell University's ILR School Employment and Disability Institute. <http://bit.ly/a0CHHq>

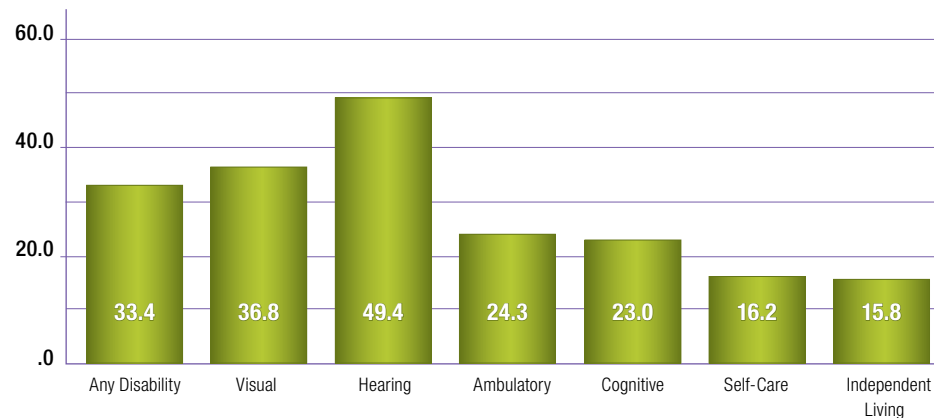
SHRM is the world's largest human-resource association, with more than 250,000 members in more than 140 countries. A randomly selected survey of SHRM's membership of 662 human-resource managers showed that 61 percent of the responding firms had diversity and inclusion plans that included people with disabilities. Further evidence of progress: 45 percent of organizations have trained their human-resource staff and supervisors on effective interviewing processes that lead to increased hiring of people with disabilities. For more information about the survey, visit <http://bit.ly/POBbPz>.

If the enterprise will be hiring younger people with disabilities, consider tapping the resources of organizations such as the Workforce Recruitment Program for College Students with Disabilities (WRP), Career Opportunities for Students with Disabilities (COSD) Career Gateway, Emerging Leaders, and Project SEARCH. Another building block for operational success is to site an enterprise garden near accessible transportation and specialized service providers that are important to the workforce.



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Employment rates of non-institutionalized working-age people (ages 21 to 64) by disability status in the United States in 2011



Urban Agriculture Guides and Business-Planning Templates

Questions regarding the functional abilities of prospective workers should be addressed at the very outset of planning, since the answers will shape the scale and complexity of activities. The initial discussion requires a thorough round-table discussion with staff, volunteers, and key stakeholders from collaborating organizations that will be sending clients as employees, and with owners of the land or facility where the inclusive garden will be located. A good source of information is available through the World Health Organization's checklist for International Classification of Functioning, Disability, and Health. [Click here for more information.](#)



The following questions are useful to consider during the initial business-planning phases.

- What are realistic outcomes and measurable impacts for the enterprise over time?
- How will we recruit and qualify our workforce to include employees with disabilities?
- What are the skills or potentials for skill development in our target workforce?
- How are the needs of the population we serve changing?
- What is our marketing and community outreach strategy?
- How will we sustain the involvement of key stakeholders including investors in our enterprise or programs?
- How will our organization interact with the business community?
- What types of supportive services will our workforce need?
- How do we build a vocational garden optimized for access and productivity?
- What types of assistive technologies or design methods do other inclusive gardens or social enterprises use?
- Are we including career options for our employees with a disability, in roles such as financial, marketing, sales, or administrative support?
- What zoning, insurance, and other regulations might affect garden enterprise operations such as workplace and food safety?
- What is our financial model, and how much is based on earned revenue versus funding awards or other sources of income?
- What type of insurance or other risk-management services do we need?

What are realistic outcomes and measurable impacts for the enterprise over time?



How will we sustain the involvement of key stakeholders including investors in our enterprise or programs?



How do we build a vocational garden optimized for access and productivity by our entire workforce?

Urban Agriculture Guides (continued)

The ability to respond to these question in a substantive way will help your enterprise to develop a team with relevant expertise and a responsive learning culture. For an inclusive garden enterprise, essential team members could include medical professionals, social workers, horticultural therapists, occupational therapists, gardening and farming experts, and a business manager. Along with a realistic assessment of client/worker abilities and needs, the initial planning session should recognize that no farm or garden succeeds in the long term—sometimes even the short-term—without the services of a dedicated and experienced grower, who can translate vocational garden ideas into production reality.

Using existing urban agriculture guidelines and business-planning methods will also reduce risk during the start-up of your inclusive garden enterprise.

For example, the United States Environmental Protection Agency’s *Urban Farm Business Plan Handbook* is a comprehensive resource that was developed in collaboration with many community organizations, including the Chicago Botanic Garden. The handbook provides a framework for the development of an urban farm business that could address neighborhood blight, food access, or community development challenges on brownfields or vacant sites. To access the handbook and worksheets [click here http://www.epa.gov/brownfields/urbanag](http://www.epa.gov/brownfields/urbanag).

For advice on developing a “lean start-up” enterprise, see the business canvas below as an example of a planning template. For more information on lean start-ups [click here](#).

Finally, the Chicago Botanic Garden now offers a 14-week course on Local Foods Business and Entrepreneurship. For the best-practices overview offered through the course, [click here](#).

Lean Start-Up Business Canvas

<p>Key Partners</p> <p>Who are our Key Partners? Who are our Key suppliers? Which Key Resources are we acquiring from partners? Which Key Activities do partners perform?</p>	<p>Key Activities</p> <p>What Key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue streams?</p>	<p>Value Propositions</p> <p>What value do we deliver to the customer? Which one of our customer’s problems are we helping to solve? What bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying?</p>	<p>Customer Relationships</p> <p>What type of relationship does each of our customer segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they?</p>	<p>Customer Segments</p> <p>What type of relationship our customer segments expect us to establish and maintain? How are they integrated with the rest of our business model? How costly are they to serve?</p>
<p>Key Resources</p> <p>What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams?</p>		<p>Channels</p> <p>Through which channels do our customer segments want to be reached? How are we reaching them now? How are our channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?</p>		
<p>Cost Structure</p> <p>Which Key Resources are most expensive? Which Key Activities are most expensive?</p>			<p>Revenue Streams</p> <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each revenue stream contribute to overall revenues?</p>	

Source: Business Model Foundry AG. Canvas concept developed by Alexander Osterwalder and Yves Pigneur.

A Framework for Workforce Development

The ideal framework for designing a garden enterprise incorporates both workers with disabilities and typical workers to achieve a social and economic purpose. The World Health Organization's International Classification of Functioning, Disability, and Health (ICF), has emerged as one of the leading frameworks for inclusive workforce planning. The ICF model can be used as an organizing principle for understanding any person's abilities through an activity-based context. It uses a defined set of health and body functions as well as environmental, personal, and participation (social) conditions.

Many available assessment tools, ICF included, require a certified professional to administer and interpret the evaluation results. There are, however, easy-to-use assessment tools that do not require certified assessors. Click on <http://bit.ly/Hf9zq7> to review an assessment that allows for hand scoring (versus electronic) and has been designed to be used for the following evaluation areas: Personal Living Skills, Home Living Skills, Community Living Skills, and Employment Skills.

These categories also are consistent with the ICF framework:

Cognition—understanding and communicating

Mobility—moving and getting around

Self-care—attending to one's hygiene, dressing, eating, and staying alone

Getting along—interacting with other people

Life activities—domestic responsibilities, leisure, work, and school

Participation—joining in community activities, and participating in society



Each of these assessment tools has the advantage of focusing on an individual's ability to achieve specific functions in a specific environment. There is no need for, or intention of, diagnosis, categorization, or labeling of ability or disability. The areas in which an individual has difficulty functioning will be flagged so that appropriate accommodation can be developed.

The use of standardized assessment tools is an excellent way to create a baseline for measuring the outcomes of your inclusive garden's training services. Incorporating assessment methods before and after meaningful milestones will establish comparative data and results. Many investors and funders use projected outcomes to select organizations worthy of investment. Regular reporting of results to the community will support the credibility and performance of your enterprise and provide realistic benchmarks for continuous improvement.

www.botanicgardens.org/programs/therapeutic-horticulture/chatfield-veteran-reintegration-program

The Chatfield Veteran Reintegration Program at the Denver Botanic Gardens recruits veterans as active farmer apprentices on a multiacre CSA site in Littleton, south of Denver.

The program offers a promising model for replication by providing therapeutic, socialization, and vocational training experiences, along with meaningful mission-driven work that builds on veterans' skill sets.



Workforce Development (continued)

An individual's confidence, attitude, and expectations of success may be significantly improved by inclusion in a social enterprise. To measure the impacts on individuals with an internationally recognized scale, see the General Self-Efficacy Scale at <http://bit.ly/1jBFdz8>.

This scale consists of ten statements answered on a scale of 1 to 4, with 1 = Not at all true, and 4 = Exactly true. An increase in total score represents an increase in perceived self-efficacy.

- 1 I can always manage to solve difficult problems if I try hard enough.
- 2 If someone opposes me, I can find the means and ways to get what I want.
- 3 It is easy for me to stick to goals and accomplish them.
- 4 I am confident that I could deal efficiently with unexpected events.
- 5 Thanks to my resourcefulness, I know how to handle unforeseen situations.
- 6 I can solve most problems if I invest the necessary effort.
- 7 I can remain calm when facing difficulties because I can rely on my coping abilities.
- 8 When I am confronted with a problem, I can usually find several solutions.
- 9 If I am in trouble, I can usually think of a solution.
- 10 I can usually handle whatever comes my way.

Inclusive Garden Design Considerations

An outstanding example of inclusive garden design research that incorporates universal and specific design themes for adults with autism has been developed by the Helen Hamlyn Centre for Design at the Royal College of Arts, London, in partnership with the Kingwood Trust and BEING design consultancy.

The research team identified four garden-design Centre's themes relevant to adults with autism:

- Enhancing opportunities for individual growth
- Mitigating triggers for hyper- or hypo-sensitivity in a garden environment
- Robustness for garden safety
- People-centered tools and support

Based on these design themes, specific guidelines were then developed to create an inclusive garden environment for adults with autism. For example, the design theme to reduce hyper- or hypo-sensitivity gives special attention to garden layout and flow. View a brief video overview of the research at <http://bit.ly/198NEbl>.



Inclusive Garden Design Considerations (continued)

Garden design for a social enterprise should be guided by function and evidence of positive results for the well-being of the participants. Each garden and each space within the garden will need to address the sensory preferences, accessibility needs, and specific precautions for the people who will work there. Aesthetics in this type of garden remain important because they affect attitude, productivity, and engagement; however, they are less important than function when a choice must be made.

Guiding Questions For Your Teams:

Consider the following, explored in detail in *Therapeutic Landscapes: An Evidence-Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces* by Clare Cooper Marcus and Naomi A. Sachs:

A sense of control: Lack of control is a fact of life for many individuals living with a disability. Providing an environment that enhances a perceived sense of control is associated with less stress and better health indicators.

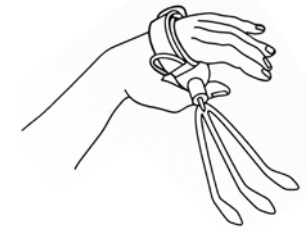
Provisions fostering social support: Areas for private respite from social demands and areas for interacting are both important. Higher levels of social support are associated with better health status and reduced mortality rates.

Positive distraction: Nature has been found to be one of the best forms of positive distraction. Positive distraction improves emotional state and promotes beneficial changes in the body's stress indicators.

The garden must be designed to be comfortably accessible for completion of the required tasks.

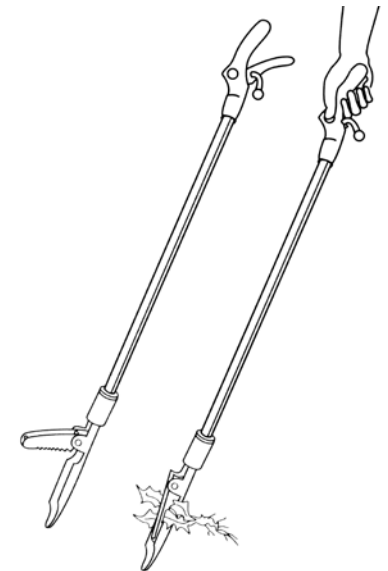
This will likely include wide, firm pathways and at least some raised beds constructed within parameters to allow people using wheelchairs to easily reach the center area of the raised garden bed. A good rule of thumb is that no part of the raised bed should require a reach of more than 24 inches. Raised beds are generally built 28-30 inches high and provide a sitting surface on the edge for gardeners. Pouches may be built into the raised bed walls for tool storage.

Well-designed tools can make difficult garden tasks much easier. Look for tools that use the larger muscles of the arm as opposed to the wrists or hand, such as the Easi-Grip tools pictured at <http://bit.ly/1a4jwxP>. There are also tools that can be used comfortably in raised beds because they have telescoping handles that can be adjusted to just the right length, such as at <http://bit.ly/JZnk90>. This website also has information about enabling tools used by the Chicago Botanic Garden.



Well-designed tools can make difficult garden tasks much easier.

Look for tools that use the larger muscles of the arm as opposed to the wrists or hand, such as the EasiGrip garden tools pictured here.



Gardening Tasks and Accommodations

The Chicago Botanic Garden's Horticultural Therapy Services department has developed Gardening Tasks and Accommodations guide that will provide your team with pragmatic ways to apply the World Health Organization's ICF model. The includes a list of common gardening tasks with the associated functional requirements for the task and suggested accommodations. [Click here for chart.](#)

The Chicago Botanic Garden's horticultural therapy services department has also developed manuals on how to conduct plant-based activities with people who have disabilities as well as a selection of garden infrastructure "how to" guides. [Click here for more information.](#)

Gardening questions for your team:

- Are any participants prone to wandering or getting confused? Provide a perimeter fence, way-finding features, and systems to assure safety so that gardeners can feel at ease in their work.
- Consider participants' medications or conditions that may exacerbate exposure to sun, heat, cold, or that may make bathroom needs urgent? Be sure to equip the environment appropriately.
- Are there ambient conditions, such as noise, dust, or temperature that could irritate people with sensory sensitivities? Can these conditions be adjusted?

Building a Team

Gardens or farms that will function as inclusive social enterprises will usually start with a good understanding of their workforce. The challenge is to match those initial insights and familiarity with an effective garden enterprise design and program plan. The skill sets required may be provided by paid employees or qualified volunteers. They are:

- Flower or produce-production expertise
- Horticultural therapy/case management
- Program supervision/business management
- Fundraising and communication

Small and start-up operations are likely to appoint one person to fulfill multiple roles.

It is important to hire or contract a professional grower and horticultural therapist to ensure the success of your enterprise. It also requires professional skill to document program activity for stakeholders and community members. Finally, the services of a professional horticultural therapist, whether on a contracted or volunteer basis, can make a significant difference in the smooth operation of your program and the satisfaction of your workforce.

The staffing model recommended by the Chicago Botanic Garden is one that mixes typical workers and those with a disability. This model creates opportunity for advancement and promotion of all workers.

Hire or contract a professional grower and horticultural therapist to ensure the success of your enterprise.



Organizational Culture

Social enterprise operations that are part of a larger nonprofit organization, like those run by the Chicago Botanic Garden, enjoy the benefits of institutional scale: a development/fundraising department, design and communications, PR staff, etc. It all adds up to the opportunity for cross-functional collaboration that can strengthen an enterprise and enhance the image of its parent organization.

Most social enterprise operations that are established to benefit people with disabilities will likely be stand-alone or associated with other programs that are directly relevant to the target population, such as a farm with specialized production and retail arms.

Whether your social enterprise is part of a bigger operation or a stand-alone program, the team you work with will define your culture. For instance, a program that works with disabled teens and young adults will likely be team and consensus-based in order to respond best to the needs of their dynamic clientele.

The Chicago Botanic Garden's programs for teens, its certificate training program for adults, and skills-training and job-placement program for incarcerated youth and post-release young adults have very defined cultures. All participants sign a community standards, violations chart, and consequences for infractions agreement. Program participants agree to positive and realistic goals, respect for others, and appreciation of differences. "Straight talk" sessions are scheduled weekly for teen program participants, and over time, these sessions become deeply important to students. Taken together,



these standards and practices define a code of conduct, promote teamwork and positive relationships, and create a safe learning space for all participants.

For sample charts, forms, and agreements used in the Chicago Botanic Garden's programs [click here](#).

Depending on your primary clientele, you may need to emphasize a more traditional reporting culture and, in the case of a program that works with veterans with combat-related injuries, underscore the value of service and loyalty to fellow veterans.

Regular reporting of results to your stakeholder will support the credibility and performance of your enterprise and provide realistic benchmarks for continuous improvement.



Richard Durbin, U.S. Senator for Illinois at a Chicago Botanic Garden Urban Agriculture training site.

Program Design and Funding Mix

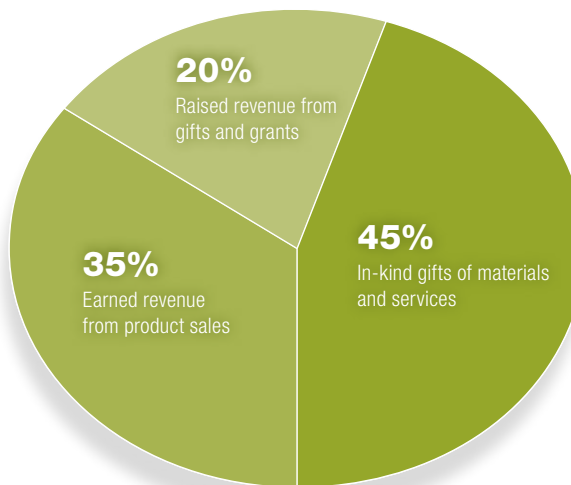
The good news is that there are many great programs already in operation that serve, and benefit from, an inclusive workforce in a farm or garden-based setting. Borrow lavishly from programs that already are successful and have similar missions.

The Green Youth Farm program, for example, was derived directly from The Food Project in Boston and Lincoln, MA. Eleven years ago, it was clear to the Chicago Botanic Garden's staff that The Food Project had a great model and program to train other organizations. Garden staff went through their program, adapted much of their core curricula, and had subsequent on-site trainings by staff from The Food Project. Over the past decade, the Green Youth Farm has developed its own program strengths, with staff that now train other organizations.

As an adult-oriented, college-accredited certificate program in sustainable urban-agriculture, Windy City Harvest was inspired by Green Youth Farm program features. However, the training curriculum in sustainable food production was largely borrowed from the Center for Agroecology and Sustainable Food Systems at the University of California, Santa Cruz. Their curriculum still serves as an important reference. The Garden has since developed its own curricula and certificates directly addressing urban and peripheral urban food production based on its own expertise and the foundational principles of U.C. Santa Cruz's established research and training program. Click here for more information. <http://casfs.ucsc.edu/education/index.html>

The funding mix for a social enterprise is mainly determined by its designation as part of a larger organization or as a stand-alone entity. Since most new social enterprises will be sponsored by client-specific agencies that have small budgets, the defined funding mix must heavily rely on earned revenue. Possible earned revenue categories include product sales, services, events and in-kind gifts. Philanthropic funding, at significant and sustained levels, is easier for a larger operation to secure because it depends on dedicated staff to develop proposals, track donors, and issue regular reports.

While the Garden's urban agriculture and horticultural therapy programs rely very significantly on raised dollars from charitable organizations and state and federal grants, earned revenue is becoming an increasingly significant part of the total budget mix and is part of the Garden's growth model.



Creating the Garden

Location and Site Considerations

An inclusive vocational garden may be located on two acres of privately owned rural land, or it may be a 10,000-square-foot vacant lot in the middle of a city. If the vocational garden is located in an urban area, it may require additional zoning permits for infrastructure such as fencing.

In the last decade, the range of possible sites for community-based food production has become widely varied. Different workforce populations will need varying accommodations, such as wide solid paths for people using wheelchairs or walkers; plenty of shade, seating, and water access for individuals who should avoid sun exposure; or visual barriers for people who are stressed or distracted by external sights and sounds.

There are, however, a set of physical, site-management, and record-keeping requirements that are common to all gardens that have a goal of earning revenue from the sale of vegetables, fruits, or flowers. This section details the core activities and requirements to establish a garden that will accommodate vocational training and therapeutic goals in addition to production objectives. They are based largely on the Chicago Botanic Garden's experience in organic-method urban agriculture. Many of the site considerations are also relevant to in-ground growing projects.

Site Analysis and Inventory

- Heavy metals like lead and other contaminants are typical soil problems in densely populated urban areas. Urban growers should know their site's history and, if indicated, use a professional lab service to test the soil. Even if the plan is to grow only in raised beds, contamination of the existing soil must be properly mitigated.
- Shade, beyond what is required to keep program participants from being overheated, is undesirable in the vegetable garden! When selecting a site, be aware of structures and objects that cause shade like buildings, trees, solid fences, dense hedge rows, and low-lying areas.
- In urban settings it is important to identify remains of a building foundation, cement slabs, and low-lying areas that may collect water. A good first task in garden planning is to sketch in where traffic flow is most logical, where parking will be most efficient, and where deliveries can be offloaded most easily. A sketch of the site should include all of these elements as reflected in the following site analysis.

[See sample drawing.](#)

In 2010, the Farmer's House, a 501(C)(3) in Weston, MO, joined with local school district and county organizations to establish the Seeds of Change garden program for children and young adults with developmental disabilities.

See <http://bit.ly/1jBLdYB>



Hardscape Elements

Absolute requirements for a garden hardscape:

Water Source Decide whether you will be watering from a municipal source such as a fire hydrant, a lawn hydrant, or regular water spigot. The difference in water pressure will vary depending on the source.

Irrigation Drip-tape is recommended for a regular water source. Program participants should water intermittently by hand, which allows them to scout for pests and diseases. Another advantage to hand-watering is the soothing nature of the task and the quiet reflection it affords garden workers.

Fencing Municipal codes may require a certain type or style, so check with the relevant city agency if you are building in an urban environment. If deer are an issue, which is almost certainly the case for suburban and rural gardens, a deer fence is a necessity. Besides keeping unwanted animals out, fencing helps create a sense of safety for the participants and a defined place where community and teamwork can flourish.

Storage shed A simple cost-effective way to store tools, equipment, and program participant supplies is a shipping container. These can be painted and shade structures can be attached to make the combined units more aesthetically pleasing. Shipping containers are more vandal-proof than most other sheds purchased from home centers.

Raised Beds A raised bed should be constructed of untreated lumber, since the chemicals used in treated lumber can leach into the soil. The best material for raised bed construction is untreated cedar timbers that are ideally 6" x 6" x 8'. If beds are constructed at 4-foot widths, the timbers can be cut in half. The Chicago Botanic Garden's urban-agriculture programs use this method without digging a trench or lining with rock. The following links show how to construct raised beds that are solid and last for years, even in gardens with a lot of use and foot traffic. <http://bit.ly/1e6xvWK>

Greenhouse These structures are typically considered permanent hardscape elements. Greenhouses are often too expensive for start-ups as they require a poured foundation, water and electricity hook-ups. Growers will often use a modified hoop-house as a greenhouse by adding propane heaters and agri-bond fabric row covers.



Planting and Maintaining the Garden

Over the past 40 years, the Chicago Botanic Garden has created and helped manage many vegetable garden and mixed flower and vegetable sites. The sheer amount of information that is now available to new (and experienced) farmers through online resources and other media makes an exhaustive “how-to” description in this document unnecessary. Instead, in the spirit of an experienced gardener talking over the fence to a novice neighbor, this section will note some of the major focus areas and resources for organizations that are contemplating a food farming operation for their vocational garden workforce.

Soil Management Soil health is the heart of organic method farming and gardening. The Chicago Botanic Garden’s recipe for growing in raised beds is 1/3 topsoil and 2/3 organic compost. At sites where soil is mounded on geotextile fabric and edged with a wood retaining barrier (a technique sometimes called “windrow growing”), the mixture is roughly the same.

Green manure and proper crop rotation are also important when growing intensively. Cover cropping provides organic matter and aids with soil structure, nitrogen production, soil microbial activity, nutrient enhancement, and weed suppression. The following link provides basic information on cover cropping, see <http://bit.ly/1gSGCzj>

Compost Site Composting is essential to healthy soils and creating your own compost increases a vocational garden’s self-sufficiency. Some municipalities have strict guidelines on composting, so be sure to check your local regulations. A great guide for proper methods for composting is *Rodales Guide to Composting* by Jerry Minnich. <http://www.amzn.to/19IYacS>

Grass clippings, leaves, garden waste, and food scraps can all be used to make compost for your garden. A small-scale compost system can be easily constructed. The typical three-bin system works for small-scale sites, whereas a windrow system is more amenable to larger-scale operations. Click here for information about building a three-bin system. <http://bit.ly/1fc2GKO>

Hoophouse A hoophouse a pipe-framed, plastic-covered translucent structure used to grow plants. They are not considered permanent structures and are extremely useful for season extension production (early spring and late fall/early winter in northern climates), aquaponics, and starting transplants. Click here for information about Rimol Nor’Easter, the type of hoophouse used by the Chicago Botanic Garden’s urban-agriculture programs. <http://bit.ly/1kAuJ10>

Geotextile Barrier If the garden site soil test comes back with contaminants above 400 ppm of lead, it is essential to use a heavy duty barrier between the existing soil and the soil in which vegetables will be grown, and as an underlayment on mulch-covered walking paths.



Harvest and Post-Harvest Handling The Chicago Botanic Garden contributed to an urban brownfield food production, harvest and post-harvest handling guide developed by the EPA Region Five in 2011, [click here](#).

FamilyFarmed, an Illinois organization established to promote close farm-to-fork relationships between farmers and consumers, has published a comprehensive guide to post-harvest handling practices designed to assure maximum freshness and safety of food products, see <http://bit.ly/1a4mTVr>

Flower Farming

Flower farming is another alternative for social enterprise and vocational training gardens. Growing flowers offers the following benefits:

Risk Reduction There are fewer management problems associated with mild site contamination issues (e.g., 400 ppm or less lead in soils), food safety protocols, and enforcement of worker hygiene standards, making flower farming a good alternative for social enterprise initiatives.

Fewer Inputs Required Flowers can grow in soil that is less fertile than vegetables, whether in-ground or in raised beds or containers, and growers can avoid the cost of bringing in compost. Flower farming also requires less infrastructure such as washing stations.

New Market Demand and Value-Added Products

The demand for locally and sustainably grown flowers is increasing in recognition of the carbon footprint of imports. Additionally, there are many cold-season products that can be made and sold using dried flower materials.

General Food-Garden Maintenance Requirements:

The must-have manual for pest control is *The Organic Gardener's Handbook of Natural Pest and Disease Control* by Rodale, and the best source for basic garden care is Rodale's *All-New Encyclopedia of Organic Gardening*. *The All New Square Foot Gardening: Grow More in Less Space* by Mel Bartholomew continues to be a reliable favorite for small scale gardeners.

Marketing and Sales Two resources for establishing markets are a guide from the Center for Agroecology and Sustainable Foods Systems and another from The Food Project, see <http://casfs.ucsc.edu> and <http://bit.ly/1d4n87i>

Record Keeping Accurate record-keeping for purchases, crop plans and rotations, seed and supply orders, permits, certificates, staffing schedules, and related employment matters is essential for a successful social enterprise initiative. The Chicago Botanic Garden uses both electronic and written recordkeeping tools, and teaches the basics of recordkeeping for the Windy City Harvest Sustainable Urban-Agriculture Certificate Program. Food growing requires intensive record-keeping to maintain safety standards for traceability. For samples of Chicago Botanic Garden recordkeeping documents [click here](#).

Basic Staffing Requirements The foundation of a successful production garden is a good grower. Depending on the size and ambitions of a start-up venture, other positions like crew leader/job coach and business/marketing staff person will enable the enterprise to flourish and serve its stakeholders more fully. Volunteers can fill some of these positions, but not the grower's crucial role.



Urban Autism Solutions: An Inclusive Garden Enterprise

The Julie and Michael Tracy Family Foundation

The current generation of young adults with autism spectrum disorder (ASD) are both setting the course of their own adult lives and pioneering pathways of inclusion for generations to come.

In the United States alone, the prevalence rate of children identified with an autism spectrum disorder has increased by more than 70 percent in the last decade to one in every 88 children. This year, it is estimated that 50,000 young people identified with ASD will transition out of services at age 21.

The transition to adulthood for youth with ASD signals the beginning of lower levels of eligibility-based service and even fewer options for vocational development or employment. Ninety percent of young adults with ASD are either unemployed or under-employed. Community responses are slowly emerging, but most are not prepared to tackle the challenges or potential benefits of fully including an estimated million children with ASD who are transitioning to young adulthood.

The Julie and Michael Tracy Family Foundation (JMTF) is working to scale the depth and scope of approaches that show promising results in an experiential learning setting, using its platform of Urban Autism Solutions.

Julie and Michael Tracy are the parents of two sons, Joseph, 23, and John, 21. While Joseph developed typically, John was diagnosed with autism at age 2. As John made his way through public school, his challenges grew. After a number of hospitalizations, John was enrolled in a residential treatment program.



Unpredictably, John's mental health declined and his diagnosis further complicated treatment. Few psychiatric clinicians have been trained to manage co-occurring symptoms of mental illness in autism spectrum disorder (ASD). Treating ASD is a rapidly developing medical specialty. Many experts are working to develop new protocols for medication management in combination with comprehensive social and community supports.

John was admitted to Rush University Medical Center during the summer of 2011, where he stayed for five difficult weeks. It was almost impossible to stabilize John, and it was during those uncertain months that the impetus for the Tracy foundation's work emerged.

Observing the need for more specific psychiatric and transitional care for young adults with autism and comorbid mental health problems, the Tracy's vision became clear: establish a not-for-profit organization and residence for young adults with ASD located on the Near West Side of Chicago in partnership with the newly established Rush University Medical Center's Autism Assessment Research and Treatment Service (AARTS) Center.

1.5 million Americans have autism, 80% of whom are under the age of 22. The incidence is rising, with 1 in 88 children being diagnosed with autism.

80% of adults with autism ages 19-30 live with their parents.

90% are either unemployed or under employed.

How will society plan for these young adults with autism who need long-term, successful community transition during these crucial years and beyond?

Urban Autism Solutions (continued)

The Julie and Michael Tracy Foundation established Urban Autism Solutions (UAS) in 2011 with the vision to provide fully integrated, urban community life for young adults with autism spectrum disorder.

UAS's organizational vision is to create fulfilling futures for young adults with ASD in urban communities, acknowledging that the talents and potential of young adults with ASD is much broader than previously assumed. Unlocking the potential for these young adults depends on a combination of specialized training, and social and medical support *provided at the critical juncture* of their transition to adulthood through person-centered service delivery.

Evidence-based results support the premise that young adults with ASD can enter vocations previously not considered or attempted. A groundbreaking study featured this year in the *Journal of Autism and Developmental Disorders* is a compelling example of the efficacy of person-centered collaboration.

[Click here for more information](#)

UAS's strategic partnership with Rush University Medical Center's AARTS Program differentiates the depth and scale of the organization's current and future services. In Chicago, Urban Autism Solutions is the first and only comprehensive model designed to assist young adults with ASD and their families through the complex and multifaceted challenges facing them at the transition to adulthood.

The focus of the following plan is on the development of a vocational garden and residential facility that will provide coordinated and complementary educational, socialization, and work opportunities for ASD residents, clients, and workers. Urban Autism Solutions, together with Rush Medical Center's Autism Assessment and Treatment Center program, identifies, develops, and provides fully integrated urban community life solutions for young adults with ASD.



Rush University Medical Center



The Vocational Garden's Design

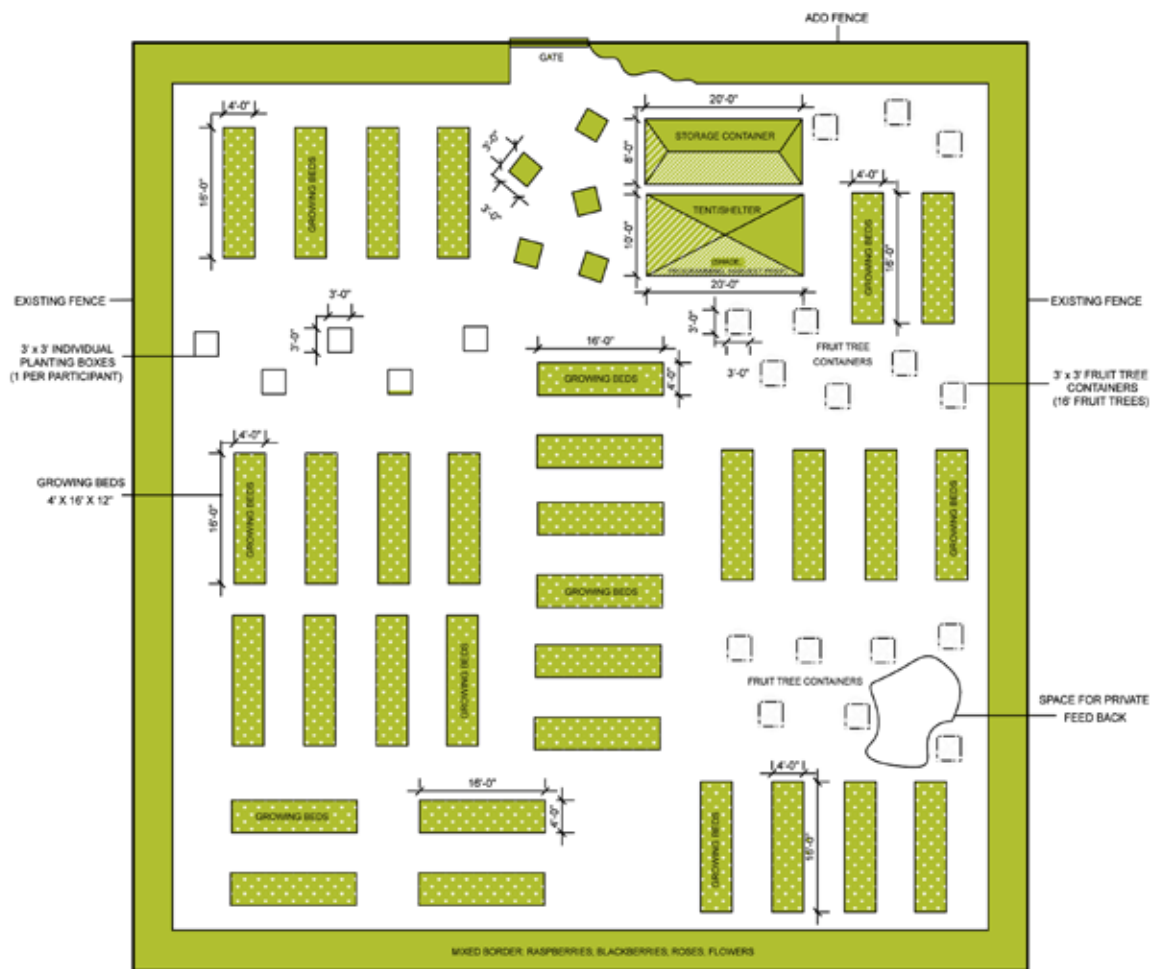
Design accommodations for garden workers with ASD will include the following key elements: clearly defined garden areas, use of visual charts and other cues for gardening practices, use of planting barriers to minimize distraction from the surrounding environment, and ample shade and resting space.

Site Description

The Urban Autism Solutions vocational garden site is located on Chicago's West Side, on approximately two acres of land owned by the Illinois Medical District Commission. The site is strategically located near several major hospitals and human service and health agencies.

Regulation and Policies

The Urban Autism Solutions vocational garden has been designed in compliance with the City of Chicago's permitting, licensing and zoning regulations for urban farms. Growing, harvest, and post-harvest handling of produce grown on the farm will be managed according to Good Agricultural Practices (GAP), a USDA-approved protocol for ensuring food safety. These protocols, as well as EPA-published guidelines for growing on urban soils, will inform all aspects of garden operation.



The Urban Autism Solutions Vocational Garden Design Phase One

Urban Autism Solutions (UAS) Program

Core Program Benefits:

- Facilitated services to provide an active social life in a vibrant urban neighborhood.
- Customized, personal planning and vocational training.
- Live-in staff in housing with private bedroom space and adaptive technology features.
- Close proximity to Rush University Medical Center's AARTS program medical care and on-site psychiatric services.
- Horticultural therapy as a part of vocational garden design.
- Vocational training and employment opportunities in urban-agriculture including the marketing of produce at the Rush University Medical Center's onsite farm stand and other community locations.
- Teaching kitchen in conjunction with urban-agriculture farm site.
- Micro-enterprise vocational training and community partnership opportunities.
- Access to education and fully integrated social opportunities.
- The opportunity for program participants and community stakeholders to contribute to the Urban Autism Solutions program and service model.

Phase One Summary

(January 2014 – December 2015)

Phase One includes the first two years of operation and will establish the program, services, and methods to develop key community alliances. Priority areas for public and private sector partnership development include volunteer resources, employment and service partnerships. The vocational garden and micro-enterprise ventures will operate as essential elements to build earned-revenue and services.

A significant milestone for Phase One has already been achieved with plans completed for the vocational garden expansion. In consultation with the Chicago Botanic Garden's horticultural therapy and urban agriculture program staff, both the garden design and associated crop sales are now included in future earned revenue projections and the financial model. Urban Autism Solutions (UAS) may continue to consult with garden, horticultural therapy, and/or occupational therapy professionals as needed during the first full season of vocational garden training and service delivery.

The UAS vocational garden and associated program plan has already generated core foundation support. For example, The Hear Foundation now has a partnership with UAS in Phase One to support the salary-related costs for key staff with the provision that the majority of the vocational garden produce will be donated to local food pantries. Now the benefits of The Urban Autism Solutions vocational garden and programs will extend even further to support long-term community alliances.



Key Actions for Phase One

- Finalize planning for the start-up organizational structure, staffing model, and operations including development (fundraising), marketing (community outreach), and program partnership development.
- Identify additional funding sources including potential corporate sponsors whose own brand positioning may be enhanced through a sponsor relationship.
- Work with Rush University Medical Center's AARTS program team to select program outcome and impact evaluation methods for short-term and long-term analysis.
- Raise \$132,443 to fully fund phase one of the vocational garden programs and services.
- Complete "Project 1212," the residential demonstration center's physical renovations, by March 2014.
- Beginning in June 2014, staff and operate Project 1212 as the first Urban Autism Solutions residential center and program.
- Expand the existing pilot demonstration vocational garden located at Campbell Parkway and Leavitt Street in the IMD based on best practices to accommodate vocational training and horticultural therapy.
- Provide urban vocational garden training and training for at least one other micro-enterprise venture to provide year-round programming for residents and community participants.

- Test the feasibility of providing a local neighborhood dog-grooming service located in the basement annex of Project 1212. The renovation already includes a separate public side door entrance. The basement is being equipped with dog-washing basins, plumbing, lighting, and safety elements.



Expand the existing pilot vocational garden, based on best practices to accommodate vocational training and horticultural therapy



Provide urban vocational garden training and training for at least one other micro-enterprise to provide year-round vocational programming for residents and community participants.

Phase Two (January 2016 – December 2017)

Phase two builds on the experiences, outcomes, and initial impacts of the start-up phase. A period of strategy review and evaluation will kick off planning and include Urban Autism's key stakeholders. Adjustments for this phase will be based on an analysis of program results, impact and stakeholder feedback.

Key Actions for Phase Two

- Conduct biannual program outcome and impact analysis in partnership with Rush University Medical Center to review the first two years of program impacts.
- Convene stakeholders and expert resources to conduct a feasibility analysis for the expansion of urban residences for young adults with ASD in the near west neighborhood of Chicago near Rush University Medical Center and other City of Chicago services and amenities.
- Expand vocational training garden based on the evaluation of phase one results. Evaluation tools will include pre- and post-participation surveys of client workers, attendance logs, job coach reports, recorded interviews, and production and sales records for garden produce.
- Identify opportunities for replicating other successful ASD programs to develop a model that can scale to reach more young adults with ASD.
- Build new stakeholder relationships to expand the impact and resource base (including vocational opportunities outside the region).

Phase Three (January 2018 – December 2019)

The Urban Autism Solutions team envisions expansion of both the number of residence centers and community participants in the program. In addition to continuation of core program areas, The UAS team plans to incorporate new vocational training opportunities.

Key Actions for Phase Three

- Expand vocational programs to include aquaponic farming and other vocational garden concepts.
- Expand program areas with the highest impact and potential for future success.
- Work with Rush University Medical Center AARTS program staff to generate a customized vocational training curriculum, assistive technologies, and other possible fee income from intellectual property.
- Work with community employment and policymakers to design jobs that will meet Work Investment Act (WIA) guidelines and the potential of young adults with ASD.



“The concept of a cutting-edge residential site that exists so fluidly in terms of proximity and alliance to an outstanding medical center is a unique paradigm whose time has come. Enhancing access to high-quality autism services and supports demands that we move from a piecemeal approach to a model that embraces person-centered planning at its core.”

—Dr. Louis Kraus,
Section Chief, Child and Adolescent Psychiatry Rush University Medical Center

Staff

Key Staff JMTCF President Julie Tracy and Communication/Special Projects Manager Debbie Hepburn will oversee all operations, expenditures, and strategic development of the Vocational Training Garden. Ms. Tracy and Ms. Hepburn will coordinate the development of partnerships including the Rush Medical Center, the IMD, schools, community-based organizations, sponsoring corporations, and the University of Illinois Extension educators. Ms. Tracy will also work with the Rush research director for program assessment and evaluation of outcomes.

An Urban Farmer will be hired to oversee urban-agriculture operations at the IMD site. The farmer will assume primary gardening responsibility and work in collaboration with the job coach and program participants to manage garden beds. Key areas of responsibilities include composting, planting, and harvesting. The urban farmer will be also be responsible for crops, maintenance of the site and equipment, and development and management of daily work schedules for all farm operations.

A Job Coach will be hired to develop programs related to job readiness, interviewing skills, resumé development, and soft-skills development needed in the workplace. The coach will manage the Vocational Training Garden and support individual gardeners and agency staff to modify instructions, the site environment, and job tasks to ensure efficient operations. The job coach will also provide instruction in horticulture and other urban-agriculture related jobs.

Partners

The Urban Autism Solutions team believes successful solutions for complex problems facing young adults on the spectrum will be solved through hope and the dedicated collaboration of community partners. Key partnerships currently include the following:

Rush University Medical Center The Rush AARTS Center is developing a core infrastructure of services across the full continuum of care. Whether coming to the Medical Center campus or moving into Project 1212 (the first residence center of Urban Autism Solutions), each young adult will benefit from a person-centered assessment including life planning services as mandated by the Department of Human Services. The Rush AARTS Center provides a care model based on establishing, maintaining, and enhancing mental health for the patient while fostering long-term relationships to build a lifetime of care.

Rush Food Service is a partner in development to implement a farmstand within the hospital that will include the eventual purchase of produce for the hospital's food service once the Urban Autism Solutions Vocational Garden reaches full scale.

Illinois Medical District Commission (IMDC) In 2013, the IMDC provided the Urban Autism Solutions team with access to a 900-square-foot lot to pilot its vocational gardening project. In 2014, plans include utilization of 10,000 square feet of land for the vocational garden space to operate through the social enterprise model of Urban Autism Solutions. The additional land donation is being secured through the offices of IMDC's executive director, Mr. Warren Ribley.



Working Partners (continued)

Have Dreams Have Dreams aspires to help individuals with autism improve their abilities to learn, function independently, and socialize so that they may realize their full potential and develop into contributing members of their communities. The Urban Autism Solutions team is working with Have Dreams to develop vocational curriculum and on-site training of support staff.

Easter Seals As an established agency that also serves individuals with ASD, and because of its location in the IMD, Easter Seals complements the mission of the Urban Autism Solutions program and is being developed as a partner.

Chicago Botanic Garden The Chicago Botanic Garden assisted the Urban Autism Solutions team to develop an expansion plan for the vocational garden with associated staffing and financial models. The plan is based on ongoing urban youth and adult farming initiatives and will help Urban Autism Solutions better integrate its activities into the local urban agriculture community.

Illinois Department of Commerce and Economic Opportunity DCEO funded the activities of the 2013 garden planning and vocational-training job analysis.

Chicago Public Schools JMTF is working with the transition coordinator from the Office of Diverse Learners Support Services to yield a vendor or community partnership involving students to enhance funding opportunities.

Center for Independent Futures (CIF) The Urban Autism Solutions team has contracted with CIF for consultation and direction regarding community-based residential programming. Our ongoing partnership is based on consultation, referral and mutual support.

Budget and Financial Plan

The following is an operating budget for Phase One of the Urban Autism Solutions Vocational Garden. For Phases Two and Three budget projections, based on planned increases in earned revenue from expanded garden operations and expanded sponsored program support [click here](#).



Budget Plan

Urban Autism Solutions has developed a funding model and associated budget plan based on phased growth. Both the mix of revenue and funding sources will diversify over time as the program builds on the results of the organization's first two years of operation. Funding from earned revenue will also increase as the garden size and associated produce sales grow. Increased support from foundations, corporate sponsors, and fee-for-service community partners are factored into the Phase Two and Three operating budgets.

The overarching strategy of Urban Autism Solutions is to operate in long-term collaborative partnerships with organizations that serve young adults with ASD. Eventually, local resources will expand to change what is possible for young adults with ASD. The Urban Autism Solutions vocational garden model will continue to develop in planned phases with the residential programs and vocational training partnerships needed to provide realistic career pathways for program participants.

[Click here for Phase Two and Three budget projections.](#)

Marketing in Phase One

Projected earnings for Urban Autism Solutions reflect a captured market for produce sales, which limits risk and competition for produce to be sold during Phase One. Urban Autism Solutions will promote the vocational garden through community outreach, social media, collateral material development, and other co-branding opportunities that will evolve in partnership with Rush Medical Center and sponsoring organizations and corporations.

Urban Autism Solutions Phase One Budget

JMTF Urban Vocational Garden 2014 Year 1: 10,000 Square Feet with Raised Beds

EXPENSES		Year 1
Salaries and Benefits		
JMTF Project Management 10 months		\$10,000.00
Seasonal Instructors/ Horticultural Therapist/coach Grower/Farmer	\$15 p/hr, 40 hrs/wk., 36 wks. \$15 p/hr, 40 hrs/wk., 36 wks. \$18 p/hr., 40 hrs./wk., 36 wks.	\$21,600.00 \$25,920.00
Program Materials and Supplies		
Bed construction materials	\$40/timber (30 raised beds 4' wide x 12' long x 18" tall)	\$13,500.00
	Nails, spikes for raised beds	\$1,200.00
Smart Pots 50" round X 12"h	50 @ \$40.00/per bed	\$2,000.00
Soil		
(Raised Beds)	81 CY @\$30/cu yd. (2.7 CY per bed)	\$2,430.00
(Smart Pots)	.40 CY/pot X 50 =20 CY @\$30/CY =	\$600.00
Delivery	Delivery for 101 cubic yards (5 trucks @\$300/truck)	\$1,500.00
Geotextile Barrier	\$.95 sq. ft.; 1440 sq. ft.	\$1,368.00
Mulch for walking paths	180 yards, 370 yards, 370 yards \$20 p/yard delivered	\$3,600.00
Tools	shovels, wheelbarrows, rakes, hammers, etc.	\$3,000.00
Drip Irrigation tape system		\$1,500.00
Operating Supplies	plants, seeds, kitchen supplies, harvest containers, coolers, student uniforms, market supplies (tables, tent, banner)	\$16,125.00
Fence	Rough estimate @ \$50.00/ft. installed	\$20,000.00
Shade Tent	shade structure, produce washing site	\$2,500.00
Outside Services	garden equipment rental/garden services, port-a-potty	\$3,000.00
Shed	Approximately 8'X 15'	\$2,000.00
Travel		
Bus rental for field trips	\$300/trip, 6 trips	\$600.00
Total Direct Costs		\$132,443.00
REVENUES		
produce sales		\$1,000.00
Program Fees/Tours	TBD	
Potential Earned Revenues		\$1,000.00

Resource Links

Social Enterprise

The Social Enterprise Alliance (SEA) is the largest network dedicated to social enterprise in North America and participates in a global forum of similar networks. The organization has grown to more than 700 members and ten regional chapters. Visit www.se-alliance.org for information about this membership-based social enterprise association with networking, professional development, and other member benefits. The Chicago Chapter of the Social Enterprise Alliance's online information can be found at www.socialenterprisechicago.org.

The Foundation Center is one of the nation's leading authorities on philanthropy, with a comprehensive database on U.S. grant-makers. On the Center's website, searches may be conducted by location or keywords. The Center has main libraries in five cities and 340 cooperating collections in participating libraries across the country. www.foundationcenter.org.

The Kessler Foundation's "fundamental strategy is to link science and grantsmanship so that people with disabilities can lead more productive, independent, and fulfilling lives. The Kessler Foundation Research Center conducts research that improves quality of life for persons with injuries of the spinal cord and brain, stroke, multiple sclerosis, and other chronic neurological and orthopedic conditions." For more information, visit the organization's website at www.KesslerFoundation.org.

Disability Classification, Statistics, and Business Practice

Comprehensive disability statistics by state as well as cross-dataset research tools are available on Cornell University's Disability Statistics online resource funded by the U.S. Department of Education at www.disabilitystatistics.org.

Cornell's resources also include the Employer Assistance and Resource Network (EARN) at www.askEARN.org. EARN operates as part of the National Employer Technical Assistance, Policy, and Research and is funded by the U.S. Department of Labor Office of Disability Employment Policy (ODEP).

The World Health Organization's website includes information on International Classification of Functioning (ICF), Disability, and Health at <http://bit.ly/160Hk9x>.

The Americans with Disabilities Act of 1990, As Amended is available at <http://1.usa.gov/16WULba>.

The Conference Board's comprehensive review of business best practices for attraction and retention of workers with disabilities in *Leveling the Playing Field, Attracting, Engaging and Advancing People with Disabilities*, by Peter Linkow with Linda Barrington, Susanne Bruyère, Ivelys Figueroa and Mary Wright. The Conference Board Research Report R-1510-12-RR is available online at www.conference-board.org.

University centers and networks across the nation are excellent resources for the latest research and links to communities. For example, the Association of University Centers on Disabilities (AUCD) is a membership organization that supports and promotes a national network of university-based interdisciplinary programs. Network members consist of 67 University Centers for Excellence in Developmental Disabilities (UCEDD), funded by the Administration on Intellectual Developmental Disabilities (AIDD); 43 Leadership Education in Neurodevelopmental Disabilities (LEND) Programs funded by the Maternal and Child Health Bureau (MCHB); and 15 Developmental Disability Research Centers (IDDRC), Find more information about AUCD at www.aucd.org.

Resource Links

Assistive-Technology Information Resources

AbleData is a comprehensive assistive technology resource that provides objective information about assistive technology products and rehabilitation equipment. More than 40,000 products organized across 20 categories (including workplace and vocational training products) are featured on AbleData's website at <http://www.abledata.com>.

Georgia Tech's Center for Assistive Technology and Environmental Access (CATEA) CATEA is a multidisciplinary engineering and design research center dedicated to enhancing the health, activity, and participation of people with functional limitations through the application of assistive and universally designed technologies in real world environments, products, and devices. Find out more at <http://www.catea.gatech.edu>.

CAST is a nonprofit educational research and development organization that works to expand learning opportunities for all individuals through Universal Design for Learning. Free online learning tools are available through CAST's website at <http://www.cast.org>.

Urban-Agriculture and Gardening Resources

The United States Environmental Protection Agency's *Urban Farm Business Plan Handbook* is a comprehensive planning framework for anyone interested in developing an urban farm to help address neighborhood blight, food access, or community development challenges on brownfields or vacant sites. Access the handbook and worksheets online at <http://www.epa.gov/brownfields/urbanag>.

Books

Social Enterprise: Empowering Mission-Driven Entrepreneurs
by Marc J. Lane

The New Organic Grower: A Master's Manual of Tools
by Eliot Coleman

Four Season Harvest: Organic Vegetables from Your Home Garden All Year Long
by Eliot Coleman

Rodale's Illustrated Encyclopedia of Organic Gardening
by Pauline Pears

The Rodale Book of Composting
by Grace Gershuny and Deborah Martin

Designing the New Kitchen Garden by Jennifer R. Bartley

Edible Landscaping by Rosalind Creasy

The Flower Farmer, an Organic Grower's Guide to Raising and Selling Cut Flowers, by Lynn Byczynski.

Carrots Love Tomatoes by Louise Riotte

Resource Links

Websites

General gardening information sites are useful resources at all stages of planning and operating an inclusive garden enterprise. A small sample of resources include the following organizations and their associated websites:

www.rodaleinstitute.org

<http://attra.ncat.org>

www.composting101.com

www.organicgardening.com

<http://www.foodsecurity.org>

<http://www.schoolgardenwizard.org>

<http://www.familyfarmed.org>

www.bbg.org/handbooks

Soil analysis including compost-analysis resource is at <http://www.algreatlakes.com>.

The University of Illinois is a world-renowned resource for agricultural research and education. Farm management method and tools are featured on the Farm, Analysis Solution Tools (farmdoc) resource website at <http://www.farmdoc.illinois.edu/fasttools/index.asp>.

The University of Illinois Sustainable Agriculture Research and Education (SARE) program includes a nationwide research and education grants program at <http://illinoissare.org/index.html>.

The United States Department of Agriculture's AgrAbility program's vision is to enable a high-quality lifestyle for farmers, ranchers, and other agricultural workers with disabilities.

Illinois AgrAbility Unlimited program is a joint initiative of the University of Illinois Extension, the Central Illinois Easter Seals, and the Illinois Department of Agriculture to promote independence in agriculture for people with disabilities and their families. Find more information on the Illinois program at <http://www.agrabilityunlimited.org>.

The University of California at Davis Sustainable Agriculture Research and Education Program also provides extensive urban and rural agriculture information online at <http://asi.ucdavis.edu/sarep>.

Visit the USDA's Agricultural Marketing Service at <http://apps.ams.usda.gov/FarmersMarkets> to find out more about your local farmers' markets. Many local markets now serve patrons using WIC vouchers and offer other types of supplemental assistance.

The American Community Gardening Association has multiple resource links that can be found at <http://communitygarden.org>.

For multiple resources and even connections to master gardeners in your state, visit the American Horticultural Society's website at http://www.ahs.org/master_gardeners.

This website also allows you to enter a zip code and download a file identifying the pollinators typically found in your region, what to plant to attract pollinators, and associated plant bloom periods. www.pollinator.org.

Find soil and compost analysis resources at <http://www.algreatlakes.com>.

This gardening website provides an excellent listing of optimal pH ranges for individual plants: <http://www.thegardenhelper.com/soilPH.htm>.

Appendix

Page 1

Pacific Community Ventures, a California-based nonprofit serving low- and moderate-income communities, is leading a national census to document the size, diversity, and business structure of self-identifying social enterprises. Firms submit their data to the “Great Social Enterprise Census,” based on the following categories:

- My social enterprise purposefully delivers a product or service with social or environmental benefits to customers. **What** we do makes us a social enterprise.
- My social enterprise has intentional social or environmental impacts through its operations (e.g., by hiring/purchasing from disadvantaged populations as a primary purpose). **How** we do what we do makes us a social enterprise.
- My social enterprise earns profits for the primary purpose of funding the social or environmental impacts of others (e.g., by supplying the earned income to support the work of a nonprofit, or by donating the profits to other impact-focused organizations). **Why** we do what we do makes us a social enterprise.

Pages 2-3

Defining and understanding your market and customers is essential to the development of the vision, strategy, financial model, and operating structure of your enterprise. As you review the basic demographic and related data for disability trends, consider how your enterprise will segment, target, and position its services or products.

- Segmentation is based on a deep understanding of your customers, including their needs, purchasing behaviors, and preferences. Segmentation of your customer base is the first step in identifying whether your enterprise will be serving customers directly or through intermediaries, business partners, or other community organizations.
- Targeting involves selection of one or more of the customer groups identified through segmentation as the primary focus of your organization. The size of your enterprise and its capacity to serve or sell will determine how you must narrow your target market.
- Positioning your enterprise is based on how you differentiate your services and value so that your target customers both select and are optimally served by your enterprise. Communication strategy can then be developed to reach your targeted customer segments.

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The *Harvard Business Review*'s May 2013 issue featured an article by Steve Blank entitled, “Why the Lean Start-Up Changes Everything.” As noted in the article, most start-up enterprises (about 75 percent) fail. The process for planning for a start-up organization is fundamentally different than implementing a business plan within an existing firm. The definition of a lean start-up is “a temporary organization designed to search for a repeatable and scalable business model.”

The lean start-up method is a defined process with three core principles:

- The start-up team (or founder) uses a business-model canvas to capture how a company will generate value for itself and its target customers.
- The team gets out of the building to test their hypotheses on all aspects of customer development with detailed feedback.
- Testing a “good enough” service or product includes the expectation that several versions of the enterprise may fall short of its goal before the right combination of product, workers, clients, and business model comes together.

This method keeps the parent organization from failing in an attempt to execute a business model that may not truly fit what customers want or other market conditions. A wealth of online resources and examples cited by Professor Blank can be found at <http://bit.ly/H2zKiY>.

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Finally, the Chicago Botanic Garden now offers a 14-week course on local foods business and entrepreneurship. [Click here](#) for the best practices overview canvas through these courses.

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Consider the following, explored in detail in *Therapeutic Landscapes: An Evidence-Based Approach to Designing Healing Gardens and Restorative Outdoor Spaces* by Clare Cooper Marcus and Naomi A. Sachs:

- A sense of control: Actual or perceived sense of control is associated with less stress, better coping ability, and better health indicators. (Evans, G. W., and S. Cohen. 1987. "Environmental Stress." *Handbook of Environmental Psychology*, pp. 571-610, edited by D. Stokols and I. Altmen. New York: John Wiley and Sons.)
- Provisions fostering social support: Areas for private respite from social demands and areas for interacting are both important. Higher levels of social support are associated with better health status and reduced mortality rates. (Ulrich, R.S. 1999. "Effects of Gardens on Health Outcomes: Theory and Research." *Healing Gardens: Therapeutic Benefits and Design Recommendations*, pp. 27-86, edited by C. Cooper Marcus and M. Barnes. New York: John Wiley and Sons.)

- Positive distraction: Nature has been found to be one of the best forms of positive distraction. Positive distraction improves emotional state and promotes beneficial changes in the body's stress indicators. (Ulrich, R.S. 1999. "Effects of Gardens on Health Outcomes: Theory and Research." *Healing Gardens: Therapeutic Benefits and Design Recommendations*, pp. 27-86, edited by C. Cooper Marcus and M. Barnes. New York: John Wiley and Sons.)

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Well-designed tools can make difficult garden tasks much easier. Look for tools that use the larger muscles of the arm as opposed to the wrists or hand, such as the Easi-Grip tools pictured here. <http://www.peta-uk.com> There are also tools that can be used comfortably in raised beds because they have telescoping handles that can be adjusted to just the right length. <http://www.leevalley.com>.

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The Chicago Botanic Garden's Horticultural Therapy Services department has developed "A Gardening Tasks and Accommodation Chart" to provide your team with a pragmatic way to apply the World Health Organization's ICF model during the design phase for your inclusive vocational garden. The chart includes a list of common gardening tasks with the associated functional requirements for the task and suggested accommodations.

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A highly recommended book for garden entrepreneurs is *The New Organic Grower* by Eliot Coleman. This is an excellent guide for basic gardening and season extension. If there is an interest in growing year-round, *The Winter Harvest Handbook* by Eliot Coleman is also recommended, as is the *Center for Agroecology and Sustainable Food Systems Guides*. <http://bit.ly/1c1WydS>

Carrots Love Tomatoes by Louise Riotte is a handbook for companion planting information, and Johnny's Selected Seeds is a wonderful resource for tools, books, and seeds. The company also has resources to help with crop planning on its website. <http://bit.ly/1c1WURP>

Other great sources for seeds are Peaceful Valley, Seed Savers, Mowing Seed Company, and Fedco.

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The research team for the study included Carol Schall, Ph.D., director of technical assistance at the Virginia Autism Resource Center, and a national expert on vocational rehabilitation service models for youth with ASD. The study analyzed results for 40 high school participants in the Project SEARCH with Autism Supports program, who ranged in age from 18 to 21.

Twenty-four of the students diagnosed with Asperger's syndrome, ASD, and pervasive developmental disorders not otherwise specified went through the SEARCH program while another 16 served the study's control group. The internships occurred in the demanding environment of hospitals in departments including the diabetic wellness units, hospital pharmacies, neonatal, and pediatric intensive care units.

Program participants received interdisciplinary support from teachers, vocational specialists, positive behavior support facilitators (such as job coaches), and others in a structured program that stressed specific job skills as well as functional learning. Promoting increased independence through instruction about using public transportation, interacting with supervisors, accepting guidance, and learning how to ask for job-related assistance was an important part of the Project Search program.

Results showed that 87 percent of the young adults with ASD found work in competitive employment after completing Project SEARCH, with 21 students attaining competitive employment and earning 24 percent more than minimum wage. In contrast, only six percent of the participants in the control group gained employment. While this is only one recent study, it is significant and consistent with current and established practices for evidence-based models for inclusion and vocational development for youth with autism.

Garden Tasks, Requirements and Accommodations

Soil and Compost Distribution

- Moving compost from pile to wheel barrow
- Lifting 40 lb. bags of soil and transporting them to beds
- Dumping and spreading the soil into the bed
- Filling to proper height and raking level
- Moving full wheelbarrow and dumping into raised bed
- Opening soil bags

Physical requirements

- Walk, balance and use upper and lower body strength to move soil bags and push a wheelbarrow
- Coordination and dexterity skills to safely use sharp tools such as rakes, buckets and scissors
- Ability to tolerate some exposure to sunlight, wind and other environmental conditions

Cognitive requirements

- Some teamwork based communication skills
- Understand and follow job task and tool use directions
- Apply simple measurement methods
- Ability to understand the source of body strain, fatigue or sensitivity to heat and cold
- Recognize thirst or discomfort and act to meet physical needs for drinking water, shade or rest
- Ability to ask for help when needed

Sensory Processing Requirements

- Balance and kinesthetic senses needed for proper body mechanics to avoid strain or injury
- Ability to understand the source of body strain, fatigue or sensitivity to heat and cold

Accommodations and Modifications

- Batch job tasks to move soil in smaller quantities at a time to reduce load
- Fill buckets to adjust and mark fill levels in buckets to accommodate easier cart loading and transport
- Plan tasks so carts are pulled to raised beds to ease loading and allow buckets to tip without lifting
- Provide shade, resting areas and regularly spaced drinking water access
- Use on-site job coaches and peer-to-peer training to support teamwork
- Use visual signs to reinforce learning, task requirements and safe working practices
- Use slicing tools with protected blades; Click here <http://www.martorusa.com/Cutting-Tools/Bladeless-Cutters>

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Garden Tasks, Requirements and Accommodations

Planting Seeds

- Establish rows and proper spacing
- Determine correct timing for seeding
- Plan seeding succession for optimal use of space/time
- Distribute seed at consistent rate
- Follow directions for depth of seed planting
- “Water in”
- Maintain proper storage of unused seeds

Physical Requirements

- Ability to sustain some repetitive motion and pace
- Upper body strength, coordination, and dexterity to hold and direct the hose and faucet
- Ability to tolerate some exposure to sunlight, wind, and other environmental conditions as noted for all gardening tasks

Cognitive Requirements

- Basic math skills
- Ability to judge conditions conducive to seed germination
- Ability to follow instructions or seek guidance as needed
- Time awareness and pacing skills

Sensory Processing Requirements

- Ability to discern quantity, spacing, and depth of seed and soil saturation

Accommodations and Modifications

- Use tools such as Burpee’s Handy Seed Sower
- Provide sequential visual direction
- Use visual cues and symbols
- Place fixed indicators of distance (paint, tape, notch) along the edges of raised bed to facilitate making rows at even intervals
- Reinforce learning and safe working conditions



Garden Tasks, Requirements and Accommodations

Weeding

- Remove weeds by hand or with tools
- Discern weeds from desired plants
- Dispose of weeds properly

Physical Requirements

- Upper body strength, coordination, and manual dexterity to hold and direct weeding tools
- Proper body mechanics for repetitive weeding tasks to avoid injury
- Ability to tolerate some exposure to sunlight, wind, and other environmental conditions as noted for all gardening tasks

Cognitive Requirements, Ability to do the following:

- Learn the differences between weeds and desirable plants
- Understand instructions about how to safely remove weeds
- Consistently follow safe weed-disposal methods
- Ask for guidance as needed

Sensory Processing Requirements

- Balance and kinesthetic senses to ensure proper body mechanics, avoiding strain or injury while weeding
- Ability to understand the source of body strain, fatigue, or sensitivity to heat and cold

Accommodations and Modifications

- Establish rotation of tasks to reduce repetitive use of joints
- Enlarge tool handles with dense foam core for easier grip
- Provide photos of weeds vs. desired plants and other visual instructions
- Assist team members with on-site job coaching reinforce learning and safe working conditions



Garden Tasks, Requirements and Accommodations

Watering

- Connect hose to water source
- Unwind, use, and store hose
- Move hose to beds
- Hold hose for even watering
- Use judgment regarding when and how much to water

Physical Requirements

- Walking, balance, and body strength to move the hose
- Coordination and dexterity skills to safely attach hose to watering source and adjust or direct the water flow to beds
- Upper body strength and coordination to unwind and rewind, then store the hose
- Endurance to water garden sufficiently and judgment to properly saturate soil
- Ability to tolerate some exposure to sunlight, wind, and other environmental conditions

Cognitive Requirements

- Judgment skills for basic problem solving and safety
- Decision-making abilities to evaluate when and how to water
- Ability to ask for guidance as needed

Sensory Processing Requirements

- Ability to sense moisture level by touch and, to some degree, sight

Accommodations and Modifications

- Have multiple faucet locations
- Use quick-fit connector
- Use electric/battery moisture meter
- Use lever-type handle instead of a round one



Garden Tasks, Requirements and Accommodations

Composting

- Identify proper materials for compost pile
- Sort according to as many as four categories
- Turn compost pile once per week
- Sift compost pile
- Distribute compost as needed
- Use same system for moving compost as above [ed: ?]
- Monitor, record/track pile temperatures
- Read thermometer and record temperatures accurately
- Determine when compost is finished

Physical Requirements

- In addition to requirements already noted for adding soil, composting requires coordination and visual capacity to properly sift and distribute the compost pile.

Cognitive Requirements

- Ability to sort up to four categories
- Basic skills for judgment, problem solving, communication and safety, and accurate recordkeeping

Sensory Processing Requirements

- Same requirements as noted for soil additions and amendments

Accommodations and Modifications

- Use visual cues: poster, photos, etc.
- Use digital thermometer
- Use color-coded tracking sheets as a visual reminder
- Adjust compost pile height for safe body mechanics
- Use mechanical mixer or compost tumbler



Garden Tasks, Requirements and Accommodations

Harvesting

- Determine optimal harvest time
- Determine harvest method
- Follow practices for safe handling of food

Physical Requirements

- Endurance to sustain some repetitive motions
- Upper and lower body strength, coordination, and dexterity to hold tools as needed
- Ability to walk, balance, and place harvested plants in containers or cleaning areas
- Ability to tolerate some exposure to sunlight, wind and other environmental conditions as noted for all gardening tasks

Cognitive Requirements

- Ability to learn how to harvest plants and to apply safe harvesting methods
- Ability to seek guidance when needed
- Judgment to seek shade, warmth, rest or drinking water as needed
- Basic skills for problem solving, communication, and safety

Sensory Processing Requirements

- Ability to discern subtle indicators of plant ripeness and freshness
- Balance and kinesthetic senses to ensure proper body mechanics, avoiding strain or injury
- Ability to identify the source of body strain, fatigue, or sensitivity to heat and cold

Accommodations and Modifications

- Provide on-site job coaching and technical assistance
- Use visual cues and instructions near task areas
- Move containers and tools close to the harvesting areas
- Demonstrate and practice proper standing, lifting, sorting, and other actions
- Use adaptive tools as needed to reduce strain and support proper body mechanics



Garden Tasks, Requirements and Accommodations

Processing

- Count and properly measure harvested plants
- Sort seconds from good produce
- Use safe food-handling practices for packaging
- Count packages into container
- Move full container to storage area
- Keep record of harvest

Physical Requirements

- Ability to lift, carry, and transport up to 40 lbs (upper and lower body strength)
- Coordination and dexterity to sort plants as needed
- Ability to walk, balance, and place containers of harvested plants in processing areas
- Ability to tolerate some exposure to sunlight, wind, and other environmental conditions as noted for all gardening tasks

Cognitive Requirements

Ability to do the following:

- Count and sort plants into at least two categories
- Learn how to package by weight rather than numeric quantity
- Retain basic information to record accurate information
- Understand and consistently apply food safety instructions
- Understand sequential visual directions

Sensory Processing Requirements

- Ability to use sensory indicators such as smell, touch, and sight to discern seconds from good harvest

Accommodations and Modifications

- Provide on-site job coaching and technical assistance
- Use visual cues and instruction with sequence of actions near work areas
- Package by weight rather than quantity to reduce errors
- Reinforce food safety practices through consistent methods



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