

Our Giving Garden

• • • • • • • • • • • • • • •

Sustainable Design Collaborative Atlanta_ Vision Project _ 2021



INTRODUCTION





Welcome!

Sustainable Design Collaborative Atlanta is honored to select Our Giving Garden for our 2021 project. Our Giving Garden is an organization committed to assisting toward the end of poverty in their community. They are a garden supporting Mableton, Smyrna, Cobb County and Metro Atlanta. The following pages outline our organization, our process, and the final vision.



Now in its eleventh year, Sustainable Design Collaborative Atlanta (SDCA) has gathered participants of organizations from Atlanta's sustainable and design community, including members of the American Institute of Architects (AIA | Atlanta), Atlanta Chapter of the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE), Georgia Chapter of the American Society of Interior Designers (ASID), Atlanta Chapter of the Construction Specifications Institute (CSI), Georgia Chapter of the International Interior Design Association (IIDA Georgia), Georgia Chapter of the American Society of Landscape Architects (ASLA GA), and the Georgia Chapter of the United States Green Building Council (USGBC). SDCA has moved from a volunteer committee supported by a one night celebration called Red and Green Scene Holiday Party, to a full fledged non-profit in the State of Georgia. SDCA provides pro bono professional services that help each of our clients illustrate their vision in a tangible way in order for them to solicit support and funds to meet the goals of their organization and implement their project vision.

In previous years, the SDCA team has provided detailed design solutions to meet the needs of many organizations, including The City of Atlanta Parks and Recreation; the Lithonia Women's Club and the City of Lithonia; the Lifecycle Building Center; the Friends of Refugees; the Hagar Civilization Training Missionary Center; Solomons Temple Shelter, as well as ArtsNow/Barrow Community Foundation.



VISION & MISSION

Our Vision:

Creating enhanced communities, through equal access, to cross-disciplinary sustainable design solutions.

Mission:

To provide a means for pooling talent, sharing ideas, and developing programs, for the betterment of the community through integrative solutions for the built environment.

Who we Are:

We are an all-volunteer organization with our members representing diverse building community organizations. Each member is a sustainable-minded professional. We are connected by our desire to provide professional design services to the 99% of the population that does not normally have the opportunity to fund these types of services. We began in 2010 and generally complete one pro-bono project each year.

What we Do:

Our cross-disciplinary approach focuses on providing our partners, whose missions often focus on sustainability and community-enhancement, with a completed integrated design solution.



PARTICIPATING ORGANIZATIONS

American Institute of Architects (AIA) Atlanta Chapter

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Atlanta Chapter

American Society of Interior Designers (ASID) Georgia Chapter

American Society of Landscape Architects (ASLA) Georgia Chapter

Construction Specifications Institute (CSI) Atlanta Chapter

International Interior Design Association (IIDA) Georgia Chapter

U.S. Green Building Council (USGBC) Georgia Chapter

PREPARED FOR:

Our Giving Garden

DEVELOPED BY:

Sustainable Design Collaborative Atlanta

Acknowledgement

We are honored to have been able to select Our Giving Garden for this year's project. In this partnership, we will enhance this organization in their incredible effort at community engagement. The members of SDCA have become part of a solution for the growing issue of sustainable food sources in Atlanta. It is our privilege to design a project for those who are creating a healthy source of food and instilling an escape from the poverty cycle for families by offering temporary family housing at The Giving House.



Project Site



Site visit



Our Giving Garden Entrance

HISTORY Our Giving Garden

CHANGING OUR COMMUNITY

Our Giving Garden is a volunteer-based, nonprofit community farm and education space committed to interrupting poverty in the metro-Atlanta community through fresh produce donation, adult and youth education resources, camps and housing to families in crisis through Our Giving House program. The garden is located on three (3) acres in Mableton, Georgia and serves community members through partnerships with local food pantries, Family Promise, and other small businesses. This garden was established in October 2016 with just a handful of volunteers working the land behind a local church. We celebrated our 1 year anniversary with incorporating as The Giving Gardens, Inc. and have grown to have a strong network of volunteers, 1 full time staff member, regular education and camp programming, an educational animal program and maintaining a house on the property to shelter families in crisis. Since then, The Giving Garden has donated over 6000 lbs of organic produce and 6300 eggs to the Sweetwater Mission food pantry and housed over 15 people in need through Our Giving House in partnership with Family Promise.

In addition to the Sweetwater Mission, the garden has also been responsible for gathering donations such as other food items, books, and coats for families in need across the community.

All Proceeds Are Used For Maintaining The Giving Garden Itself, Or To Be Used For Providing Donations To Those In Need Within Our Community.





The Future of the Garden

While the Garden continues to donate fresh produce and eggs to those in need, it is expanding its mission to the interruption of poverty as a whole - not just the interruption of hunger. We are part of the World-Wide Organization of Organic Farmers (WWOOF), and have hosted WWOOFers from all over the country, and even a family from New Zealand. WWOOF is an educational and cultural exchange program, where those visiting can learn practical farming skills, be part of the organic agriculture movement, and experience the heart of American agrarian culture. We were selected Fall 2018 to be part of the American Community Garden Association National Conference Garden Tour.

Also in Fall 2018, we were been awarded a grant from the Whole Kids Foundation for education on bee keeping and another from Wellstar Hospital for an outdoor Children's Learning Farm to Table Eco play house. We have all of this going on and we are 100% volunteer run. We are a grassroots organization with no staff. We have accomplished all this with unpaid volunteers from the surrounding community, and we have only been around for a little more than 2 years!









Inclusive and Relevant...



Our participatory process ensures all voices are heard. Through a series of meetings, volunteers, the client, and diverse stakeholders work side-by-side to produce the final design vision.

CLIENT MEETING AND PRE-CHARETTE



A participatory process is imperative to the strength of the final vision found within this report. The first meeting with the client involves a multi-hour facilitated conversation to understand the goals, opportunities, and details of the project and all partners. Also included in the initial client meeting is a deep-dive tour of the existing facility.

The information gathered in the client meeting drives the design direction for the entire process. After the client meeting, the teams organize into smaller task forces, such as site, systems, and interiors, to begin implementation of design creation. The process continues to be collaborative throughout, with multiple group presentations for feedback and revision to ensure alignment with teams and solutions to project goals.







Once the initial vision is created during the pre-charette, the entire group convenes, after doing research and task force work, to detail the final direction of the design. The charette meets on location so teams can understand more specific details of the building and site, and field verify existing building elements. Teams present their preliminary designs to the larger group for feedback and integration.



Properly designed goals need a vehicle to push an organization forward. A well-prepared concept will unify an organization and inform decisions.

The mission of Our Giving Garden is to serve through sustainable food access, connect with their families through education, and engage with their community through enriched programming. They currently engage the community through educational programming of classes, camps and workshops. Our Giving Garden also host regular seasonal events like market pop up shops featuring local businesses and vendors, and free events for the community during seasonal holidays. The organization is able to provide food access through their food donations, free CSA program and Little Free Pantry. All fresh produce and egg donations are given to local food pantries, and the Little Free Pantry is stocked regularly by volunteers.

Our Giving Garden provides educational access through a series of camps, classes and preschool on site. In addition, there are educational workshops for families and adults around topics of gardening, nutrition, and life skills. Sustainable practices are extremely important to us as an organization. Our Giving Garden already integrates water conservation through rain water harvesting in rain barrels, regenerative agriculture practices through composting food waste and animal manure, wind energy and integrated recycled materials in our garden and classes when possible.



BALANCED SUSTAINABILITY

Sustainable practices are extremely important to the Garden. We integrate water conservation, regenerative agriculture practices through composting and wind energy, using integrated recycled materials in our garden and classes when possible.

Icon designed by smalllikeart from Flaticon

DESIGN VISION OVERVIEW

The design process began with a study of all of the existing conditions, including, site, interiors and systems. Maximizing outdoor circulation and providing for functional spatial needs were crucial aspects to consider. Being able to accommodate the flow of staff, students, and the community visitors was the biggest challenge. Additionally, the support provided by SDCA through the design and charrette process will generate a key piece in making progress in the garden. This design would enable Our Giving Garden to plan more effectively, provide needed planning documentation for rezoning, and provide a much needed reference point to engage community members and vendors in implementing the design process.

Two major hindrances to the improvement of this space have been limited funding and lack of manpower/resources. The overall goal for the property is to join the two parcels by rezoning from a residential space to Community Retail Commercial (CRC), which is the recommended zoning by the county. The rezoning process has come to a standstill as a survey is needed on the property. Although Our Giving Garden did receive a survey last year, it included the neighboring church, and is not a true reflection of the subject property.

Networking and relationship building is also an important part of the process for Our Giving Garden. Although they have made significant growth as an organization in the past two years, they still have relatively little public presence in the Metro Atlanta community. Through the support of SDCA, the hope is to build relationships and resources with other organizations in the area that could provide support to Our Giving Garden as they grow and look for support in implementing the design of this project.

To expand our reach and better serve the immediate community, SDCA has proposed to redesign key elements by Integrating beneficial, edible, and native (when possible) trees through a food forest. This would serve as a local food access point and provide a habitat for local wildlife. These trees would replace an invasive privet wooded area. Introducing a landscape design for the park space that mitigates erosion, and water runoff to the pond at the bottom of the property. The Master Plan shall integrate a design that helps with erosion control but also filters and diverts water to pond in a way that is safe for the ponds ecology and wildlife. Improving the pond habitat, will lead to a healthier ecosystem and more life for children to explore. This is also an opportunity for teaching children and any visitors about elements of water conservation and ecology. Integrating native water plants to the pond to improve wildlife habitats and help with erosion.







CONCEPTUAL SITE PLAN





LEGEND

- (A) garden 'furrow rows' with swale irrigation
- B wild space
- C Rain gardens
- D Shade Trellis with Solar and Rainwater Harvesting
- E Dome
- F Deck
- G Food Forest
- (H) Greenhouse/Hoophouse
- (1) Firepit and seating
- J Entry plaza & Social Amenities
- K Giving House
- L Restroom
- M Dock
- N Orchard
- O Tiny Homes
- P Treehouses
- (Q) Terraced Retaining Wall



CONCEPTUAL SITE PLAN

The Site Plan preserves the existing structure of the garden landscape and its many uses while enhancing the connections between them and maximizing the use of space. The key areas that we considered include a formal entry plaza, the geodesic dome/classroom, the shading trellis, clear pathways and wayfinding, the development of a tiny home village, and the establishment of a food forest.



- garden's Eastern edge, creating more area for growing food.
- meadow to the pond, with a small floating dock.
- used to irrigate the garden and orchard.
- erosion.
- restroom facility.
- mushrooms. The pond is recommended as an irrigation source.

Arrival at Our Giving Garden presents an expansive view downhill towards the pond. The addition of an entry plaza, wide garden path, and multi-functional trellis structure leads the eye, and then the feet, down towards the dome. The garden planting area has been expanded into the existing chicken yard by raising the grade along the

The dome rests on, and is surrounded by, a large deck overlooking the pond. The steep cut-slope behind it is retained by a terraced wall with built-in seating and planters. From the dome overlook, a footpath leads down through the perennial

The trellis serves multiple purposes: it is an iconic sculptural element, meant to enhance the Garden's unique sense of place. It provides cover from sun and rain along the primary pathway from the site's main entrance to the dome. It is equipped with solar panels to generate power for the dome and restroom facility. It captures and channels rainwater via gutters and downspouts to rain barrels, which can be

The plan proposes enhanced and formalized pathways throughout the site. These paths would be designed to provide ADA-compliant access from the primary site entrances to the dome area. This would be achieved by surfacing the paths with compacted decomposed granite for enhanced stability, and ensuring that slopes are less than 5%. The improved paths would also be sloped to shed water and incorporate gutters to channel it away from site elements that could be harmed by

Tiny homes and treehouses are proposed for improved garden volunteer housing. These are located centrally, for easy access to the high-maintenance garden areas. However, they are buffered from the more public site areas by the hoophouse and

A food forest is proposed along the western side of the pond, where there is currently a thicket of chinese privet. Conversion of this area to a food forest will entail the removal of invasive plants, while carefully preserving desirable ones (including mulberries and muscadines, both of which are present in this area). Once cleared, the area can be re-planted with perennial fruit- and nut-bearing trees, shrubs, vines, and fungi. Examples include pecan, hazelnut, elderberry, pawpaw, blueberry, serviceberry, figs, pomegranate, apples, peaches, plums, and wine cap



DOME AREA PERSPECTIVE

SDCA proposes a tiered deck platform for the dome, bordered by a terraced retaining wall to the south and an overlook of the pond to the north. The primary entrance is on the eastern side, and a secondary entrance on the west side leads to the food forest. The entrances are marked by portals with scaffolding for vines. Other features include overhead string lights and a ramp for accessibility between tiers. The dome interior includes moveable seating, a rug, and a chandelier for lighting.



STORMWATER



Stormwater runoff affects the Giving Garden site in problematic ways, but could be harnessed as an opportunity. The garden property is located downhill of Cooper Lake Road and the neighboring church building and parking area. During rain events, concentrated flows of water originating from those hard surfaces, as well as the Giving House and surrounding roofs and driveways, flows through the site down to the pond, eroding the hilly landscape as it goes. The water wears down the garden beds and mulch pathways, and carries particulates that impact the water quality of the pond. SDCA proposes interventions to collect, filter, and channel the runoff, dissipating its erosive force and distributing it to crops for irrigation.

We identified stormwater hotspots where runoff currently causes erosion and ponding issues. We propose installing several rain gardens ("bioretention") strategically positioned to capture water in the most runoff-prone portions of the site. The rain gardens help to dissipate the velocity of the runoff, reduce its volume via soil infiltration, and filter out pollutants. Overflow from the bioretention areas is then either piped to a safe discharge point, or routed to the garden rows and food forest in irrigation channels. These can take the form of tiled troughs ("rills"), or earthen swales. In this way, the stormwater can be distributed as a resource for the garden.



Section: This illustration depicts the condition marked by the red section cut on the stormwater plan. For more information about bioretention, refer to page 63.

PARKING



STORMWATER NARRATIVE, CONT.

We examined the **on-site parking** capacity. The site can accommodate additional parking, should it ever become necessary (to meet re-zoning requirements, for example). If the Giving House parking lot were renovated, or a new lot established along Waits Road, this would create opportunities to improve stormwater flow on the site. In the case of the Giving House, reconfigured parking would allow for the correction of long standing drainage problems. A parking area along Waits Road could provide additional irrigation function by draining to the food forest via a channel system.

SHADE TRELLIS (SOLAR & RAINWATER HARVESTING)





SHADE TRELLIS NARRATIVE

SDCA proposes a trellis that directs visitors from the entrance of the garden to the dome. In addition to being a wayfinding element and providing shade, the trellis will guide visitors on a path through the garden, orchard, firepit, and greenhouse.

Depending on funding, a proposed phase two would add solar panels and an underground rainwater collection system. Incorporating solar panels (left: section detail) will provide additional electricity to the site as well as provide an educational tool for Our Giving Garden. Similarly, adding gutters and downpipes that drained to an underground rainwater collector would provide additional water for irrigation and promote self-sufficiency for the garden.

TRELLIS DESIGN



VIEW OF SHADE TRELLIS DESIGN FROM UNDERNEATH



DETAIL PERSPECTIVE OF SHADE TRELLIS STRUCTURE WITH SOLAR PANELS



VIEW OF TRELLIS WITH ORCHARD BEHIND



WAYFINDING AND ARTWORK





WAYFINDING AND ARTWORK PACKAGE INTRODUCTION

One of the goals for the **WAYFINDING/ARTWORK** team was to provide focal points throughout the Giving Gardens, beginning at the entries. Two entries were determined to be needed, and signage is provided at both. This will accommodate staff, new visitors and returning visitors as well as strengthen the circulation flow within the site.

Existing artwork and outdoor furniture will be placed strategically, will reduce the overall cost of artwork, and will celebrate the history of the garden. Locations for art and signage will provide a cohesiveness to the gardens and will provide an organized flow throughout the gardens while maintaining the individual sense of wonder from area to area.

The color that is recommended for wayfinding and cohesiveness is red. Many of the existing structures, like the children's' library playspace and the campground benches, have already incorporated this color.

The use of red will begin at the Giving House entry and will visually connect all areas.







Giving House Entry

The existing Giving House entry will be provided a new look that will welcome the visitor through the use of color and uniformity. ADA and staff parking will be accommodated here.





New Entrance and Signage

Site specific art environments utilize the existing elements on the site to create new devices. In this case, existing bamboo and wood palettes, stacked and painted, provide a welcoming sign at the entry and define a private entry for the Giving House. They will serve as a wayfinding device that leads to the main entry below the existing carport.



A bamboo fence leads guests towards the new entry to the Gardens, while defining a private path into the giving house. The differentiation of public and private paths around the Giving House provides a clear entryway into the gardens.









Reuse existing structures and elements...

The organized and sustainable use of existing artwork and structures provides focal points and helps to define unique areas. The use of red paint reinforces the continuity throughout the garden design. This will provide visual connections throughout the project.


CHURCH ENTRY

Provide a bamboo fence to define the entry from the church parking lot. Organize existing artwork and add locations in the gardens for local art donations. Reuse elements such as several bikes, painted red, to call attention to the entrance and as a way to move about the gardens. Provide consistent wayfinding signage throughout.





Photo by Stephen Kraakmo on Unsplash











Giving House and Farm -Garden side

A coat of paint can go a long way. The existing barns are great structures to provide a farm atmosphere. Use red paint to provide a cohesive feel to this area, and to provide a historical connection to the big red barns of Georgia.



Paint the existing blue palette fence and the posts bright red. Use bamboo, a site specific material, to create an entry fence and an opportunity for additional signage. This will also clean up the entry. Open up this entry in order to provide access to drive the food truck on to the site. Create a direct entry from the dining to the shower to the kitchen to avoid having to go out in the rain. Provide storage shelves in laundry room and paint walls white with one red accent wall.

Big Red Barns

Photo by Frances Gunn on Unsplash



Children's artwork can be featured



The Children of the Giving House can provide a multitude of art work that can be featured on the back wall of the house. Some of these pieces are already there, such as the ones above. They are also recycled drink top which is a sustainable idea.



Wayfinding and Art Package Summary : Site Map with proposed changes

Bottom line: Wayfinding on a Site design project is very important. The visitor is immediately put at ease when met with clear and concise wayfinding graphics. Unlike a structure with physical clues, such as a entry portico or reception lobby, a project based on site design must rely on existing elements combined with relevant information pieces. By using existing and/or found materials to create interesting art pieces, the visitor is also greeted with contextual references that will enhance the experience at the Garden site.







Volunteers and WWOOFers are the workforce of this organization. Providing a cohesive environment, and clear wayfinding throughout the gardens,. will provide easy access to the entire site. It may also bring additional opportunities and income to the Giving Gardens by providing a great venue for events..

TINY HOME VILLAGE

...to create a comprehensive tiny house program that will be used as a guide/reference point for SDCA to generate the tiny house village conceptual and schematic designs...











Traditional house with a trailer base; designed for long-term living and semi-frequent movement.

MOBILE TINY HOUSE

Unsplash - Baluchon

FIXED TINY HOUSE

Tiny houses are being used in increasing numbers as a more sustainable and affordable alternative to traditional neighborhood housing **A tiny house** is defined as a residence with a maximum of 400 square feet, not including loft space. The traditional tiny house is usually built on a trailer bed to avoid certain zoning restrictions and allow for travel. The interior typically consists of a central room that serves as the kitchen and living room, a sleeping loft accessible via ladder, and a bathroom. However, there is much flexibility in the design of a tiny house, with much of it depending on the user and the purpose of the house. Some utilize an external composting toilet rather than an interior bathroom, while others connect the tiny house to a main house, making a kitchen area unnecessary.

With a surge in sustainability-minded individuals, the tiny house movement, an architectural movement encouraging the use of tiny house living, has gained serious traction recently. Beginning in the 19th century with a focus on "living with nature," the movement has evolved to use minimalism, multi-functional spaces, and multi-use furniture in an attempt to reduce the negative environmental impact humans have on the Earth. However, this idea of sustainable design has moved past simply utilizing energy-efficient materials and products in construction. The definition has expanded to include social and economic aspects, meaning that architects are utilizing design to solve societal issues like homelessness, systemic racism, and poverty. As a result, affordability has become another goal when construction, which makes the house more affordable. The home itself requires less HVAC, plumbing, and electricity, reducing utility costs. In addition, the restrictions on space cause homeowners to buy fewer belongings. This, combined with the poor economic state from 2007- 2009, led to a rise in the number of tiny houses, continuing the tiny house.

The increase in home size is astounding, especially when the average number of people per household has decreased from 3.06 to 2.54. With the average median house price being \$330,800 in March 2021, many individuals cannot afford the traditional house. Since tiny houses have lower taxes and insurance costs, lower expenses for maintenance, and little to no mortgage, many millennials have opted for them, rather than take on the debt buying a traditional house would require. Tiny houses, due to their affordability, have increasingly been used to address social sustainability. By building them as temporary shelters—a simple A-frame building with one room for sleeping— homelessness can be addressed. They can also serve as transitional housing after national disasters. For example, after hurricane Katrina, several "Katrina Cottages" were constructed to house people who had lost their homes.

A Strategy For Sustainable Housing

Flexible Purposing



There is much **flexibility** in the design of a tiny house with much of it depending on the user and the purpose of the house.

$\rangle\rangle$

Functional Space

...the movement has evolved to use minimalism, **multifunctional** spaces, and multi-use furniture in an attempt to reduce the negative environmental impact humans

Social Impact

...moved past simply utilizing energy-efficient materials and products in construction. The definition has expanded to include **social and economic** aspects...





02CASE STUDY: Tallahassee Fla.

...this dynamic program expanded from a church, which is exactly how the Our Giving Garden program started....



hoto credit. Jackson , Callea, B., Stampar, N., Sanders, A., De Los Rios, A., & Pierce, J. (2020)

CASE STUDY: Savannah College of Art and Design

...the SCADpad tiny house village in Midtown Atlanta was chosen because of its local location and small footprint...

The first case study was conducted on the tiny houses built by the Savannah College of Art and Design. Their SCADpad tiny house village in Midtown Atlanta was chosen because of its local location and small square foot size. Designed and built by only 75 students and 12 faculty, each SCADpad home was constructed in empty spaces in parking garages. Each is no bigger than 135 square feet, containing a single bed and sink area. This casestudy provided information on tiny house interior, roof designs and material usage for the general tiny house program. This case study established that metal is cheaper, easier to maintain, and better in construction. The one-room interior that eventually influenced the interior layout for the final tiny house. Rather than using extra time, money, and materials to create interior walls, an open floor plan can be created. This allows the user to take greater advantage of the space by creating a multi-purpose room. For example, the bedroom may convert into the living room when necessary. The SCADpads utilized a slant roof design. This case study demonstrated that water easily runs off slant roofs and that the construction of slant roofs is quicker than a traditional roof.



photo credit: www.scad.edu/blog/making-room-micro-house Miao, S., Baldwin, E., Harrouk, C., Walsh, N. P., Dobbins, T., & Shen, Y. (2021, January 22)

The **second case study** was conducted on the tiny house village started by the CESC (Connecting Everyone to Second Chances) Program. This program expanded from a church, which is exactly how the Our Giving Garden program started. The tiny houses, each falling under three set sizes, simply contain a bedroom and sink area. Instead of individual bathrooms, a communal bathroom and kitchen in a centralized part of the village were implemented. This more affordable tactic influenced the arrangement and utilities of the final tiny house design. This case study established that a linear arrangement looks aesthetically pleasing while creating a common space for the tiny house users, which fosters a sense of community. This case study also provided information on replicability and roof design for the general tiny house program. Each tiny house, depending on the size, has a set floor plan. By standardizing the design, expansion is easier and the construction process is faster. This case study demonstrated that the gable roof design, which is the traditional triangular roof, creates more interior space. Although it requires more materials and a longer construction time, the interior space can accommodate a loft, adding a room to the tiny house.



photo credit: Jackson, A., Callea, B., Stampar, N., Sanders, A., De Los Rios, A., & Pierce, J. (2020)



Tiny House Programming

- Mobile tiny houses also called tiny house on wheels (THOW); modeled after the traditional house with a trailer base; designed for long-term living and semifrequent movement due to size and weight restrictions
- Permanent tiny houses a small house generally under 400 square feet
- Pro if built without permanent foundation, it is normally not governed by local building codes
- Con specific dimensions if the mobile tiny house will be driven on the road, may not be an issue

Roof

- Vented roof vs unvented roofs
- Unvented sealed system that allows for more internal space because there is no attic space; easier to build; because it is a tiny house, a vented roof is unnecessary
- HVAC PTAC
- Roof controls rain and thermal transfer
- Styles
- Slanted roof easy for water to runoff, absorbs less thermal energy needs to face North to reduce the amount of sun and thus reducing the amount of energy spent on temperature control
- Gable roof classic shape, easy for water to runoff, creates a loft needs to face North and South to reduce the amount of sun thus reducing the amount of energy spent on temperature control
- Metal roofing lightweight and durable, more attractive
- Shingle roofing economical and easy to install
- Steel shingles reflective so less heat is absorbed by the house but more expensive
- Aluminum shingles long life expectancy but more expensive

Utilities -

- Tiny house shed central location to the tiny houses
- Roof solar panels to provide power
- Roof water collection system where water will be collected in rain barrels
- Toilet and shower inside the shed
- Least expensive option
- Walkway trellis covered central spine dividing the gardens
- Roof solar panels to provide power for the gardens, including the tiny house village

- providing water to the garden and the tiny house village
- house shed option
- Medium expensive option
- garden
- with runoff water not going directly into the the gardens
- pleasing way
- Most expensive option
- construction

Modular Nature/Replicability

- Current Tiny House
- Could model each tiny house after the existing structure
- Look would be unified
- Roof allows for easy water drainage
- As a result, no room divisions or amenities are required only a bed
- Bunk beds would allow for multiple woofers per tiny house

Roof - water collection system with rain barrels at specific locations/intervals

Shower and toilet are not in one location, unless this is combined with the tiny

Covered Parking Lot - covered area in the easement between the church and

Roof - solar panels to provide power for the gardens, including the tiny house Roof - water collection system with rain barrels at specific locations/intervals providing water to the garden and potentially the tiny house village and also helps

• Problem - water needs to be routed along the roof in an efficient and aesthetically

Problem - need to work with the Church/gain Church's approval before

Used to house woofer interns who have access to shower/toilet with the tiny house shed or the main house and have access to the mobile/main kitchen

LOCATION AND ARRANGEMENT

The location has the most significant impact on design, and thus the tiny house program. A site visit was conducted, in which several up-close detail pictures and drone pictures were taken. These pictures were studied in conjunction with discussions with the Our Giving Garden team to determine the location that would be the most aesthetically pleasing from the entrance, the most useful, and allow tiny house users the best access to the garden grounds.



Vertical Circle

- Less access to shed for some tiny houses
- Provides privacy and central woofer area
- Harder to expand tiny house village

Semi - Circular

- Each tiny house has equal accessibility to the shed \circ Each tiny house has equal accessibility to the shed \bigcirc
- Creates a private bubble for the woofers \bigcirc
- Woofers no longer have a view of the garden unless arrangement is flipped so the shed is in the front
- Can expand to a full circle if more tiny houses are \bigcirc added



Linear

• Less privacy and no central woofer area is created • Harder to add more tiny houses because of the limited space



Photos by Clay Banks on Unsplash







Systems Review and Recommendations August 2021

"Systems" refers to the various utilities and strategies required for a facility to properly operate and function. Typically, this includes electric power, lighting, heating, ventilating and air conditioning, potable water and wastewater conveyance as well as the building envelope itself. For this project, the focus is more on the function of the Garden rather than a specific building, though the Dome and Tiny Houses need to be addressed too.



Image: Energy Efficient Home Design, Tommaso.sansone91/Wikimedia Commons (Creative Commons CC0 1.0 Universal Public Domain Dedication)

STORM WATER & IRRIGATION

Stormwater management and irrigation become a much more important aspect for the garden than a typical building. This has been discussed very thoroughly in previous chapters but the purpose here is to present the overall plan with some specific recommendations..



Image: Bioretention pond under Connecticut Avenue Bridge, NPS/Jonathan Shafer

- rain water as it cascades down the site towards the pond.
- This system should be incorporated into the bioretention swales shown.
- directed to the pond or collected for use at the Tiny Homes.
- be used for irrigation.
- other areas if needed.
- garden. We suggest a solar powered pump for this purpose.

Follow the previous storm water recommendations to provide bioretention areas/rain gardens combined with underground piping as needed to control

Rain water from the existing Giving House currently is collected and run to rain barrels for garden irrigation with solar pumps (not working at last visit).

The rainwater collected from the solar walkway roofs should also be

The pond is the natural collection/detention/retention point on the property and thus a natural "storage barrel" for rainwater. It has been neglected and has deteriorated with erosion over time. The existing weir is bypassed and the pond does not hold the volume it was designed for. We recommend repairing the weir thus enlarging the pond and holding more water that can

An irrigation system can then be installed from the pond and distributed back to the garden. This could also provide irrigation to the fruit trees and

A pump will be needed to circulate the irrigation water back up to the

SEPTIC SYSTEM

The Giving House currently uses a below ground septic system for sewage treatment that needs to be replaced.

Evidently this is a County requirement that must be instituted. There are a few methods and systems that should be explored for this for the most sustainable systems. "Ecoflow Biofilter" is one example.

The probable area for this is behind the Giving House. We recommend that the site toilets (Restrooms 'L' on the Site Plan) be tied into this system as well.

The site toilets could also be composting toilets and could be used by the tiny homes as well. If is the case, we recommend installing composting toilets designed for this and elevate them so they can be easily maintained.



Image: Composting Toilet, Lokal_Profil and KVDP/Wikimedia Commons (CC Attribution-Share Alike 2.5 Generic; <u>https://creativecommons.org/licenses/by-sa/2.5/deed.en</u>)



- B. First floor
- C. Ground floor
- 1. Humus compartment
- 2. Ventilation pipe
- 3. Water closet



ELECTRIC POWER

Electricity is currently only provided to the Giving House. Electric power will be needed at the Dome and the Tiny Homes and would be advisable for the restroom(s), greenhouse fan and walkway lighting.

The solar panels on the Walkway and possibly the Tiny Homes can provide a source for electricity when the sun is shining. The solar powered irrigation pump should be able to function that way, but power will be needed for the other areas when the sun *isn't* shining. For this reason, we recommend a battery backup system to provide power when it is dark and no solar is being produced. Tesla's Power Wall is one example of the different systems available for this.

As the solar panels and backup system will entail considerable expense, it is recommended that provisions be made for their future installation if they are not able to be implemented from the start.

It is also possible to extend electricity to the Dome and Tiny Homes from the existing service at the Giving House. If this were chosen, when the new septic system is installed, an underground line could be installed when the backyard is dug up and run down to the Tiny Home and Dome area. This assumes there is enough service at the house for this.



Image: Solar panels, Andres Siimon/Unsplash

LIGHTING

All new lighting should be LED (Light emitting diode). These are very available and the cost has come down dramatically over the last few years. They provide long lasting lighting at a fraction of the energy use and heat production that incandescent lighting requires. Outdoor lighting is also available with its own solar power and battery back up, which is a cost effective option to consider..



Image: House, Brian Babb//Unsplash





SUSTAINABILITY

Professional Considerations

To ensure low utility rates and minimal ecological impact with your project, work with professionals who have experience designing buildings with sustainability as a primary goal. For example, experience including working with Leadership in Energy and Environmental Design (LEED) certified projects and or professionals holding the LEED AP professional certification would qualify for this criteria.

- Have professional provide proof of experience working on a sustainable project to the project management.
- Ensure at least 1-2 professionals on each job have sustainable design and/or construction experience so they can teach the best practices to the other members of the team.

Construction Considerations

- Follow Construction Management Association of America (CMAA) Standards
 - To ensure project success and that all parties fulfill their contractual commitment use the resources such a contract templates and process documents provided by CMAA.
 - Visit cmaanet.org for detailed information
- Recycle Construction Waste
 - Recycle, AT MINIMUM, 50% of construction waste, 75 -100% is ideal
 - Consider donating materials that can be reused to reuse centers such as the Lifecycle Building Center of Greater Atlanta

Site Considerations

Using the site design provided, implement the below best practices to reduce potable water use, utility bills and maintenance costs.

- Use native plants for landscaping
- Reduce the use of turf for the site
- Design the site so you don't need an irrigation system. If one is absolutely necessary, implement a low water use drip irrigation system
- Use harvested rainwater for watering garden plants



BIOPHILIC DESIGN:

How We Used the Wellbeing Science of Nature and Captured the Love of Life in Your Project

Our process utilized many research-driven approaches such as environmental psychology and wayfinding to support your goals, the learning success of your collaborators and the overall wellbeing of everyone in your space.

One of the bodies of research used was the field of Biophilia-specifically Biophilic Design. Literally translated, Biophlia means the Love of Life.

Biophilic design can be described as the healing science of nature. Imagine how you feel when you are in nature. Biophilic design seeks to pull that experience - that sense of intrigue, wonder and awe - into the spaces where we spend our lives.

Integrating biophilia as a design driver for a project's site, building and interior design has been shown to reduce stress, increase learning and productivity rates, reduce time it takes to heal from surgery, and support the growth of our overall wellbeing.

When we are in spaces that inspire us - we know it. We feel it. Biophilic design is the research-driven science of how to pull the healing aspects of nature into our everyday spaces.

The field of biophilia goes far beyond plants, expanding into over 73 attributes. The goal is not to integrate all 73 of course. The goal instead, is to identify the essence of this projects' sense of place and align this with the project goals for organizational success. This is done best through a collaborative and integrative process involving key project stakeholders throughout the design process-like the one used for this project.

Your organization is doing such inspiring work. Below are some of the many ways we incorporated the healing benefits of the essence of nature throughout your site, building and interior to support your goals and overall quality of life.

- groups.
- providing optimal views from occupied spaces.

- themselves.

If you have any questions on the integration of biophilia, its benefits and project or course-curriculum integration approaches please contact Bonnie Casamassima at bonnie@InterweavePeoplePlace.com or 404.953.9037. I'm happy to speak to your class or share a lunch and learn conversation.

Site plan that encourages a sense of play, creativity and wonder designed to inspire people to linger and explore in nature individually as well as in

Strong indoor-outdoor connection through elements such windows

Integration of natural materials throughout the site, building and interior.

Sustainability strategies integrated throughout to reduce energy and water use which educates us on the importance of caring for our environment.

Hands-on learning opportunities such as edible portions of the site landscaping. This allows the opportunity to integrate the site into course curriculum. This can help highlight the growth cycle of life and care taking to connect students with nature-driven concepts and an ecosystem larger than

Building System Specifications Refer to below table for detail and level of achievement recommendations for each category.

Building System	Prototype Specification	Value	Reference	System De	
Walls	R-Value	≥ 20	IECC 2012	3 inch rigid XPS	
Roof	R-Value	≥ 30	IECC 2009	5.5 inches of closed-cell spray foar	
Floor	R-Value	≥ 19	IECC 2012	Fiberglass-batts underneath floor,	
Windows	U-Value	≤ 0.3	ENERGY STAR	NFRC Certified Window	
	SHGC	≤ 0.25	ENERGY STAR	NFRC Certified Window	
Air Leakage	ACH50	≤ 3	IECC 2012	Achieve continuous air barrier by s penetrations to the outside	
Mechanical Ventilation	Constant CFM	20	ASHRAE 62.2	Energy Recovery Ventilator (ERV)	
Space Conditioning	SEER	≥ 14.5	ENERGY STAR	Ductless mini-split heat pump	
	HSPF	≥ 8.2	ENERGY STAR		
Water Heater	EF	≥ 0.90	ENERGY STAR	Tankless; gas	
Appliances			ENERGY STAR	ENERGY STAR certified, if applica	
Lighting			ENERGY STAR	LED; ENERGY STAR certified	
Plumbing fixtures	Gallons Per Minute (GPM)	0.5	WaterSense	Low-flow bathroom sinks	
	Gallons Per Minute (GPM)	1.5	WaterSense	Low-flow kitchen sink/shower	
	Gallons Per Flush (GPF)	≤ 1.28	WaterSense	Dual-flush water closets	

Table 1. Optimized Building Performance Implementation Requirements Table

escription					
n in truss cavity					
if applicable					
ealing all wall, ceiling, and floor					
; ducts deliver fresh air					
ıble					

Indoor Environmental Quality

• Require the person specifying products provide the specification sheet for each product showing the below labels or VOC thresholds.

Specify Volatile Organic Compound (VOC) Limits

Ensure that all products fall below the MAXIMUM VOC thresholds listed in the provided tables for each category.

Specify furniture with Greenguard Certification

Greenguard certified products go through testing to confirm they have low levels of chemical emission into the built environment.

Specify Floorscore and/or Green Label Plus Certification Flooring

These certifications confirm the product has been tested and emit low levels of chemicals into the built environment.

Specify no ADDED UREA-Formaldahyde wood

• When at all possible, specify only no ADDED Urea-Formaldehyde for all wood used inside the building envelope (paneling, doors, cabinets, blocking, etc.). Urea-Formaldehyde has been linked with multiple negative health effects such as respiratory and skin irritation. Additionally, it is a known carcinogen when people are exposed to high levels

		*D 1 10 1 11 1	MOOLIN	
		*Product Category List	VOC Limit	
		Adhesives and Sealants	(g/L, minus water)	
et for each		Architectural Adhesives	50	
		Indoor carpet adhesives	50	
		Wood flooring adhesives	100	
		Rubber floor adhesives	60	
		Subfloor adhesives	50	
		Ceramic tile adhesives	65	
the provided		VCT and asphalt adhesives	50	
		Drywall and panel adhesives	50	
		Cove base adhesives	50	
		Multipurpose construction adhesives	70	
*Product Category List	VOC Limit	Structural glazing adhesives	100	
Paints and Coatings	(g/L minus water)	Specialty Adhesives		
Interior Non-Flat Coating or	(g/L, minus water)	PVC welding	510	
Primer	150	CPVC welding	490	
Anti-Corrosive/Anti-Rust		ABS welding	325	
Point	250	Plastic cement welding	250	
Clear Wood Einish: Lacquar	550	Adhesive primer for plastic	550	
Clear Wood Finish: Lacquer	Contact adhesive		80	
Seeler	350	Special purpose contact adhesiv	e 250	
Clear Wood Einich: Varnish	350	Structural wood member	I wood member 140	
Clear Prushing: Lacquar	680	adhesive		
	100	Sheet applied rubber lining	850	
Floor Coatings	100	operations	030	
Sealers and Undercoaters	200	Top and trim adhesive	250	
Shellac: Clear	730	Substrate Specific Adhesives		
Shellac: Pigmented	550	Metal to metal	30	
Stain	250	Plastic foams	50	
Concrete Curing	350	Porous material (except wood)	50	
Compounds		Wood	30	
Japans/Faux Finishing	350	Fiberglass	80	
Coatings		Sealant Primers		
Magnesite Cement Coatings	450	Architectural nonporous	250	
Pigmented Lacquer	igmented Lacquer 550		775	
Waterproofing Sealers	250	Other	750	
Waterproofing 400		Sealants		
Concrete/Masonry Sealers	400	Architectural	250	
Wood Preservatives 350		Nonmembrane roof	300	
Low-Solids Coatings	120*	Roadway	250	
*VOC levels for Low-Solids C	Coatings are measured	Single-ply roof membrane	450	
in grams of VOC per liter of material		Other	420	

PROJECT CONTROLS





PROJECT CONTROLS

Why Project Controls?

Saleh Mubarak in his 2010 book titled "Construction Project Scheduling and Controls " provides a explanation why:

"Once a project starts, certain aspects can easily deviate or go astray. This deviation can be overspending, a schedule slippage, a departure from the objective/scope, or something else. It is of utmost importance to know --at all times-- where you stand in relation to where you planned to be (the baseline). With any deviations you must know why and take corrective action to get back on track or, at least, minimize the deviation. Positive deviations show that results were better than expected. This process exemplifies Project Control. The concept of project controls covers all aspects of the plan (schedule, budget, quality, contract and safety)."

IN AN EFFORT TO INSURE THAT A PROJECT IS COMPLETED WITHOUT MAJOR DEVIATIONS, SCHEDULES ARE REQUIRED TO ANSWER THE WHEN QUESTION.

Master Schedule - provides a summarized view of the entire project rolled up into one schedule without the detail of a specific phase of the project. Allows the project team to review the relationships between each phase of the project. Provides the team a view of the entire project duration for future planning.used in conjunction with the budget to create cash flow projections.



DESIGN SCHEDULE

- Identify decisions to be made and the time required to make these decisions.
- Calculate the Project Completion Date
- Track the status of the design.
- Provides a baseline to measure progress

PROCUREMENT & CONSTRUCTION SCHEDULE

- Calculate bid date and completion date
- Calculate the start and finish of a specific activity
- Provides a tool for coordination between the trades
- Useful tool to Predict and calculate cash flow
- Evaluate the effect of changes
- Identify the critical activities to keep the project on schedule Determines if the contractor has a reasonably accurate and realistic plan
- Verify delay claims
- Serves as an effective project monitoring tool







Image: Designed by Becris from Flaticon

Cost Control is another project component that is used to either eliminate or manage deviations in the area that will make or break a project for the owner or contractor. Similar to the schedule tool all projects participants are required to assist in the development and implementation of the budget.

Budgeting and estimating are predictions of future costs and are rational processes. But bidding can be irrational and unpredictable. **Many variables affect our predictions:** Material costs, labor costs, competition or the lack of.

BUDGET

RECOMMENDATIONS

- Provide a line-item budget to maintain flexibility
- Estimate soon and often to make achievable budgets and design to them
- Establish cost categories that can be verified against future contracts
- Define project costs and program costs, and make sure everybody understands all the budget components
- Keep budgets updated as conditions change--in increasing levels of detail--and manage them with insufferable attention

BENEFITS

- Develops trust
- Creates transparency
- Identifies scope increases(creep) ${\color{black}\bullet}$
- Provides useful information for team members
- Economies of scale in large programs with multiple projects
- Never lose site of the bottom line
- Use to compare bids to determine if the bids are reasonable
- Change order and claims management

CONTRACT ADMINISTRATION

Because this project will be made up of very different components with a high probability of different funding sources, Construction Phasing is highly recommended. As part of that process, there are several key points that could be beneficial in planning for a long term project.

Clear roles and responsibilities are key to effective administration. This would involve a system of thorough documentation and construction monitoring. Clear lines of communication will ensure a common understanding. Continuity between the owner and the A/E team will ensure success.

Periodic meetings should be scheduled to reinforce the lines of communication and facilitate progress. This process should include a review of the submittal process, a key administrative activity that is where quality control starts. It is necessary no matter what project delivery method is used. The submittal process needs to be efficient and prompt. Site visits, observations and inspections should be clearly defined and properly documented. Outstanding items should be tracked accurately.



Image: Negotiations, Scott Graham/Unsplash



Quality assurance and quality control cannot be overstated. Quality assurance is the action of evaluating the contract documents before the execution of the work. Quality Control is the ability to evaluate completed elements and activities for compliance. Although critical components, they are not mutually exclusive. This key aspect will minimize the potential for the need of conflict resolution and interpretations/modifications

Claims and disputes will happen. Even 'successful' projects will have them. Using proper AIA contracts and forms will begin to mitigate them by setting a clear and concise path to resolution. Orderly and effective administration of these will lead to quick solutions and aid the progress of the overall project. Progress of a project should be measured carefully and accurately. There are many metrics to track and most of them involve progress payments. Making sure these factors are evaluated accurately, regularly, and efficiently are critical to progress success.

Finally, Project Closeout is as important of a stage as any of the others. It is an orderly stage of the owner occupying the project and ensuring all systems and components are running properly. It may include owner training, commissioning and balancing, and documentation (as-builts to occupancy). There will also be opportunities for post-occupancy evaluation and warranty repairs as necessary.

CONC



CLOSING LETTER

Members of seven organizations that are invested in sustainable design once again came together to sit at the same table and work on a solution, each member respected for the offering of their knowledge and their volunteer spirit. These "weekend warriors" have provided a solution that is documented through this booklet and several presentations for a project that is close to all of our hearts, the revisioning of the Giving Garden in Mableton, Georgia.

This has been the eleventh year in a row where a foundation of professionals called the SDCA board, along with some wonderful team leaders and volunteers, have collaborated together utilizing the "charrette" methodology to provide design services to those in need, in this case the Giving Gardens. This hands-on approach, including on-ground face-to-face gatherings, pre-charrette meeting, charrette meeting, and post charrette meetings along with online communications over several months, provides the glue that keeps everyone on the same page. The energy provided by volunteer professionals, students, clients, and the community propels the project forward. Volunteers accomplish many task while maintaining regular workloads and school hours, a testament to the volunteer spirit within the building and design communities.



Through this effort, we have focused our services on organization and functionality of the site design, through the development of the landscape, tiny house village, wayfinding and art package, and systems recommendations. While the design needs to continue to be developed through construction documentation phase, we hope that we have laid the foundation to meet the immediate needs of the Giving Garden, to assist in providing a vision for the future of this community, and to serve as a catalyst for change in the immediate surroundings as well as the community at large..

We trust that you will find this booklet useful as you continue your fundraising efforts and that it will provide guidance in the years to come. We thank the members of Giving Gardens for their guidance and positive energy along the way. It has been a pleasure to work with you and your staff of believers. Our sincere hope is that this project will be under construction very soon.

Liset Arza Robinson, Executive Director SDCA
PARTICIPANTS

THANK YOU for the hard work of everyone supporting this project! Below are some of the participants we'd like to highlight in particular. It's been an honor working with you and this project would not be possible without YOU!

Invaluable Volunteers

Nina Kessava - 2021 Intern David Lintott Debanshee Kalani Dyesha Holmes Eloisa de Leon Heath Barton Houston Harris Kyle Albarracin Madhu Narumanchi **Robert Huber** Sangeerthana Suresh Shunzhi Yao

Our Giving Garden Amanda Harris Hillary Jensen Jenn Fletcher Judy Byler Katie Timberlake Kristen Lemmerman **Mollie Barnes**

SDCA Board: Liset Robinson - Executive Director Brent Redmon Chris Morphis Delaram Tafreshian George Harkness Ian Hunter Reed Thomas Taejun Park Xin Wang

THANK YOU

• • • • • • • • • •

For ongoing project information or for more details, please visit sdcatlanta.org or contact us at information@sdcatlanta.org.

PROJECT DISCLAIMER

All rights reserved. No portion of this publication may be reproduced in any form, or by any means, mechanical or electronic, or by any information storage and retrieval system or any other method, for any use, without the written permission of an authorized representative of Sustainable Design Collaborative Atlanta ("SDCA"). IMPORTANT DISCLAIMER: This publication is intended to provide general information and should not be construed as construction and/or design advice. Consult a licensed professional to complete any drawings and ascertain that all applicable codes are followed. The SDCA Board and/or any professional and/or other volunteers who have contributed to this project and publication shall not be liable for any incidental or consequential damages in connection with, or arising from or out of, the use of this publication.