

ACADEMY FOR GLOBAL CITIZENSHIP

LIVING BUILDING CHALLENGE BOOK JULY 17TH, 2025



Growing Resilient, Equitable and Vibrant Communities from Within



An International Model in Environmental Education in the Heart of Chicago









ARCHITECT OF RECORD

COLLABORATING ARCHITECT

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Stearn-Joglekar Consulting Structural Engineers

STRUCTURAL ENGINEER







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GREEN BUILDING CERTIFICATIONS



ACADEMY FOR GLOBAL CITIZENSHIP

LIVING BUILDING CHALLENGE BOOK



INTRODUCTION

PROJECT BACKGROUND

The Living Building Challenge (LBC) is a certification program, advocacy tool, and philosophy defining a high measure of sustainability in the built environment today. As a certification program, it provides milestones and criteria. As an Advocacy tool, it provides a path for people and organizations involved in the creation of the built environment to have a common message. And as a philosophy, it guides the operation and future use of the built environment.

The Academy for Global Citizenship (AGC) project is one aspect of Cultivate Collective, a community organization whose mission is to unite education, wellness, sustainability, and economic vitality at the community level to drive meaningful, generational impact. The AGC building is an approximately 70,077 square foot building

located on 6 acres of previously developed land in Chicago. The building houses 5 tenants, with Cultivate Collective being the anchor tenant of the school. AGC is an accredited International baccalaureate school with a curriculum focused on developing mindful leaders who can take action now and into the future to positively impact their communities and the world beyond.

It is embedded in the Academy's DNA to lead by example, as such pursuing the Living Building Challenge provided a robust and challenging framework.

AGC is pursuing full Living Building Certification, V4.0 which will be described on the following pages. This book is organized by Living Building Petals (7), which are then broken down into Imperatives (20), which are further broken down into Requirements(101).

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^{*} I02-2 is not applicable

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INTRODUCTION

INTRODUCTION

The Place Petal has four imperatives that advance three main tenets: 1. Respecting the Ecosystem, 2. Providing areas for Urban Agriculture, and 3. Providing for the Community.

SITE HISTORY AND NATURAL CONTEXT

AGC occupies approximately 6 acres of pre-developed land in an urban context in Chicago, IL. This part of the City of Chicago was initially farmed which was replaced with low-density private housing. The housing was later demolished under urban renewal and replaced with mid-density, public housing. The land sat fallow since the public housing was removed, and the residents were displaced, in 2007.

The Climate is ASHRAE Climate Zone 5A which is a mixed climate with about 35 inches of rain a year and temperatures swings from a low of -10 deg F to 90 deg F. The pre-settlement ecology on the site is classified as Wet Glacial Drift, which served as inspiration for portions of the landscape design.

ECOLOGICAL RESTORATION

The AGC project provides ecological restoration both on its site and across the Chicago region. The landscape design for the school site restores the land to more closely reflect the original ecology. While at the same time AGC volunteers support invasive species removal and land maintenance in nature preserves, natural areas, and parks in the Chicago region. These volunteer efforts expand access to similar ecosystems in the region for residents of the AGC Neighborhood and across the City of Chicago.



FIGURE 1-02 Exterior Facade

URBAN AGRICULTURE

Urban farming is central to both the operations and curriculum of AGC. Roughly one-half acre (20,000 s.f.) of the site is dedicated to growing food, mostly in hoop-houses. The students are fed breakfast and lunch prepared fresh on-site in the school's commercial kitchen. The food storage areas have been sized to meet both daily and emergency needs. The AGC curriculum both expands and reinforces the student's daily routines, teaching agriculture as part of STEM.

COMMUNITY

Prior to starting the design of the school building AGC, and its parent organization Cultivate Collective, met with neighborhood organizations, former public housing residents, and City officials. These meetings identified opportunities for AGC to expand its building program to address community needs. Beyond its core function as a K-8 school the building contains a community health clinic, outdoor and indoor space for community meetings, and a food market supported by the Urban Farm, all community-serving.

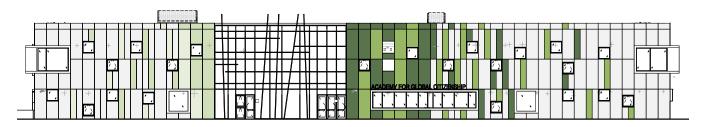


FIGURE 1-01 South Building Elevation.

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101-1 SITE CONDITIONS

INTENT

Provide: 1) An overview narrative with 2) Photographs describing site conditions at the start of the project and 3) A general history of the site. 4) Reference Habitat documentation. 5) Completed Recovery Wheel showing baseline ecological condition per SER Five Star Methodology. 6) A FEMA-issued flood map documenting the project's location relative to any nearby flood zones.

Two existing trees within the public right-of-way should be saved. There is an existing utility easement running East-West across the North of the site and North-South across the West of the site. The site is bound by chain link fencing. There is an existing sidewalk within the right-of-way within two street trees and light posts. The project site is not located on prime farmland.

EXISTING SITE CONDITIONS

The Academy for Global Citizenship is located within the City Limits of Chicago in the LeClaire Courts Neighborhood in the 22nd Ward at the intersection of W 44th Street and S Laporte Avenue. The site is , approximately 10 miles southwest of the Urban Core (The Loop), and is located within what LBC defines as the L5 Living Transect - Urban Center Zone. The site is bounded to the east and the south by City streets, Hearst Park (City of Chicago Park) to the west, and railroad tracks and Interstate 55 to the north. The total site area is 268,180 square feet, or 6.157 acres.

The existing topographical conditions consist of nearly level terrain with open lawn and trees. There were some hardscape remnants from previous development that have been removed. The north side of the site is more densely vegetated. The existing trees range in condition, size, and species. Several Hackberry, Honey locust, and Hawthorne trees are in fair to good condition and should be saved.

ZONING HISTORY

The site is currently zoned as a Planned Development (PD-1476) a rezoning of the previous use as a Chicago Housing Authority public housing site.

PROPOSED SITE CONDITIONS

The proposed use of the site is the Academy for Global Citizenship (AGC) School, a Chicago Public Charter School. The site will include entry plazas, native landscapes, natural play space, outdoor classrooms, outdoor dining areas, pervious parking, and rain gardens. A key feature of the site is the half-acre urban farm, refer to **Imperative 02** for more information.

The non-agricultural landscapes will be maintained as natural ecosystems providing habitat and ecological restoration value while working in conjunction with the school to provide interactive and educational opportunities for daily users and visitors.



FIGURE 1-03 Site at the Start of the Project.



FIGURE 1-04 Site at the Start of the Project.



FIGURE 1-05 Site at the Start of the Project.



What is the ecosystem that would have existed on the site without human development?

The dominant vegetation on this site has undergone drastic changes over many thousands of years, evolving from tundra habitats at the end of the last glacial episode, to spruce, fir, and pine forests, to deciduous forests dominated by oak and hickory. As the climate shifted, prairies and savanna-like habitats began to develop.

The ecosystem that would have existed on this site prior to development (in the 19th C) is a Wet Glacial Drift Upland Prairie. Wet Glacial Drift Upland Prairies occur on uplands. Under these conditions, sites do not experience flooding because of groundwater recharge triggered by low hydraulic gradients (a flat water table).

The reference habitat (an extant ecosystem that closely resembles what would have been here) is Ottawa Trail Woods, located 5 miles west of the project site. Craig Billington, who covers Ottawa Trail Woods, is a Regional Ecologist from the Forest Preserves of Cook County. Billington noted that the basic natural communities at the site presently include Mesic Woodland, Floodplain Forest and Marsh. Some species identified at Ottawa Trail Woods include Helianthus divaricatus (Sunflower), Kuhnia eupatorioides corymbulosa (False Boneset),



FIGURE 1-06 Site at the Start of the Project.

Quercus bicolor (Swamp White Oak), Rudbeckia laciniata (Cutleaf Coneflower), Solidago gigantea (Giant Goldenrod), and Symphyotrichum lateriflorum (White Woodland Aster). Some bird species included Sandhill Cranes, Tree Swallows, White-throated Sparrows, Brown-headed Cowbirds, and Mourning Doves.

FEMA FLOOD MAP

The site is located within an area of minimal flood hazard according to FEMA mapping service and requires no further action to protect the site from flooding.

RECOVERY WHEEL BASELINE CONDITION

Absence of threats: 1 star. Vegetation was minimally managed. Invasive plants exist on-site.

Physical conditions: 1 star. The site conditions are stabilized, but not supporting a natural range of biota. Species composition: 1 star. There are some native tree species, but there are also invasive species due to the previous use of the site.

Community structure: 1 star. Low trophic complexity. Ecosystem functionality: 1 star. Minimal habitat and existing resources remain for species.

External exchanges: 1 star. Adjacent to LeClaire Courts-Hearst Park, but no connections.

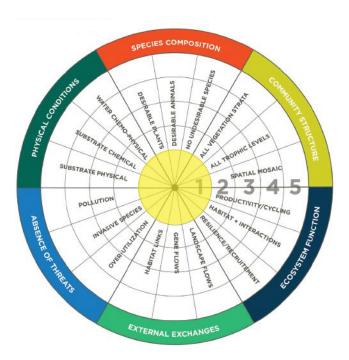


FIGURE 1-07 Recovery Wheel showing Baseline Ecological Condition.

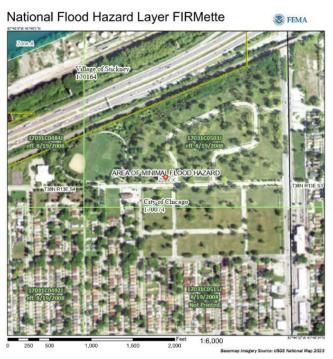


FIGURE 1-09 FEMA-issued Flood Map.



 ${\it FIGURE~1-08~Reference~Habitat~Documentation}.$

101-2 POSITIVE ECOLOGICAL CONTRIBUTION

INTENT

Provide a comprehensive Adaptive Plan with illustrations that documents how the project meets the requirement to restore or enhance the ecological function of the site, including the vision, goals, objectives, measures, metrics, and monitoring and maintenance plan. Completed Recovery Wheel showing long term Adaptive Plan goals. Photographs documenting change over the performance period.

LONG TERM ADAPTIVE GOALS

As mentioned under **Imperative IO1-1**, the site features consist of entry plazas, native landscapes, natural play space, outdoor classrooms, outdoor dining areas, pervious parking, and rain gardens. A key feature of the site is the half-acre urban farm, refer to **Imperative 02** for more information. The non-agricultural landscapes will be maintained as natural ecosystems providing habitat and ecological restoration value while working in conjunction with the school to provide interactive and educational opportunities for daily users and visitors. The site is in LBC Transect L5, thereby capping the estimated highest level of ecological function at 2-stars in all categories.

The following Long Term Adaptive Goals outlines how the goals will be achieved over time.

ELIMINATING THE ABSENCE OF THREATS

Removing on-site invasive species will require manual and mechanical removal. Removal may require physically removing invasive plants by hand, cutting and mowing invasive plants to prevent reproduction, or machine cutting to remove larger infestations of invasive species. Continuous monitoring of the landscape will be an important aspect of mitigation.

Removal of invasive species will be extremely important, especially during the first 5 years as new native plants

are becoming established. Routine maintenance will be as follows:

Year 1: Maintenance shall be at minimum once every month

Years 2-3: Maintenance shall be at minimum once every 2 months.

Years 4-5: Maintenance shall be at minimum once every 2-3 months, depending upon plant establishment. Additional monitoring and maintenance shall be on an as-needed basis.

IMPROVE SOIL CONDITIONS

To recreate the environment and sustain species of the Reference Ecosystem, it is essential to improve the physical and chemical properties of the soil. Imported soils provide optimal conditions for growing healthy native species. Soil monitoring and necessary adjustments shall be undertaken periodically as needed pending on-site assessments and observations. Please refer to Imperative 02 for more information on soil and growing conditions.

STRATEGIES FOR SPECIES COMPOSITION

Planting areas are integrated throughout the site: in parkway trees, entry gardens, rain gardens, and educational play gardens. The planting palette consists of native and adapted non-invasive species, similar to species found in the Reference Habitat. To ensure the protection of the native species on-site, it will be crucial to remove any invasive species, monitor and maintain the diverse range of native species, limit additional post-construction disturbances, and educate the maintenance personnel and users on native landscapes and species. Ideally, the species should be monitored annually to track ecological diversity.

IMPROVING THE PLANT COMMUNITY

Working to increase trophic complexity in a landscape can help promote ecosystem health, resilience, and biodiversity. As mentioned previously, the planting palette emphasizes native species, which provide habitat and food sources for native fauna. The proposed planting includes a wide diversity of species to help establish a more layered ecosystem. In addition to the native landscape, the agricultural landscape is filled with food producing plants. The landscape team recommends that leaf litter is left on the landscape on an annual basis to provide habitat for smaller fauna. Additionally, project users shall install and monitor birdhouses for nesting birds and insect hotels.

EVIDENCE OF ECOSYSTEM FUNCTIONALITY

High species diversity indicates health in an ecosystem. On an annual basis, the school should monitor, and count, biodiversity seen on-site to provide evidence of the ecosystem's functionality. Healthy ecosystems are more resilient to disturbances. Counting species diversity will assist in tracking the diversity as it relates to the Reference Habitat.

EXTERNAL EXCHANGES

LeClaire Courts-Hearst Park is located west of the site and totals 12.53 acres. Programming includes a fieldhouse, basketball courts, baseball fields, athletic green, playground, tennis courts, and a community garden. During the school year, park goers can participate in recreational programs and after-school programs. Summer camps and special events are planned throughout the year. The masterplan proposes a direct pathway from the western property line to the park allowing for ease of flow and connectivity. The site perimeter should undergo regular surveillance to monitor external exchanges of vegetation and the presence of invasive species. Surveying the site boundaries provides educational opportunities to students, families, community members, and park goers about the agricultural-forward native landscape.

MONITORING AND MAINTENANCE PLAN

In addition to the system monitoring, maintenance practices, processes, goal and data collection plan

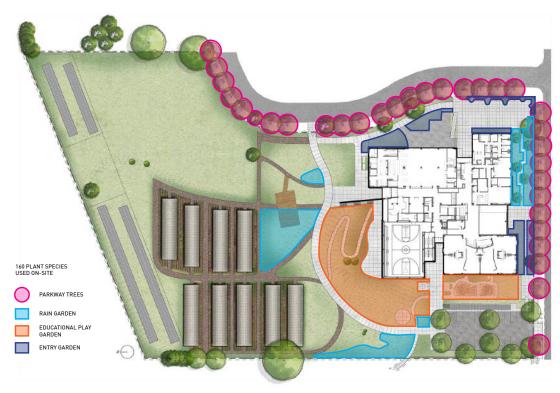


FIGURE 1-10 Illustration of the Adaptive Plan

outlined above, the following plant maintenance shall be followed: Plants shall be maintained by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Replace

mulch materials damaged or lost in areas of subsidence. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices, when possible, to minimize use of pesticides and reduce hazards, refer to Imperative 02.

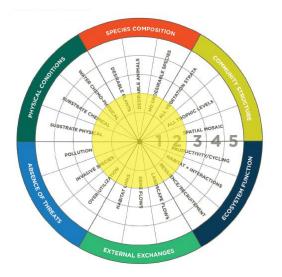


FIGURE 1-11 Ideal Recovery Wheel

IDEAL RECOVERY WHEEL

Academy for Global Citizenship is in Transect L5 - Urban Center Zone. Per the Society for Ecological Restoration's (SER) Five Star Method, Transect L5, 2 stars are estimated to be the highest level of ecological function.

Absence of threats: 2 stars Physical conditions: 2 stars Species composition: 2 stars Community structure: 2 stars Ecosystem functionality: 2 stars External exchanges: 2 stars

FINAL AUDIT (EXPECTED OCTOBER 2025)

FIGURE 1-12 12-Month Progress Recovery Wheel

12-MONTH PROGRESS RECOVERY WHEEL

Absence of threats: Physical conditions: Species composition: Community structure: Ecosystem functionality: External exchanges:

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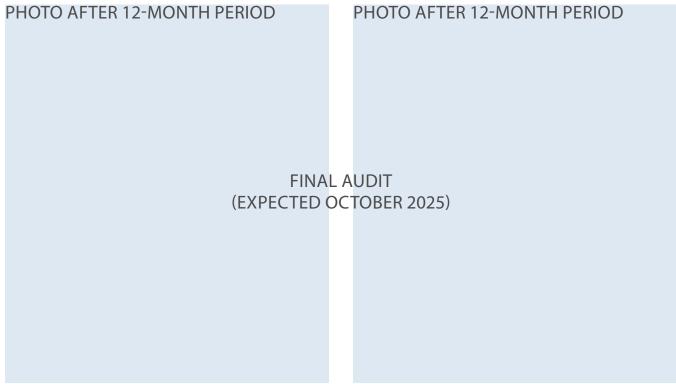


FIGURE 1-13 Site after 12-Month Period.

FIGURE 1-15 Site after 12-Month Period.

PHOTO AFTER 12-MONTH PERIOD

FINAL AUDIT (EXPECTED OCTOBER 2025)

FIGURE 1-14 Site after 12-Month Period.

INTENT

Provide an equity narrative that describes the assessment of cultural and social equity factors and needs of the place.

A COMMUNITY EQUITY FOCUS

The six-acre site, which comprises a portion of the former CHA Leclaire Courts development which was razed in 2011, was purchased from the Chicago Housing Authority (CHA). Integral to the land purchase agreement was a commitment on the part of AGC leadership and the project development team to prioritize neighborhood engagement and hiring efforts. As a result AGC hosted community meetings and job fairs and participated in over 100 community engagement efforts.

The result of deep collaboration with community leaders, volunteer organizations, neighborhood voices and local constituents, the Academy for Global Citizenship at the Cultivate Collective Campus committed to bring to fruition a global vision of environmental and economic sustainability (designed to achieve full Living Building Challenge certification) to serve and support this lowincome, community of color.

MEMORANDA OF UNDERSTANDING

These equity commitments were memorialized in a Memoranda of Understanding (MOU) between the project and the Leclaire Courts Advisory Council, Hearst Park Community Organization, Hire360 and the Greater Southwest Development Corporation. This MOU provided the guideposts for all goal setting and project procurement efforts.

INCLUSION GOALS

The inclusion initiative goals for the project, established in the MOU, were exceeded during project implementation in both professional services and direct costs as outlined in imperative 18. Inclusionary project development goals include business participation by minority and women owned businesses and Section 3 businesses as well as workforce participation goals associated with apprentices and Section 3 employees.

Community and Stakeholder Outreach					
Hearst Community Organization Leaders	18 October 2019				
Hearst & Archer Heights Community Leaders Meeting	13 November 2019				
Federation of Women Contractors	14 November 2019				
Archer Heights Community Organization Meeting	11 December 2019				
Hearst Community Organization Forum	11 December 2019				
Hispanic American Construction Industry	8 January 2020				
Black Contractors Owners & Executives	14 January 2020				
Black Contractors United	15 January 2020				



FIGURE 1-16 Ground Breaking Ceremony.

QUESTION WE ASKED BEFORE THE PROJECT WAS FULLY DEVELOPED

1. WHAT DEFINES THE NEIGHBORHOOD AND COMMUNITY SURROUNDING THE PROJECT SITE?

The neighborhood surrounding the Cultivate Collective site — formerly LeClaire Courts in the Garfield Ridge community on Chicago's southwest side — is defined not just by its geography, but by its historical memory, cultural identity, intergenerational ties, and systemic challenges that have shaped and continue to influence the community's lived experience.

A community Rooted in History and Resilience

LeClaire Courts, built in 1950, was one of Chicago's earliest attempts at integrated, low-rise public housing. Over time, it became home to a vibrant, predominantly African American community, where generations of families lived, grew up, and forged deep social bonds. As described by community members, LeClaire wasn't just a housing complex — it was a tight-knit ecosystem of neighbors, traditions, and shared experiences. However, its demolition in 2011 under the Chicago Housing Authority's Plan for Transformation displaced hundreds of families, many of whom retain strong cultural and emotional ties to the land.

Residents often speak of a "blood memory" of the area — a visceral connection to the soil, to family legacies, and to community cohesion that once flourished there. This enduring sense of belonging forms the emotional core of the neighborhood's identity, persisting even in the absence of its original built environment.

A Dynamic and Evolving Cultural Landscape

Today, the demographic fabric of the area is shifting. Garfield Ridge and its adjacent neighborhoods — Archer Heights, West Lawn, Clearing — are now home to a rising population of Latino families, with significant numbers of immigrants and multigenerational households. This cultural transformation has enriched the neighborhood's character while also surfacing new opportunities and

challenges related to equity, representation, and access to services.

The community is a multi-ethnic mosaic, characterized by:

- Longtime Black families who trace their lineage to the LeClaire Courts era.
- Newer Latino immigrants navigating both the American experience and systemic barriers.
- A strong tradition of civic engagement, particularly among women leaders and elders.
- Bilingual, multigenerational households that blend traditional values with a vision for inclusive progress.

Community leaders, such as those in the Hearst Community Organization and Southwest Collective, actively steward this cultural continuity while pushing for systems-level change that prioritizes community-led development, racial equity, and environmental justice.

Defined by Disinvestment—and Now, Reinvestment

Despite its cultural richness, the area surrounding the project site has been heavily shaped by historic disinvestment — including redlining, lack of economic opportunity, and environmental neglect. Residents have faced disproportionate challenges:

- Poor air quality and elevated asthma rates due to industrial zoning and nearby highways.
- Food insecurity and lack of healthcare access, with the site situated in a federally designated health and food desert.
- Economic exclusion, where only 5% of jobs in the local industrial corridor are held by community residents.

The Academy for Global Citizenship's campus seeks to reverse these patterns — transforming the site into a beacon of equity, sustainability, and community ownership through a Living Building Challenge-certified development that is fossil-fuel-free, net-positive in energy

and water, and guided by community governance.

An Intergenerational, Participatory Community

What further defines this community is the active participation and multigenerational stewardship of its people. Alongside it's partner, Cultivate Collective, AGC has engaged:

- Over 1,000 residents through 50+ community events and design charrettes.
- A 100% minority Strategic Advisory Council and 96% minority-led Board.
- Stakeholders from ages 5 to 95 including youth, seniors, parents, and educators whose collective input shapes the physical and philosophical design of the campus.

The result is a neighborhood defined by a living dialogue between past, present, and future — one where families seek to return, where young people envision thriving futures, and where elders pass down wisdom and memory that inform AGC's mission.

In Summary

The neighborhood surrounding the Academy for Global Citizenship is not simply a geographic location, but a legacy of resilience, cultural heritage, and re-emerging opportunity. It is defined by:

- Deep historical ties to LeClaire Courts.
- Multicultural and intergenerational identity.
- Systemic inequities counterbalanced by community assets and activism.
- A collective vision to co-create a just, thriving, and regenerative future.

2. WHAT ARE THE PRIMARY NEEDS AND ASSETS OF THE NEIGHBORHOOD OR COMMUNITY?

Primary Needs

The community surrounding the Academy for Global Citizenship is contending with deep, intersecting challenges, shaped by a legacy of disinvestment and structural inequity:

- Healthcare Access: Over 31,000 residents in the area are uninsured, and 46% of the community has been medically underserved. Prior to our campus opening, there was no Federally Qualified Health Center within walking distance, contributing to chronic health disparities.
- Food Insecurity: The area is considered a food desert residents must travel over a mile to access fresh groceries. This gap directly contributes to elevated dietrelated illnesses and limits opportunities for healthy living.
- Educational Gaps: Local schools have historically been under-resourced. The neighborhood has lacked cradle-to-career learning pathways, early childhood resources, and high-quality public school options.
- Economic Exclusion: Despite being home to thousands of capable residents, only 5% of jobs in the local industrial corridor are held by community members, reflecting a mismatch between local workforce readiness and regional employment opportunities.
- Environmental Injustice: Proximity to highways and industrial zones has led to poor air quality, exacerbating asthma and other respiratory issues in local children and elders.

Community Assets

In spite of these challenges, the neighborhood possesses profound strengths and resilient assets:

- Civic Engagement and Cultural Pride: The community is highly engaged, with over 1,000 residents participating in charrettes, focus groups, surveys, and events.
- Strategic Location: Adjacent to I-55 and just 1.5 miles from Midway International Airport, the area is poised for economic revitalization if investments align with community needs.
- Strong Intergenerational Bonds: Many families have deep roots in the area, especially among former residents of LeClaire Courts. This provides continuity, lived experience, and social cohesion.
- Organized Local Leadership: The presence of groups like the Hearst Community Organization and Southwest Collective ensures consistent advocacy for equity, access, and representation.

3. WHO ARE THE MOST VULNERABLE OR DISINVESTED POPULATIONS IN THE COMMUNITY? WHAT ARE THEIR NEEDS AND ASSETS?

Most Vulnerable Populations

- Former LeClaire Courts Residents: Displaced in 2011, these families still feel a strong connection to the land and bear the trauma of forced relocation.
- Low-Income Households and Single Mothers: Many face barriers to affordable childcare, housing, and employment.
- Black and Latino Residents: These groups continue to experience racial disparities in income, education, and health outcomes.
- Immigrant Communities: Often undocumented or underinsured, many lack access to healthcare and live with heightened vulnerability.

- Seniors and Elders: Many are socially isolated and in need of community programming, healthcare access, and transportation.

Their Needs

- Affordable, walkable healthcare and wellness services
- Access to workforce development and job training
- Childcare, afterschool, and intergenerational programs
- Cultural affirmation and inclusion
- Safe public spaces, green areas, and improved infrastructure

Their Assets

- Cultural heritage and storytelling
- Community loyalty and rootedness
- Experience with organizing and self-advocacy
- Bilingual capacity and multi-generational households

4.HOWCANTHEPROJECTAVOIDNEGATIVE IMPACTS OF THE NEIGHBORHOOD OR COMMUNITY?

Along with our partner, Cultivate Collective we have taken extensive steps to ensure the project is not extractive or exclusionary, but rather healing and generative:

- Inclusionary Governance: A 100% minority Strategic Advisory Council and 96% minority Board ensures that decision-making is rooted in the lived experience of the community.
- Right of Return: Collaborations with the Chicago Housing Authority ensure former LeClaire Courts residents are part of the neighborhood redevelopment.
- Community Benefits Agreement (CBA): A formal CBA ensures local hiring, affordable services, equitable

contracting, and continued engagement with stakeholders.

- Environmental Stewardship: LBC certification goals (net-positive energy/water) ensure ecological protection and improved air quality.
- Access over Exclusivity: Every amenity from wellness facilities to the skills library is designed to be publicly accessible and benefit those who live closest to the site.

5. HOW CANTHE PROJECT HELP MEETTHE NEEDS AND/OR FURTHER THE ASSETS OF THE COMMUNITY, INCLUDING ITS MOST DISINVESTED?

The Academy for Global Citizenship's community hub is a purpose-built, equity-centered model of community development. It actively meets needs while amplifying assets by:

- Providing cradle-to-career educational pathways through a tuition-free, dual-language, nature-based public K-8 school operated by AGC, alongside early childhood and adult education programming.
- Offering economic mobility through the Green Business Institute, which provides job training, apprenticeships, and entrepreneurship support for BIPOC residents.
- Distributing over 100,000 pounds of locally grown food annually, addressing both food insecurity and economic opportunity.
- Creating 1,000 construction jobs and 125 permanent jobs, with a focus on living wages, workforce development, and community equity stakes.
- Restoring cultural memory and enabling returning residents to reestablish roots through thoughtful design and community-led planning.

6. HOW MIGHT THE PROJECT REFLECT AND ADVANCE THE HISTORY, CULTURE, AND ASPIRATIONS OF THE COMMUNITIES OF WHICH IT IS A PART?

The Academy for Global Citizenship is intentionally designed to reflect and uplift the histories, cultures, and aspirations of its surrounding communities. It is not merely a development — it is a cultural reawakening and a community-led response to decades of displacement, underinvestment, and erasure.

Rooted in collective memory, Cultivate advances a vision that is for the community, by the community, with each program, structure, and space built to embody local values, voices, and visions for the future.

Core Strategies & Cultural Reflections

- Historic Legacy & Cultural Memory: The project honors LeClaire Courts' rich legacy as a historically Black, working-class neighborhood deeply shaped by migration, resilience, and family bonds. Community elders and former residents have been actively involved in the shaping of the project, ensuring that the neighborhood's story is carried forward.
- Aspirational Pathways: Cradle-to-career educational programs, green job training, and intergenerational gathering spaces reflect the aspirations of community members to build a future grounded in equity, opportunity, and collective empowerment.
- Community Stories in Design: Feedback and themes from residents including unity, respect, cultural pride, and generational legacy have been intentionally integrated into the physical and programmatic fabric of the Hub. This includes culturally affirming artwork, shared design language, and storytelling elements throughout the campus.

Signature Cultural Design Elements

- Land Acknowledgment & Indigenous Collaboration: A permanent land acknowledgment created in partnership with students and local tribal representatives greets all visitors at the entrance of the AGC school. This not only honors the original stewards of the land, but also educates future generations about the power of place and responsibility.
- Wall Graphic Installation Celebrating Community History: A large-scale mural and visual timeline installed within the Hub celebrates the layered cultural, racial, and economic histories of the LeClaire Courts and broader Southwest Chicago serving as a living reminder of where we've been and where we're going.
- Nature-Based Gathering Spaces Co-Designed with the Community: Outdoor areas across the campus including gardens, learning circles, and reflection spaces were designed in collaboration with local artists, elders, children, and families. These areas elevate community rituals, values, and environmental heritage in both form and function.

Together, these elements ensure that the Cultivate Hub does not simply sit on historic land — it rises in response to it, shaped by those whose lives, dreams, and histories are rooted there. It is a space of reflection, regeneration, and radical hope.

7. HOW MIGHT THE PROJECT REFLECT THE LOCAL CULTURE?

The AGC Hub is a direct expression of the local culture, artistry, values, and lived experiences of the surrounding community. Every design element and programmatic feature is intentionally shaped to reflect the cultural mosaic of Southwest Chicago, which is rich with African American and Latino heritage, intergenerational wisdom, and creative expression.

This is not a generic development — it is a cultural landscape cultivated through authentic dialogue, collaborative design, and an unwavering commitment to place-based identity.

Ways the Project Reflects Local Culture

- Bilingual and Culturally Affirming Spaces: The Hub ensures full language access through bilingual signage, materials, and programming a vital consideration in a predominantly Latino community. The inclusion of Spanish and Indigenous language expressions ensures cultural fluency and accessibility across generations.
- Local Business and Art Partnerships: Initiatives such as the Cultivate Café, operated by Back of the Yards Coffee Co., reflect the entrepreneurial spirit of the neighborhood. Programming in the Culinary Teaching Kitchen honors cultural food traditions and empowers local food producers.
- Resident-Driven Aesthetic and Programming: The AGC site design incorporates visual storytelling, student art, and local craftsmanship elevating community narratives across indoor and outdoor environments. Residents were not simply consulted; they are cocreators of the campus' identity.

Spotlight: The Medicine Wheel Project

One of the most vibrant examples of cultural integration is the Medicine Wheel, an outdoor gathering and reflection space co-designed with the community:

- Community-Rooted Artistic Process: The project began with an RFP inviting local artists to submit design ideas for a gathering space that would celebrate heritage, healing, and environmental justice. Selected artists worked in partnership with educators, students, families, and neighbors, whose visions directly shaped the final design.
- Recycled Materials with Story: True to AGC's sustainability values, the space integrates reclaimed wood from Chicago Park District trees, which are currently being repurposed into custom seating. This commitment to reuse honors the land and supports circular economy practices.
- Ceramics and Mosaic Art by the Community: Handmade ceramic faces and mosaic tiles crafted by students and community members are being installed on

custom planters once the spring weather allows for safe application. These planters will soon be home to African and Latin American heritage crops, adding a living, edible dimension to cultural storytelling.

- Blessing Ceremony and Cultural Celebration: The project was launched with a community blessing led by a curandera and music composer from Mexico, who traveled to Chicago to guide the ceremonial honoring of the space. It was a day of music, story, and ancestral reverence, and a powerful moment of collective pride.

The Medicine Wheel is more than an installation — it is a manifestation of collective memory, creativity, and environmental stewardship, crafted by and for the people it serves.



FIGURE 1-17 Grand Opening Ceremony



FIGURE 1-18 Ribbing Cutting Event.

101-4 FERTILIZERS & PESTICIDES

INTENT

Provide a list of chemicals used and planned for use in the maintenance and operation of the on-site landscape and agriculture showing that they do not contain petrochemicals or that they meet the requirements of an applicable organic program.

ORGANIC CHEMICALS

High-quality compost, row cover, sticky traps, and the release of beneficial insects are the primary means to combat insect pressure. Organic chemicals are the secondary means to combat insects.

- Pyganic®: Made from botanically derived active ingredients Pyganic® Specialty is a certified organic pesticide that kills a broad spectrum of pests from aphids to white-flies. It can be used on ornamental plants, vegetables, fruit and nut trees. With the active ingredient pyrethrin, extracted from chrysanthemums Pyganic® Specialty is an effective solution for killing your garden pests.
- DiPel is a biological insecticide containing Bacillus thuringiensis subsp. Kurstaki (Btk) strain ABTS-351 that offers reliable, broad-spectrum caterpillar control on more than 200 crops. DiPel contains a unique balance of multiple insecticidal proteins and Bt spores that maximize efficacy against lepidopteran pests.

None of the selected chemicals and pesticides chosen for landscaping and agriculture contain petrochemicals. No petrochemical fertilizers or pesticides will be used for the operation and maintenance of the on-site landscape.

O IO2-1 AGRICULTURAL NARRATIVE

INTENT

Provide a narrative written by the landscape architect or other appropriate project team member describing the methods of agriculture used, and a long-term support and harvest plan.

STRATEGIES & IMPLEMENTATION

Urban Growers Collective (UGC) is a non-profit organization that builds urban farms. UGC shall be responsible for overseeing farming operations. The team works to dismantle inequities and structural racism through community food system development, which has historically prevented communities of color from living healthy, vibrant lives.

UGC actively operates (8) production-oriented farms on over eighteen acres. The organization offers opportunities for staff-led education, training, leadership development, and food distribution. Each farm utilizes organic growing methods, intensive growing practices, and year-round production strategies to best maximize growing space. The products of these farms enable UGC to increase community access to affordable, nutritionally dense food.

UGC is not a certified organic farmer, however, the organization has followed organic standards for the past 20 years. We employ a range of innovative and ecoconscious growing methods that prioritize the long-term health agricultural and environmental systems. These methods reduce the ecological footprint of farming while ensuring the production of healthy and nutritious crops.

Methodologies are as follows:

- Crop Rotation
- Cover Cropping
- Drip Irrigation
- Reduced Reliance on Fertilizers and Pesticides
- Composting
- Integrated Pest Management
- Natural Pest and Weed Control
- Minimization of Soil Degradation

Embracing sustainable growing methods and prioritizing ecosystem health has significantly reduced the environmental impact associated with importing food to the campus. These methodologies aim to conserve water and energy and reduce greenhouse gas emissions.

The farm will impose composting techniques and utilize manure generated by chickens to enrich the soil. Compost will be used within the hoop houses and across the landscaping. UGC has established a partnership with Ken Dunn of City Farm to manage any surplus organic matter that cannot be processed on-site. Additionally, UGC maintains a relationship with Dr. Abete at the Niles Animal Hospital, who actively cares for the chickens living on the campus. These comprehensive measures underscore our commitment to sustainable and responsible agricultural practices.

NON-EDIBLE PLANTS

The urban farmers will not be growing non-edible plants. All non-edible plants selected by the Landscape Architect are native species. Reference **Imperative 01** for more information on non-edible plants.

CLIMATE AND PROPOSED SPECIES

The urban farm campus plan incorporates (10) hoop houses which are fundamental to extending the growing season. They are constructed of arched frames and polyethylene sheets which shield plants from Chicago's harsh winter weather conditions. These structures maintain the ability to trap and store heat results in micro-climate conditions, extending the growing season beyond the typical outdoor limit. The extra warmth protects crops from frost during late fall and early spring. Fruits, vegetables, herbs, and edible flowers will be grown on site. During the winter months, fresh greens such as kale, spinach, and collards will be grown in the hoop houses.

Hoop houses allow for a wider variety of crops often resulting in multiple harvests in a single season. This methodology bolsters agricultural productivity, guarantees food security and stability, and reduces reliance on imported produce. The proposed agricultural approach will maximize potential crop yield and promote a deep connection between the students and the food they consume. UGC's philosophy invites students, faculty, and visitors to explore the myriad of culinary possibilities that an edible landscape offers.

OCCUPANTS ACCESS TO AGRICULTURE

Through inquiry and place-based curriculum, students will participate in every facet of the food cycle, from planting seeds and caring for chickens to harvesting vegetables and eggs, and planning menus. Students will begin to identify as an integral part of the ecosystem as their connection with nature deepens from following their meals from farm to table.

Over the past three years, AGC and UGC devised the school's crop plan by thoroughly analyzing menu requirements and extensively discussing the incorporation of cultural staples tailored to the student body. The selected crops serve as the cornerstone of AGC's menu.

COMMITMENT TO AGRICULTURE

As part of the Chicago Planned Development agreement, this site was zoned for agricultural use. Please refer to **Appendix P-A** and **Appendix P-H** for the Planned Development agreement, and the commitment letter from Cultivate Collective. This agreement requires this location to remain a farm indefinitely therefore supersedes a 15-year commitment.

102-3 RESILIENCE NARRATIVE & **CALCULATIONS**

INTENT

Document the following: 1) Provisions made to ensure access to the required quantity of emergency food. 2) Maintenance plans addressing how food quality will be maintained and how periodic resupplying will be managed without waste. 3) Calculations showing compliance with Imperative requirements.

FOOD ACCESS PROVISIONS

As a public school, Academy for Global Citizenship (AGC) holds aspirations to set the benchmark for delivering the highest quality, nutrient-dense menu. The school will provide over 360,000 meals annually to its student body.

Urban Growers Collective will harvest five days a week to ensure an ample supply for the daily breakfast and lunch required to sustain AGC's student population. Quantities will depend on the crops harvested on a given day, i.e., days when squash is harvested weigh more than days when lettuce is harvested. There are no permanent residents residing on the premises. All crops cultivated on-site will be used exclusively for student and faculty meals from Monday through Friday. However, there are procedures in place to ensure adequate food storage for the student body. The total foods storage space equates to roughly 980 ft² or 1,136 ft.

FOOD MAINTENANCE

The Academy for Global Citizenship's Culinary team has devised a comprehensive strategy to maximize the yield from the harvests. Serving fresh produce and healthy meals to students and faculty is the primary objective of the school, but the culinary team is also dedicated to preserving abundant harvests. The team intends to can, freeze, and dry harvests to ensure that the seasonal bounty is enjoyed well beyond its initial harvest period. This commitment not only minimizes food waste but also quarantees a sustainable and nutritious food source throughout the year. Produce cultivated will primarily serve as ingredients for school meals. Any surplus

Example Menu							
Meal	Food	Ingredient(s)	Volume	kcals			
		Egg	0.1	213			
		Garlic	0.125	25.25			
	Vegetable Omelet	Onion	0.2	13.4			
		Tomato	0.2	6.4			
		Spinach	0.2	1.4			
Breakfast		Butter	0.05	81.3			
		Potato	2	230			
	Seasoned Potato	Oregano	1	17			
	Couponed Foldio	Shallot	5	35			
		Butter	0.05	81.3			
			Total (kcal)	704.05			
		Chickpeas	2.5	675			
		Snow Peas	0.5	13			
	Chickpea Salad	Cabbage	2	40			
Lunch		Tomato	0.5	16			
Lunch		Cucumber	1	16			
		Onion	0.5	33.5			
		Garlic	0.125	25.25			
	Lun	ch Total (kcal)		818.75			
		Lettuce, Romaine	1	8			
		Black Beans	0.5	113.5			
		Kidney Beans	1.5	337.5			
	Vegitarian Korean Taco	Garlic	0.1	20.2			
		Shallots	5	35			
	1400	Cabbage	1	20			
Dinner		Cheese	0.1	53.1			
		Carrots	0.2	10.4			
		Ginger	0.05	3.85			
		Collard Greens	0.5	24.5			
	Boiled Mixed Greens	Spinach	0.5	3.5			
		Kale	0.5	24.5			
Lunch Total (kcal)							
		Total Dai	ily Calories	2176.85			

FIGURE 1-19 Sample Menu using on-site grown produce.

harvest will be available for purchase at the school store, with proceeds directed towards enhancing food accessibility for the local community.

Additionally, Urban Growers Collective (UGC) has established a meaningful collaboration with Esperanza Health Center to develop Veggie Rx Food Boxes. The boxes are designed to promote improved health and support families facing food insecurity. This multifaceted approach underscores the commitment to sustainable agriculture and holistic community well-being.

Harvested Food and Calories						
Food Type	Food	Calories (kcals)	Volume	Volume/Cubic Foot Conversion	Total (kcals) per 1 Cubic Foot	
	Potato	115	1 cup	0.001	115,000	
Voqotablos	Cucumber	16	1 cup	0.001	16,000	
Vegetables	Tomato	32	1 cup	0.001	32,000	
	Carrots	52	1 cup	0.001	52,000	
	Kale	33	1 cup	0.001	33,000	
	Spinach	7	1 cup	0.001	7,000	
Leafy Greens	Collard Greens, Boiled	49	1 cup	0.001	49,000	
	Cabbage	20	1 cup	0.001	20,000	
	Lettuce, Romaine	8	1 cup	0.001	8,000	
	Onions	67	1 cup	0.001	67,000	
	Shallots	7	1 Tablespoons	0.0000625	112,000	
Onions	Leeks	54	1 cup	0.001	54,000	
	Chives	1	1 Tablespoons	0.0000625	16,000	
	Garlic	202	1 cup	0.001	202,000	
	Sage	6	1 Tablespoons	0.0000625	96,000	
	Thyme	12	1 Tablespoons	0.0000625	192,000	
Herbs and Spices	Oregano	17	1 Tablespoons	0.0000625	272,000	
nerus and Spices	Cilantro	4	1 cup	0.001	4,000	
	Ginger	77	1 cup	0.001	77,000	
	Parsley	22	1 cup	0.001	22,000	
	Butter	1626	1 cup	0.001	1,626,000	
	Eggs, 30 Cell egg crate	2130	4"x12"x12" Crate	0.3333	6,391	
Animal Products	Honey	1030	1 cup	0.001	1,030,000	
	Cheese, Cheddar	531	1 cup	0.001	531,000	
	Milk, Whole	146	1 cup	0.001	146,000	
	Snow Peas, Raw	26	1 cup	0.001	26,000	
	Kidney Beans	225	1 cup	0.001	225,000	
Legumes	Black Beans	227	1 cup	0.001	227,000	
	Soy Beans	240	1 cup	0.001	240,000	
	Chickpeas	270	1 cup	0.001	270,000	
	Lentil	229	1 cup	0.001	229,000	
			Average Calories (kcal) Per Cubic Foot	193,626	
	1,136					
			Total Possible Cald	ories Stored (kcal)	220,036,023	

Calories per Occupant						
Occupant	Count (#)	kcal per day (#)	Total Calories (kCal)			
Early Childhood Development	102	2,100	214,200			
Kindergarden through 1st Grade	120	2,100	252,000			
2nd through 3rd Grade	120	2,100	252,000			
4th through 5th Grade	108	2,100	226,800			
Middle School	150	2,100	315,000			
Faculty	83	2,100	174,300			
Total per Day	683		1,434,300			
	Tota	4,302,900				

Conversions					
3 Teaspoons = 1 Table Spoon					
16 Tablespoons = 1 Cup					
16,000 Tablespoons = 1 Cubic Foot					
1000 Cups = 1 Cubic Foot					

FIGURE 1-20 (Top) Harvested Food Calculations.

FIGURE 1-21 (Left) Calories per Occupant.

FIGURE 1-22 (Right) Conversion Chart.

Food Storage Required (Volume)						
Measurement	Count	Volume/Cubic Foot Conversion	Total (kcals) per 1 Cubic Foot			
Total Tablespoons	6	0.0000625	0.000375			
Total Cups	21	0.001	0.021			
Volume Cubic Foot (eggs only)	0.1	0.3333	0.03333			
Total Volum	0.054705					
Total Occupants		675				
Total Volume for Full Occupancy (1-Day) 36.						
Total Volume for Full Occupancy (3-Days) 110						

FIGURE 1-23 (Right) Food Storage Required.
FIGURE 1-24 (Bottom) Food Volume Storage Provided

Food Volume (Storage) (Provided)								
Storage Item	Width (in)	Depth (in)	Area (in)	Count	Sq.in to sq.ft Conversion	Area (sf)	Height (ft)	Volume (Cubic Foot)
	42	21	882	4	0.007	6.2	1	24.7
	48	21	1008	24	0.007	7.1	1	169.3
	60	21	1260	8	0.007	8.8	1	70.6
Cooler Shelf	48	21	1008	8	0.007	7.1	1	56.4
	30	21	630	8	0.007	4.4	1	35.3
	48	21	1008	16	0.007	7.1	1	112.9
	52	21	1092	4	0.007	7.6	1	30.6
	48	21	1008	16	0.007	7.1	1	112.9
Dry Storage Shelf	42	21	882	8	0.007	6.2	1	49.4
Dry Storage Shell	54	21	1134	16	0.007	7.9	1	127.0
	60	21	1260	4	0.007	8.8	1	35.3
Storage Item	Width (ft)	Depth (ft)	Useable Floor Area (sf)	Useable Height (ft)				
Walk-in Cooler	14'-11"	8'-2"	70.3	2				140.7
Walk-in Freezer	15'-10"	11'-1"	85.7	2				171.3
Total Storage Cubic Feet (Actual)						1136.4		
Total Storage Cubic Feet Required for 3-Day Food Emergency						111		
3-Day Food Requirement as a Percentage of Total Storage						10%		

102-4 PHOTOGRAPHS & GRAPHIC DEPICTION

INTENT

Provide 1. Representative photographs and/or diagrams showing the agriculture area and use patterns throughout the year. 2. If the agriculture area has not yet been used across all seasons, provide diagrams or drawings of predicted use patterns.

AGRICULTURE AREA & USE PATTERN PHOTO - WINTER

FINAL AUDIT (EXPECTED OCTOBER 2025)

FIGURE 1-25 Agriculture area in the Winter.

AGRICULTURE AREA & USE PATTERN PHOTO - SPRING

FINAL AUDIT (EXPECTED OCTOBER 2025)

FIGURE 1-26 Agriculture area in the Spring.

AGRICULTURE AREA & USE PATTERN PHOTO - SUMMER

FINAL AUDIT (EXPECTED OCTOBER 2025)

FIGURE 1-27 Agriculture area in the Summer.

AGRICULTURE AREA & USE PATTERN PHOTO - FALL

FINAL AUDIT (EXPECTED OCTOBER 2025)

FIGURE 1-28 Agriculture area in the Fall.

102-5 ANNOTATED SITE PLAN & AGRICULTURE AREA CALCULATION



FIGURE 1-29 Annotated Plan.

Percentage of Total Project Area for Agriculture					
Hoop House Area Calculations					
Width (ft) Length (ft) Area (sf) Count Total Area (sf)					
	24	94	2,256	9	20,304

Requirements for Living Transect 5				
Site Area (sf)	Required by Transect 5 (%)	Total Area Required (sf)	
	268,180	5%	13,409.00	
Site Area (sf)	Total Agricultural Area P	rovided (sf)	Total (%) Provided	
	268,180	20,304.00	7.57%	

FIGURE 1-30 Percentage of Total Project Area for Agriculture.

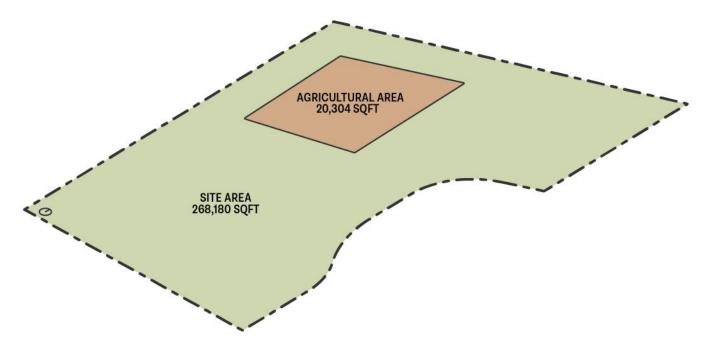


FIGURE 1-31 Diagram of Total Project Area for Agriculture.

0 103-1 RECEIPTS

INTENT

Receipt for the Habitat Exchange contribution from the approved land trust reflecting the required habitat offset area.

RECEIPT

Please see Exception PL-012.

O IO3-2 LEGAL DOCUMENTS

INTENT

An official letter or document from the approved land trust stating the terms of the habitat offset and confirming that the selected land trust meets pathway requirements.

LEGAL DOCUMENT

Please see Exception PL-012.

O IO4-1 DENSITY DOCUMENTATION

INTENT

Calculations that show Project Area FAR before and after the project, or images that clearly show that the project has increased the density from the original condition.

AREA FAR BEFORE PROJECT

Gross Square Footage	0.00
Net Site FAR	268,180.00
Total FAR	0.00

AREA FAR AFTER PROJECT

Gross Square Footage	70,077.00
Net Site FAR	268,180.00
Total FAR	0.26

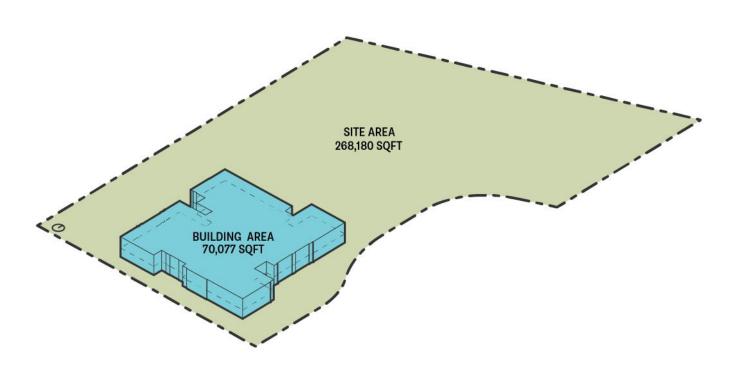


FIGURE 1-32 Project Floor Area Ratio (FAR) Diagram.

104-2 HUMAN SCALE & HUMAN POWERED DOCUMENTATION

INTENT

Provide 1. A narrative describing how the project has addressed Imperative requirements and promotes pedestrian- oriented communities that reduce the use of fossil fuel vehicles. 2. A Plan indicating location and dimension of spaces available for community gathering. 3. Calculations showing the amount of compliant storage for human-powered vehicles. 4. Photographs illustrating narrative contents.

A PEDESTRIAN CENTERED DEVELOPMENT

The Academy for Global Citizenship (AGC) promotes a pedestrian centric development by requesting Improvements upon 44th street and a Divvy Station at Hearst Park, in addition to on-site bicycle storage and showers. See **Appendix P-B** for letters documenting these requests and **Appendix P-F** for an enlarged plan of the human powered storage, parking areas, planting areas, and showers. Calculations are documented in **104-4** (**Figure 1-40**).

AGC has an expected student population of 600, of which we assume only a portion are able to ride a bicycle to school. Please see **IO4-4**, (**Figure 1-40**) for calculations.

AGC has provided for 2 EV Charging stations within the 25 space parking lot.

AGC was designed as a low rise building in keeping with the expected future development to the east. Additionally, the berm breaks down the mass of the building. All of the exterior spaces are open to the community every day all year, except for some areas that are secured during the school day and the early childhood play area which needs to be secured per state regulations. Please see **IO4-4** (**Figure 1-40**) for calculations and **Appendix P-G** for an enlarged plan.



FIGURE 1-33 Bike Storage



 ${\it FIGURE~1-34~Plan~indicating~Location~and~Dimension~of~Spaces~available~for~Community~Gathering.}$

104-3 SOV REDUCTION BEST PRACTICES **DOCUMENTATION**

INTENT

Provide 1. A narrative and graphics describing the best practices employed to encourage human-powered travel or shared transit and reduce fossil fuel-based SOV trips. 2. Evidence of advocacy to promote a human-powered community, such as testimony to elected officials or a letter to the appropriate local jurisdictional authority.

SOV REDUCTION

AGC reduces Single Occupancy Vehicle (SOV) in 4 ways. First, we have advocated for improved pedestrian access along 44th street to the Cicero bus and enhanced the sidewalk directly in front of the campus (see Appendix P-E and Figures 1-37 and 1-38). Second, we advocated for the installation of a Divvy (Chicago's bike sharing program) (see Appendix P-B). Third, AGC has a carpool policy that coordinates ride sharing among families, that it facilitates each academic year (see Appendix P-C). Fourth, in keeping with the curriculum of environmental stewardship, AGC surveys the class each year on how they get to and from school.



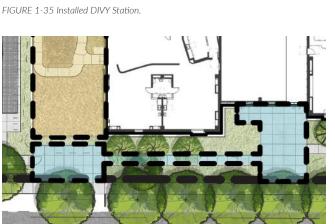


FIGURE 1-37 Enhanced Sidewalk - Plan.



FIGURE 1-36 Installed DIVY Station.



FIGURE 1-38 Enhanced Sidewalk.

104-4 PARKING DOCUMENTATION

INTENT

Provide: 1. Dimensioned drawings and calculations showing the location and area of the total impervious and pervious surface parking area, expanses of surface parking before interruption by plantings, gathering areas, human-powered-vehicle storage, and EV Parking spots. 2. Photos supporting the above drawings.

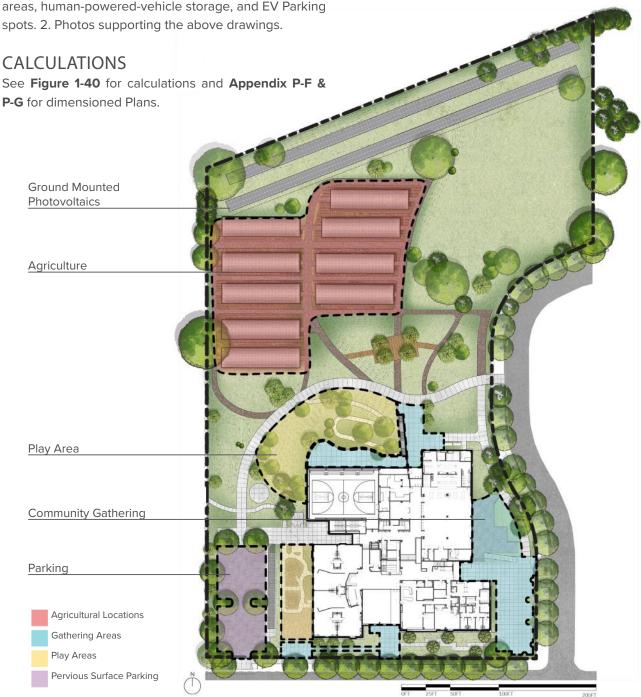


FIGURE 1-39 Dimensioned Plan showing the Location and Area of the Pervious Surface Parking, Gathering Areas, Bike Storage, and EV Parking Spots.

Parkir	Parking Requirements for Living Transect 5				
Site Area (sf)	Maximum Allowed by Transcet 5 (%)	Total Area Allowed (sf)			
268,180	5%	13,409			
Site Area (sf)	Total Parking Area Provided (sf)	Total (%) Provided			
268,180	2.67%	7,167.5			

Bicycle Parking Requirements				
FTE	Count			
Grades 6-8 (age 11-14)	150			
Faculty and Staff	83			
Total FTE for bicycles	233			
15%				
Spaces Required	35			
Spaces Provided	90			

EICI	IDE	1 10	Calcu	lations

	Gathering Space Calculations				
Key Tag	Key Tag Space Area (sf)				
1	Northern Gathering Space 1	1,578			
2	Northern Gathering Space 2	2,609			
3	Northern Playground	13,188			
4	Eastern Market Area	9,685			
5	Western Playground	4,158			
6	Southern Gathering Space	2,155			
	Total Area	33,373			

	Parking Separation (Plantings)					
	Actu	al Parking Area Before Separat	ion			
Width (m)	Length (m)	Meters to Feet Conversion	Width (ft)	Length (ft)		
20 30		3.28	65.6	98.4		
	Act	ual Parking Area After Separati	on			
Width (m)	Length (m)	Meters to Feet Conversion	Width (ft)	Length (ft)		
17.7	19.2	3.28	58	63		
17.7	16.5	3.28	58	54		



FIGURE 1-41 EV Parking Charger.

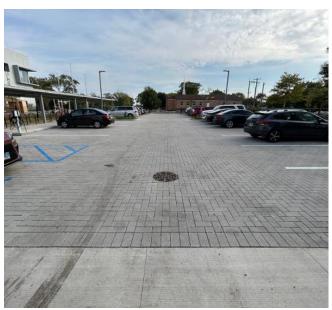


FIGURE 1-42 Pervious Surface Parking.

O PL-012 SMALL NONPROFIT ORGANIZATIONS

INTENT

In lieu of a financial contribution, projects owned but small nonprofit organizations may volunteer a minimum of 200 hours or 5 hours per full-time-equivalent employee during the duration of project design, construction, and performance periods with an approved land trust that is actively responsible for the purchase and/or permanent easement, as well as ongoing stewardship, of conservation tracts of land in excess of 100 acres. Alternatively, volunteer hours may occur with a nonprofit conservation organization with similar goals of an approved land trust.

For **Imperative 03**, Habitat Exchange, the Academy for Global Citizenship is utilizing volunteer hours at local parks, forest preserves, and beaches in lieu of a financial contribution (PL-012).

HABITATEXCHANGEMETBYVOLUNTEERS

The Academy for Global Citizenship (AGC), a K-8 school in South-West Chicago, is on track for full Living Building Challenge Certification. Within the Place Petal, we request to utilize volunteer stewardship of natural areas of 5 hours per full FTE in lieu of a financial contribution (see Appendix P-D for Approved Request for Ruling).

For our project, for Imperative 03, the school as part of its curriculum volunteers at various to do habitat restoration at various ecosystem around Chicago Metro Area and the Puerto Ricos. The types of activities range from removing invasive species, reintroducing native aquatic and riparian plants, and enhancing water quality through green infrastructure.

With an FTE of 83, per PL-012, AGC should provide at least 200 hours of ecosystem maintenance.

See Figure 1-41 for a list of activities performed during the 2023-2024 academic year, totaling approximately 500 volunteer hours across all grades and adult leaders.

For information on the various organizations, see:

Caras con Causas in Cataño, Puerto Rico* https://www.causapr.org/

Dunes Learning Center https://duneslearningcenter.org/

Urban Rivers https://urbanrivers.org/

Cultivate Collective https://cultivate-collective.org/

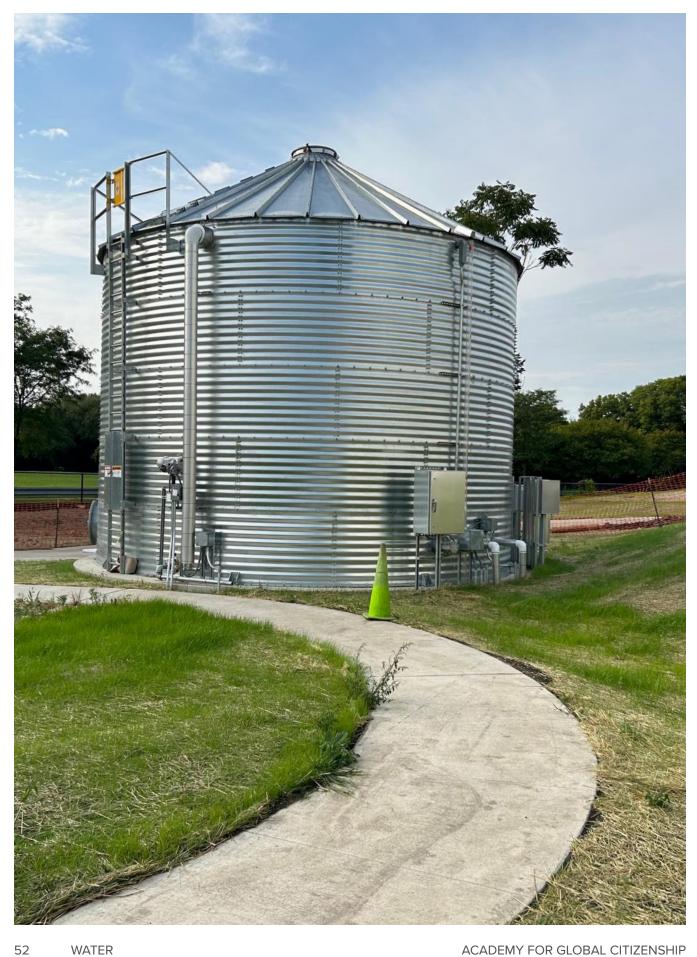
*Our partnership with Caras Con Causas provides students with hands-on ecological education, focusing on reforestation, native species, and flood mitigation through immersive work in mangrove restoration alongside Puerto Rican environmentalists. This collaboration also offers rich cultural immersion experiences, empowering students to deepen their bilingual skills and build cross-cultural understanding through shared community activities and historical learning.

Event	Location	Date	Number of students	Hours of Service per Student	Total Hours
Caras con Causas in Cataño, Pue	erto Rico				
Mangrove restoration	Catano, Puerto Rico	4/22/2024	12	15	180
Mangrove restoration	Catano, Puerto Rico	2/3/2025	15	15	225
Dunes Learning Center, Chester	on, Indiana				
Invasives species removal	Indiana Dunes National Park	4/22/2024	5	3	15
Urban Rivers, Chicago, Illinois					
Wild Mile floating river habitat rebuilding	905 W Eastman St, Chicago, IL 60642	Fall 2024	108	1	108
Cultivate Collective, Chicago, Ill					
Native species planting	4942 W. 44 th St. Chicago, IL 60638	5/23/25	56	1	56

Total 584

FIGURE 1-43 Table of Volunteer Hours.

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INTRODUCTION

05 - RESPONSIBLE WATER USE

- 105-1 Potable Water Use Reduction Documentation
- 105-2 Irrigation Documentation
- 105-3 Storm Water Documentation
- 105-4 Treatment Documentation
- 105-5 Combined Sewer System Documentation

06 - NET POSITIVE WATER

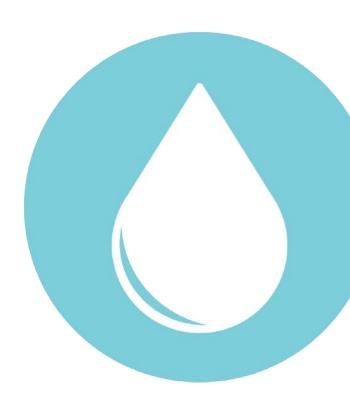
- 106-1 Water Narrative
- 106-2 Annual Water Balance Diagram
- 106-3 Metered Data Table
- 106-4 Biosolids + Leachate Disposal Documentation
- 106-5 Resilience
- 106-6 Photographs

EXCEPTIONS

WT-002	Potable Water Use for Farm Operations
WT-003	Municipal Water Supply for Potable Sources
WT-004	Municipal Water Supply for Fire Protections

APPENDICES

- W-A Planting Plans
- W-B Stormwater and Rainwater Narrative
- W-C Water Treatment Plant Data
- W-D Farm Water Irrigation Future Cross Connect
- W-E Advocacy for Rainwater for Potable Uses
- W-F Plumbing Fixtures Schedule
- W-G CSO Area Map



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INTRODUCTION

THE WATER PETAL

The Academy For Global Citizenship (AGC) addresses the two main tenets of the two water imperatives of reducing potable water intake and reducing sanitary and storm outflows resulting in a net zero water balance. AGC achieves this through two integrated strategies, first the project reduces water usage with low flow fixtures supplemented with a rainwater harvesting system, and second, the site incorporates a stormwater management system that reduces the post development combined potable and storm water leaving the site to less than a baseline pre-human settlement site.

MUNICIPAL WATER INFRASTRUCTURE

The AGC, as described in Appendix W-B, is located on an urbanized site at the portage of the great lakes and Mississippi watersheds. Due to current regulations requiring the use of municipally supplied potable water for most school uses, there is a connection to the Chicago Department of Water Management (DWM) water distribution system. Similarly, current regulations require AGC to connect its wastewater flows to the Chicago Combined Sanitary-Storm (CS) system. All stormwater and wastewater discharge from AGC flows to the Stickney Water Treatment Plant via the CS. Effluent from the Stickney plant enters the Chicago Ship and Sanitary Canal after physical and biological treatment, eventually draining to the Mississippi River. Refer to Appendix W-X for a cut sheet describing the treatment process and nutrient recovery techniques employed by the Stickney Plant.

THE STORMWATER SYSTEM

The Stormwater system as described in **Appendix W-B** consists of three main elements, Localized storage, infiltration, and rainwater harvesting. Localized storage is provided by depressions created within rain gardens and bioretention areas strategically located around the campus. Infiltration is provided by the implementation of native plantings and penetration through the subsurface clay into a sand seam. Over 70% of the site is landscape with 9% planted with native Illinois prairie plants which have deep roots and break up the soil to increase its

infiltration over turf grass. Additional volumetric removal is provided by evapotranspiration provided by the native plantings and shallow storage provided within the rain gardens and bioretention areas. The project site soil profile consists of a clay layer fairly close to the surface that prevents deep and generous infiltration. However, at the rain gardens, we have installed vertical gravel shafts to allow the surface water to 'infiltrate' into this sand seam and further into the local aquifer. The third major strategy, is the installation of the rainwater harvesting system which is sized to accommodate 100% of the roof stormwater during a 25 year-24 hour event. (See more below on the rainwater harvesting system).

THE RAINWATER HARVESTING SYSTEM

In addition to reducing potable water demand through low flow fixtures, AGC has built a rainwater harvesting system to accommodate 100% of the potable daily water demand, however, due to municipal objections it will currently only be used for toilet flushing. Space on the campus and space within the building's water room has been set aside for the future addition of a blackwater treatment, reuse, and disposal system should future regulations allow its use. The design of the system starts with the roof, which is pitched in a 'V' shape toward several central drains to minimize piping and optimize the structural frame. From those storm drains the storm water is run through a pre-flush, then pumped into the 60,000 gallon cistern. From there the water is drawn and filtered on a daily basis to the day tank upon which it is sent to the end use, in our case, to flush toilets. It is important to note that we advocated successfully for non-chlorine disinfectant and we have added 'T's and valves in the system to allow for future connection to the farm irrigation system and the main potable water system if and when the municipality will allow such a connection. In addition to harvesting rainwater to offset potable water usage, the rainwater is collected, treated, and stored in such a way that provides emergency water should it ever be needed. At full operating times, the cistern can supply approximately 20 days of emergency water to the school.

NET ZERO WATER

Net Zero Water is achieved through the strategies described as the total amount of water (stormwater and wastewater) is significantly less than that of a baseline pre-human settlement condition. Though there is water supplied by Chicago DWM, the project offsets that usage with a significant decrease in stormwater discharge.

The AGC provides a 52% reduction in potable water use when compared to a baseline condition. Refer to I05.1 tables for reference.

Additionally, we are pursuing exceptions for:

WT-002 - Potable Water Use For Farm Operations

WT-003 - Municipal Water Supply for Potable Sources

WT-004 - Municipal Water Supply for Fire Protection

O 105-1 POTABLE WATER USE REDUCTION DOCUMENTATION

INTENT

Show calculations to achieve 50% baseline water use reduction.

DOCUMENTATION

See Figures 2-01, -02, & -03 below and Appendix W-F for fixture schedule with flow rates.

BASELINE WATER USE REDUCTION

Occupant	Count	gal/day	Days Per Year	Total	Remarks
Students	600	8.5	185	943,500.00	Per Table 5-1
					To be conservative, assumed included in Table 5-1
					average per student. This also includes additional
Faculty/Staff	78	47.3	185	682,539.00	usage associcated with the cafeteria.
					Assumes same usage as proposed but using typical
					flow rates per EPA estimates. Toilet flushing is included
					here. This calculation assumes all-day visitors which is
					conservative since school visitors are typically all-day
Vistors	20	34.8	185	128,760.00	but clinic visitors are limited.
					Assumes same usage as proposed but using typical
					flow rates per EPA estimates. Toilet flushing is included
Clinic	5	36.1	365	65,882.50	here.
Events	600	1.8	5	5,520.00	LBC baseline usage for public assembly
		Total Gal.	Per Year	1,826,201.50	

PROPOSED WATER USE REDUCTION

(before rainwater harvesting)

Count	Gal/Day	Day/Year	Annual	Remarks
600	2.63	185	291,375.00	Typical days in a school year
78	20.07	185	289,610.10	
20	1.50	185	5,550.00	Visitors include all day visitors and assumed high as a method to anticipate high clinic visitor use. This number is estimated high to allow for fluctuation and use of dishwashers and other cafeteria kitchen uses.
5	14.00	365	25,550.00	Clinic Employees; Open year round
600	1.84	5	5,520.00	Estimated high to be conservative
Total			617,605.10 66%	
	78 20 5 600	600 2.63 78 20.07 1.50 20 5 14.00 600 1.84	600 2.63 185 78 20.07 185 1.50 185 20 5 14.00 365 600 1.84 5	600 2.63 185 291,375.00 78 20.07 185 289,610.10 1.50 185 5,550.00 5 14.00 365 25,550.00 600 1.84 5 5,520.00 Total 617,605.10

FIGURE 2-01 Water End Use Totals (summary)

DETAILED ASSUMPTIONS (Proposed Water Use)

Flow Demands	People Per Day	Daily Use (#)	Flow Rate (gpm)	Time (min)	Usage (gal)/day	Total (gal)/day	Remarks
Students				per stud	ent per day		
Bathroom Sink	600	2.50	0.50	0.50	0.63	375.00	
Toilet	600	-	-	-	-	-	Water usage eliminated by rainwater harvesting supply only
Kitchen Sink	600	1.00	1.00	1.00	1.00	600.00	
Consumption	600	2.00	0.50	1.00	1.00	600.00	
				Total	2.63	1,575.00	
Faculty/Staff	Faculty/Staff per day						
Bathroom Sink	78	4.00	0.50	1.00	2.00	156.00	
Toilet	78	-	-	-	-	-	Water usage eliminated by rainwater harvesting supply only
Dishwasher	1	4.00		240.00	0.65	156.00	39 gal/minute at max capacity, assumes 4 hours of use each day
Cafeteria Kitchen Sinks	5	3.00	1.07	2.00	6.42	32.10	Assumes three uses per day of all five cafeteria kitchen sinks
Kitchen Sink	78	1.00	1.00	1.00	1.00	78.00	
Shower	4	1.00	1.60	5.00	8.00		5% Staff per day
Consumption	78	2.00	0.50	1.00	1.00	78.00	Bottle fillers, etc.
Cleaning/Misc. Use	78				1.00		Assumption for daily cleaning
				Total	20.07	610.10	
Visitors				per Visit	tor per day		
Bathroom Sink	20	2.00	0.50	1.00	1.00	20.00	
Toilet	20	-	-	-	-	-	Water usage eliminated by rainwater harvesting supply only
Shower	20	-	1.60	5.00	-	-	
Consumption	20	1.00	0.50	1.00	0.50	10.00	Bottle fillers, etc.
				Total	1.50	30.00	
Clinic				per Clir	nic per day		
Bathroom Sink	5	5.00	0.50	1.00	2.50	12.50	
Toilet	5	-	-	-	-	-	Water usage eliminated by rainwater harvesting supply only
Kitchen Sink	5	1.00	2.50	1.00	2.50	12.50	
Shower	1	1.00	1.60	5.00	8.00	8.00	Assumes 1 use per day
Consumption	5	2.00	0.50	1.00	1.00		Bottle fillers, etc.
				Total	14.00	38.00	
Evente				nor Evor	sta norday		

FIGURE 2-02 Detailed Water End Use (proposed)

DETAILED ASSUMPTIONS (Baseline Water Use)

DETAILED AS			(=0.00	110		,	
Flow Demands	People Per Day	Daily Use (#)	Flow Rate (gpm)	Time (min)	Usage (gal)/use	Total (gal)/day	Remarks
Students				per stude	ent per day		
Table 5-1 Baseline	600				8.50	5,100.00	
				Total	8.50	5,100.00	
Faculty/Staff			per	Faculty-Sta	aff per day		
Bathroom Sink	78	4.00	2.20	1.00	8.80	686.40	
Toilet	78	2.00			3.20		EPA baseline of 1.6 gal per flush
Dishwasher	1	4.00		240.00	2.00	480.00	Low end of standard commercial dishwasher uses 2 gal/min. Time usage matches proposed use.
Cafeteria Kitchen Sinks	5	3.00	2.20	2.00	13.20	66.00	Assumes three uses per day of all five cafeteria kitchen sinks
Kitchen Sink	78	1.00	2.20	1.00	2.20	171.60	
Shower	4	1.00	2.50	5.00	12.50	50.00	Assumes 5% of staff per day
Consumption	78	2.00	2.20	1.00	4.40	343.20	Potable water for consumption
Cleaning/Misc. Use	78				1.00	78.00	Assumption for daily cleaning
				Total	47.30	2124.80	
Visitors				per Visit	or per day		
Bathroom Sink	20	2.00	2.20	1.00	4.40	88.00	
Toilet	20	2.00			3.20	64.00	EPA baseline of 1.6 gal per flush
Shower	20	2.00	2.50	5.00	25.00	500.00	
Consumption	20	1.00	2.20	1.00	2.20	44.00	Potable water for consumption
				Total	34.80	696.00	
Clinic				per Clir	nic per day		
Bathroom Sink	5	7.00	2.20	1.00	15.40	77.00	
Toilet	5	1.00			1.60	8.00	EPA baseline of 1.6 gal per flush
Kitchen Sink	5	1.00	2.20	1.00	2.20	11.00	
Shower	1	1.00	2.50	5.00	12.50	12.50	Assumes 1 use per day
Consumption	5	2.00	2.20	1.00	4.40	22.00	Potable water for consumption
				Total	36.10	130.50	
Events				per Even	nts per day		
Public Assembly	600				1.84	1104.00	LBC Baseline daily usage
				Total	1.84	1104.00	

FIGURE 2-03 Detailed Water End Use (baseline)



O 105-2 IRRIGATION DOCUMENTATION

INTENT

All projects must not use potable water for irrigation.

LANDSCAPING STRATEGY

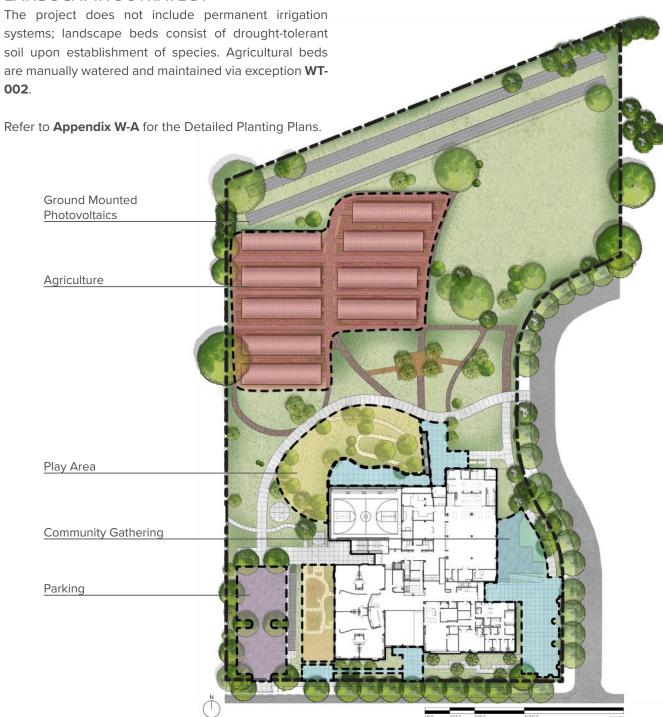


FIGURE 2-05 Site Plan (planted areas).

I05-3 STORM WATER DOCUMENTATION

INTENT

Provide a narrative of the stormwater control strategies, control and treatment methods used, and Calculations from applicable model showing that site is matching predevelopment hydrology patterns.

THE STORMWATER SYSTEM

The Stormwater system as described in Sections 3.0 & 4.0 in Appendix W-B consists of three main elements, Localized storage, infiltration, and rainwater harvesting. The localized storage is a result of the grading designed to create rain gardens around each side of the building. The infiltration has two parts, native plantings and penetration through the sub-surface clay into the sand seam. Over 30% of the site is planted with native Illinois prairie plants which have deep roots and break up the soil to increase its infiltration over turf grass. Additionally, the project site soil profile consists of a clay layer fairly close to the surface that prevents deep and generous infiltration. However, at the rain gardens, we have installed vertical gravel shafts to allow the surface water to 'infiltrate' into this sand seam and further into the local aguifer. The third major strategy, is the installation of the rainwater harvesting system which is sized to accommodate 100% of the roof stormwater during a 25 year-24 hour event.

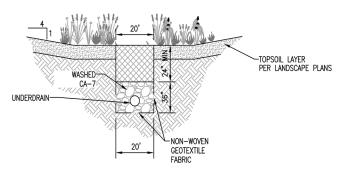


FIGURE 2-06 Bioretention Detail.

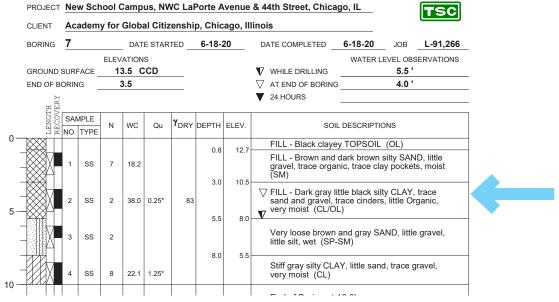


FIGURE 2-07 Geotechnical Report.

O 105-4 TREATMENT DOCUMENTATION

INTENT

Provide documents demonstrating compliance with treatment requirements.

STORM WATER TREATMENT

Refer to Section 5.0 of **Appendix W-B** for the storm water treatment specifications.

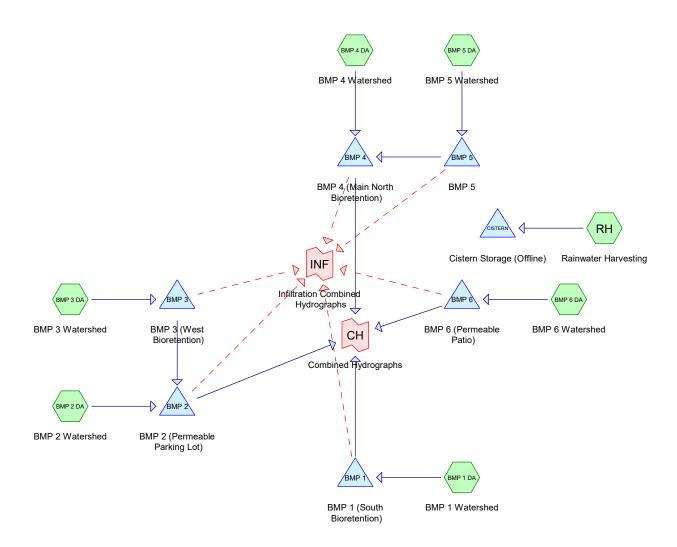


FIGURE 2-08 Water and Storm Water System.

O 105-5 COMBINED SEWER SYSTEM DOCUMENTATION

INTENT

Provide official documents showing or stating whether the utility uses a combined or separated sewer system.

A COMBINED SEWER SYSTEM

Refer to Sections 3.0 & 4.0 of **Appendix W-B** for municipal storm water infrastructure. Refer to **Appendix W-C** for documentation from the Stickney Wastewater Treatment Plant on it's physical and biological treatment methods as well as nutrient recovery imperatives. See **Appendix W-G** and **Figure 2-09** for the location of the Stickney Plant in relationship to the project site (same watershed).



FIGURE 2-09 Water Treatment Reclamation.

O 106-1 WATER NARRATIVE

INTENT

Provide official documents showing or stating whether the utility uses a combined or separated sewer system.

THE WATER SYSTEM

Refer to the water introduction and sections 06 & 07 of **Appendix W-B** for the full Water Narrative.

ENERGY COST OF TREATING SEWAGE

Cost for treatment based on the calculated total wastewater load (617,605 gallons annually) is \$132.74. Conservatively, we assume that this translates to an energy load of 1,374 kWh, at the national \$0.10 per kWh average. Note this energy cost is conservative as some of that cost AGC pays supports, non energy uses such as payroll, bond debt, and capital improvements.

Refer to the letter in **Appendix W-C** for information on the Stickney Treatment Plant.

	Source	annual gallons
ţ	Rain	5,300,000
len	City Water	
Pre-Development	Total water in	5,300,000
-Deve	infiltration	175,000
re	CSO outfall	5,125,000
Δ.	(Total water out)	
٦t	Rain	5,300,000
Jer	City Water	617,605
Post-Development	Total water in	5,917,605
velc		
-De	infiltration	1,571,500
ost	CSO outfall	4,346,105
P	(Total water out)	
	Net	(778,895)

 ${\it FIGURE~2-11~Pre-Developed~Allowable~Release~Rates}.$

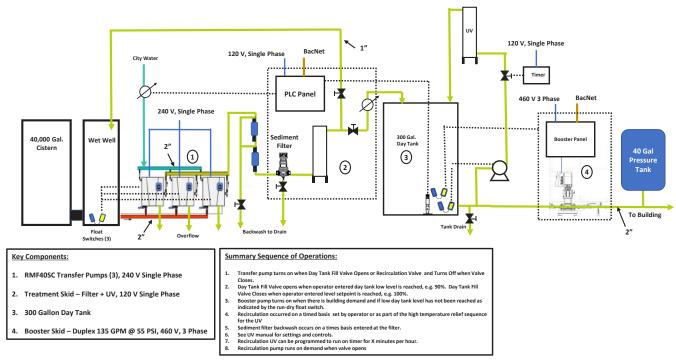


FIGURE 2-10 Water System Diagram.

O 106-2 ANNUAL WATER BALANCE DIAGRAM

INTENT

Provide a enumerated diagram showing general water flow and balance of project and site.

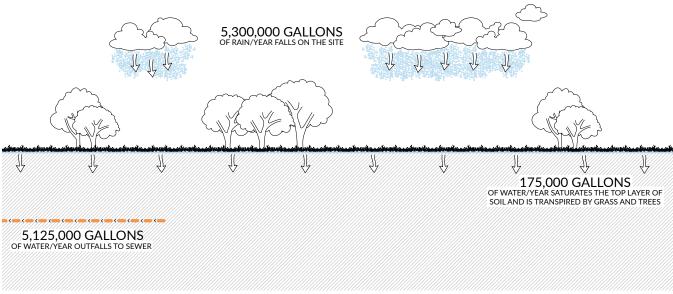


FIGURE 2-12 Annual Water Balance Diagram (pre-development).

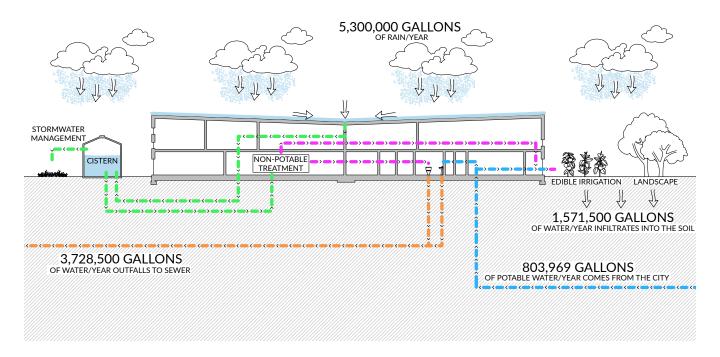


FIGURE 2-13 Annual Water Balance Diagram (post-development).

O 106-3 METERED DATA TABLE

INTENT

Provide a completed Water Supply and Use Table showing total actual water use from monthly readings throughout the 12-month performance period from meter(s) or other on-site tracking systems that clearly record the amount of water used from each supply source.



FIGURE 2-14 Table.

O 106-4 BIOSOLIDS & LEACHATE DISPOSAL DOCUMENTATION

INTENT

Provide documentation on the disposition of off site Sewage.

THE COMBINED SEWER SYSTEM

Via the combined sewer overflow system mentioned previously in **I05-5**, all sewage is treated at the Stickney Treatment Plant which treats sewage to tertiary levels and recovers nutrients. See attached **Appendix W-C** for the treatment plant data.



If you flush a toilet in Northlake, it takes about 8 hours to get to Stickney WRP (in dry weather) and 8–12 hours to go through the treatment process before it is released as clean water to the Chicago Sanitary and Ship Canal.

Coarse screens catch large objects and debris in water as it enters a wastewater treatment plant.

Some of the things that have turned up in the coarse screens of our plants over the years include:

- ✓ A 14" diameter snapping turtle
- ✓ Car wheels and tires
- ✓ 2x4 studs
- ✓ Super balls
- ✓ Parking blocks
- ✓ Money
- ✓ A huge ball of rope
- ✓ A 50 foot extension cord
- ✓ Mop heads
- ✓ Tree branches
- ✓ Two opossums
- ✓ ID card of a man from Argentina
- ✓ A bowling ball (with no pins)
- ✓ Fish
- ✓ A prosthetic leg





The average WRP in the state of Illinois treats one million gallons per day.
At maximum capacity, the Stickney WRP can treat that volume in one minute.

 ${\it FIGURE~2-15~Biosolids~and~Leachate~Treatment~and~Disposal.}$

○ 106-5 RESILIENCE

INTENT

Provide a narrative describing how the project team is meeting the resiliency requirements.

RESILIENCY

Refer to **I08-4** for resiliency related to space conditioning, and **I02-3** for resiliency related to food. We assume we will be treating rainwater capture for irrigation and toilet flushing and that treated rainwater will be acceptable* as drinking/washing water for one week (7 days):

*City of Chicago will not allow treated rainwater for potable uses.

Resilience Metrics - Water							
Occupancy	# Gal/ persons person		Gal/Day	Day/Year	Required for week		
Students	600	2.63	1578.00	7	11,046.00		
Faculty/Staff	78	16	1248.00	7	8,736.00		
Clinic/Staff	5	6	30.00	7	210.00		
Visitors	20	1.5	30.00	7	210.00		
				Total	20,202.00		
Cistern Size					60,000.00		
* 100.4.5							
*see I08-4 for power requirements							

FIGURE 2-16 Water volume required for 7 days

O 106-6 PHOTOGRAPHS

INTENT

Provide photographs of the water systems.



FIGURE 2-17 Day Tank.



FIGURE 2-19 Cistern.



FIGURE 2-18 Mechanical Room.

WT-002 POTABLE WATER USE FOR FARM OPERATIONS

INTENT

Project teams located in jurisdictions that either prohibit non-potable water for irrigation or require higher levels of treatment for irrigation than interior non-potable demands may use potable water for irrigation and instead use non-potable water to offset potable interior demands, provided that they show interior non-potable demands (e.g., process water, toilet flushing, or laundry) equal or exceed that of irrigation demands.

FARM IRRIGATION

We were unable to use our site rainwater for farm operations as the City of Chicago will not allow harvested rainwater for edible crop irrigation.

Once the farm operator is fully on board, we plan to appeal to the State of Illinois to disconnect the farm irrigation from the city water and we have designed the piping with "T"'s to easily change the farm irrigation from City water to Rainwater.

Refer to **Appendix W-D** for water reduction design and performance calculations and drawings with the installed site rainwater pipe route to farm operations pipe outflow.

Refer to **105-1** for the water balance calculations.

*In Illinois, farm operators (outside the City of Chicago) are required to follow the Generally Accepted Practice (GAP) standards for crop irrigation. The GAP standards allow site harvested rainwater with testing.

WT-003 MUNICIPAL WATER SUPPLY FOR POTABLE SOURCES

INTENT

If health or utility regulations require a project to use municipal potable sources, it is allowed, but only for potable uses including sinks, faucets, janitorial uses, and showers.

POTABLE USES

The City Chicago Department of Water Management would not allow AGC to utilize treated harvested rainwater for potable uses. After numerous calls from the plumbing inspector to the water commissioner, we were unable to persuade the city to bend on this rule Municipal Code of Chicago 11-12-060. Please note these conversations were happening during the pandemic so in person meetings were impossible to schedule.

TIMELINE

August 2020 - Letter sent to the Commissioner
October 2020 - Meeting with City (Virtual)
May 2021 - Design Development Starts
July 2022 - No Response, Received after Various Emails
(See **Appendix W-E** for the emails)

Excerpt from Municipal Code of Chicago

11-12-060 Private persons supplying water.

No person, whether owner or occupant, or in possession, charge or control of any building, structure or premises into which water service is introduced or to which water is supplied through the Chicago Waterworks System, shall be allowed to supply other persons or families, or to supply any water from such building or premises to a building, structure or premises other than the one for which such water service is introduced, unless a permit from the Commissioner shall first have been secured.

If any person, either as owner or occupant, or in possession, charge or control of any such building, structure or premises, violates any of the provisions of this section, the supply of water to the building, structure or premises of such person shall be shut off and stopped forthwith, and any amount which shall have been paid for water service shall be forfeited to the City. Where the water service shall be cut off for a violation of the provisions of this section, it shall not be turned on again until either: (1) there shall have been paid to the City such sum of money as the Commissioner shall deem properly due for the amount of water furnished or used in violation of the provisions of this section, and until the expense for cutting off the water service on account of such violation shall have been paid; or (2) the owner or occupant enters into an approved payment plan with the Department of Finance for said amounts. (Prior code § 185-6; Amend Coun. J. 12-4-02, p. 99026, § 1.12; Amend Coun. J. 7-20-22, p. 50569, § 4)

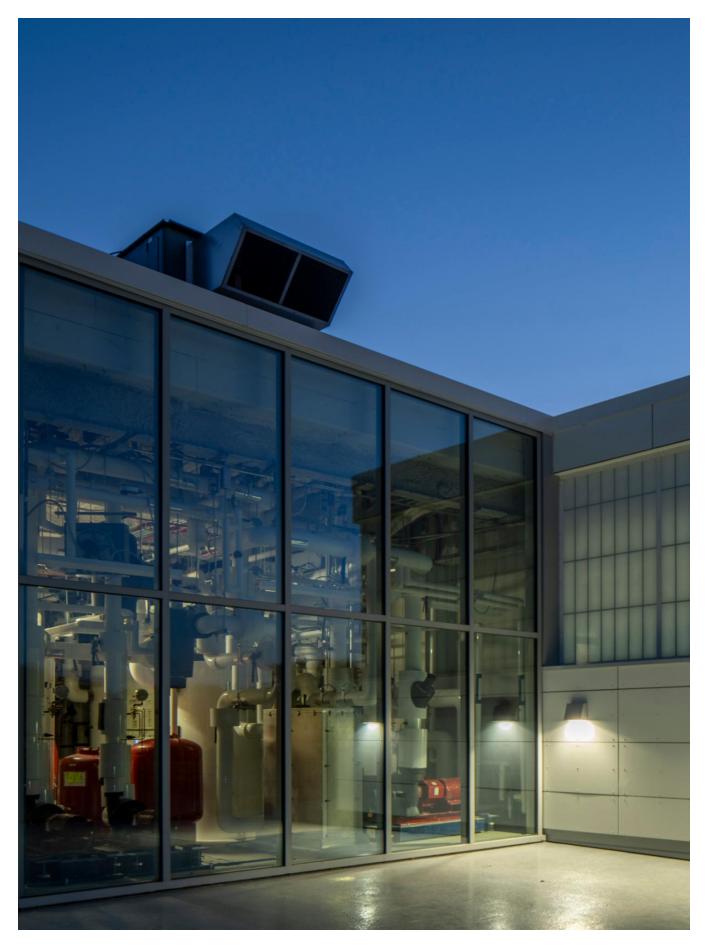
WT-004 MUNICIPAL WATER SUPPLY FOR FIRE PROTECTION

INTENT

A dedicated connection to a municipal water supply is allowed for fire protection systems.

FIRE PROTECTION

The Chicago Fire Department requires City provided water for Fire Protection. The service is piped directly off the main water service before the meter as is typical for installations of this type in Chicago.





INTRODUCTION

07 - ENERGY & CARBON REDUCTION

- 107-1 Energy Narrative & Schematic Drawing
- 107-2 Energy Use Data
- 107-3 Energy Tracking Tables
- 107-4 Embodied Carbon Reduction Documentation
- 107-5 Embodied Carbon Data
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08 - NET POSITIVE CARBON

- 108-1 Energy Performance Documentation
- 108-2 Sub-metering Documentation
- 108-3 Carbon Offset Documentation
- 108-4 Resilience Strategy Documentation

APPENDICES

- E-A Electrical Riser and Sub-Meter Diagrams
- E-B Embodied Carbon Data- Primary Structure
- E-C Embodied Carbon Data Interior Materials
- E-D Carbon Offsets
- E-E AGC Resiliency Analysis
- E-F Solar Radiation Studies
- E-G Baseline and Proposed Energy Use Reports



^{*} I07-6 is superseded by I08-1

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OINTRODUCTION

THE ENERGY PETAL

The Academy For Global Citizenship (AGC) addresses the 2 main tenets of the Energy Petal by achieving Net Zero Site Energy and reducing carbon emissions related to construction.

BACKGROUND

AGC is located in Climate Zone 5A with a design temperature of 5 Deg F for heating and 86 Deg F for cooling. The average annual precipitation is 35 inches, and annual solar radiation average of 1200 Btu/h/ft².

CARBON REDUCTION

As it relates specifically to energy, some of the key drivers were, what is the total incident solar radiation available to establish an energy "target", what is the optimum envelope configuration both from a performance (R-value) and configuration (Area), and what is the most efficient space conditioning system. The two story design, embedded in a constructed berm, for this occupancy, in this climate zone a good balance between envelope losses due to reduced facade area and usable interior floor space. The facade, especially the glazing is tuned to its orientation to reduce "hot spots" on the interior. The envelope also was constructed to reduce air leakage as well as all major thermal bridges were "broken" utilizing low conduction materials. The low temperature radiant space conditioning system was

de-coupled from the ventilation loads. This allowed the radiant system to utilize all very efficient liquid to liquid energy transfer. Additionally, on mild days the system can still run the radiant system while the mechanical ventilation is off and ventilation is provided naturally. See **107-1** for more details.

COMMERCIAL KITCHEN CHALLENGES

It is important to note, that AGC has a full commercial kitchen which with its high energy loads, both for food preparation and ventilation, added to the challenge of meeting Net Zero Energy.

RENEWABLE ENERGY GENERATION

Net Zero site energy is achieved with a combination of roof and ground mounted photovolatics panels. This array is complimented by a site mounted battery that can be utilized to both load shift and provide back up power.

EMBODIED CARBON

Embodied carbon was reduced through specification of low carbon alternatives to typical assemblies or standard construction. Products such as low carbon concrete, 40% reduction, rigid insulation 80%, and gypsum board 20% were used. The remainder of carbon utilized in the design was offset with Carbon Offsets.

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O 107-1 ENERGY NARRATIVE & SCHEMATIC DRAWING

INTENT

Describe the space conditioning system.

INTRODUCTION

The Academy for Global Citizenship aims to foster systematic change and holistic learning through the development of a new, replicable model for 21st century learning on a net-positive energy campus. Community engagement, earth stewardship, connection to nature, nutrition, and agriculture are central to the educational mission of AGC, to empower all students to positively impact the community and world.

To achieve these ambitious goals for sustainability and energy efficiency, the team first established a baseline based on similar buildings EUI's, expected operational occupancy and hours, and available solar radiation. See **Appendix E-F** and **Appendix E-G**, for the Zero

Report, Initial Solar radiation analysis, and current Energy Modeling Report. The result is a building with an estimated EUI of 28.99.

OPTIMIZED BUILDING ENVELOPE

The project team focused first on passive design strategies, with building massing studies during conceptual design and optimization of the building envelope to ensure minimal thermal losses. The final envelope includes state-of-the-art thermal performance for windows (ranging from U-0.33 to U-0.17), a reasonable 25% window-to-wall ratio which maximizes the natural light in the desirable occupied areas, well insulated and thermally broken wall types (R-35 and R-49), and an R-68 roof. This high-performance building envelope reduces the HVAC loads, even during extreme weather conditions, is critical to achieving passive survivability goals.

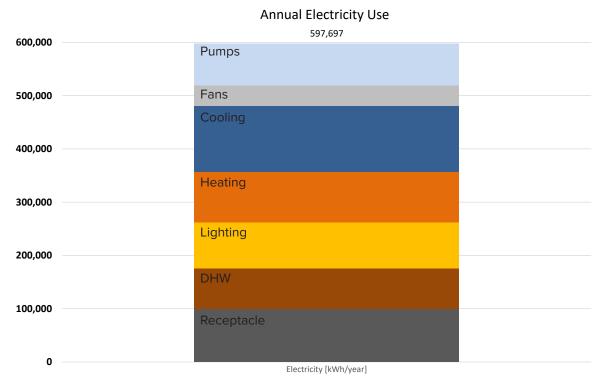


FIGURE 3-01 Annual Electricity Use Graph.

MECHANICAL SYSTEM

The next step in reducing energy consumption included HVAC system comparisons and parametric energy modeling to determine the most efficient overall design strategies. The mechanical system focuses on heat recovery strategies. First, the space conditioning and ventilation are decoupled. The dedicated outdoor air units are equipped with premium exhaust air energy recovery for fresh air and dehumidification. Space conditioning is provided via a radiant floor slab for heating and cooling, provided by a ground-source heat recovery chiller. This chiller recovers otherwise 'waste' heat from the chilled water process and utilizes it directly in spaces which need heating – allowing efficient heat transfer between spaces – while the geo-exchange loop allows for seasonal heat storage. The building relies entirely on 50 geo-exchange wells for its heat source and does not require a backup boiler. A supplemental heat recovery loop in the parking lot surface helps to balance the heating and cooling loads throughout the year.



FIGURE 3-02 Heat Pump Hot Water Heater.

SUB-METERING

Although the building is designed to achieve a 70% energy reduction from similar building types and a netpositive energy usage, a critical component to realizing these goals are energy metering and calibration. Behind the single utility meter, the lighting, receptacle, mechanical and plumbing equipment is fed from dedicated panel boards provided with digital meters. This provides sub-metering for the building's major systems. Refer to the included electrical metering riser for details.

BUILDING AUTOMATION SYSTEM (BAS)

The building automation system monitors and tracks each of the digital sub-meters, the electric utility meter, and the electricity produced by the solar photovoltaic array. The BAS also monitors each piece of HVAC equipment, including the heating and cooling energy used.

This information is trended and calibrated with an alarming system so that any issues with the HVAC equipment will be quickly identified, mitigating inefficient operation. The BAS feeds real-time data to the energy signage, monitors and interactive dashboards in the building so that staff, students, and the visiting public can understand how much energy is being produced or used at a given time.

NET ZERO

The building has large roof-mounted and groundmounted solar photovoltaic arrays, sized to produce more electricity than the building uses throughout the year. The solar arrays have a combined capacity of 521.1 kW, and are designed to produce 691,089 kWh annually.

Additionally, the photovoltaics are coupled with a Battery Energy Storage System (BESS) to optimize energy consumption from renewable resources and to provide standby power in the event of a power outage with limited functions for up to one week. This system is also capable of shifting the load profile of the building's

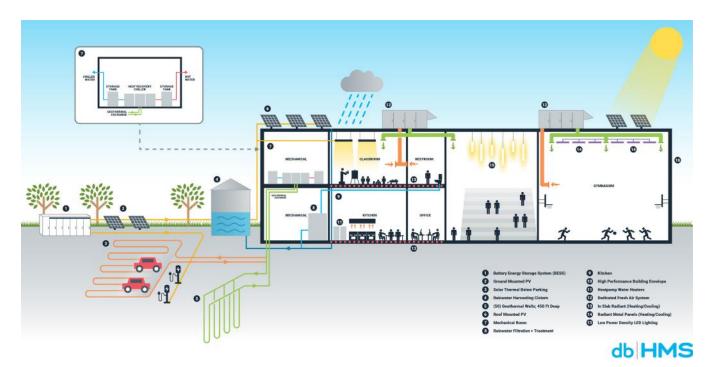


FIGURE 3-03 Energy Systems Schematic

electrical consumption and minimizes peak demand. Please see **108-04** for information on the battery.

FOOD SERVICE/KITCHEN

One key operational area which traditionally challenges the project's sustainability goals are the food service areas, including the main kitchen for the cafeteria, teaching kitchens for each village (set of classrooms), and the café which is intended to serve takeaway coffee and snacks to the public. The design team worked closely with the owner and kitchen consultants to establish the design operation assumptions and select energy efficient kitchen equipment. Contrary to typical practice, all of the kitchen equipment is electric. There is no natural gas on the project and no natural gas connection provided to the building. The exhaust hoods for the kitchen are variable volume to reduce energy use, and waste heat from the cooking process is recovered by the domestic heat pump water heaters to make hot water.

DOMESTIC HOT WATER

All the domestic hot water is generated via heat pump hot water heaters that are located directly in the kitchen. This has the benefit of providing both space cooling and additional dehumidification, which is critical for a radiant system in the humid summer months to prevent condensation on the cool surfaces.

ANTICIPATED NEEDS AND OPERATIONAL ISSUES

Achieving net zero energy requires testing and verification. The building systems are commissioned ensuring these are operating as designed. An additional level of verification is conducted over an extended period to validate assumptions including energy use for various end uses. Electrical metering provides measured data and is analyzed to ensure each end use is within an estimated range. This requires adjustments to building operations where necessary if these exceed in certain areas. Examples of these include cooking activities, periodic events, and space temperature adjustments that improve overall building energy use.

LESSONS LEARNED

Some lessons learned on the Academy for Global Citizenship relate to the building systems. The rainwater harvesting system requires substantial storage outside of the building. There is an insulated cistern located outside of the building footprint that requires an immersion heater in the local climate. Additional energy production was provided to compensate for the electrical consumption of the heater. The geothermal well field has a total of 50 wells placed in a 10 x 5 grid. Each grouping of 10 wells required valves onsite to allow these to be individually isolated for air removal. Removal

of air in geothermal systems require running the system at high pressure to assist with air removal. Isolating multiple circuits facilitate this.

CONCLUSION

If the building is constructed and operated in accordance with the design documents and design operation assumptions, the building will meet net positive energy performance. Operations are key to net positive energy success. To assist with tuning the building operations, the MEP design engineers will review the BAS data and identify corrective actions for 18 months after substantial completion. This is in addition to the Monitoring Based Commissioning services provided by the Commissioning Agent during the performance period.



FIGURE 3-04 Battery Energy Storage System.

107-2 ENERGY USE DATA

INTENT

Provide twelve months of performance data.

DATA		
	FINAL AUDIT (EXPECTED OCTOBER 2025)	

FIGURE 3-05 12-Months Energy Performance Data

107-3 ENERGY TRACKING TABLES

INTENT

Provide twelve months of performance data.

FINAL AUDIT
(EXPECTED OCTOBER 2025)

FIGURE 3-06 Energy Sub-metering Tracking Table.

TABLE

FINAL AUDIT (EXPECTED OCTOBER 2025)

 ${\it FIGURE~3-07~Energy~Production~and~Demand~Table}.$

O 107-4 EMBODIED CARBON REDUCTION DOCUMENTATION

INTENT

Describe the strategies used to reduce embodied carbon.

EMBODIED CARBON

The Academy for Global Citizenship (AGC) project reduced embodied carbon in both the primary structure and the interior elements in the following ways:

PRIMARY STRUCTURE.

Although AGC is a charter school, we compared it to a baseline construction typical of a Chicago Public School (CPS), which generally includes a concrete foundation, brick cavity walls with load bearing concrete block backup for the exterior wall, a steel frame structure with concrete floors on metal deck, and a single ply roof membrane on rigid insulation. By optimizing our steel framing (See Figure 3-09), using low-carbon concrete, and a high-performance, low-carbon fiber cement wall system, we were able to reduce the Global Warming Potential (GWP) of the primary structure by about 36%, measured in Carbon Dioxide Equivalent (CO₂e).

CALCULATIONS

To determine the embodied carbon for the baseline. we used Environmental Product Declarations (EPDs), which report the amount of embodied carbon per functional unit of a material. By applying these values to the quantities of materials typically used to actually construct this building typology, we calculated the total embodied carbon of a typical Chicago Public School. When EPD data was unavailable—most commonly for A4-A5 stages—we used the Athena Impact Estimator for Buildings to fill in the gaps. To find the embodied carbon for AGC, we relied on the Athena tool to provide us with the A1-A5 data that represents the impact of the materials, and the quantities used to build AGC from cradle to grave, including waste. Comparing the results, we found that our design achieved a 36% reduction in Carbon Dioxide Equivalent (CO2e). For a summary calculation, see Figure 3-10, and refer to Appendix E-B for supporting data, including EPDs and life cycle assessment (LCA) summaries from Athena.



FIGURE 3-08 Recycled sub-base (crushed concrete)

INTERIOR MATERIALS

The interior materials used were typical of commercial construction, but we reduced embodied carbon by selecting low-carbon products within each category. Key contributors to the interior's embodied carbon included acoustic ceiling tiles (ACT), wood doors, and gypsum board assemblies. However, as this type of data is still relatively new, we struggled to find embodied carbon on some materials including the metal hanging system for the ceiling tiles so these items are not included in our report. In addition, the floor finishes (except the Gym floor and tiled bathrooms) consisted of polished concrete and the same low-carbon concrete used in the foundation was also used for the slabs; therefore, the associated carbon reduction was accounted for in the foundation calculations. To calculate the embodied carbon here, we used the same methodology as for

the primary structure, relying on Environmental Product Declarations (EPDs) and the Athena Impact Estimator for Buildings. For summary results, see Figure 3-11, and refer to Appendix E-C for supporting data, including EPDs and life cycle assessment (LCA) summaries from Athena.

Please note, that all the embodied carbon calculations include transportation of materials to the site (Scope A4) and the on-site construction and installation processes (Scope A5).

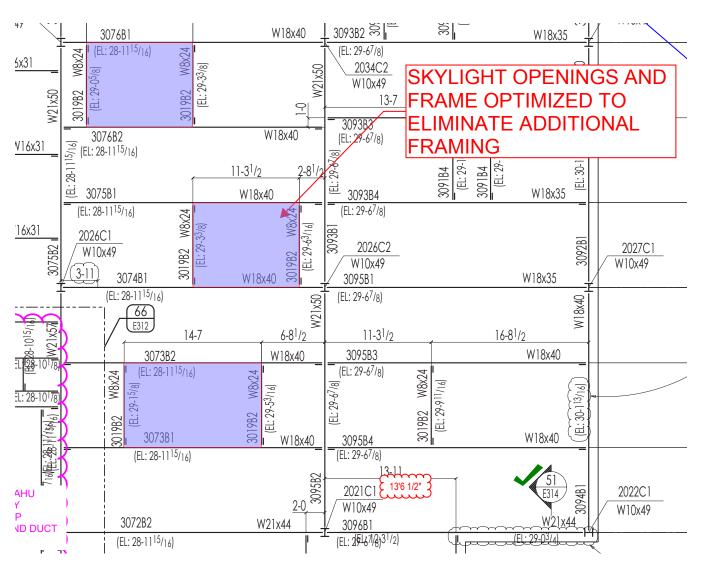


FIGURE 3-09 Example of Framing Optimization

O 107-5 EMBODIED CARBON REDUCTION DATA

INTENT

Provide calculations and back up data for embodied Primary Structure and Interior materials carbon calculations. Calculate through A1 through A5 scopes.

	Baseline							Proposed						
		Functional				GWP			Functional			Actual GWP		
Assembly	Baseline Material	Unit	Quantity	Units	A1-A3 (Kg)	A4-A5 (Kg)	Total (MT)	Actual Material	Unit	Quantity	Units	A1-A3 (Kg)	A4-A5 (Kg)	Total (MT)
Substructure														
Foundations & Slab on Grade	Concrete - 4000 psi	YD3	1,533	YD3	336000	52100	194.050	Concrete - 4000 psi *	YD3	1,533	YD3	134400	20840	77.62
	Insulation - XPS	SF @ 1"	153,352	SF @ 1"	73700	3,920	38.810	Insulation - XPS	SF @ 1"	153,352	SF @ 1"	73700	3920	38.81
	Coarse Aggregate (virgin)	Tons	57.6	Tons	362	638	0.500	Coarse Aggregate (salvaged)	Tons	57.6	Tons	357	638	0.49
	33 3 (3)							33 3 (3 /				-		
Wider Foundations														
for Masonry	Concrete - 4000 psi	YD3	126	YD3	27600	4280	15.940	n/a						
Structure														
Columns & Framing	Wide Flange Steel	Tons	374	Tons	327000	50800	188.900	Wide Flange Steel	Tons	374	Tons	327000	50800	188.90
								Weight Reduction from full-bay Skylights	Tons		Tons	9630	1500	-5.56
										()				
Second Floor	Concrete - 4000 psi	YD3	812	YD3	178000	27600	102.800	Concrete - 4000 psi	YD3	812	YD3	71200	11040.00	41.12
	Metal Decking	Tons	35	Tons	71400	3960	37.680	Metal Decking	Tons		Tons	71400	3960	37.68
	Insulation - XPS	SF @ 1"		SF @ 1"	940	52.5	0.496	Insulation - XPS	SF @ 1"	1,956	SF @ 1"	940	52.5	0.49
Roof Structure	Metal Decking	Tons	46	Tons	93800	5200	49.500	Metal Decking	Tons	46	Tons	93800	5200	49.50
Envelope														
Exterior Walls	Brick Cladding	SF	23,400	SF	50300	8240	29.270	Fiber Cement Panel	SF	23,400	SF	19300	3180	11.24
	Insulation - XPS	SF @ 1"	187,200	SF @ 1"	89900	4790	47.345	Insulation - Mineral Wool	SF	187,200	SF	15600	2650	9.12
	Gyp Bd - 5/8" - Exterior Sheathing	0.5						Gyp Bd - 5/8" - Exterior Sheathing	0.5	00.100		44000		
	System Metal Stud Framing - 6" Studs @	SF	23,400	SF	11800	2830	7.315	System Metal Stud Framing - 6" Studs @	SF	23,400	SF	11800	2830	7.31
	16" Spacing	SF	23,400	SF	71000	5780	38.390	24" Spacing	SF	23,400	SF	71000	5780	38.39
	Insulation - Closed Cell Spray Applied	CE @ 4"	70,661	SF @ 1"	26900	2000	14.450	Insulation - Open Cell Spray Applied	CF @ 4"	70 200	SF @ 1"	6700	538	3.61
	Аррнеи Gyp Bd - 5/8"	SF @ 1" SF		SF @ I	11800	2830	7.315	Gyp Bd - 5/8"	SF @ 1" SF	23,400		11800	2830	7.31
	Gyp Bd - 3/6	or .	23,400	or.	11000	2030	7.313	Gyp Bu = 3/6	or_	23,400	SF	11000	2030	7.31
	Translucent Façade - Kingspan							Translucent Façade - Kingspan						
Translucent Façade	Uniquad	SF	1,718	SF	32288	2704	17.496	Uniquad	SF	1,718	SF	32288	2704	17.49
	Curtain Wall - Aluminum - Triple							Curtain Wall - Aluminum - Triple						
Curtainwall	Glazed	SF	3,856	SF	45600	804	23.202	Glazed	SF	3,856	SF	45600	804	23.20
	TPO roofing membrane, 60 mils,							TPO roofing membrane, 60 mils,						
Roof	white	SF	38,691	SF	14000	906	7.453	white	SF	38,691	SF	14000	906	7.45
			25,001	-	11000		7.100	Insulation - Polyiso (Non-		20,001		11000	000	7.10
	Insulation - XPS	SF @ 1"	425,601		258000	13700	135.850	Halogenated)	SF @ 1"		SF @ 1"	84700	5950	45.32
	Gyp Bd - 5/8"	SF	116,073	SF	58500	14000	36.250	Gyp Bd - 5/8"	SF	116,073	SF	58500	14000	36.25
						(Metric							Total GWP	
						Tons of							(Metric Tons	
						CO2e)	993.012						of CO2e)	635.78

% Reduction 35.97%

Interior Materials Embodied Carbon Calculations											
	Industry Standard				ry Standard		Proposed				
Material	Functional Unit	Quantity Used in Project	Unit	Report #	A1-A3 (kg)	A4-A5 (kg)	Total (Metric Tons)	Report #	A1-A3 (kg)	A4-A5 (kg)	Total (Metric Tons)
TYPE 1 - 2' x 2' ACT Tiles	1 sf	18111.0	sf	Int-1B	6302.63	671.92	3.49	Int-1S	4310.42	1079.42	2.69
TYPE 4 - 2' x 2' ACT Tiles	1 sf	231.0	sf	Int-2B	97.94	12.50	0.06	Int-2S	51.74	14.28	0.03
Gypsum Board 5/8"	1 sf	175853.0	sf	Int-3B	48712.47	14507.87	31.61	Int-3S	34115.48	14507.87	24.31
Gym - Wood Flooring	1 sf	4884.0	sf	Int-4S	4443.42	2087.18	3.27	Int-4S	4443.42	2087.18	3.27
Gym - Plywood SubFloor	1 sf	4884.0	sf	Int-9B	99513.09	28600.00	64.06	Int-9S	680.60	28600.00	14.64
Bathroom - Ceramic Tile (Salvaged)	1sf	200.0	sf	Int-8B	17001.11	59.46	8.53	Int-8B	0	59.46	0.03
Interior Curtain Wall	1 sf	9975	sf	Int-5S	162172.52	2080.00	82.13	Int-5S	126031.22	2080.00	64.06
Hollow Metal Doors	1 Ea.	24	Ea.	Int-6B	10128.00	157.44	5.14	Int-6S	3360.00	157.44	1.76
Wood Doors	1 Ea.	84	Ea.	Int-7B	30030.00	551.04	15.29	Int-7S	6594.00	551.04	3.57
						Total GWP (Metric Tons				Total GWP (Metric Tons	
						CO2e)	213.56			CO2e)	114.36

FIGURE 3-11 Embodied Carbon Interior Materials Reduction Calculations.

107-7 PHOTOGRAPHS

INTENT

Provide photographs of the energy systems, and any critical and hidden materials for embodied carbon reductions.



FIGURE 3-12 Radiant Tubing before Concrete Floor



FIGURE 3-14 Radiant Tubing Manifold



 ${\it FIGURE~3-13~Our~Direct~Outdoor~Air~System}.$



FIGURE 3-15 Geothermal well field install.



FIGURE 3-16 Thermally broken steel detail.



FIGURE 3-17 Detail of Radiant Tubing.

O IO8-1 ENERGY PERFORMANCE DOCUMENTATION

INTENT

Describe how the project achieves Net Zero Energy.

NET ZERO ENERGY

Reference the narrative for **IO7-1** above for information on the measures and systems employed in getting the Academy for Global Citizenship to net-positive.

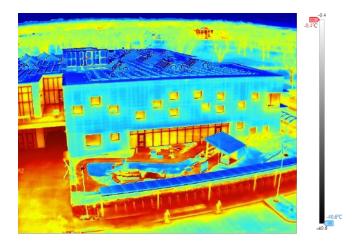




FIGURE 3-18 Geo Thermal Image.

FIGURE 3-19 PV Array.

108-2 SUB-METERING DOCUMENTATION

INTENT

Describe the project sub-metering.

SUB-METERING STRATEGIES

Please reference the narrative for **IO7-1** above for information on our sub-metering strategies.

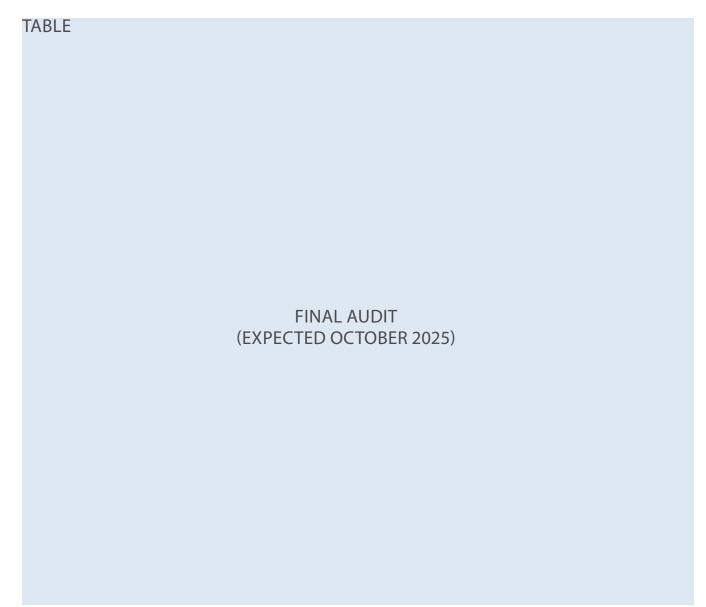


FIGURE 3-20 Energy Sub-Metering Tracking Table.

108-3 CARBON OFFSET DOCUMENTATION

INTENT

Provide the calculations and data for the procurement of Carbon Offsets

EMBODIED CARBON OFFSETS

Based on the embodied carbon calculated in 107-4 & 107-5, the project needs to purchase Carbon Offsets in the following amounts:

Primary Structure 635.78 MT CO2e Interior Materials 114.36 MT CO2e

Total Required 750.25 MT CO2e

Total Purchased 752.00 MT CO2e

These totals include the impacts from construction (Scopes A4 & A5) as detailed in 107-4 and 107-5.

Please see receipt in Appendix E-D.



Ø 108-4 RESILIENCE STRATEGY DOCUMENTATION

INTENT

Describe the resilience strategy.

RESILIENCY

The Academy for Global Citizenship has a full resilience program. See the **102-3** and **106-5** narratives around food and water.

SCENARIOS

The Academy For Global Citizenship (AGC) looked at two likely disaster scenarios for the Chicago area a winter week (7 days) with no power or a summer week (7 days) with no power.* See **Appendix E-E** for the full report.

*Please note, these are hypothetical situations, as if there was no power, the City of Chicago would not allow the school to be open for students, as the fire pump would not be functional, and the building could not be occupied.

Battery Capacity and Charge vs Time

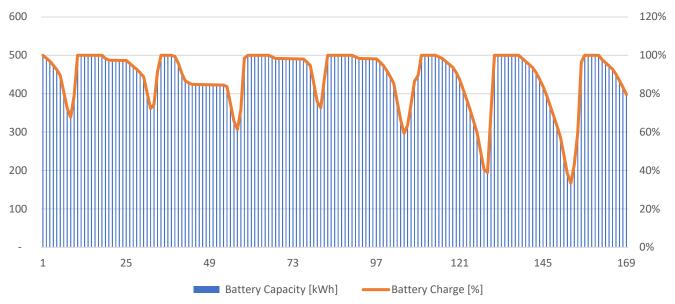
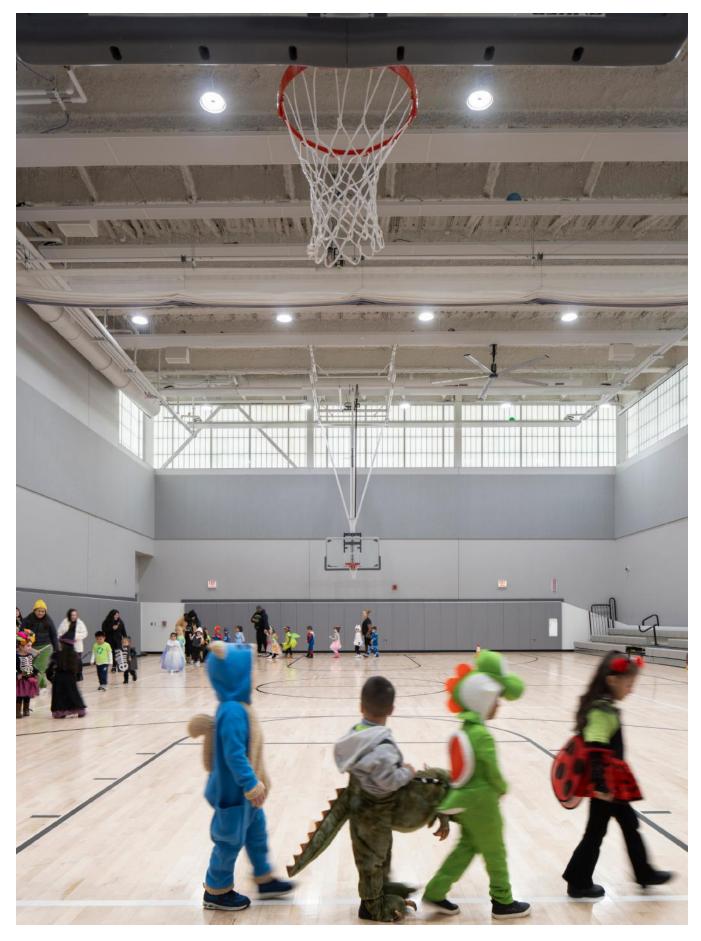


FIGURE 3-22 AGC Battery Capacity & Charge vs Time.

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HEALTH & HAPPINESS

INTRODUCTION

09 - HEALTHY INTERIOR ENVIRONMENT

- 109-1 HVAC Documentation
- 109-2 No-Smoking Documentation
- 109-3 Healthy Indoor Environment Plan (HIEP)

10 - HEALTHY INTERIOR PERFORMANCE

- I10-1 IAQ Testing Results
- I10-2 Photographs
- I10-3 CDPH Compliance Documentation
- I10-4 EPA Safer Choice-Labeled Product
- I10-5 Access to Daylight Documentation
- **I10-6** Occupant Control Strategy

11 - ACCESS TO NATURE

- I11-1 Narrative
- I11-2 Plans & Diagrams
- I11-3 Calculations
- I11-4 Photographs
- I11-5 Post Occupancy Evaluation

APPENDICES

- H-A Mechanical Ductwork Plans
- H-B Healthy Indoor Environment Plan
- H-C Request for Ruling: Access to Daylight
- H-D Daylighting Exhibits
- H-E Mechanical Filters



^{*} I09-4 is superseded by I10-5

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INTRODUCTION

INTRODUCTION

The Health and Happiness Petal has three imperatives and is further broken down into fifteen requirements, summarized in two principal tenets: 1. Provide a healthy interior and 2. Provide access to nature throughout the design.

Research has shown that a connection to nature has a direct effect on people's productivity, creativity and ability to counter stress. Ensuring healthy environments does not rely just on the moment that the building is open, it requires continuous monitoring and diligence to ensure that alterations to systems over time do not diminish people's health.

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IO9-1 HVAC DOCUMENTATION

INTENT

Provide a statement from the Design Engineer that 1. The project complies with ASHRAE 62 and 2. Show exhaust at all kitchens, bathrooms, and janitorial closets.

DOCUMENTATION

See Appendix H-A for the statement from the Design Engineer and an annotated plan showing the mechanical ductwork.

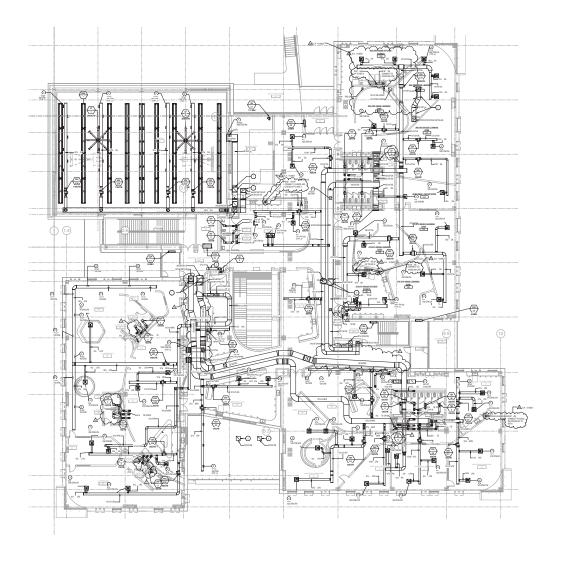


FIGURE 4-01 Duct Work Documentation.

9

109-2 NO-SMOKING DOCUMENTATION

INTENT

Prohibit smoking within and around any buildings.

THE POLICY

Being both a school and a health clinic, the building has a no smoking policy indoors and on the grounds. The no smoking policy is conveyed to the building occupants in several ways. For the students and staff it is part of the school orientation and policy, for visitors it is wall mounted signs and general familiarity with State and City law banning smoking indoors.

See the page below extracted from the Academy for Global Citizenship Staff Handbook, dated 01/2024 and Figures **4-03** and **4-04** for the signage.

The following behaviors will not be tolerated and will be grounds for immediate discipline, up to and including immediate termination.

- Using any non-prescribed controlled substance or using prescribed medication inappropriately.
- Using, possessing, distributing or transmitting illegal chemical substances and/or unauthorized alcoholic beverages.
- Using glue, aerosol or other chemical substance for inhalation.
- Using any intoxicant or mood-changing, mind-altering or behavior-altering drugs.

Drug and Alcohol Free Workplace

Alert and rational behavior is required for the safe and adequate performance of job duties at the Academy for Global Citizenship. Therefore, working after the apparent use of alcohol, a controlled substance and abuse of any other substance is prohibited.

Tobacco Free Workplace

In order to promote the general health, welfare, and wellbeing of students and staff, smoking chewing, or other use of tobacco product by students, staff, and members of the public shall be banned from all school property.

15



FIGURE 4-03 No Smoking signs at South door



FIGURE 4-04 No Smoking signs at East door

109-3 HEALTHY INDOOR ENVIRONMENT PLAN (HIEP)

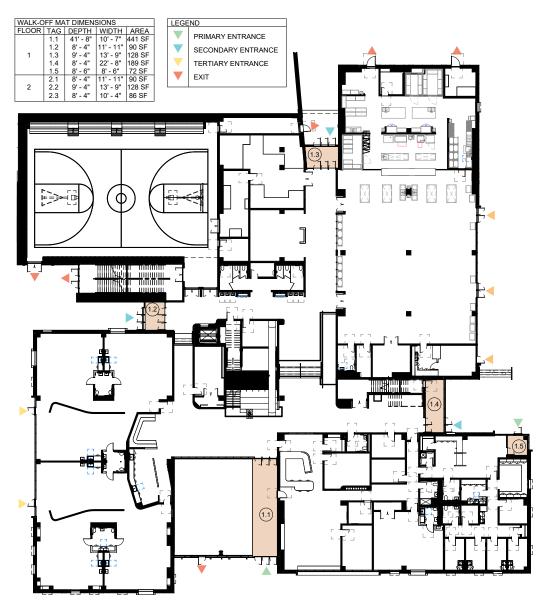
INTENT

Develop a Healthy Indoor Environment Plan. The plan must address cleaning protocols, the prevention of particulates and toxins through an entry approach and implementation of at least one strategy to improve air quality.

PLAN & IMPLEMENTATION

The Healthy Building Plan has two main parts: built strategies and operational strategies.

The built strategies include walk off mats (see **Figures 4-05** & **4-06**), Merv 13 filters (see **Sheet M.500**)



 ${\it FIGURE~4-05~Healthy~Indoor~Environment~-~First~Floor~Plan}.$

Appendix H-E, and direct exhaust of storage rooms and restrooms (sheets M.100, M.101, and M.102) see **Appendix H-A**.

For operational strategies, the Academy has implemented a Healthy Indoor Environment Plan (**Appendix H-B**), a no smoking policy (see Figures **4-03** & **4-04**), and CO2 sensors (CO2 being the signature molecule for stale air) along with a RESET IAQ monitoring system, see **I10-2**. The HIEP also specifies EPA Safer Choice, UL Ecologo, or Green Seal products, outlines procedures and protocols, and provides for record keeping and responsibilities for cleaning.

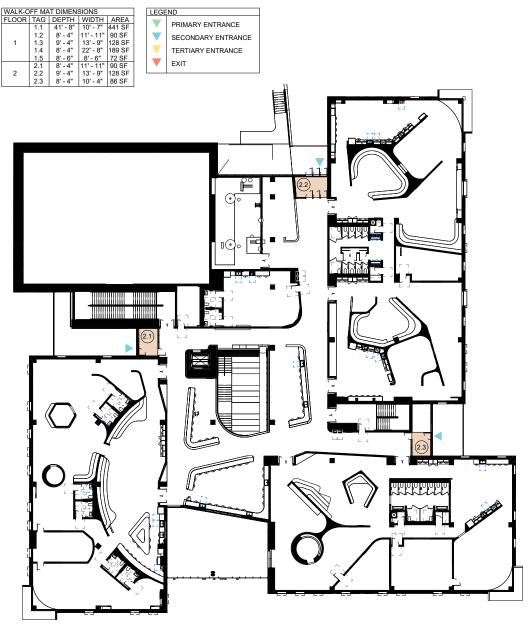


FIGURE 4-06 Healthy Indoor Environment - Second Floor Plan.

OUTPOUR SETTING RESULTS

INTENT

Provide the results from an Indoor Air Quality test one to six months after occupancy, or provide readings from an ILFI-approved continuously monitored indoor air quality system.

TEST RESULTS		
	FINAL AUDIT (EXPECTED OCTOBER 2025)	

FIGURE 4-07 Test Results.

I10-2 PHOTOGRAPHS

INTENT

Provide photographs that document the installation of any monitoring equipment that may not be easily visible at the time of the audit site visit.



FIGURE 4-09 IAQ Sensor at the Academy for Global Citizenship.

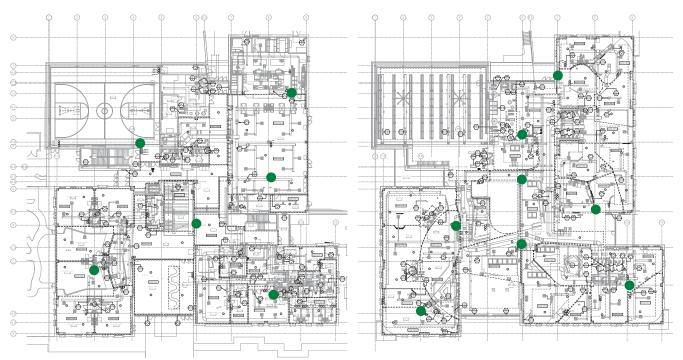


FIGURE 4-08 IAQ Sensor Locations, First Floor (Left) & Second Floor (Right).

I10-3 CDPH COMPLIANCE DOCUMENTATION

INTENT

Comply with the CDPH Standard Method v1.1-2010 for 90% of interior building products that have the potential to emit volatile organic compounds (VOCs).

EXCEPTIONS

We have documented six exceptions to the CDPH emissions criteria. These are accounted for in Figure 4-08.

COMPLIANCE

Here is an excerpt from Division 03 - Concrete. Please see the MTT Product Tracker for the complete list of items.

CDPH Calculations								
total dollar value of rpoducts applicable to								
CDPH	\$1,773,327.63							
Allowable Dollar Value to be non-compliant		\$177,332.76	10%					
10%		\$1/7,332.76	10%					
Dollar Value of Non-Compliant		\$140,867.99	8%					
Products		\$140,867.99	0%					

FIGURE 4-10 CDPH at the Academy for Global Citizenship.

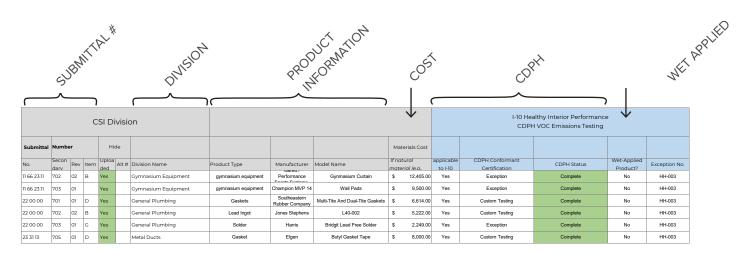


FIGURE 4-11 HH-003 Exception at the Academy for Global Citizenship.

INTENT

Comply with the CDPH Standard Method v1.1-2010 for 90% of interior building products that have the potential to emit volatile organic compounds (VOCs).

COMPLIANCE

Here is an excerpt from Division 03 - Concrete. Please see the MTT Product Tracker for the complete list of items.

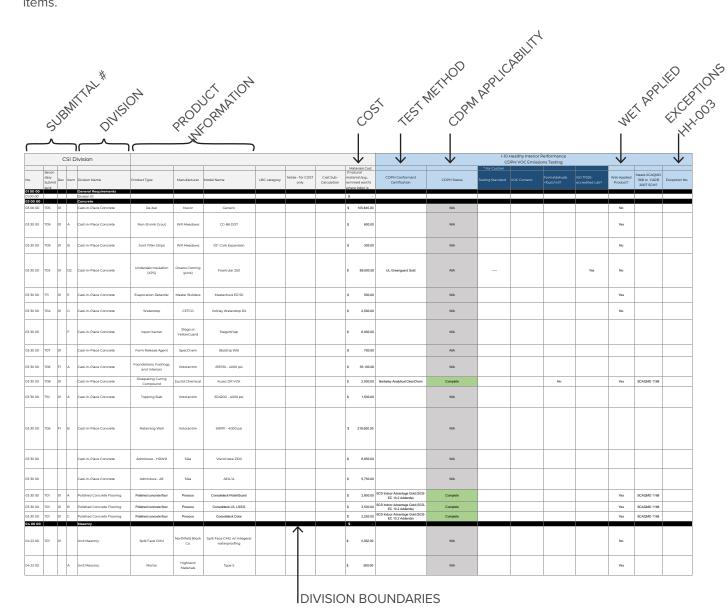


FIGURE 4-12 IAQ Sensor at the Academy for Global Citizenship.

I10-4 EPA SAFER CHOICE-LABELED PRODUCT

INTFNT

Implement a cleaning protocol that uses cleaning products that comply with the EPA Safer Choice Label.

COMPLIANCE

Excerpts from AGC operations manual.



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GREEN CLEANING POLICY

The policy is to take effect immediately and shall continue indefinitely or until amended and/or replaced by a subsequent green cleaning policy and program. While some outstanding contracts may prevent building operations and maintenance personnel from immediately abiding by certain policy requirements, those responsible for cleaning service contracts will ensure that new policy language is included in all subsequent contracts.

5. Performance Metrics

Performance will be measured through annual reviews with ______ and review of the AGC Green Cleaning Policy Log.

6. Procedures and Strategies

A. CLEANING PRODUCTS

PERFORMANCE METRICS AND MEASUREMENT

The practices listed below shall be implemented, to the extent possible, with a target goal of at least 30% of products complying, based on cost. The Property Management Team shall track purchase rates of both compliant and noncompliant products in _____

Product types subject to these requirements include, but are not limited to, bio-enzymatic cleaners, hard-floor cleaners, carpet cleaners, general-purpose cleaners, specialty cleaners, odor control, disinfectants, disposable janitorial paper products and trash bags, and hand

The cleaning products meet one or more of the following standards for the appropriate category:

- Green Seal GS-37, for general-purpose, bathroom, glass and carpet cleaners used for industrial and institutional purposes;
- ${\scriptsize \lozenge} \quad \text{ UL EcoLogo 2792, for cleaning and degreasing compounds;} \\$
- ♦ UL EcoLogo 2759, for hard-surface cleaners;
- UL EcoLogo 2795, for carpet and upholstery care;
- Green Seal GS-40, for industrial and institutional floor care products;
- UL EcoLogo 2777, for hard-floor care;
- EPA Safer Choice Standard; and/or
- Cleaning devices that use only ionized water or electrolyzed water and have third-party-verified performance data equivalent to the other standards mentioned above (if the device is marketed for antimicrobial cleaning, performance data must demonstrate antimicrobial performance comparable to EPA Office of Pollution Prevention and Toxics and Design for the Environment requirements, as appropriate for use patterns and

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GREEN CLEANING POLICY

marketing claims).

Disinfectants, metal polish, floor finishes, strippers or other products not addressed by GS-37 or Environmental Choice CCD-110, 146 or 148 shall meet at least one of the following standards for the appropriate category:

- UL EcoLogo 2798, for digestion additives for cleaning and odor control;
- UL EcoLogo 2791, for drain or grease trap additives;
- UL EcoLogo 2796, for odor control additives;
- Green Seal GS-52/53, for specialty cleaning products;
- California Code of Regulations maximum allowable VOC levels for the specific product category;
- EPA Safer Choice Standard; and/or
- Cleaning devices that use only ionized water or electrolyzed water and have third-party-verified performance data equivalent to the other standards mentioned above (if the device is marketed for antimicrobial cleaning, performance data must demonstrate antimicrobial performance comparable to EPA Office of Pollution Prevention and Toxics and Design for the Environment requirements, as appropriate for use patterns and marketing claims).

Disposable janitorial paper products and trash bags meet the minimum requirements of one or more of the following programs for the applicable product category:

- EPA comprehensive procurement guidelines, for janitorial paper;
- Green Seal GS-01, for tissue paper, paper towels and napkins;
- ♦ UL EcoLogo 175, for toilet tissue;
- UL EcoLogo 175, for hand towels;
- $\diamond \hspace{0.5cm}$ Janitorial paper products derived from rapidly renewable resources or made from tree-free fibers;
- FSC certification, for fiber procurement;
- $\Diamond \qquad \text{EPA comprehensive procurement guidelines, for plastic trash can liners; and/or} \\$
- California integrated waste management requirements, for plastic trash can liners (California Code of Regulations Title 14, Chapter 4, Article 5, or SABRC 42290-42297 Recycled Content Plastic Trash Bag Program).

Hand soaps meet one or more of the following standards:

- no antimicrobial agents (other than as a preservative) except where required by health codes and other regulations (e.g., food service and health care requirements);
- Green Seal GS-41, for industrial and institutional hand cleaners;
- UL EcoLogo 2784, for hand cleaners and hand soaps;
- UL EcoLogo 2783, for hand sanitizers;
- EPA Safer Choice Standard.

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FIGURE 4-13 Excerpt from the Healthy Indoor Environment Plan describing the cleaning products used.

I10-5 ACCESS TO DAYLIGHT DOCUMENTATION

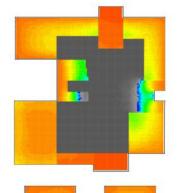
INTENT

Provide plans, diagrams, and calculations showing access to views and daylight for 95% of regularly occupied spaces, as well as a narrative with photos describing how regular occupants of the remaining 5% have the opportunity to move to spaces providing compliant daylight for a portion of their day.

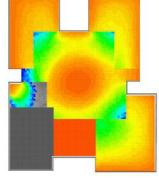
WELL-PLACED WINDOWS & SKYLIGHTS

Through thoughtful window placement and skylights, The Academy for Global Citizenship achieves 95% access to daylight and views as indicated in the attached drawings. Early in the design process when the scheme went to two floors we performed a daylight analysis to ensure that we would still be able to achieve the 95% threshold. See **Appendix H-F**.

We then refined the design utilizing strategies such as skylights, view corridors, and selective area of internal glazing (to external wall glazing) along with window placement. Please see calculations (**Figure 4-14**), photographs, **Appendix H-D**, and Request for Ruling in **Appendix H-C**.



LEVEL 1Spatial Daylight Autonomy



LEVEL 2
Spatial Daylight
Autonomy

 ${\it FIGURE~4-15~Daylighting~Diagrams}.$

		all values in SF		asic without execptions	w/exam rooms (Ask 2)	w/greenhouse (Ask 3A)	w/ kitchen (Ask 3B)	w/ pre-K (Ask 3C)	w/skylights (Ask 1)
USF		65,853							
Regularly Occupied									
Lower Level	1,516								
Level 1	9,254								
		10,770							
Level 2	11,270								
	3,264								
		14,534							
Total Regularly Occupied Space			25,304	25,304	25,304	25,304	25,304	25,304	25,304
Total with Daylight and Views				20,287	20,832	21,231	21,458	21,592	24,31
				80.17%	82.33%	83.90%	84.80%	85.33%	96.08

FIGURE 4-14 Interior condition with natural daylight and views of outside.



FIGURE 4-16 Skylights bring in natural light to interior areas.



FIGURE 4-17 Interior condition with natural daylighting and views of nature.

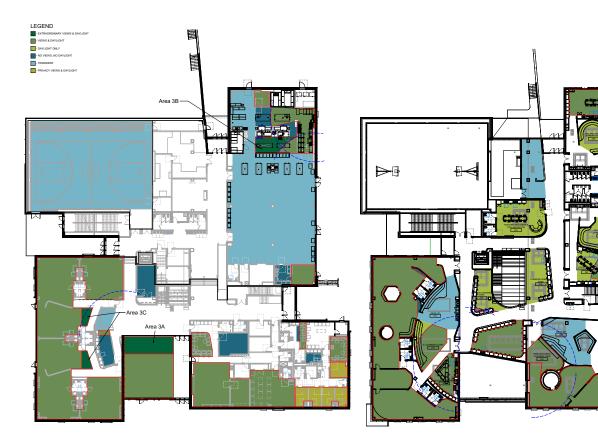


FIGURE 4-18 Daylighting Diagram

I10-6 OCCUPANT CONTROL STRATEGY DOCUMENTATION

INTENT

Provide a narrative, plans, photos, and diagrams demonstrating that at least two of the following strategies have been implemented for occupant control.

1. OPERABLE WINDOWS

Awning windows have been installed throughout the building at appropriate reach ranges giving occupants control to open and close windows. Visual cues via an automatic light fixture associated with the building's mechanical system will indicate when it is an appropriate time to open or close a window. See **Figure 4-19** for an operable window, temperature control, and flexible workspace diagram.

2. LOCAL AIRFLOW AND TEMPERATURE CONTROLS

Occupants can control all awning windows within the appropriate reach ranges. In addition, occupants are granted control over thermostats. The thermostats control heating and cooling functions of the radiant floor slab which is further outlined under the Energy Petal.

3. FLEXIBLE OPTIONS FOR WORKING AND LEARNING

A keystone in the Academy for Global Citizenship curriculum is active learning. No space is singular in its function creating fluidity in the programmatic functions. This programmatic flexibility encourages faculty and students to adapt and modify classroom functions to meet diverse teaching and learning styles.

Some flexible work options include the following:

- Open classroom plan
- Movable furniture in classrooms
- Movable furniture in faculty office space
- Tiered seating
- Accessible storage
- Multiple, age appropriate, kitchens
- Multiple, age appropriate, outdoor play spaces
 Adaptable lunchroom/community meeting space



FIGURE 4-19 Active Staircase.



FIGURE 4-20 Flexible Classroom Space



FIGURE 4-21 Adaptable Lunchroom/Community Meeting Space.



FIGURE 4-22 Tiered Seating.

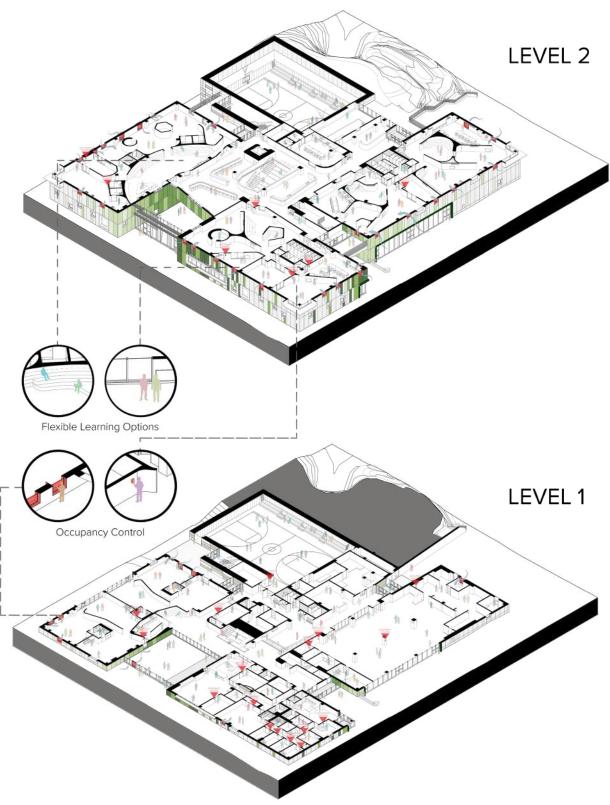


FIGURE 4-23 Axonometric Diagram showing Operable Windows, Thermostats, and Adaptable Classroom Spaces.

I11-1 NARRATIVE

INTENT

Provide: 1. A narrative describing the design intent for human nature interactions and how these are accomplished and distributed in both the interior and exterior of the project. 2. Frequency and duration of interactions as occupants move throughout the day should be anticipated and described in relation to the plans and/or diagrams in **I11-2**.

HUMAN/NATURE INTERACTION @ AGC

The school is open Monday through Friday from 8am-3pm, equal to 7 hours or 420 minutes per day. AGC has set a goal of having their students spend 30% of their time outdoors through daily or weekly outdoor programming.

AGC Daily Outdoor Programming: All students have a recess outdoors every day. (Recess is held year-round except when lightning threatens.)

AGC Weekly Outdoor Programming: All grade levels will spend between 60 and 105 minutes per week outdoors as follows. Students in K-5th grade have a 60-minute outdoor sustainability class (12 minutes per day) that includes garden work, nature play, and activities focused on natural sciences. Middle school students (grades 6-8) have a weekly 80-minute (16 minutes per day) outdoor session in a Sustainability design class that integrates similar themes and experiential learning for their learning level. Students in grades 2-5 will have 45 minutes (8 minutes per day) of nature play and nature engagement as part of an extended learning opportunity.

COMMON SPACES WITH VIEWS TO NATURE

In accordance with the Living Building Challenge requirements, all commonly occupied spaces meet the required views to the outside, therefore occupants will have a view to the outside at nearly every moment of the day, refer to **I10-5** for more information. Additionally, hallways, which are not considered a commonly occupied space, also maintain views to the outside. For the purposes of keeping the calculations conservative

and comparative to a baseline, interior views to the outside were not included in the calculations, otherwise occupants would enjoy nearly 100% of their day 'interacting with nature'.

HUMAN/NATURE INTERACTION @ CPS

The data in Figure 4-21 outlines the time students will spend 'interacting with nature' at the Academy for Global Citizenship and draws comparison to the amount of time students would spend 'interacting with nature' if AGC followed the standard Chicago Public Schools Curriculum. Calculations use time spent on a "typical day".

Effective as of 2021, the Illinois State Board of Education requires children up to grade 5 to receive 30 minutes of unstructured play time (recess) each day. After grade 5 schools are no longer required to provide students with recess.

The average occupant at a typical Chicago Public School spends roughly 25 minutes of their day outside, while at AGC the average occupant conservatively spends 100 minutes of their day outside. It can be concluded that the average occupant at AGC spends roughly 400% more time outdoors compared to a typical Public School in Chicago, IL.

OI11-2 PLANS & DIAGRAMS

INTENT

Provide plans and/or diagrams showing all opportunities for human nature interactions and showing how representative occupant groups experience these interactions throughout a typical day.

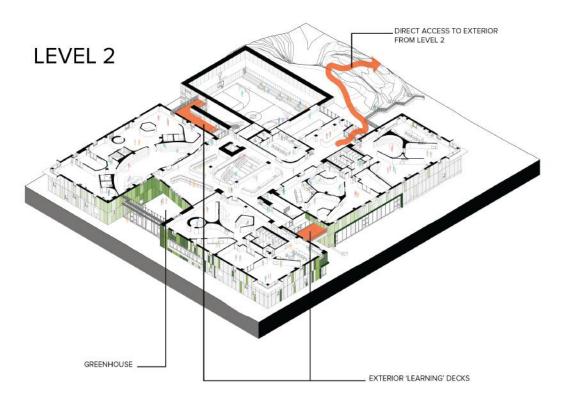




FIGURE 4-24 Opportunities for Human Interaction with Nature.

I11-3 CALCULATIONS

Academy for Global Citizenship - Occupancy				
Occupant	Count (#)	Percent of Population		
Early Childhood Development	102	15%		
Kindergarden through 1st Grade	120	18%		
2nd through 3rd Grade	120	18%		
4th through 5th Grade	108	16%		
Middle School	150	22%		
Faculty	75	11%		
Total	675	100%		

Chicago Public School - Occupancy				
Occupant	Count (#)	Percent of Population		
Early Childhood Development	102	15%		
Kindergarden through 1st Grade	120	18%		
2nd through 3rd Grade	120	18%		
4th through 5th Grade	108	16%		
Middle School	150	22%		
Faculty	75	11%		
Total	675	100%		

INTENT

Provide calculations showing that 75% of all regular occupants benefit from sufficient and frequent human nature interactions, based on the plans / diagrams generated in **I11-2**.

Academy for Global Citizenship - Outdoor Time (measured in minutes)							
Occupant Type	Recess	Sustainability Design Class	Break	Nature Play	Gym	Lunch	Outdoor Time Per Day
Early Childhood Development	90	-	-	-	10	30	130
Kindergarden through 1st Grade	45	12	-	-	10	30	97
2nd through 3rd Grade	45	12	-	8	10	30	105
4th through 5th Grade	45	12	-	8	10	30	105
Middle School	45	16	-	-	10	30	101
Faculty	5	10	30	-	-	30	75

Chicago Public School - Outdoor Time (measured in minutes)							
Occupant Type	Recess	Sustainability Design Class	Break	Nature Play	Gym	Lunch	Outdoor Time Per Day
Early Childhood Development	30	-	-	-	-	-	30
Kindergarden through 1st Grade	30	-	-	-	-	-	30
2nd through 3rd Grade	30	-	-	-	-	-	30
4th through 5th Grade	30	-	-	-	-	-	30
Middle School	-	-	_	-	-	-	-
Faculty	5	-	30	-	-	-	35

Academy for Global Citizenship - Total Time Spent In Nature by Occupant Type						
Occupant Type Time on Site per Day Time Outside Per Day Percentage (%						
Early Childhood Development	420	130	31%			
Kindergarden through 1st Grade	420	97	23%			
2nd through 3rd Grade	420	105	25%			
4th through 5th Grade	420	105	25%			
Middle School	420	101	24%			
Faculty	420	75	18%			

Chicago Public School - Total Time Spent In Nature by Occupant Type						
Occupant Type	Time on Site per Day	Time Outside Per Day	Percentage (%)			
Early Childhood Development	420	30	7%			
Kindergarden through 1st Grade	420	30	7%			
2nd through 3rd Grade	420	30	7%			
4th through 5th Grade	420	30	7%			
Middle School	420	-	0%			
Faculty	420	35	8%			

Academy for Global Citizenship - Average Time Spent Outside					
Occupant	Percent of Population	Time Outside Per Day	Share of Total		
Early Childhood Development	15%	130	19.5		
Kindergarden through 1st Grade	18%	97	17.5		
2nd through 3rd Grade	18%	105	18.9		
4th through 5th Grade	16%	105	16.8		
Middle School	22%	101	22.2		
Faculty	11%	75	8.3		
Average Time Spent Outside					
Percent of Day					

Chicago Public School - Average Time Spent Outside					
Occupant	Percent of Population	Time Outside Per Day	Share of Total		
Early Childhood Development	15%	30	4.5		
Kindergarden through 1st Grade	18%	30	5.4		
2nd through 3rd Grade	18%	30	5.4		
4th through 5th Grade	16%	30	4.8		
Middle School	22%	-	0.0		
Faculty	11%	35	3.9		
		Average Time Spent Outside	24.0		
Percent of Day					

9 I11-4 PHOTOGRAPHS

INTENT

Provide photographs of strategies used to create human nature interaction.



FIGURE 4-26 Views of Nature.



FIGURE 4-27 Views of Nature.

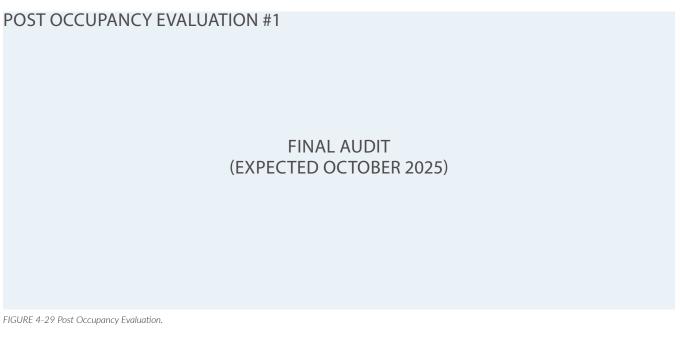


FIGURE 4-28 Interior Greenhouse.

I11-5 POST OCCUPANCY EVALUATION

INTENT

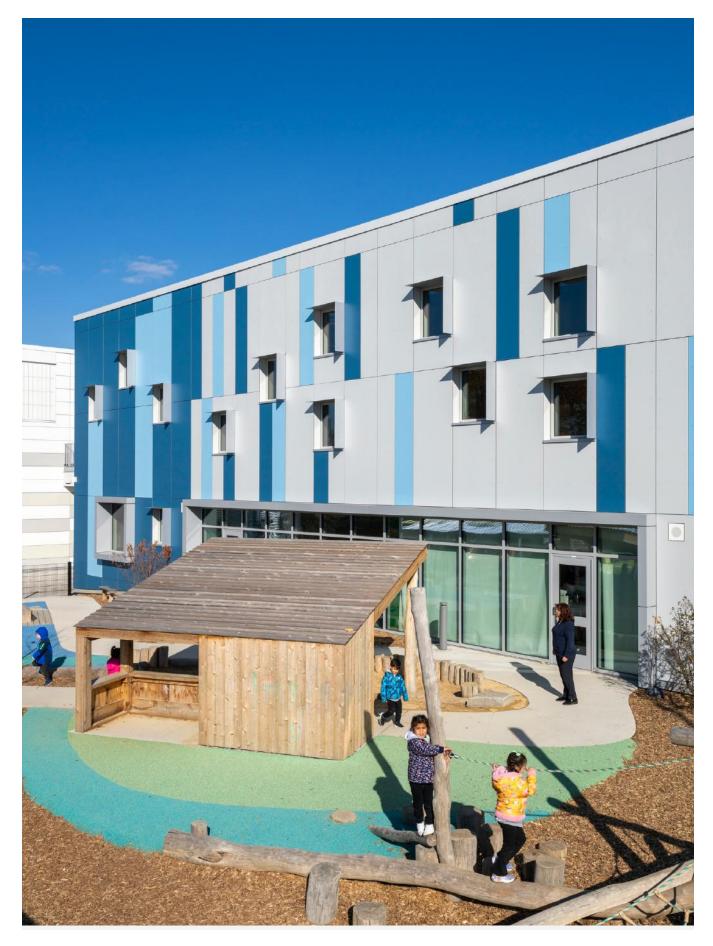
Provide a completed 2-part Post Occupancy Evaluation, including a summary in narrative form with graphs or charts as needed of the quantitative and qualitative findings.



POST OCCUPANCY EVALUATION #2

FINAL AUDIT (EXPECTED OCTOBER 2025)

FIGURE 4-30 Post Occupancy Evaluation.





INTRODUCTION

13 - RED LIST

- I13-1 Materials Tracking Table (MTT)
- I13-2 Materials Vetting Process Narrative
- I13-3 Ingredients List Documentation
- I13-4 VOC Content Documentation

14 - RESPONSIBLE SOURCING

- 114-1 Advocacy Letters
- I14-2 FSC-Certified, Salvaged, and Intentionally Harvested Wood Documentation
- 114-3 Low Risk Wood Documentation
- I14-5 Wood Calculations
- **I14-6** Declare Documentation
- 114-7 Living Product Challenge (LPC) Documentation

15 - LIVING ECONOMY SOURCING

- I15-1 Materials Tracking Table (MTT)
- I15-2 Distance Map
- **I15-3** Supporting Documentation

16 - NET POSITIVE WASTE

- I16-2 Materials Conservation Management Plan (MCMP)
- I16-3 Waste Diversion Documentation
- I16-4 Salvaged Materials Documentation
- I16-5 Operations Documentation

APPENDICES

- M-A AGC Sustainability Plan
- M-B MT-002 Exception
- M-C SD Materials Status Report
- M-D Construction Waste Management Plan
- M-E Low Risk Wood Clarification
- M-F Sample Declare Advocacy Letter
- M-G Construction Waste Receipts



^{*} Imperative 12, I14-4 and I16-1 are not applicable

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INTRODUCTION

THE MATERIALS PETAL

Building materials are responsible for many adverse environmental issues, including personal illness, habitat and species loss, pollution, and resource depletion. The intent of the LBC Materials Petal is to mitigate these harms by promoting a materials economy that is nontoxic, ecologically restorative, and transparent.

To accomplish this transformation the Materials Petal addresses four main tenets of responsible building material specification and usage: non-toxic, local, transparent materials, and robust construction waste diversion. The Petal consists of 4 Imperatives and 19 Requirements.

REFORMING AN INDUSTRY

Over the past decade, LBC's focus on eliminating Red List chemicals from building products has transformed the building industry from one where ingredients were held in secret to one where transparency is becoming the new normal. This transparency has also resulted in the building industry incrementally reducing the toxic content of its products.

THEORY OF CHANGE

The Materials Petal compels design teams to approach each project in these two steps:

- 1. Build projects using only Red List Free products. If the product you plan to use is not available with Red List ingredients, then redesign the project to avoid the toxic product.
- 2. If it is not possible to design the project completely Red List free, then advocate for manufacturers to enroll their products in the DECLARE protocol.

DECLARE

THE DECLARE LABEL is a materials transparency initiative administered by the International Living Futures Institute. Product manufacturers elect to participate by filling out sorts of products into three descending categories of compliance:

- Red List Free - products in this category contain no Red

List chemicals down to a resolution of 100 ppm with full disclosure.

- <u>- Red List Approved</u> Products in this category may contain a Red List chemical but is has been allowed via an exception.
- <u>- Red List Transparent</u> Products in this category may contain a Red List chemical, but have listed all their ingredients to 100 ppm.

The Imperative of this Petal is to remove the worst known offending materials and practices and to drive business toward a truly responsible materials economy. When toxic ingredients can be reduced but not eliminated, the Materials Petal requires design teams to offset the damage by advocating for transparency and toxics reduction across the industry.

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I13-1 MATERIALS TRACKING TABLE

INTENT

Provide a spreadsheet of all the Material Costs.

TABLE

The MTT is organized by row and columns. Each row is a unique building item organized by submittal number. Submittal numbers are by Division, then specification section, then item number. In some cases, there are multiple items per line item, and they have further been broken down by letters. Criteria are arranged by column.

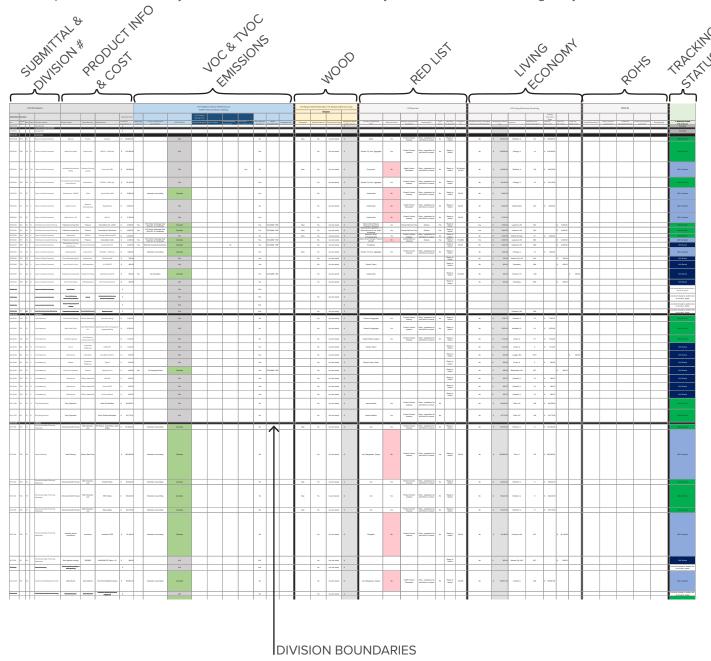


FIGURE 5-01 Materials Tracking Table.

I13-2 MATERIALS VETTING PROCESS NARRATIVE

INTENT

Provide a narrative of the materials research and vetting process.

PRODUCT SELECTION

WhentheAcademyforGlobalCitizenship(AGC)committed to achieving the full Living Building Challenge Certification, the design team knew, based on prior experience, how challenging the Materials Petal would be to achieve. To satisfy the Imperatives and Requirements with the least drama and effort, the design team committed to a rigorous, iterative, and ongoing process of material selection and vetting, focused on health, transparency, and sourcing.

- Materials Sub-consultants and Roles

To provide robust materials review, vetting, and advocacy, Farr Associates (AOR) engaged WSP as a sub consultant to provide advocacy support. At the project's onset, both FARR and WSP established material selection criteria and targeted specific products within each product line.

- Material Requirements Summary

Farr prepared a summary of the LBC material requirements to guide the team's campaign to achieve the Materials Petal, This document provided guidance to the design and construction team throughout the project.

- LBC Material Status @ 100% DD/GMP

WSP prepared a 24-page report on the progress-to-date of more than 500 individual product categories.



FIGURE 5-03 Salvaged Logs.



FIGURE 5-02 Exterior Wall under Construction.

- LBC Materials Status Update @ 10% Construction

WSP prepared a 1-page update including a pie chart that classified the materials tracking into buckets of success: Red List Free, Assumed Red List Free, Compliant with Exceptions, etc. See **Appendix M-C**.

- Specifications

In addition, we included a material inventory form within the project specifications, provided training to the GC and had numerous conversations with the major trade project managers.

- Major Challenges: Public Bidding and Pandemic

As a publicly funded project, the bidding process for the AGC required three materials per category to assure competitive pricing. In many cases three products that met the criteria did not exist. To overcome this we created a performance specification with the criteria required.

The pandemic posed other unique challenges. Many products were not available within traditional lead times and/or costs were significantly more than the team



FIGURE 5-04 Insulated CFMF headers on site.

had budgeted. This forced the GC and design team to collaborate on quick turn-around decision-making on which product needed to be Red List free versus merely compliant.

As the project continued to procure more products, where the contractor or manufacturer could not provide a material inventory to the resolution required, we would then seek out alternative manufacturers. In many cases, we asked the project manager for a contact at the actual manufacturer and would talk to a technical support person at a specific manufacturer. It is important to note that the flow of information on a commercial project is from the General Contractor to a subcontractor to a supply house, and then to an actual manufacturer. This is a long supply line where we are trying to convey a complicated information request. In selecting products for inclusion, we utilized the HPD repository, the Declare Database, Sustainable Minds, Mindful Materials, Ecomedes, as well as our own internal knowledge.

PRODUCT MAJOR WINS

In terms of what we would consider major wins were:

- Non-PVC pipe (for below grade main feeder raceways).
 This required emails and discussions with the City of Chicago Electrical Inspector.
- <u>- LBC Cat 6 cable.</u> The minimum order for this LPC cable was 90,000 linear feet. We contacted the supplier and explained the project's commitment to achieve LBC, and



FIGURE 5-05 Non PVC below grade conduit.

they were able to pull some stock from the warehouse and ship it to a local distributor.

- Steel Decking tracking down the coils. After discovering the steel decking was unnecessarily washed in Cr6, we tracked down the actual coils and worked with the steel decking manufacturer on how they can offer non Cr6 washed coil.
- <u>Site harvested trees.</u> We worked with a local urban forester to site harvest, mill, dry and deliver raw boards to the millworker for fabrication into benches.
- <u>- Recycled sub-base.</u> We communicated the importance of salvaged materials to the general contractor, and they suggested the use of crushed concrete as a sub-base, tested of course to TACO standards as appropriate for a school.
- Acoustical Ceiling Tile Grid. We work relentlessly with the supplier of the acoustical ceiling grid on what they need to do to comply with the intent of the standard and after many emails were able to test their paint (the remaining undisclosed material) to ensure it did not have any Red List Ingredients.
- Swegon DOAS units. We worked with Swegon to develop their Declare Label (2022).
- Low Carbon Concrete. We were able to procure low carbon concrete via a performance specification.
- PVC free wall covering. After discussions with the installer, they suggested a PVC free wall covering (that incidentally has a Declare label).

PRODUCTS NEEDING EXCEPTIONS

In general, the types of products that require some types of exception were:

- Any products made with coil coated metal as coils typically are washed with Cr6 after galvanizing.
- Adhesives and waterproofing products tended to have a Red List Ingredient.
- Many of the smaller suppliers of unique items had difficulty completing the Material Inventory Form, products such as gym bleachers, sports flooring, play structures, clocks, etc.

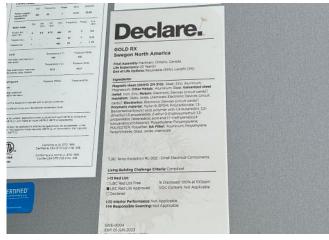


FIGURE 5-06 Swegon DOAS unit's Declare Label.

Please see the complete Materials Tracking Table from **I13-1** for all the products.



FIGURE 5-07 Swegon DOAS units.

I-13 Red List					
Category	Count		Cost By Category		
Red List Free	205		\$ 6,248,198.72		
Red List Exists	0		\$ -		
LBC Compliant	401		\$ 10,008,479.21		
10% Bucket	436		\$ 691,008.02		
In Progress	0		\$ -		
	sub-total	Value of the Job	\$ 16,947,685.95		
Excluded (Misc Hardware)	75		\$ 124,173.11		
Excluded (Not Permenantly Installed)	16		\$ 367,022.04		
	Sub-total		\$ 491,195.15		
		Value of the Job Plus Excluded	\$ 17,438,881.10		

FIGURE 5-08 Red List Summary.

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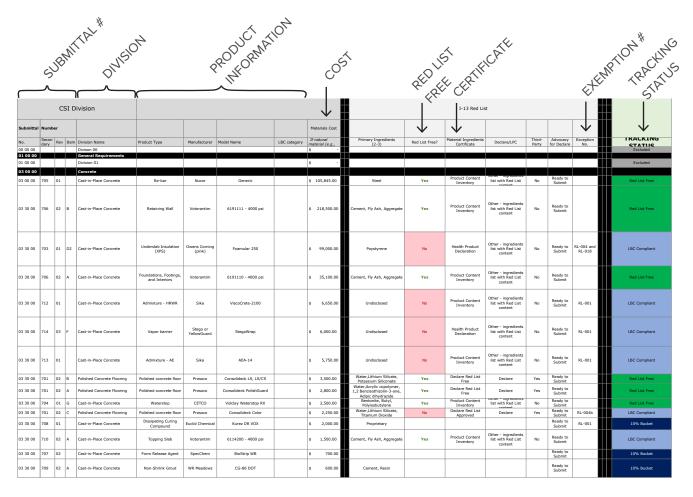
I13-3 INGREDIENTS LIST (PRODUCT CONTENT INVENTORY) DOCUMENTATION

INTENT

Provide product content inventory documentation is required for each product.

DOCUMENTATION

See the MTT and associated SharePoint site.



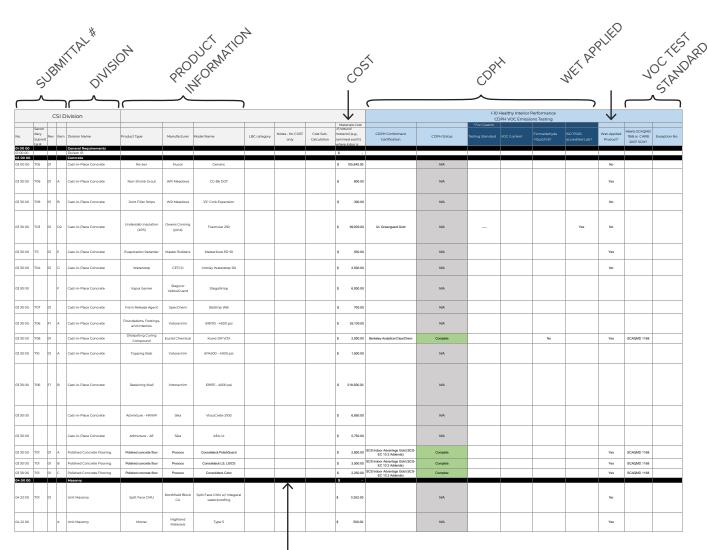
I13-4 VOC CONTENT DOCUMENTATION

INTENT

Provide product VOC documentation for all wet applied products.

DATA

See the MTT and associated SharePoint site.



DIVISION BOUNDARIES

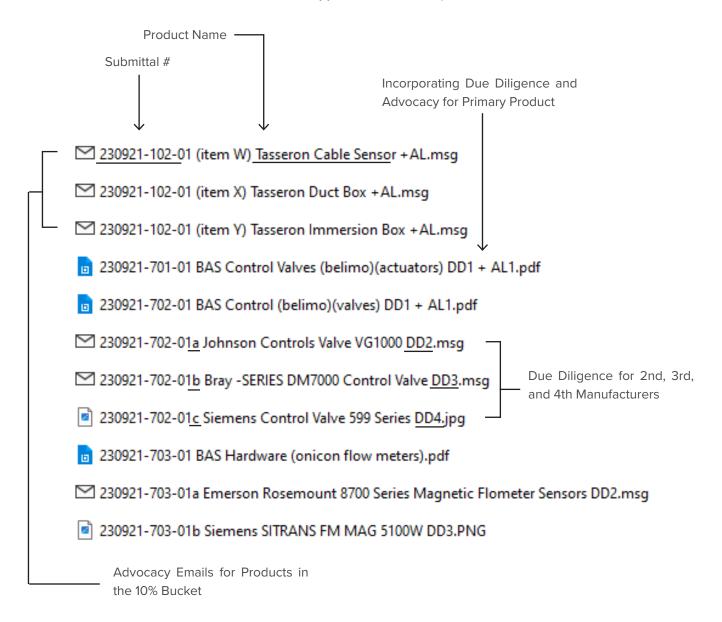
I14-1 ADVOCACY LETTERS

INTENT

Provide copies of advocacy letters for products that did not have full transparent material inventories.

DATA

See the MTT, the associated SharePoint site, and **Appendix M-F** for sample letters.



I14-2 FSC-CERTIFIED, SALVAGED, AND INTENTIONALLY HARVESTED WOOD

INTENT

All projects must either source 80% or more of all wood, by cost or volume, as Forest Stewardship Council (FSC) certified, or as salvaged, or from the intentional harvest of on-site timber for the purpose of clearing the area for construction or restoring/maintaining the continued ecological function of the on-site bio-network, and the remaining 20% of wood must be from low-risk sources. Alternatively, the project may achieve FSC Project Certification.

DOCUMENTATION

Being a commercial building, wood was limited to blocking (dimension lumber), miscellaneous sheathing, millwork, door leaves, play structures, and furniture. Of all the wood, the dimension lumber, plywood,



FIGURE 5-14 Lumber.



FIGURE 5-13 Lumber.

door leaves, and millwork were FSC certified. Some millwork, however, was from site-harvested lumber and the play structures were regionally harvested invasive species. See Request for Ruling outlined in **Appendix M-B**.

For the non-FSC wood, which mostly was the furniture, the wood was sourced from Europe under the PEFC (Programme for the Endorsement of Forest Certification) label and has been deemed to be low risk. See email documented in **Appendix M-E**. There also was a small amount of North American wood that was also deemed to be low risk.

I-12 Responsible M	late	rials / I-14 Res	pons	sible Sourcing	
Category		Value			LBC Target (100%)
Total Wood	\$	481,489.77			
FSC Wood	\$	259,875.57			
Site Harvested Wood (Considered FSC)	\$	14,975.00			
Invasive Species (MT-002) (Considered					
FSC)	\$	158,643.00			
		Sub-Total	\$	433,493.57	90%
Low Risk	\$	47,996.20			
			\$	47,996.20	10%
Total Percentage Compliant Wood					100%

FIGURE 5-12 Documentation.

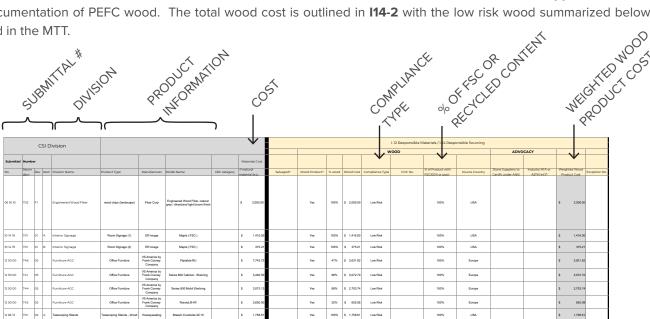
I14-3 LOW RISK WOOD **DOCUMENTATION**

INTENT

Provide documents confirming country of origin of the wood that meets the definition of low risk wood.

DOCUMENTATION

Low Risk wood was from 2 sources, North American Forests and PEFC certified wood. See Appendix M-E for documentation of PEFC wood. The total wood cost is outlined in 114-2 with the low risk wood summarized below, and in the MTT.





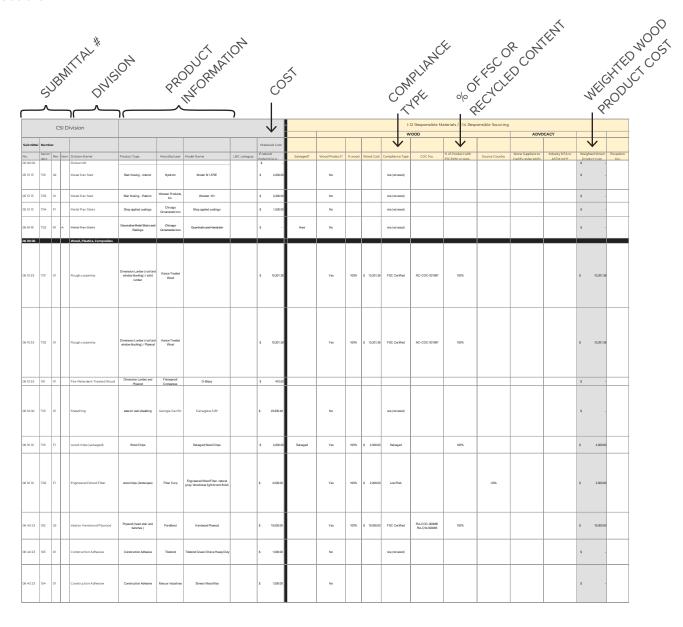
I14-5 WOOD CALCULATIONS

INTENT

Provide calculations, correlated with the inputs in Materials Tracking Table (MTT), showing the percentage of each type of compliant wood, by cost.

DOCUMENTATION

See the MTT



I14-6 DECLARE DOCUMENTATION

INTENT

All projects must contain one Declare products per 100sm of gross building area, or project area, whichever is smaller, up to forty products, and advocate to all manufacturers that are not in Declare that they register their products in the Declare database.

DOCUMENTATION

See the calculations that show the number of labels required. See the excerpt from the MTT below for the Declare Product Information.

Additionally, an email was sent to every noncompliant manufacturer and manufacturer without a Declare label. The pdf attachment "LBC Declare Advocacy Letter" served to advocate for the adoption of a Declare label. Column AQ in the MTT identifies all products without a Declare label that underwent Declare label advocacy. This covers 1,085 line items in the tracker that do not have an individual Declare label. Please see email in **Appendix M-F**.

DECLARE CALCULATIONS				
Square Feet	70,077			
Square Meters	6,510			
Declare Label Requirement	1 per 100 sm			
Total Declares Required	40			
Total Declares Provided	65			
Total Manufacturers Required	10			
Total Manufacturers Provided	26			

FIGURE 5-17 Declare Calculations.



FIGURE 5-18 Declare Label for Kone Standard Elevator Cabin

				DECLARED PRODU	JCTS		
Docu	ment Numb	ber		Product Information		Declare Infor	mation
No.	Sustainability Submittal #	Rev	Product Type	Manufacturer	Model Name	Red List Conformant Certificate	Third-Party Verified?
30 00	701	02	Polished concrete floor	Prosoco	Consolideck LS, LS/CS	Declare Red List Free	Yes
3 30 00	701	02	Polished concrete floor	Prosoco	Consolideck PolishGuard	Declare Red List Free	Yes
3 30 00	701	02	Polished concrete floor	Prosoco	Consolideck Color	Declare Red List Approved	Yes
6 40 23	102	02	Plywood (heart stair and benches)	PureBond	Hardwood Plywood	Declare Red List Free	No
6 41 16	704	F1	Plastic Lamiate	formica	White, Storm	Declare Red List Approved	No
6 41 16	101	02	MDF - regular	Roseburg	Arreis	Declare Red List Free	No
7 21 00	702	01	exterior wall (exterior insulation)	Rockwool	cavityrock/mono density / no facer / RXL-0017RXL-0002RL-009 and RL-004b	Declare Red List Approved	
7 21 00	701	01	Sprayed Insulation (metal stud cavity and misc joints)	Knauf	Jet Spray Thermal	Declare Red List Free	No
7 27 15	701	01	Self Adhering Air and Vapor Barrier	GCP Applied Technology	PERM-A-BARRIER NPS Wall Membrane	Declare Red List Free	No
7 27 15	701	01	Self Adhering Air and Vapor Barrier - transition strips	GCP Applied Technology	PERM-A-BARRIER NPS Detail Membrane	Declare Red List Free	No
7 27 15	701	01	Self Adhering Air and Vapor Barrier - flashing	GCP Applied Technology	PERM-A-BARRIER Aluminum Flashing	Declare Red List Free	No
7 46 46	701	01	GREENGirt sFRP Adjustable Base Bracket System with dual grip retention	GreenGirt	GreenGirt	Declare Red List Free	No
7 54 23	701	01	Membrane Roofing	Carlisle	Sure-Weld TPO Membrane-Fleeceback	Declare Red List Free	No
7 54 23	701	01	Flashing	Carlisle	Sure-Weld TPO Membrane Reinforced Flashing	Declare Red List Free	No
7 54 23 7 54 23	701 701	01	Flashing Flashing	Carlisle Carlisle	Sure-Weld TPO Non-Reinforced Flashing Sure-Weld TPO Inside Corners	Declare Red List Free Declare Red List Free	No No
17 54 23 17 54 23	701	01	-	Carlisle Carlisle	Sure-Weld TPO Inside Corners Sure-Weld TPO Outside Corners	Declare Red List Free Declare Red List Free	
17 54 23 17 54 23	701	01	Flashing Flashing	Carlisle	Sure-Weld TPO Outside Corners Sure-Weld TPO Pipe Seals	Declare Red List Free Declare Red List Free	No
07 54 23 07 54 23	701	01	Flashing Flashing	Carlisle Carlisle	Sure-Weld TPO Pipe Seals Sure-Weld TPO T-Joint Covers	Declare Red List Free Declare Red List Free	No
07 62 00	701	01	Flashing Fascia Board - At Curtain Wall. Kalwall fascia and window surrounds		Sure-Weld TPO 1-Joint Covers 160FR		No Yes
7 62 00	701	02	Fascia Board - At Curtain Wall, Kalwall fascia and window surrounds Applied Fireproofing (Concealed)	ReynoBond gcp applied technologies	160FR Monokote MK-6 HY	Declare Red List Approved	Yes
07 81 00	701	01	Applied Fireproofing (Concealed) Applied Fireproofing (Exposed)	gcp applied technologies gcp applied technologies	Monokote MK-6 HY Monokote 7-106/HY	Declare Red List Free	Yes
07 81 23	701	02	Intumescent Fire-Resistive Paint		A/DEirefilm III C	Declare Red List Approved	Yes
08 11 13	701	02	Intumescent Fire-Resistive Paint Interior HM Frames	Carboline Co, Fireproofing Ceco Doors	semi-custom HM frames and doors	Declare Red List Approved Declare Red List Free	No.
08 11 13	703	F1	Jamb Weatherstripping	Pemko	303CPK / 319 CN	Declare Red List Free	Yes
8 11 13	705	01	Fire/Smoke Gasket	ASSA ABLOY	S88BL	Declare Red List Free	No
08 14 16	703	03	Flush Wood Doors	OregonDoor	SCL Core Door	Declare Red List Approved	
08 14 16	702	02	Flush Wood Doors	OregonDoor	Mineral Core Door	Declare Red List Approved	
08 44 13	701	01	Aluminum Extrusions	Kawneer	1600 UT	Declare Red List Eree	No.
08 44 13	702	01	Exterior DoorLeaves	Kawneer	500T insulpour	Declare Red List Free	Yes
08 54 13	701	01	Fiberglass windows	Alpen	Zenith Series - all	Declare Red List Approved	
08 88 13	701	02	Glazing Material	Technical Glass Products	fire resistant glazing	Declare Red List Approved	
09 29 00	701	02	Gypsum Board: Type X	USG	USG Sheetrock Brand EcoSmart Panels Firecode X	Declare Red List Free	No
19 29 00	703	03	Batt Insulation	USG	Owens Corning Pink Next Gen Fiberglas Insulation	Declare Red List Approved	No
				USG		Health Product Declaration	No
09 29 00	702	03	Gypsum Board: Type Xregular boards		USG Sheetrock Brand EcoSmart Panels Mold Tough		
09 29 00	706	02	Insulation	Rockwool	Fire Safing Insulation	Health Product Declaration	No
9 30 00	701	03	Porcelain/Glazed Ceramic Tile/Cove/Base [CT1.1]	DalTile	Color Wheel CollectionArtic White	Declare Red List Free	Yes
09 30 00	701	03	Quarry Tile [QT]	Daltile	6x6 Floor Tile (ARID Grey) (QT)	Declare Red List Free	Yes
09 30 00	701	03	Porcelain/Glazed Ceramic Tile [CT-1.2]	DalTile	Ash Grey PF05 (12x24)	Declare Red List Free	Yes
9 51 00	701	01	Acoustic Ceiling Tile	Armstrong	APC-1 School Zones Fine Fissured	Declare Red List Free	No
09 51 00	703	02	Acoustic Ceilings: Drywall Suspension System	USG	DGLW and DGW	Declare Red List Free	No
9 51 00	702	01	Acoustic Ceiling Tile	Armstrong	AC-3 Kitchen Zone	Declare Red List Approved	No
9 84 30	701	02	Acoustical Board (Core)(AP-1)	Knauf Insulation	Black Acoustic Board	Declare Red List Approved	
9 84 30	701	02	Acoustical Board (Core)(AP-2)	Knauf Insulation	Black Acoustic Board	Declare Red List Approved	
9 84 30	102	01	Wall Panel Track (AP-2) [Curved Walls]	Whisper Walls	Stretching System	Declare Red List Free	No
9 91 23	701	02	Paint	Benjamin Moore	Ultra Spec 500 Int. Eggshell Fin. T538	Declare Red List Free	No
9 91 23	701	02	Paint	Benjamin Moore	Ultra Spec 500 Interior Latex Primer N534	Declare Red List Free	No
0 14 19	703	01	Biome Graphics	Roysons Corporation	DreamScape-Terralon	Declare Red List Free	No
0 14 19	703	01	Heart Graphic	Roysons Corporation	DreamScape-Terralon	Declare Red List Free	No
0 14 19	702	01	Classroom Whiteboards	Formica	Formica Magnetic Markerboard	Declare Red List Approved	
0 14 19	702	01	Wall Graphics Back up - Formica	Formica	Formica Magnetic Markerboard	Declare Red List Approved	
0 14 19	703	01	Classroom Magnetic Map Walls	Roysons Corporation	DreamScape-Terralon	Declare Red List Free	No
0 14 19	704	01	Permanent Donor Wall	Richelite		Declare Red List Approved	
0 14 19	704	01	Wonder Path Signage Package Tier One	Richelite		Declare Red List Approved	No
0 14 19	703	01	Biome Supergraphcs	Roysons Corporation	DreamScape-Terralon	Declare Red List Free	No
0 14 19	703	01	Compass & World Map Wallcovering Graphics	Roysons Corporation	DreamScape-Terralon	Declare Red List Free	No
0 14 19	703	01	Map Legend	Roysons Corporation	DreamScape-Terralon	Declare Red List Free	No
2 24 00	704	02	Shade Cloth Shade Cloth	Mermet/Draper Mermet/Draper	GreenScreen Revive	Declare Red List Free	No
2 24 00 2 36 61.16	705	02	Shade Cloth Solid Surface Countertops	Mermet/Draper Corian	Verona Daylight Carbon Aggregate	Declare Red List Free Declare Red List Free	No No
2 36 61.16	701	01	Solid Surface Countertops Solid Surface Countertops	Corian	Carbon Aggregate Deep Mink	Declare Red List Free Declare Red List Free	No No
4 24 00	701	01	Conveying Equipement	Kone	Monospace 300	Declare Red List Approved	No
3 74 14	701	02	DOAS Units	Swegon	Gold Model RXF060	Declare Red List Free	No
3 74 14	701	02	DOAS Units	Swegon	Gold Model RXF070	Declare Red List Free	No
3 74 14	701	02	DOAS Units	Swegon	Gold Model RXF050	Declare Red List Free	No

FIGURE 5-19 Declared Products

I14-7 LIVING PRODUCT CHALLENGE DOCUMENTATION

INTENT

All projects must incorporate one product certified under the Living Product Challenge per 1,000sm of gross building area or project area, whichever is smaller, up to three products.

LIVING PRODUCT CALCULATIONS					
Square Feet	70,077				
Square Meters	6,510				
LPC Requirement	1 per 1,000 sm				
Total LPC's Required	3				
Total LPC's Provided	3				

FIGURE 5-21 Living Product Calculations.

DOCUMENTATION

See the calculations that show the number of labels required. See the excerpt from the MTT below for the LPC Product Information.

	LPC PRODUCTS TOTAL LPC PRODUCTS: 3									
Docu	ıment Nu	ımk	oer		roduct Info		LPC Information			
No.	Secondary Submittal # Rev Item Product Type Manufacturer		Model Name	Conformant LPC #		Third-Party Verified?				
09 30 00	705	01	А	Tile	Crossville	Retro Active 2.0	LBC Red List Free	CSV-0001	Yes	
12 50 00	754	01	А	Chair	Humanscale	Ballo	LBC Red List Approved	HSC-0057	Yes	
48 14 00	759	01		CAT6 cable	Superior Essex		LBC Red List Free	SPX-LP0001	Yes	

FIGURE 5-20 Living Product Challenge Products

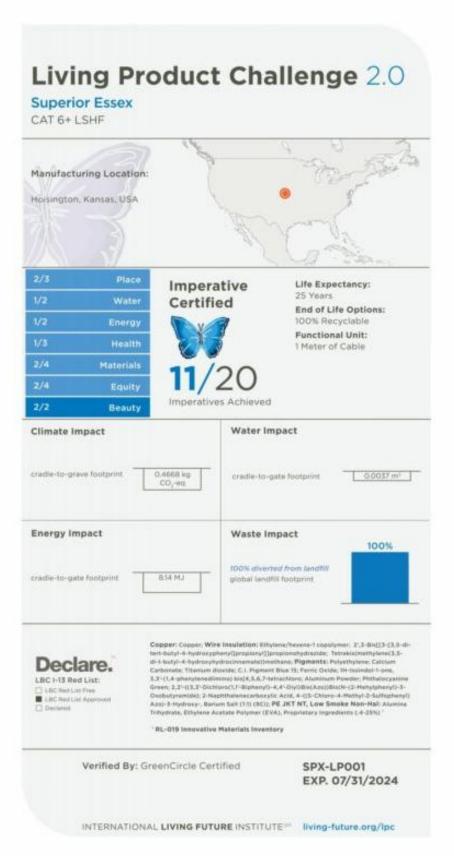


FIGURE 5-22 LPC Label for CAT 6+.

I15-1 MATERIALS TRACKING TABLE

INTENT

All projects must incorporate place-based solutions and contribute to the expansion of a regional economy rooted in sustainable practices, products, and services. Manufacturer locations shall adhere to the following restrictions:

- 20% or more of the materials construction budget must come from within 500 kilometers (km) of the construction site.
- 30% of the total materials construction budget must come from within 1000 km of the construction site or closer.
- An additional 25% of the materials construction budget must come from within $5000 \ \text{km}$ of the construction site.
- The remaining 25% of materials may be sourced from any location.

DOCUMENTATION

See the excerpt from the MTT below (Figure 5-19)

DOCUMENTATION

See the MTT

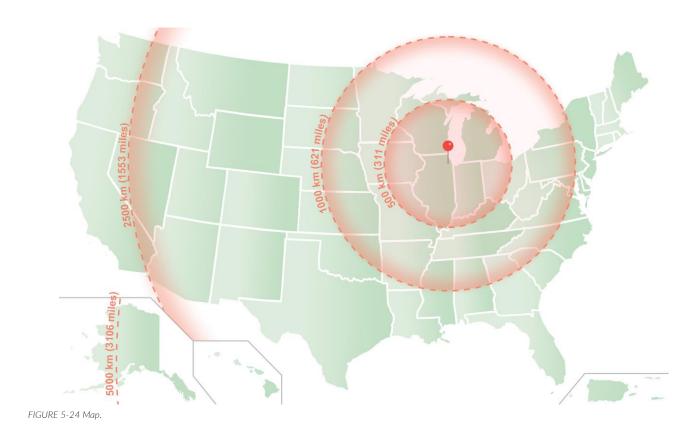
	I-12 Responsible Materials / I-15 Living Economy Sourcing								
Category	Value		%	%	%		%	%	
				excess	applied	carry	LBC	LBC Target	
				excess	excess	forward	proposed	LBC Target	
<500 km	\$	6,931,912.20	41%	16%	3%	13%	25%	20%	
<1000 km	\$	4,307,730.38	25%	-10%	9%	4%	35%	30%	
<5000 km	\$	3,507,677.14	21%	-4%	8%		27%	25%	
Total percentage	of con	npliant materials	87%				87%	75%	
>5001 km	\$	2,197,926.23	13%						
Tot	al perc	entage of Materials	100%						

FIGURE 5-23 Materials Tracking Table.

I15-2DISTANCE MAP

INTENT

Provide a map showing 500 km, 1,000 km, and 5,000 km radii from the site.





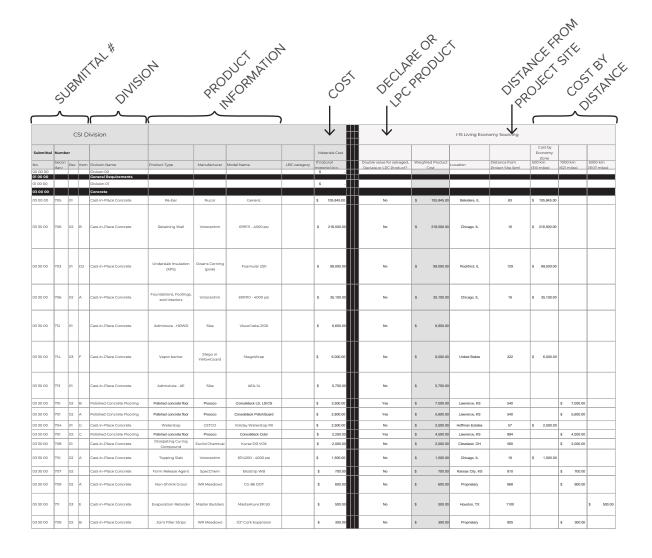
115-3 SUPPORTING DOCUMENTATION

INTENT

Provide documents stating manufacturer location information for each tracked product.

DOCUMENTATION

See the MTT and Associated Files



I16-2 MATERIALS CONSERVATION MANAGEMENT PLAN (MCMP)

INTENT

Create and Implement a Materials Conservation Management Plan explaining how the project team optimized materials and reduced waste in the design, construction, and operations phases, and how they planned for reduced waste at the project's end of life.

OUR CONSERVATION EFFORTS

Pre-Design

Since our site was a field, our two major materials conservation efforts were to harvest the trees and create conservation efforts were to harvest the trees and create millwork from the logs and use all the remaining brush and small caliper trees for wood chips that we used for paths through the farming operations.

Design Phase

In terms of optimizing the design to minimize waste, all the windows were on the module of the fiber cement panels. Additionally, by designing a high performance wall, and the Air-Water Barrier is well protected, we expect the facade to last for more than 50 years.

Construction Phase

During construction, we had a complete Construction Waste Management plan as described in **Appendix M-D** and summarized in **I16-3**. Additionally we had composting for food scraps. A first for this Contractor.

Operations Phase

See **Appendix M-A** for the ongoing operations and sustainability plan, including the student and staff onboarding document.

End of Life

Since the building is primarily steel, we anticipate, that the majority of the structural frame and interior partitions will be recycled and the concrete crushed into gravel. The fiber cement sun shades, and aluminum sills are secured with exposed fasteners, so they will be salvaged as complete panels or sheets. As for interior elements, within the Chicago area, there are ceiling tile take back programs, wood doors can be re-used and hollow metal frames can be recycled. Additionally, copper pipe was use for all the water supply pipe, so that along with the schedule 40 sprinkler and mechanical pipe can all be recycled. Additionally, with the limited use of PVC and other plastics, there are in general, less plastics to go to a landfill.

I16-3 WASTE DIVERSION DOCUMENTATION

INTENT

Complete a Construction Waste Diversion Table, showing percentages of waste diverted (by weight) in each category (metals; paper + cardboard; soil + biomass; rigid foam; carpet + insulation; and all others).

DOCUMENTATION

See the Summary Table in Figure 5-26 and receipts in Appendix M-G, that show approximately a 95% diversion rate.

There were no Hazardous materials on site prior to construction and there were no surplus materials post construction. Per the CWM plan described in **I16-2**, see the photographs of the process during construction.

						AG	C Mont	thly Re	cycle R	eport								
					2022			·						2023				
	April	May	June	July	Aug	Sept		Nov	Dec			March	April	May	June	July	Aug	Sept
Project Summary	Tons	Tons	Tons	Tons	Tons	Tons	Oct Tons	Tons	Tons	Jan Tons	Feb Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Metal (Rep)		3.05		0.99	1			0.4	0.98	0.48	0.2	0.46	1.04	1.14		0.24	0.43	
Metal (United)			15.07							9.92				7.64				
Wood (Rep)		7.46	3.13	8.11	2.67	2.64	2.51	2.27	8.36	11.3	4.84	13.34	9.52	17.2	27.11	17	10.30	4.54
Corrugated (Rep)							0.5	4.19	0.75	5.89	7.75	12.3	13.84	20.39	9.61	6.37	6.77	6.12
Drywall (Rep)						1.58	2.1	2.28		1.26	2.56	16.41	8.2	10.16	3.45	2.59	2.38	1.11
Concrete (Rep)		4.69	2.24		2.33					0.28					2.17	1.36		
Concrete (Keno)			126												167			
Concrete (Con)			42	14														
Concrete (Cerami)				8.59	9.51			7.82			4.52							
Brick (Rep)														0.23				
Ceiling Tiles (Rep)																		
Fines (Rep)		5.92	2.24	0.33											14.37	0.42		
Glass (Rep)		0.19	0.45	0.66	0.33	0.53	0.037	1.59	0.3									
Paper (Rep)		0.79	0.45		0.33		0.57		0.81	0.18	0.69	1	0.4	0.75				
Plastic (Rep)		0.38	0.45		0.33	1.06	0.37	2.15	0.38	0.13	0.3	0.82	0.27	0.72				
Asphalt (Keno)			198															
Other (Rep)																		
Residual (landfill)		3.04	1.34	2.19	0.067	1.06	0.57	1.3	1.45	2.36	2.21	4.03	4.13	6.42	9.94	3.31		
Monthly Total Weight		25.52	391.37	34.87	16.567	6.87	6.657	22	13.03	31.8	23.07	48.36	37.4	64.65	233.65	31.29	19.88	11.77
Monthly Diverted Weight		22.48	390.03	32.68	16.5	5.81	6.087	20.7	11.58	29.44	20.86	44.33	33.27	58.23	223.71	27.98	19.88	11.77
Monthly Recycle %		88.09%	99.66%	93.72%	99.60%	84.57%	91.44%	94.09%	88.87%	92.58%	90.42%	91.67%	88.96%	90.07%	95.75%	89.42%	100.00%	100.00%

rotal weight	1016.75
Total Diverted	975.337
Total Recycled	95.74%

Metal R	Metal Recycled						
Tons	Percent						
43.04	100%						

Paper/Corrugated						
Tons	Percent					
100.45	100%					

Soil/Biomass							
Tons	Percent						
N/A	N/A						

Carpet/Insulation						
Tons	Percent					
N/A	N/A					

All Other Recycled							
Tons	Percent						
831.85	94%						

FIGURE 5-26 Final Diversion Report by Month.



FIGURE 5-27 Composting at the Construction Trailer



FIGURE 5-28 Source Separation



FIGURE 5-29 Large Scale Source Separation



FIGURE 5-30 Small Scale Source Separation



FIGURE 5-31 Large Dumpster Source Separation



FIGURE 5-32 Large Dumpster Source Separation

I16-4 SALVAGED MATERIALS DOCUMENTATION

INTENT

Provide one salvaged material per 500 square meters (sm) of gross building area.

DOCUMENTATION

See the calculations, annotated floor plans, and an excerpt from the MTT below.

SALVAGED MATERIALS CALCULATIONS						
Square Feet	70,077					
Square Meters	6,510					
LBC Requirement 1 per 500 sm						
Total Salvaged Materials Required 14						
Total Salvaged Materials Provided	43					

FIGURE 5-34 Salvaged Materials Calculations.

SALVAGED PRODUCTS

TOTAL SALVAGED PRODUCTS: 10

TOTAL UNIQUE LOCATIONS: 43

Г	Document Number Product Information Salvaged Information							on		
		- Turno	-i		T TOGGOT IIIIOIIIIA	· ·				
Division No.	Submittal #	Rev	Item	Product Type	Manufacturer	Model Name	# Of Unique Locations	Qty.	Units	
06 41 16	701	F1		Millwork Benches	Site Harvested	WD-2	9	2138	BF	
31 20 00	701	02	В	Sub-base	Hanson Aggregates Midwest	CA-06, CS-01	3	2300	CY	
09 30 00	102	03		Salvaged Tile (floor)		CT1_S1	11	3450	SF	
09 30 00	102	03		Salvaged Tile (wall)		CT2_S1	10	184	SF	
12 50 00	733	01	С	Salvaged Furniture	Office Furniture Center	FSKNLLBFM4 Reupholstered Knoll Mobile Box/File Pedestal w/ Cushion Top	1	1	EA	
12 50 00	734	01	D	Salvaged Furniture	Office Furniture Center	STASAMIA-RN-P-IG Refurbished Steelcase Amia task chair	1	1	EA	
12 50 00	735	01	E	Salvaged Furniture	Office Furniture Center	D AO2HYBRID-IG Refurb Reception Station	1	1	EA	
12 50 00	735	01	F	Salvaged Furniture	Office Furniture Center	MISCASMWB7 Pre- owned Steelcase Exponents Mobile Whiteboard Display	1	1	EA	
12 50 00	736	01	G	Salvaged Furniture	Office Furniture Center	MISCASMWB2 Pre- owned Steelcase Exponents Mobile Mediaboard Display	1	1	EA	
12 50 00	737	01	Н	Salvaged Furniture	Office Furniture Center	MISCPHNBTH Pre- owned ROOM phone booth	2	1	EA	

FIGURE 5-33 Salvaged Product Information.



 ${\it FIGURE~5-35~Annotated~Floor~Plans}.$

I16-5 OPERATIONS DOCUMENTATION

INTENT

Provide a narrative of how the project will manage future waste streams.

SUSTAINABILITY PLAN

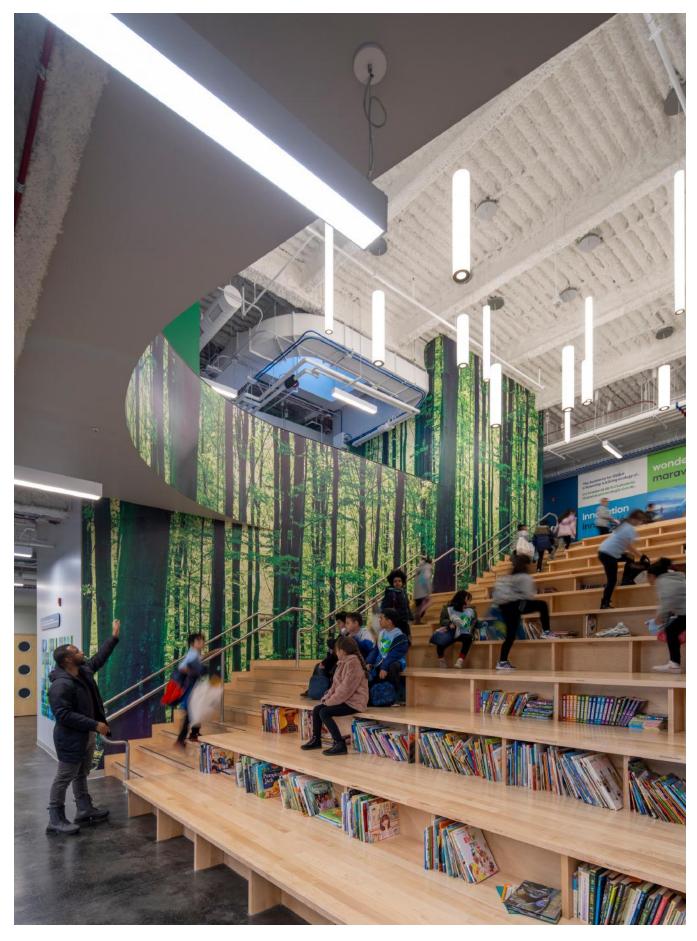
See **Appendix M-A** for the ongoing sustainability plan and **Figures 5-36** and **5-37** for photographs of the operations plan in action.



FIGURE 5-36 Large Dumpster Source Separation



FIGURE 5-37 Large Dumpster Source Separation





INTRODUCTION

17 - UNIVERSAL ACCESS

- 117-1 Universal Access Narrative
- 117-2 Universal Access Statement
- 117-3 Solar Shading Narrative and Calculations

18 - INCLUSION

- I18-1 JUST Label
- I18-2 JUST Self-Assessment
- 118-3 Diverse Stakeholder Contracts Backup Calculations
- I18-4 Diverse Stakeholder Contracts Backup Documentation
- I18-6 Workforce Development Training Calculations
- I18-7 Workforce Development Training Backup Documentation

APPENDICES

- Q-A JUST Self Assessments
- Q-B Diverse Stakeholder Documents



^{*} I17-4 & I18-5 are not applicable

INTRODUCTION

INTRODUCTION

The intent of the Equity Petal is to elevate equity as a project goal and to transform developments to foster a just and inclusive community that enables all people to participate, prosper, and reach their full potential. It is grounded in the belief that a society that embraces and engages all sectors of humanity and allows the dignity of equal access and fair treatment is a civilization in the best position to make decisions that protect and restore the natural environment that sustains all of us.

The Living Building Challenge envisions a built environment that is welcoming and accessible, and that enables all people to participate, prosper, and reach their full potential. It is a built environment created by equitable organizations, who lead inclusive design and construction processes.

The Equity Petal has two imperatives, and 9 requirements representing two main tenets: 1. Designing for universal access and 2. Engaging and supporting traditionally disadvantaged communities.

I17-1 UNIVERSAL ACCESS NARRATIVE

INTENT

Provide a narrative with images outlining the approach to each of the principles and guidelines of Universal Design, and outlining measures taken to provide benefit to all and to enhance the public realm.

UNIVERSAL DESIGN

The Academy for Global Citizenship incorporates Universal Design Principles that support equitable learning strategies for students, and offers choices and equity to all other occupants, visitors, and users. The intent of Universal Design is to maximize the accessibility and usability in buildings, products, or environments to the greatest extent possible for people, regardless of age, ability, or other factors without the need for personal adaptation.

Universal Design features of the Academy for Global Citizenship include:

- Smooth, Ground-level, entrances without stairs.
- Minimally sloped surfaces (less than 1:20), resulting in the elimination of handrails wherever feasible.
- Textured outdoor walking surfaces that promote ease of use and slip-resistance.
- Ample and functional clearances at doorways, passageways, and circulation zones, with higher volume spaces receiving greater clearances for queuing, passage, and arrival.
- Gender-neutral toileting for students, staff, and building occupants.
- Graphics and multi-lingual signage (including braille).
- Curated view corridors from interior to exterior to connect occupants to nature.
- Multiple glazing portals in high-use doors to allow visibility from each side for all users.
- Age-appropriate work-surface design to maximize usability for all students and adults.
- Age-appropriate teaching kitchens to support health and nutrition education objectives.
- Accessible visual displays to teach occupants about energy efficient features and energy usage data.
- Expansion of health center to serve students and the public.



FIGURE 6-01 Ample connections to nature.



FIGURE 6-02 Multiple glazing portals in high-use doors.

- Provision of publicly accessible community gardens to promote social connection to the local community through educational opportunities, health, and wellbeing.
- Lighting controls with automated scenes to maximize usability.
- An airtight building envelope supplemented by radiant heating and cooling resulting in the elimination of drafts and noise.
- Prioritization of thermal comfort and acoustics.
- Provision of exterior windows and north-facing skylights with shading devices that provide natural light to all regularly occupied spaces while managing glare.
- A variety of teaching environments provide support for diverse teaching techniques and self-directed learning.



FIGURE 6-03 Water fountains at multiple heights for diverse building occupants.



FIGURE 6-07 Accessibility Ramps.



FIGURE 6-04 Gender-neutral Restrooms.



FIGURE 6-08 Multi-Lingual Signage.



FIGURE 6-05 Curated view corridors.



FIGURE 6-09 Accessible Restrooms.



 ${\it FIGURE~6-06~Minimally~sloped~surface}.$



 ${\it FIGURE~6-10~Age-appropriate~teaching~spaces}.$

I17-2 UNIVERSAL ACCESS STATEMENT

INTENT

Provide a signed statement by the Architect, affirming: 1. That the project complies with ADA and ABA requirements and Universal Design principles, 2. That noxious emissions are not present, 3. That there are no unresolved noise complaints from the community, and 4. That all waterways have public access.



International Living Future Institute P.O. Box 5874 Portland, OR 97228-5874

October 4, 2023

Re: The Academy For Global Citizenship

4942 W. 44th Street Chicago, IL 60638

To Whom It May Concern,

I am the Architect of Record for the construction of the new Academy For Global Citizenship. This letter is to confirm that, to the best of my knowledge, information and belief the design incorporates "The 7 Principles of Universal Design" as outlined in the LBC handbook (as developed by a group led by Ronald Mace in 1997).

Sincerely,

Todd Niemiec Principal

SMNG A Architects, Ltd.

I17-3 SOLAR SHADING NARRATIVE & **CALCULATIONS**

INTENT

Provide: 1. A narrative describing if any neighboring buildings are shaded, what the impacts are, and how they are being addressed. 2. Diagrams demonstrating maximum shading of adjacent properties, measured on the winter solstice (December 21) between 10:00 a.m. and 2:00 p.m.

SOLAR ADJACENCIES

The Academy for Global Citizenship is located at 4942 West 44th Street, Chicago, IL with a Longitude and Latitude as follows:

> Longitude: 31.813 Latitude: -87.748

The Academy for Global Citizenship has no Eastern, Western, or Northern properties adjacent to it, eliminating the threat of shading. The closest existing adjacency is the LeClair M.B Church located southwest of the site.

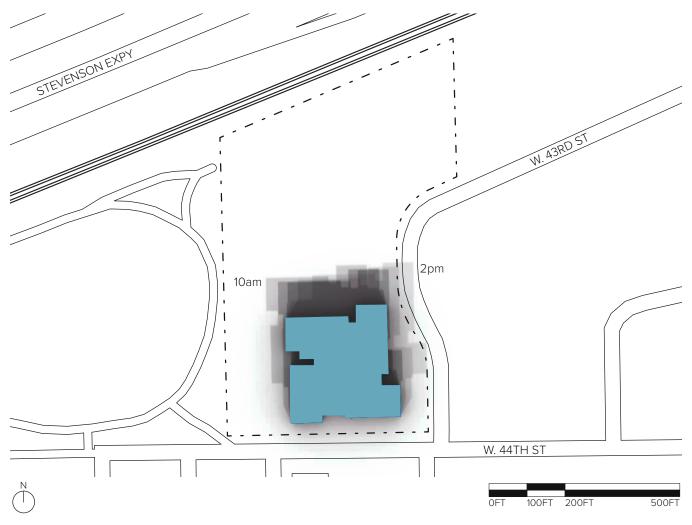


FIGURE 6-12 Solar Adjacencies Diagram.

I18-1 JUST LABEL

INTENT

Provide a current Just label for qualified project team organizations.

Requirement: two team members



FIGURE 6-13 Farr Associates JUST Label.



FIGURE 6-14 SMNG-A JUST Label.

I18-2 JUST SELF-ASSESSMENT

INTENT

Provide Just. self-assessments for the required number of project team members.

Requirement: five team members

ASSESSMENTS

The following project team members performed a Just. assessment:

- dbHMS (MEP Engineer)
- WSP (Red List Consultant)
- Baumann Consulting (Commissioning Authority)
- Site Design Group (Landscape Architect)
- The Academy for Global Citizenship (Owner)

Please see **Appendix Q-A** for the assessments.

I18-3 DIVERSE STAKEHOLDER INVOLVEMENT CALCULATIONS

INTENT

Provide calculations demonstrating that percentage compliance has been met.

Requirement: 20% of design contract and/or construction contracts, and 10% of maintenance contracts must be with Just organizations that meet required levels for Diversity category, or are registered Minority, Women, or Disadvantaged Business Enterprises (MWDBE) organizations, or international equivalent. We chose option 2 and Workforce development/training/community benefits agreements, registered apprentice programs, and similar programs are employed for 10% of the General Contractor's project contracts and/or maintenance contracts.

ENGAGEMENT

For Diverse stakeholder engagement, please see Appendix Q-B and I18-4.

The overall calculations are:

Construction Contracts \$40,478,372.00 MBW/WBE \$13,114,992.00

32%

Maintenance Contracts* \$584,469.00 MBW/WBE \$228,482.00

39%

Additionally, three community businesses were hired and apprenticeship programs were engaged, representing 16% of the construction contract as outlined in **Appendix Q-B, I18-6, and I18-7**.

^{*} Estimates are based on 2023

I18-4 DIVERSE STAKEHOLDER CONTRACTS BACKUP DOCUMENTATION

INTENT

Provide documents that list all organizations working on the project by phase, including contracted dollar values as relevant.

DOCUMENTATION

For the back up calculations, please see Appendix Q-B.

I18-6 WORKFORCE DEVELOPMENT / TRAINING BACKUP CALCULATIONS

INTENT

Provide calculations demonstrating that percentage compliance has been met.

WORK FORCE DEVELOPMENT

For workforce development, please see Appendix Q-B.

The overall calculations are:

Construction Hours 104,565 Workforce Development Hours 16,436 16%

Additionally, ten Section 3 Candidates were hired as outlined in Appendix Q-B.

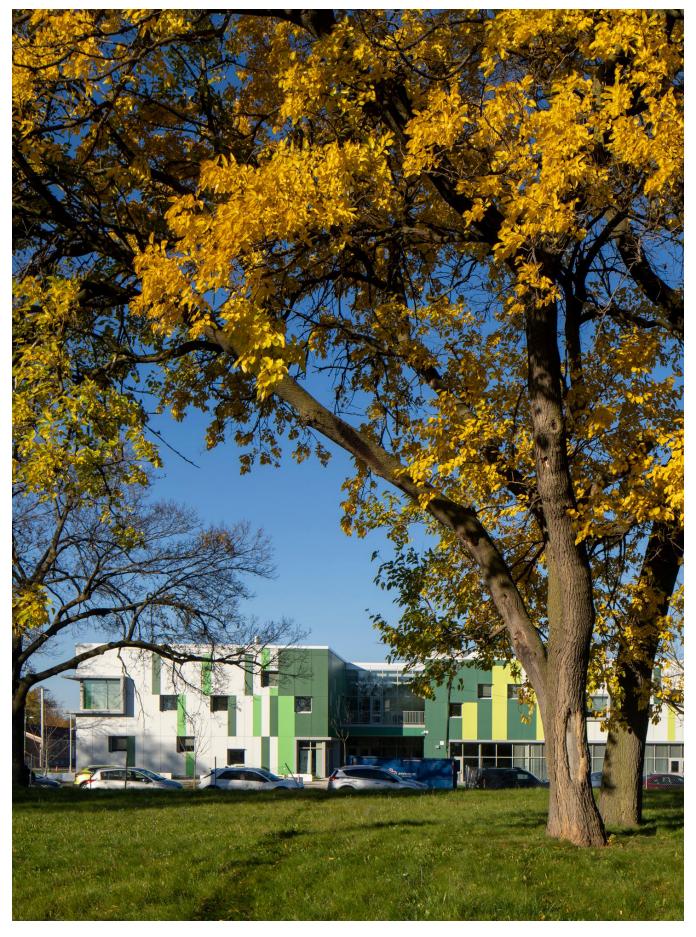
I18-7 WORKFORCE DEVELOPMENT / TRAINING BACKUP DOCUMENTATION

INTENT

Provide name and job classification of individuals working on the project, total hours worked on the project, and information about the apprenticeship or training program the individual is enrolled in. Back-up information describing the Registered Apprenticeship Program, CBA, CWA, PLA, or Workforce Training and Development programs involved, as applicable. A signed statement attesting to accuracy from the General Contractor.

DOCUMENTATION

For the back up calculations, please see Appendix Q-B.



BEAUTY

INTRODUCTION

19 - BEAUTY & BIOPHILIA

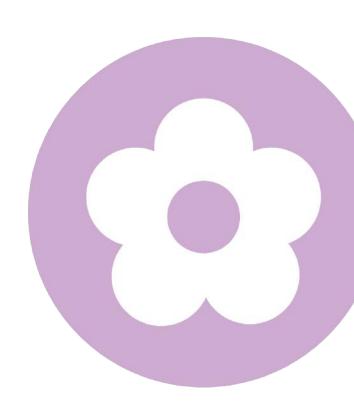
- I19-1 Biophilic Design Exploration Document
- I19-2 Biophilic Framework
- I19-3 Biophilic Plan
- 119-4 Biophilic Results

20 - EDUCATION & INSPIRATION

- 120-1 Case Study Content
- 120-2 Proof of Open Day
- 120-3 Operations and Maintenance Manual
- 120-4 Living Future Accreditation (LFA) Certificate
- I20-6 Website
- 120-7 Brochure
- 120-8 Signage

APPENDICES

- B-A Biophilic Workshops
- B-B Open Day Invitation
- B-C Tour Brochure



OINTRODUCTION

INTRODUCTION

The Beauty Petal has two imperatives and 11 requirements representing two main tenets: 1. Designing with biophilic principles in mind as well as 2. Generous sharing of information.

BIOPHILIC DESIGN

The Academy for Global Citizenship (AGC) project was influenced by the local ecosystem and geography. As the design progressed, each space was vetted against the 14 principles of biophilia through multiple meetings and design iterations.

GENEROUS SHARING

With AGC being a community hub and school, sharing is part of the daily activity. Multiple tours, signage, and collateral have been prepared and shared. More importantly, AGC is working to integrate the building systems and data streams into the school curriculum.

119-1 BIOPHILIC DESIGN EXPLORATION

INTENT

Provide an agenda with times, an attendee list, and examples of tools and instruments used in the exploration of biophilic design.

THE BIOPHILIC WORKSHOPS

Over the course of the 3-year design process (that occurred during the pandemic) we had multiple design meetings addressing all aspects of the design and how to integrate the Beauty Petal concepts. See **Appendix B-A** for the Agenda of the meeting titled "Biophilic

Meeting" and an example of the slide deck used to lead that meeting. Please note in addition to specific Biophilic meetings, Biophilia was incorporated into the Integrated Design Workshops and Concept Presentations.

SCHEDULED MEETINGS

1st Board Presentation	January 2020
2nd Integrated Design Workshop	March 2020
Biophilic Workshop #1	August 2021
Biophilic Workshop #2	August 2022



FIGURE 7-01 The Biophilic Design Workshop.

119-2 BIOPHILIC FRAMEWORK

INTENT

Provide: 1. The final Biophilic Framework with a short narrative describing how the Framework evolved over the course of the project from the initial draft following the Biophilic Design Exploration to the final version. 2. Include any relevant cultural, ecological, and climatic studies.

OUR INSPIRATION & PROCESS

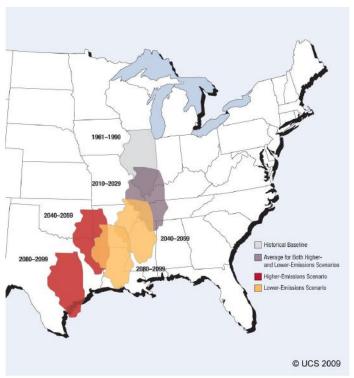
For the biophilic framework we utilized the Terrapin Green 14 patterns. In Figure 7-03, we matrixed the individual spaces across the 14 patterns to see where we could improve. Additionally during the course of the design we referenced the biome and watershed that helped inform the design. See the included images from the design process.



FIGURE 7-02 Chicago Watershed Diagram

		ite e	the Her	st The Her	art 2 Commun	rity ad	min Prest	village K-15	Village 2/3rd	Village Athly	th other	Village
		. Greet	. The	The!	Comit	No No	P	All K.	VIII 21.	VIII. Ath.	All Gth	All E.
1. Visual Connection with Nature	10	10		8	8	7	8	7	7	7	7	7
2. Non-Visual Connection with Nature	10	9	8	2	4	1	2	2	2	2	2	2
3. Non-Rhythmic Sensory Stimuli	10	8	8	2	3	2	2	2	2	2	2	2
4. Thermal & Airflow Variability	10	9	8	8	4	2	5	5	5	5	5	5
5. Presence of Water	7	4	2	2	2	1	1	1	1	1	1	1
6. Dynamic & Diffuse Light	9	9	9	9	6	8	8	8	8	8	8	8
7. Connection with Natural Systems	10	10	8	6	7	3	3	3	3	3	3	3
8. Biomorphic Forms & Patterns	10	8	6	6	8	2	1	2	3	3	3	5
9. Material Connection with Nature	9	6	3	3	2	2	1	2	2	2	2	5
10. Complexity & Order	10	5	8	8	10	2	1	4	7	7	7	5
11. Prospect	10	10	8	8	10	2	5	7	8	6	6	2
12. Refuge	10	8	5	7	2	8	5	8	8	8	8	2
13. Mystery	10	8	8	7	3	5	1	8	7	7	7	2
14. Risk/Peril	10	10	9	8	8	5	1	7	7	6	6	2

FIGURE 7-03 Patterns Matrix.





What are the measures of resilient design can we incorporate into the project to best prepare for the future?

AVERAGE AND MAXIMUM TEMPERATURES CONTINUE TO INCREASE DUE TO CLIMATE CHANGE

Over the next 100 years, Illinois's climate is predicted to have a climate similar to present day Texas and Louisiana

FIGURE 7-04 Climate Change Analysis.



I19-3 BIOPHILIC PLAN

INTENT

Provide: the Biophilic Plan, including communication and decision-making strategies as well as the means to, and schedule for, tracking the implementation of biophilic design strategies over the course of the project.

THE BIOPHILIC PLAN

Implementation of the Biophilic plan was integrated into the design and construction process. The two processes ran in parallel allowing Biophilic elements to be incorporated into the design on an ongoing basis. Three aspects of the built project demonstrate how the Biophilic Plan resulted in a biophilic experience: 1. The pinwheel plan, 2. The Non-Rhythmic and natural color palette of the Facade, and 3. A comprehensive map of all interior sustainable/biophilic elements.

PINWHEEL PLAN

The building's floor plan is that of a pinwheel. It was chosen to maximize direct access to the outdoors and to orient building occupants to the suns daily movements by providing views to nature in the four cardinal directions.

NON-RHYTHMIC, NATURE-COLORED FACADE

The facade embodies two core aspects of Terrapin's Biophilic criteria: non-rhythmic composition, and a nature-inspired color palette.

MAP OF SUSTAINABLE & BIOPHILIC ELEMENTS

These plans locate approximately thirty education elements located throughout the building that are the result of the Biophilic Plan.

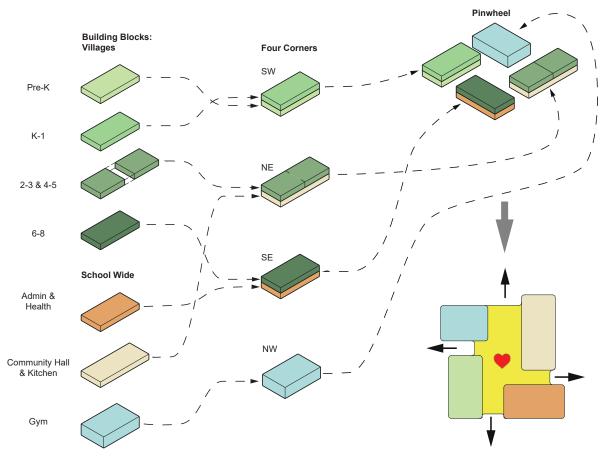


FIGURE 7-06 Pinwheel Configuration Diagram.

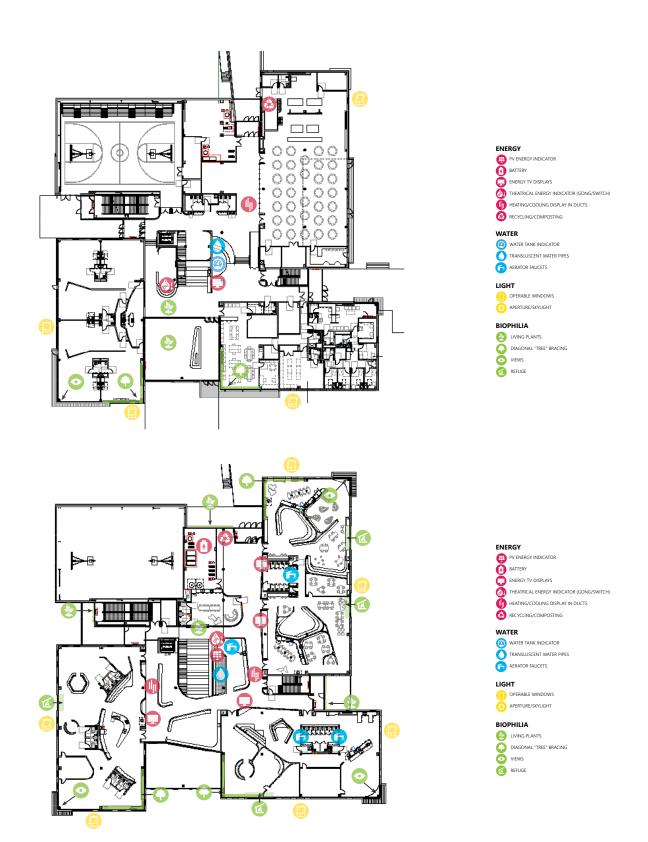


FIGURE 7-07 Sustainable Features Diagrams

© I19-4 BIOPHILIC RESULTS

INTENT

Provide 1. A narrative that explains how biophilic design was incorporated, reflects stakeholder priorities, and meets the requirements outlined in the requirements. 2. Photographs of the completed project highlighting the biophilic elements and attributes in the project.

A REFLECTION OF NATURAL PATTERNS

The results of the design process is a project that incorporates all 14 aspects of natural patterns. See the following images describing the patterns.



FIGURE 7-08 Visual Connection with Nature.



FIGURE 7-09 Non-Visual Connection with Nature.



FIGURE 7-10 Non-Rhythmic Sensory Stimuli.



FIGURE 7-11 Thermal & Airflow Variability.



FIGURE 7-12 Presence of Water



FIGURE 7-13 Dynamic & Diffuse Light.



FIGURE 7-14 Connection with Natural Systems.



FIGURE 7-18 Prospect.



FIGURE 7-15 Biomorphic Forms & Patterns.



FIGURE 7-19 Refuge.



FIGURE 7-16 Material Connection with Nature.



FIGURE 7-20 Mystery.



FIGURE 7-17 Complexity & Order.



FIGURE 7-21 Risk/Peril.

© I20-1 CASE STUDY CONTENT

INTENT	
Provide a brief narrative for each targeted Imperative.	
NARRATIVE	
FINAL AUDIT	
(EXPECTED OCTOBER 2025)	

120-2 PROOF OF OPEN DAY

INTENT

Provide: 1. The advertisement and agenda of the open day. 2. A list or total number of attendees at open day

THE RIBBON CUTTING

The Academy for Global Citizenship officially opened to the public on Wednesday, October 18th 2023. See **Appendix B-B** for the email invitation.



FIGURE 7-23 Ribbing Cutting Event.



FIGURE 7-22 Open Day Event.



FIGURE 7-24 Open Day Event.

120-3 OPERATIONS & MAINTENANCE MANUAL

INTENT

Provide a copy of the Operations and Maintenance (O&M) Manual.



November 15, 2024

SYSTEMS MANUAL SUMMARY

To Academy of Global Citizenship

From Brandon Pieczynski – Baumann Consulting
Subject P.0737.U AGC Academy for Global Citizenship

The construction team is responsible for supplying the systems manual, with additions by the commissioning authority. The following documentation is included:

Item	Status	File
Executive summary	Submitted	P.0737.U AGC - Cx Report Summary.pdf
Owner's project requirements	Submitted	P.0737.U AGC - Owner's Project Requirements.pdf
Basis of design	Submitted	P.0737.U AGC - Basis of Design.pdf
System single-line diagrams	Submitted	P.0737.U AGC - As-Builts.zip
Construction record documents and specifications	Submitted	P.0737.U AGC - IFC Set.zip
Approved submittals	Submitted	P.0737.U AGC - Submittals.zip
As-built drawings	Submitted	P.0737.U AGC - As-Builts.zip
Original setpoints for all systems commissioned	Submitted	P.0737.U AGC - System Setpoints.pdf
Recommended schedule for recommissioning	Submitted	P.0737.U AGC - Ongoing Cx.pdf
Recommended schedule for sensor recalibration	Submitted	P.0737.U AGC - Recalibration and RCx Frequency and Procedures.pdf
Equipment O&M manuals	Submitted	P.0737.U AGC - O&M Manuals.zip
Equipment preventative maintenance schedules		See O&M Manuals
Confirmation of completed training for owner and occupants	Submitted	P.0737.U AGC - Owner Training.pdf
Ongoing system optimization procedures	Submitted	See Ongoing Cx and RCx Frequency documents
Final Cx report	Submitted	P.0737.U AGC - Final Cx Report.pdf

P.0737.U AGC Academy for Global Citizenship - Systems Manual Summary.docx

Page 1 | 1

Baumann Consulting

www.baumann-us.com

① I20-4 LIVING FUTURE ACCREDITATION (LFA) CERTIFICATE

INTENT

Provide an International Living Future Institute-issued LFA certificate for a minimum of one project team member.



© I20-6 WEBSITE

INTENT

Provide an Educational website URL.

WEBSITE URL

Main Page: https://agcchicago.org/ Sustainability Page: https://agcchicago.org/our-model/ sustainability

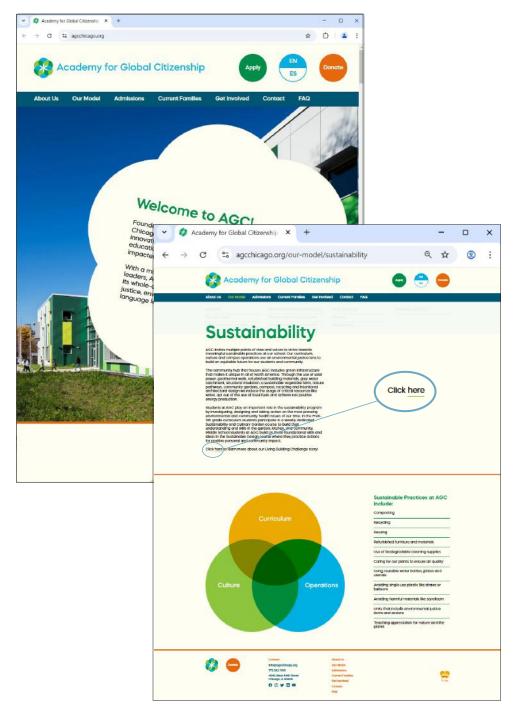


FIGURE 7-27 Website.

120-7 BROCHURE

INTENT

Provide a copy or pdf of the Brochure.

WANT TO TAKE A TOUR?

The Academy for Global Citizenship has been features on multiple AIA tours and open for public tours upon request. See **Appendix B-C** for a tour brochure.





OVERVIEW

Cultivate Collective is a six-acre regenerative and self-sustaining community hub located in the LeClaire Courts neighborhood on the southwest side of Chicago.

It is on track to become the first project in the Midwest to meet the most ambitious environmental standards in the world—the Living Building Challenge—by producing its own food, achieving energy and water net-positivity, and establishing a comprehensive model for community revitalization. The sustainability hub also serves as a solar energy educational lab and experiential STEM immersion site, that will enable hands-on learning avenues for cultivating the next generation of socially responsible leaders, innovators, and entrepreneurs.

Our hub includes unique facilities, resources and programming, including a health center, fresh foods store and café, teaching kitchens, community gardens, wellness facilities, neighborhood walking trails and green spaces, a three-acre urban farm and opportunities for social enterprise development. A Head Start early childhood center and K-8 public school is also housed onsite, enabling a cradle-to-college pipeline.

Join us at our site for a 1 hour tour to take an in-depth look at our facility and learn more about our model!



MISSION

Our mission is to unite education, wellness, sustainability and economic vitality at the community level to drive meaningful, generational impact.





SCHEDULE A TOUR

+773.744.8729

community @cultivatehere.org

WHERE

4942 W. 44TH STREET CHICAGO, IL 60638

FIGURE 7-28 Brochure.

120-8 SIGNAGE

INTENT

Provide photos of all interpretive signage and maps showing the location of each sign.

SIGNAGE

Attached is an excerpt from the signage package. See **Appendix B-D** for the full document.

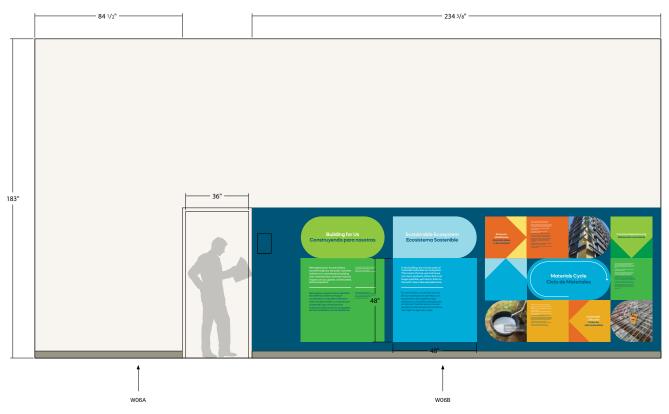
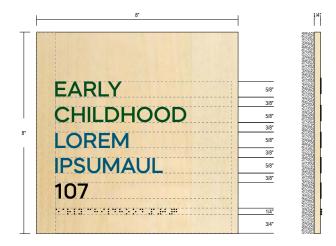


FIGURE 7-30 Biophilic Signage Mock Up.



5'-0"

FIGURE 7-29 Room Signage Detail.







