



Project 1018 Grow A Lot

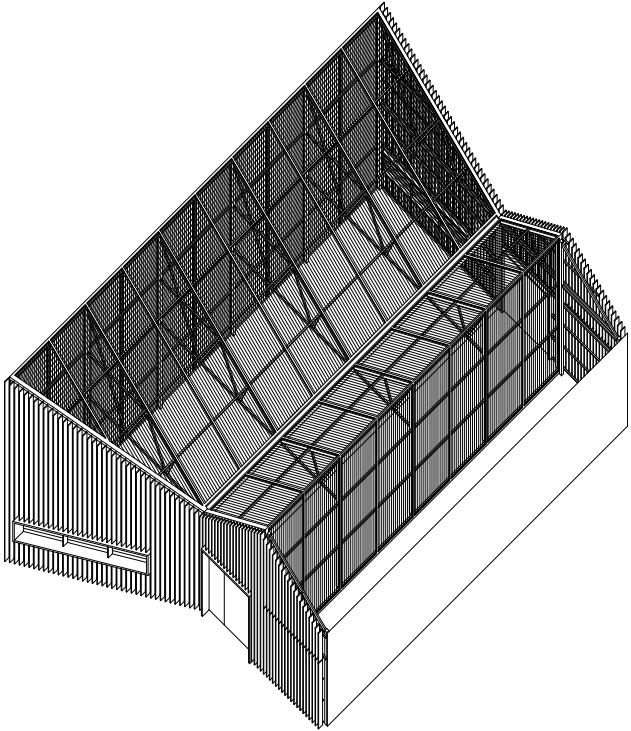
A B Abruzzo Bodziak
A Architects

Project 1018

Grow A Lot

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Project Details



Project 1018
Grow A Lot

Client: Cypress Hills Local Development Corporation

Program: Greenhouse, Classroom, Training Facility

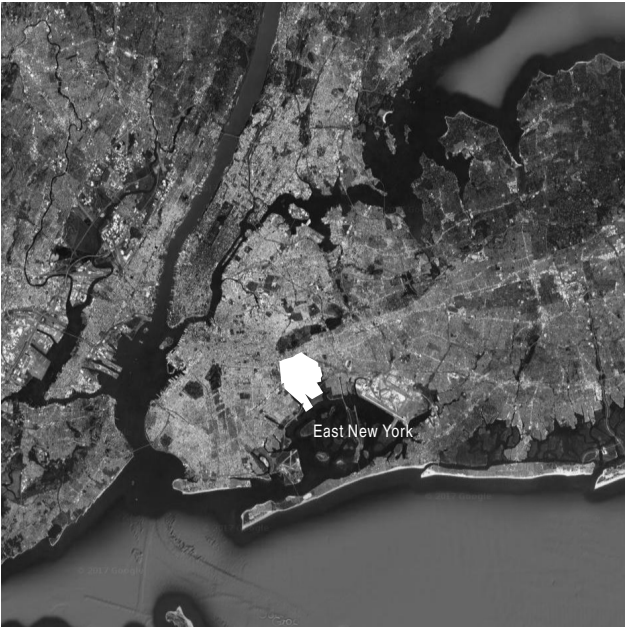
Location: Brooklyn, NY, USA

Dimensions: 3,578 SF

Collaborators: Nexus Cost Estimating (Greenhouse Consultant), The Tocci Group (Cost Estimating), NY Sun Works (Educational Consultant), Alan Cohn / NYC DEP (Agency Liaison), ARUP (Climate & Energy), Mark Jackson ESQ (Land Law)

Status: Fundraising

Project Description



(Figure 1) Aerial Photo

Project 1018 Grow A Lot

The Grow A Lot project activates vacant urban land with greenhouses that provide produce to communities with less access to fresh food. A design-forward intervention that brings value not only through its productive nature, the project also enriches its site via engaging, inviting, architecture.

A prototype greenhouse for East New York (Brooklyn) takes advantage of a City-owned lot slated for housing development, but currently lying vacant due to the low unit yield on developing small sites, and the high costs of brownfield clean-up. A structure that can be assembled quickly, the greenhouse will provide an extended growing season for fresh, hydroponically-grown local produce.



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Grow A Lot



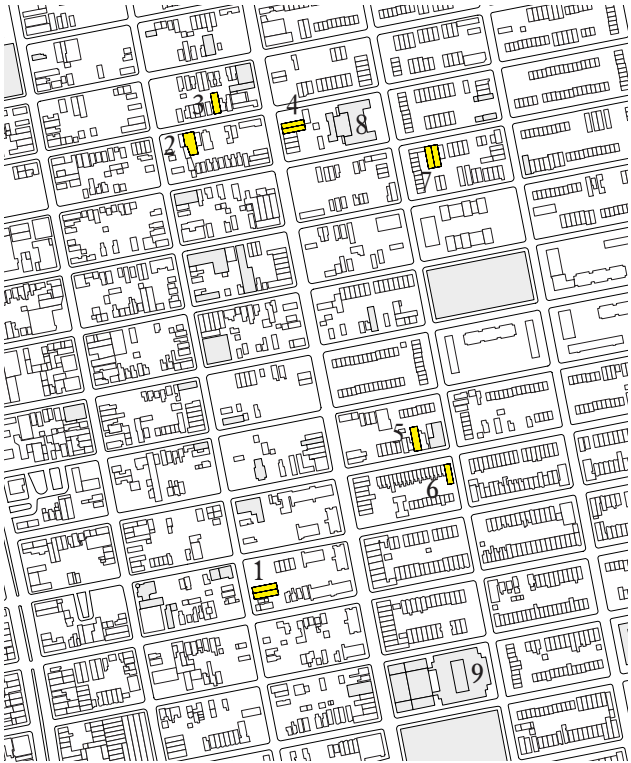
Vacant Sites at 2358 / 2362 Pitkin
Avenue, East New York



The design pairs a semi-custom lenticular billboard-like facade with a kit-of-parts greenhouse structure. Used in tandem, these two elements can address many different site configurations in various urban fabrics. The lenticular fins provide the project's signage and draw in passers-by while allowing the transparent building skin and outdoor areas to remain protected without the use of unattractive barriers.

In addition to fresh food, the greenhouses provide a curated learning experience for nearby schools as well as community members who will receive on-site job training as part of NY Sun Works' larger "Greenhouse Project," and in support of Cypress Hills Local Development Corporation's "Verde" initiatives.

Site Selection



East New York Area Map

Key:

- Potential Sites
 - Neighborhood Features and Amenities
1. 492 / 496 Glenmore Avenue
 2. 330 Ashford Street
 3. 341 Ashford Street
 4. 2358 / 2362 Pitkin Avenue
 5. 329 Van Siclen Avenue
 6. 342 Van Siclen Avenue
 7. 480 / 482 Warwick
 8. Public School 158
 9. Intermediate School 292 /Uft Elementary Charter School



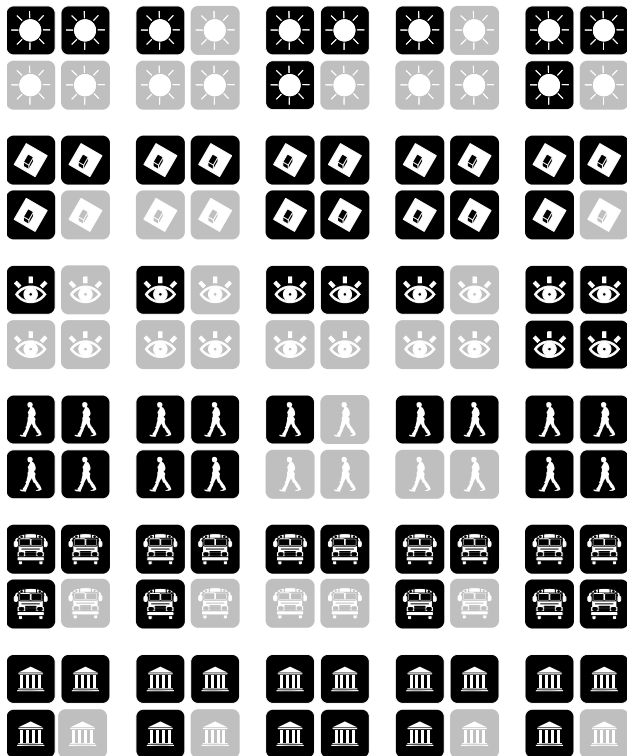
330
Ashford
Street

341
Ashford
Street

492 / 496
Glenmore
Avenue

480 /482
Warwick
Street

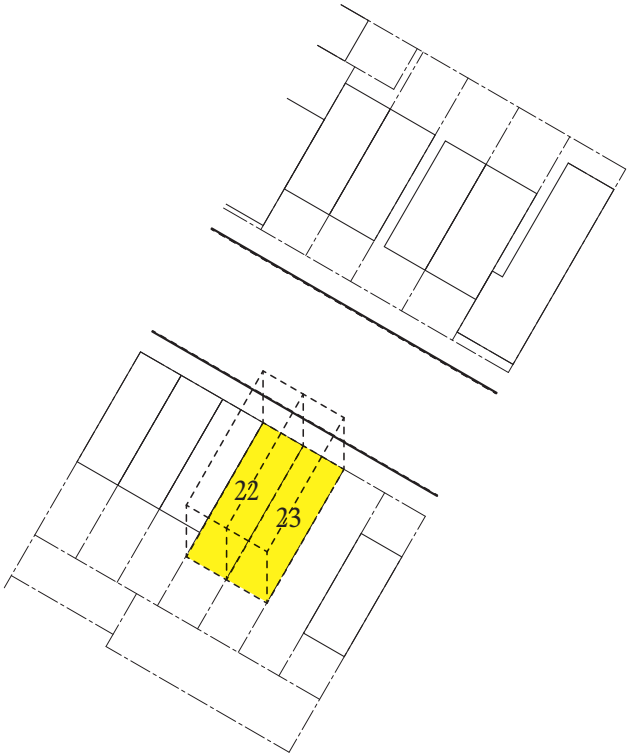
2358 /2362
Pitkin
Avenue



Site Selection Diagram

Cypress Hills Local Development Corporation asked ABA to study several sites for the prototype project. 2358 & 2362 Pitkin Avenue are two adjacent lots zoned R5. However, located on Pitkin Avenue, they have an additional Commercial zoning designation, called an “Overlay,” of C2-3.

The two sites, respectively, have areas of 1777 and 1800 square feet. Used residentially, the buildable footprints of the two sites are 587 and 600 square feet, as they are narrow lots with side yard restrictions. The possible Accessory Structure square footage for each is approximately equal to that which would be allowed on a Green Thumb. However, if the sites are used commercially, they can attain a buildable area equal to their total footprint; if used as a Community Facility, these sites are allowed a



2358 / 2362 Pitkin Avenue
Using Commercial Overlay

Site Zoning Data

Lot 22 Area = 1777 SF

Zoning = R5 & C2-3 Overlay

- Residential Buildable Area = 587 SF
- Commercial Overlay Buildable Area = 1777 SF X 1 Story
- Community Facility Buildable Area = 1777 SF X 2 Stories

Lot 23 Area = 1800 SF

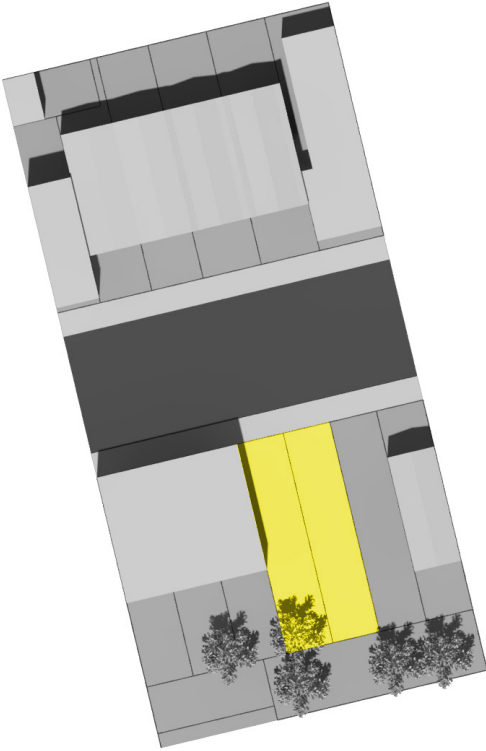
Zoning = R5 & C2-3 Overlay

- Residential Buildable Area = 600 SF
- Commercial Overlay Buildable Area = 1800 SF X 1 Story
- Community Facility Buildable Area = 1800 SF X 2 Stories

buildable area twice the site's square footage. In both instances, the zoning overlay permits community usage, and side yard restrictions are waived.

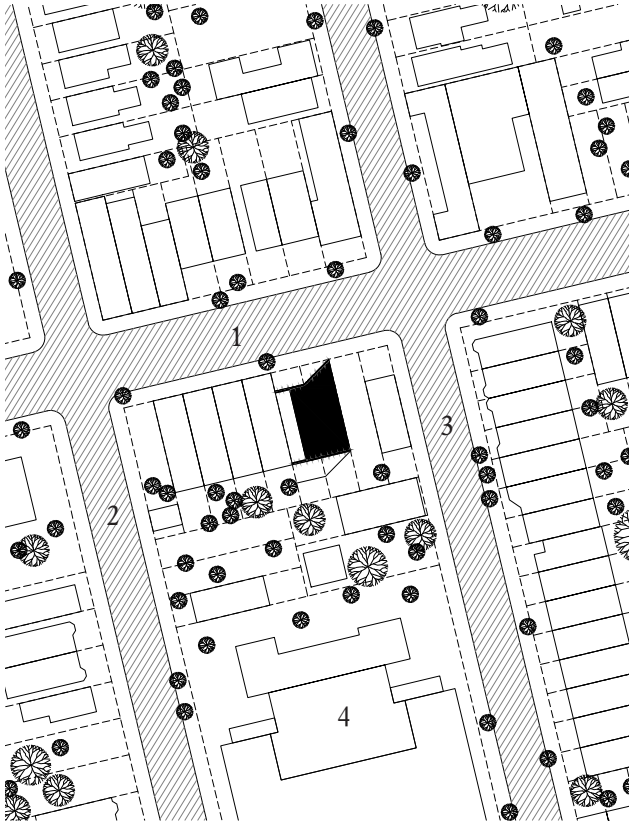
During the summer months, these sites receive a significant amount of sun until mid-afternoon, at which point a large building immediately to the west casts a large shadow over half of the site. Trees to the south may affect light gain somewhat in the summer. During the winter, this site is not significantly in shade. The site's north-south orientation is ideal for a greenhouse.

This site is on a busy street, which provides good visibility. It is on the same city block as Public School 158 and is caddy-corner to The Greater Jerusalem Baptist Church, which has a community garden adjacent.



Solar Simulation / Summer Solstice

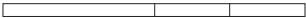
Project Documentation



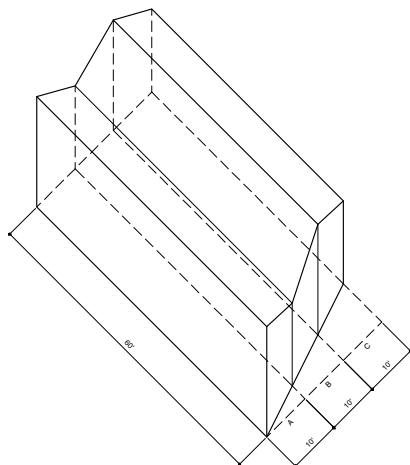
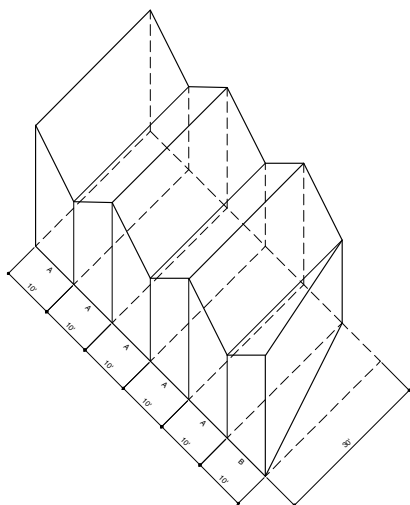
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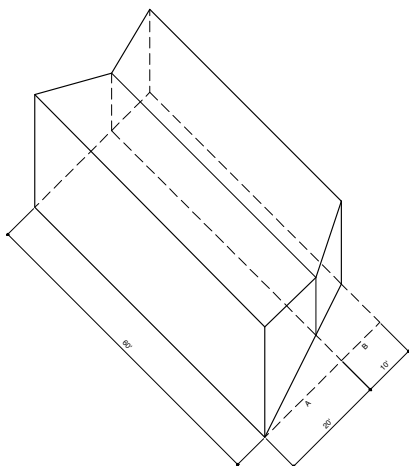
1. Pitkin Avenue
2. Warwick Street
3. Ashford Street
4. Public School 158

200' 100' 50' 0'

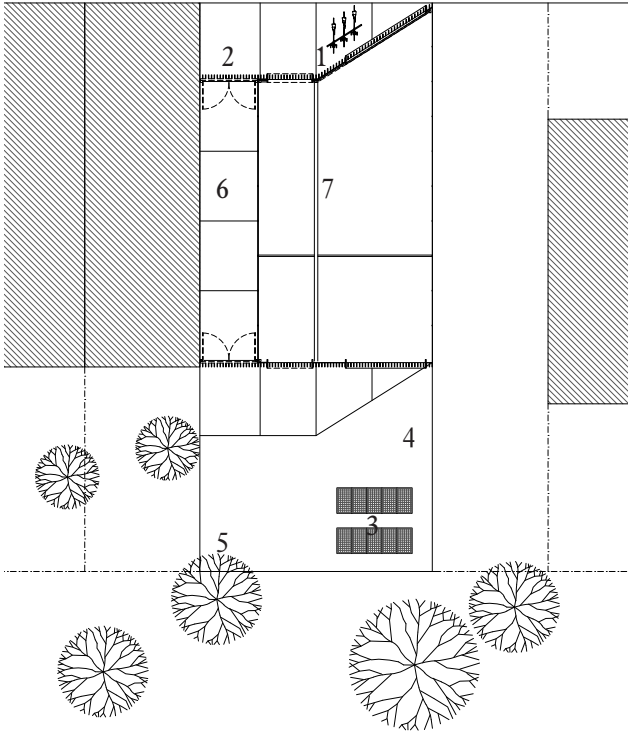


Block Plan



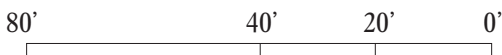


Modularity Options, using off-the-shelf
greenhouse kits: 30 degree roof slopes,
10 foot wide bays

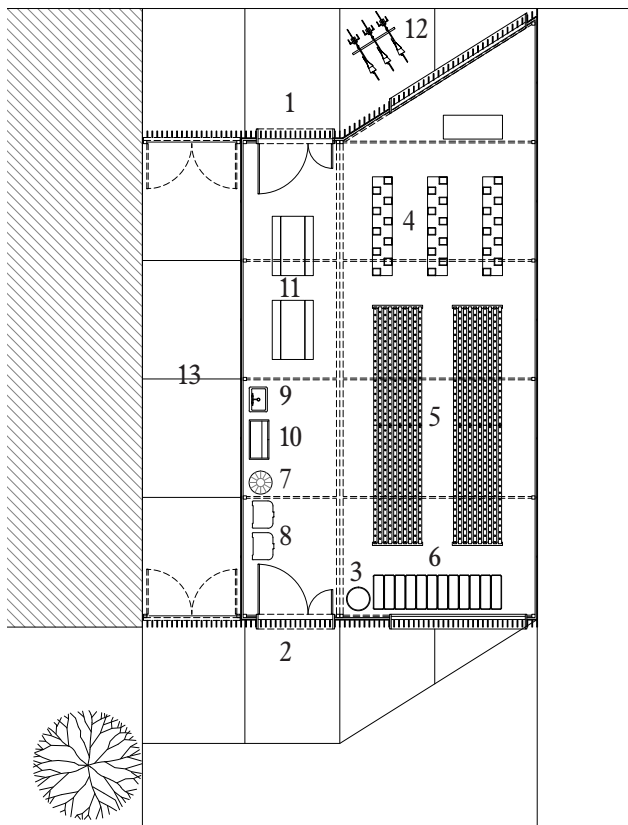


Key:

1. Security Fencing
2. Security Gate
3. Solar Panels
4. Composting Toilet
5. Chicken Coup
6. Rear Yard Access
7. Water Collection Trough
8. Pitkin Avenue

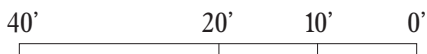


Site Plan

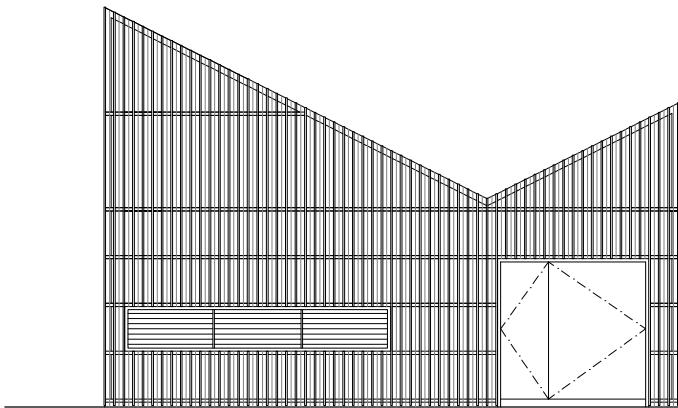


Key:

1. Main Entrance
2. Service Entrance
3. Water Cistern
4. Dutch Bucket
5. NFT System
6. Propagation Trays
7. Rolling Composter
8. Trash
9. Sink
10. Storage Cabinet
11. Classroom Tables
12. Bike Storage
13. Passage

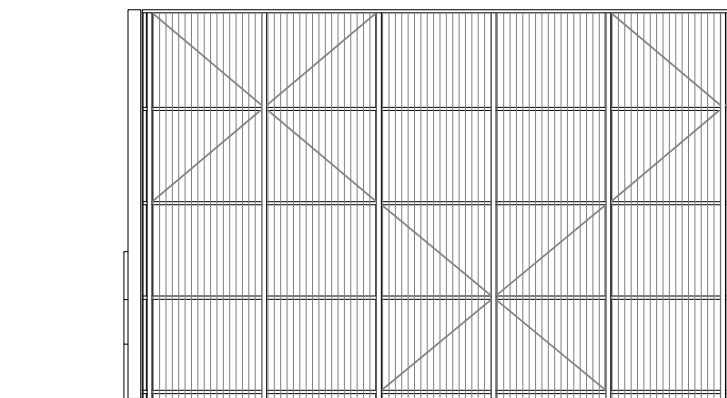


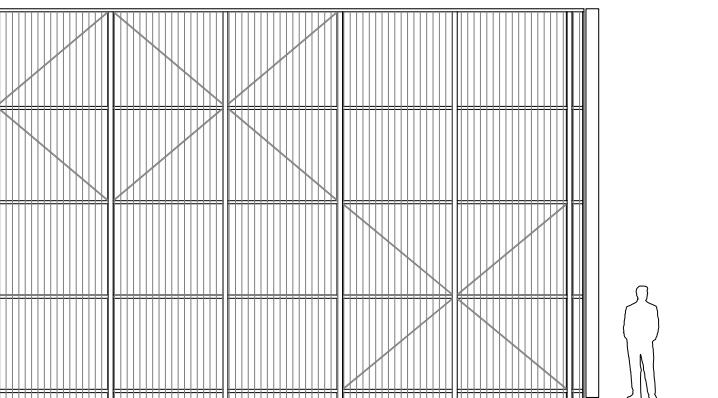
Floor Plan





North Elevation





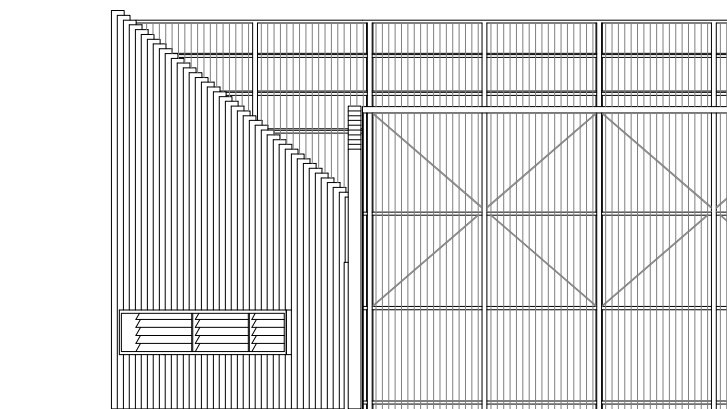
East Elevation

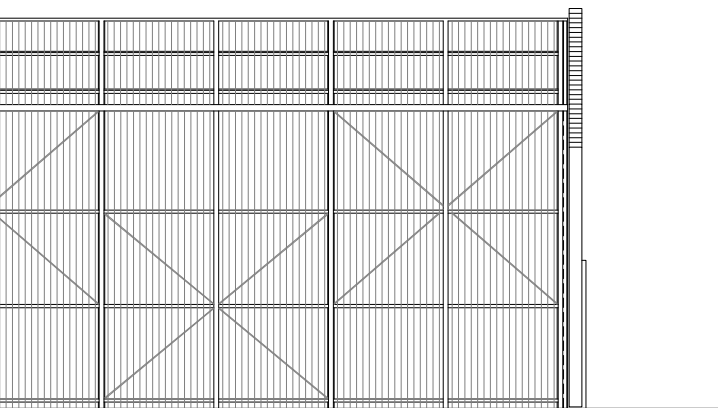
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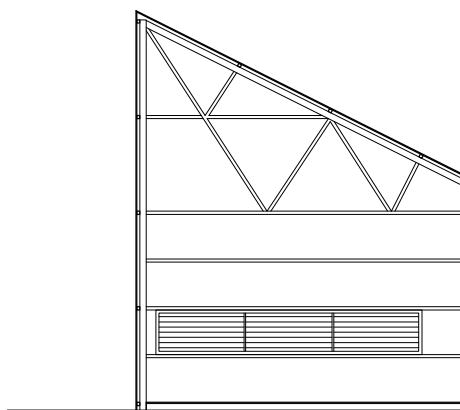


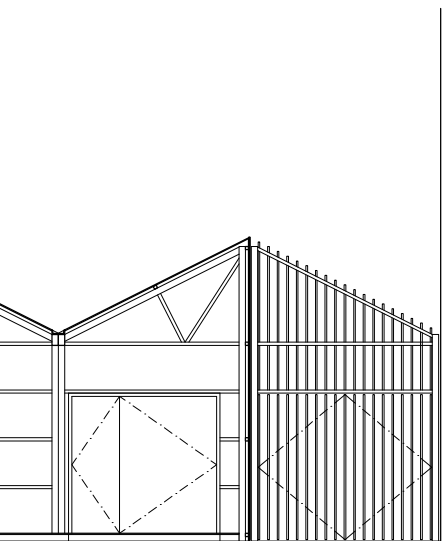


West Elevation

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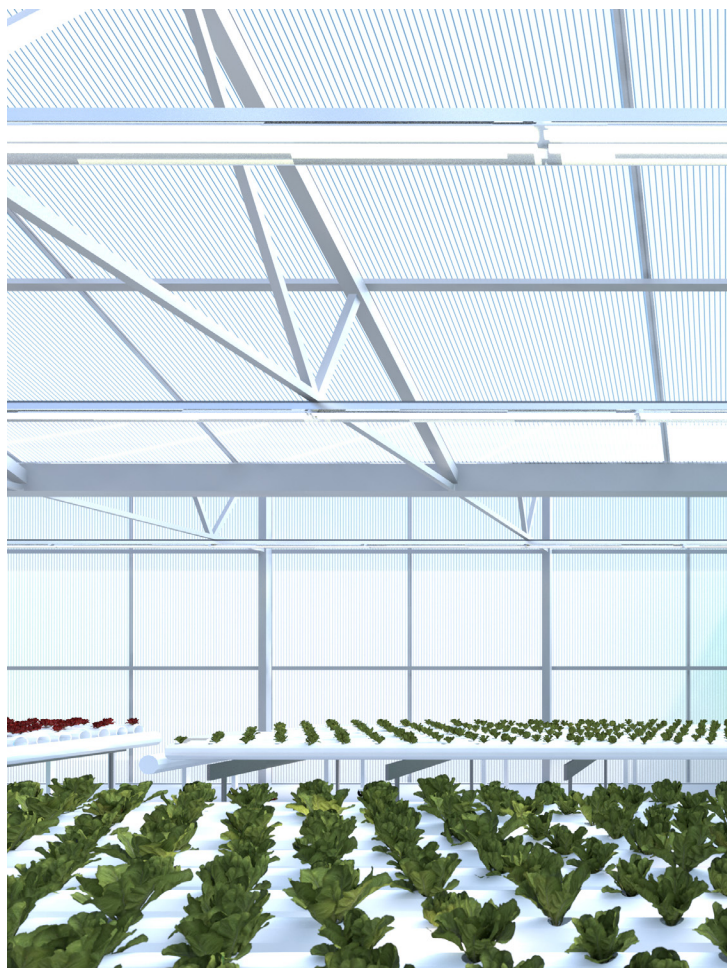




Section Looking South

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Systems



NFT Channels

The greenhouse utilizes hydroponic growing methods such as NFT (Nutrient Film Technique) Channels, which grow things like lettuces, kale, basil and cilantro, and Dutch Bucket systems, which are used for growing vine vegetables and fruits, such as tomatoes and cucumbers.

Hydroponics are not only more efficient in terms of water and energy use than traditional gardening, but it is also lighter weight, which makes the greenhouse implementation more flexible (it can even be used on rooftops).

At 1,443 square feet, the prototype greenhouse would have a typical yield of approximately 5,500 lbs of fruit and/or vegetables per year. The yield would vary depending on the types of plants grown, which would be determined by the community.



Specific-Spectrum LED Grow Lights

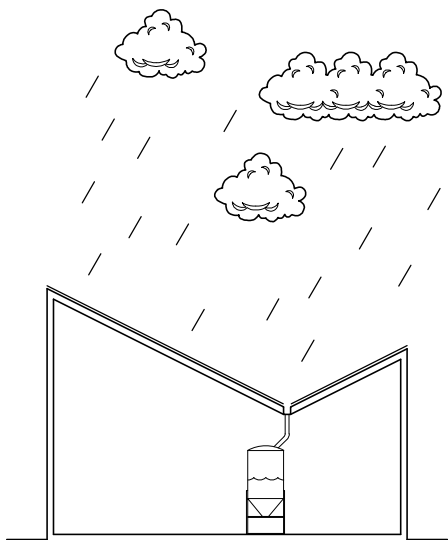
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Grow A Lot

Seedlings need extra care and light to grow large enough to move to the other systems. Specific-spectrum LED lighting powered by ground-mounted photovoltaic (solar) panels will help the seedlings reach this stage.

Photovoltaic panels will also be used to power pumps for the NFT systems, lighting for general use and safety, heaters as needed for winter months.

The greenhouse and its systems are designed so that it can rely on these panels only and does not need power from Con Edison.



Rainwater Collection via Butterfly Roof

Rainwater will be collected from the roofs of the greenhouse and chicken coop. This water will be used to water the plants and deliver nutrients to them. This eliminates runoff and lessens the need for plumbed water.

Water for hand washing may need to be provided via plumbed, city water.

Information



Abruzzo Bodziak

Abruzzo Bodziak Architects is an award-winning New York-based practice with experience ranging from civic and cultural projects to homes, exhibitions, and research-based initiatives. A thought leader in the field, the firm's work is rooted in experience and is defined by an innovative approach to contextuality, relentless focus on detail, and aesthetic achievement with a strong conceptual viewpoint.

Established by Emily Abruzzo and Gerald Bodziak, ABA has been recognized by the Architectural League of New York (the 2010 Architectural League Prize for Young Architects and Designers), the AIA (New Practices New York 2012 and a 2013 AIA New York Design Award), *Wallpaper Magazine* (Architects Directory 2013: "The world's



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GROWING

Growing Urban Habitats documents and expands on Urban Habitats, an international design

GROWING URBAN HABITATS

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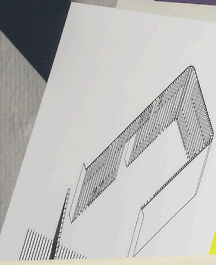
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best young practices”), *Architectural Record* (2016 Design Vanguard), and the New York City DDC (Design + Construction Excellence Program).

The office’s work has been featured in international publications such as *Architectural Record*, *Wired*, *Fast Company*, *FRAME*, *Domus*, *PIN-UP*, *Baumeister*, and *Cultured*, and has been exhibited by institutions such as Exit Art, Japan Foundation, Storefront for Art and Architecture, The Boston Society of Architects, and as part of The New Museum Festival of Ideas, with the Audi Urban Future Initiative.

Emily Abruzzo, AIA, LEED AP, NCARB is a Founding Partner of ABA. She received her Bachelor of Arts from Columbia College and her Master of Architecture from Princeton University, where she also received a Certificate in Media and Modernity and was named a Fellow at The Center for Arts and Cultural Policy Studies. Currently a Critic at the Yale School of Architecture, Emily is a founding editor and publisher of 306090 Books, and a 2014 MacDowell Fellow. She is a citizen of both the United States and Italy.

Gerald Bodziak, AIA, LEED AP, NCARB is a Founding Partner of ABA. He received his Bachelor of Science from the University of Michigan Taubman College of Architecture and Urban Planning and his Master of Architecture from Princeton University. Gerald is a Fellow of The Forum



and Institute for Urban Design, and has taught design and construction courses at numerous institutions including Columbia's Graduate School of Architecture, Planning, and Preservation. He is a citizen of the United States.

Imprint



Project 1018
Grow A Lot

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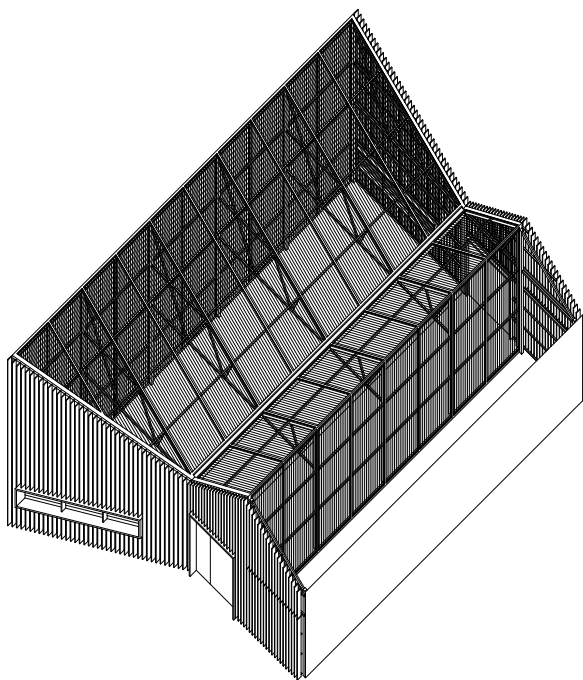
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ABA Project Booklets

1701	“Reflected Ceiling”
1505	“Trade”
1402	“Packed House”
1304	“Bomb Squad”
1302	“West Village Pied-a-terre”
1213	“Irish Hills House”
1212	“FitNation”
1204	“Landscape (Triptych)”
1106	“Space Frame”
1018	“Grow A Lot “
0905	“Arts Union Beacon”



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