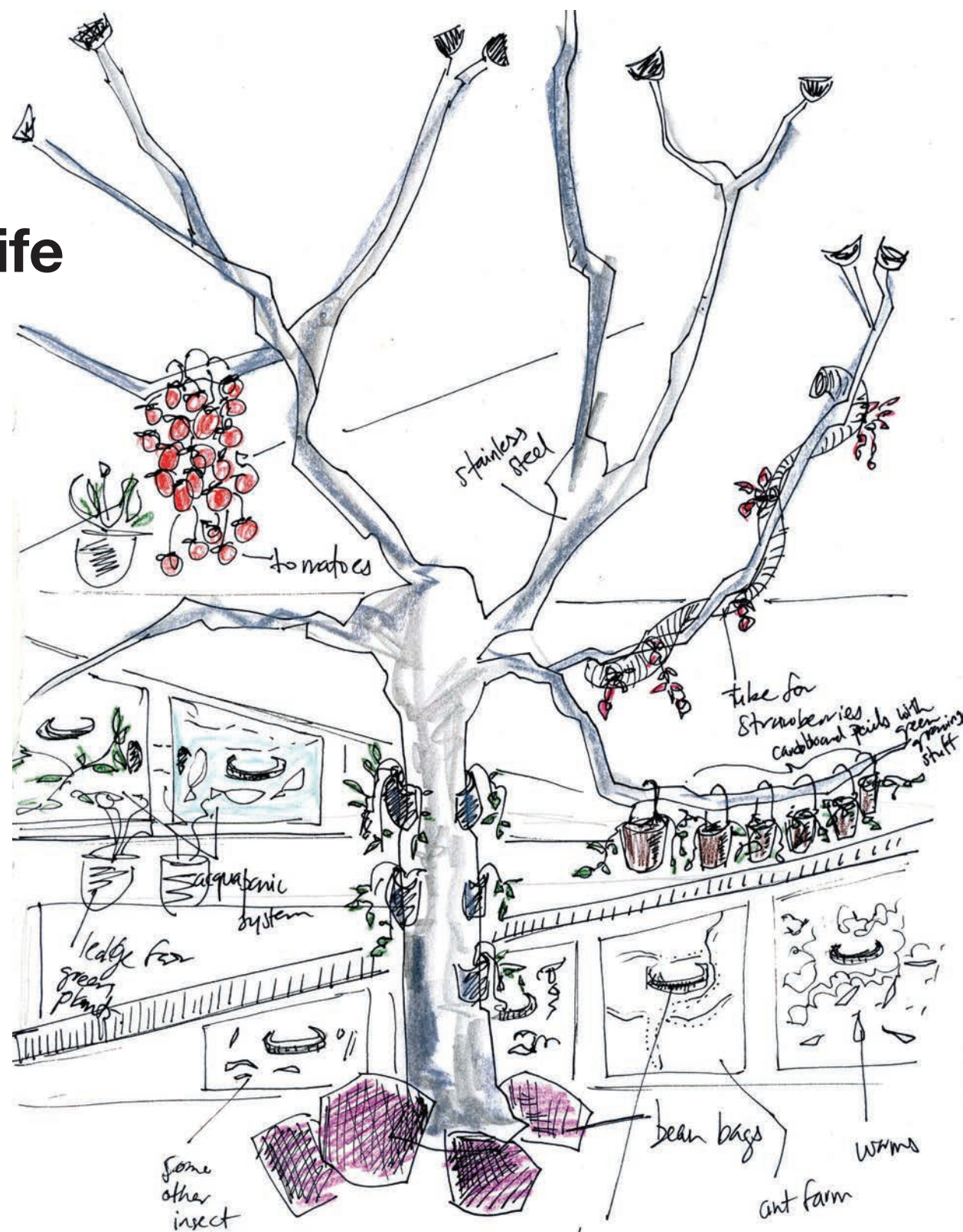


Green Tree House: Exploring cycles of life



Team 02

Problem Statement

- Disconnect between children and the natural world
- Lack of knowledge on where the food comes from
- Children have become sedentary



© Alamy

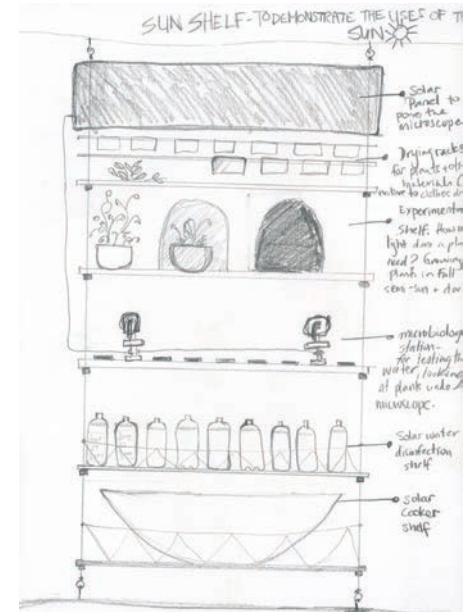
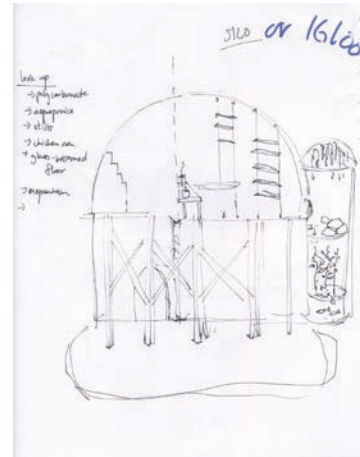
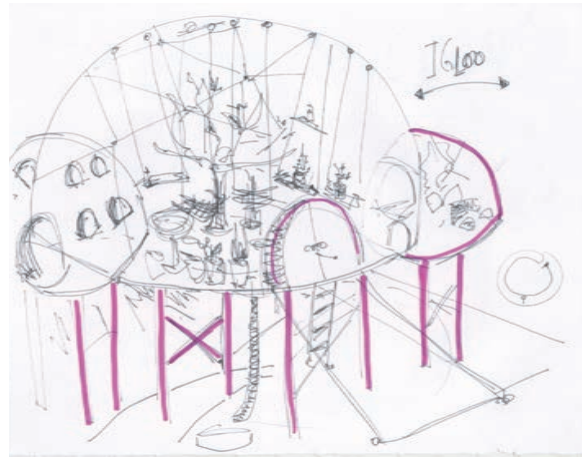
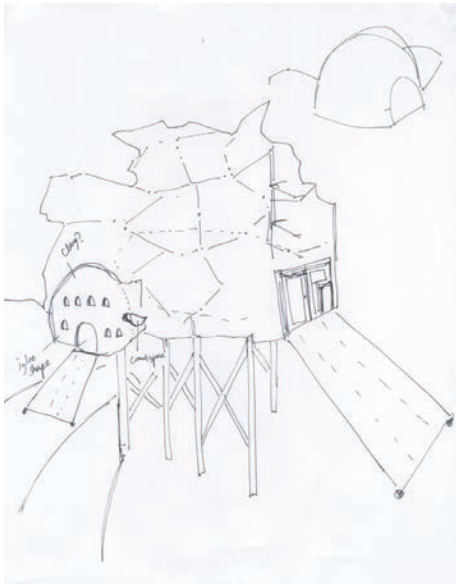
Concept Statement

Our goal is to build a greenhouse where children can interact in an holistic, and immersive educational setting that inspires a sense of wonder, while they learn and get reconnected to the natural cycles of life.

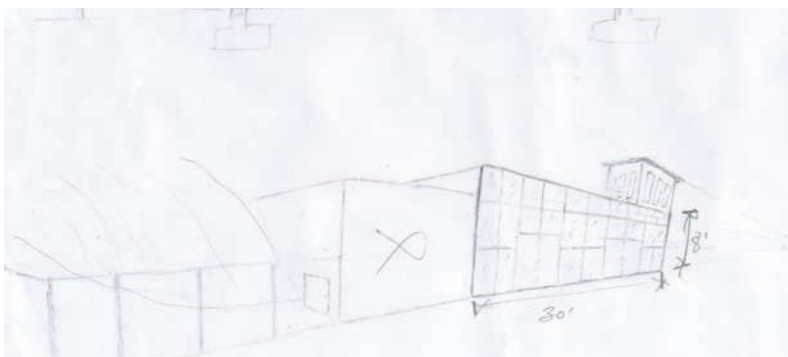


Preliminary concepts

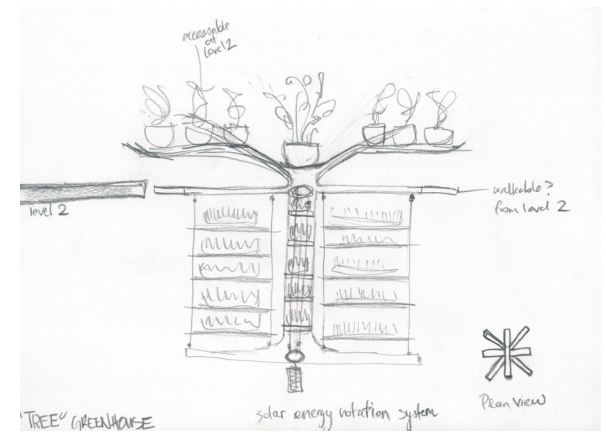
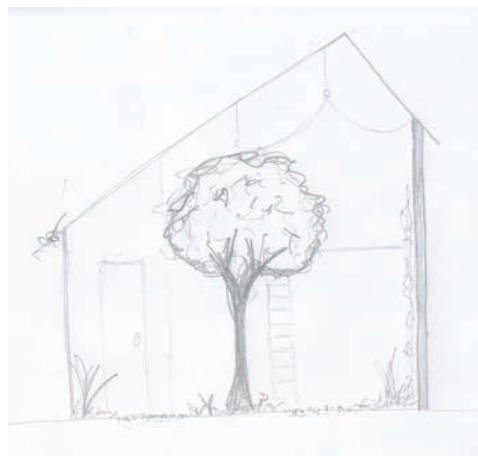
The igloo on stilts



Classroom meets fort



Longhouse in the hill



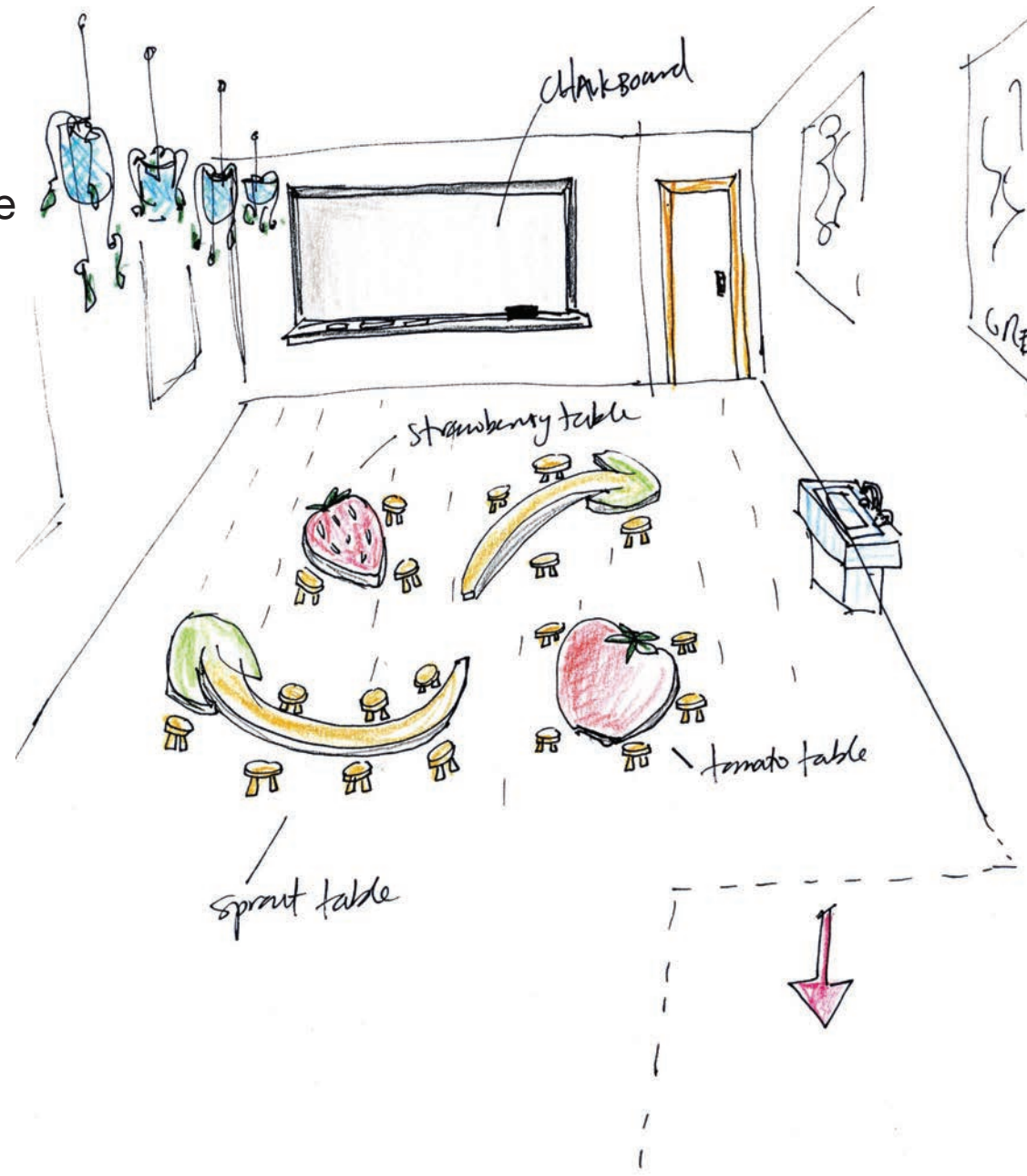
Design Rationale

Considerations

- Fun
- Emphasize importance of the sun
- Double height to maximize use of space
- Tree structure inside
- Hanging gardens
- Use of recycled/reclaimed materials
- Cold storage
- Passive solar gain and green features
- Sense of equality by central of ramp system
- Educational system for all seasons

Challenges

- Accessibility
- Flow
- Safety
- Programming



Precedents



PF1 Public Farm1,
Queens, NY



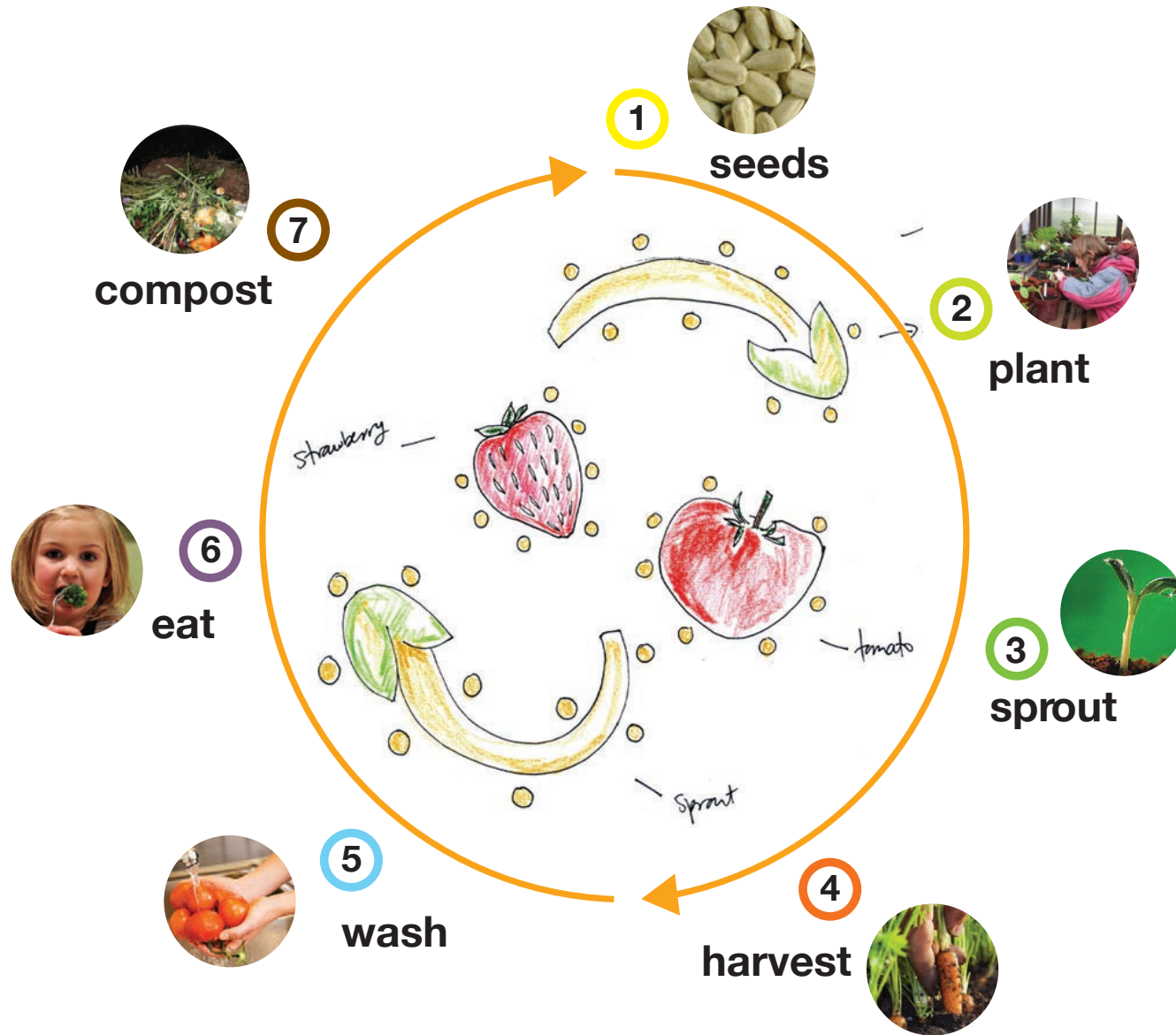
The Science Barge,
New York, NY



The Edible Schoolyard,
Berkeley, CA

The Green Tree House

Experiencing the plant life cycle

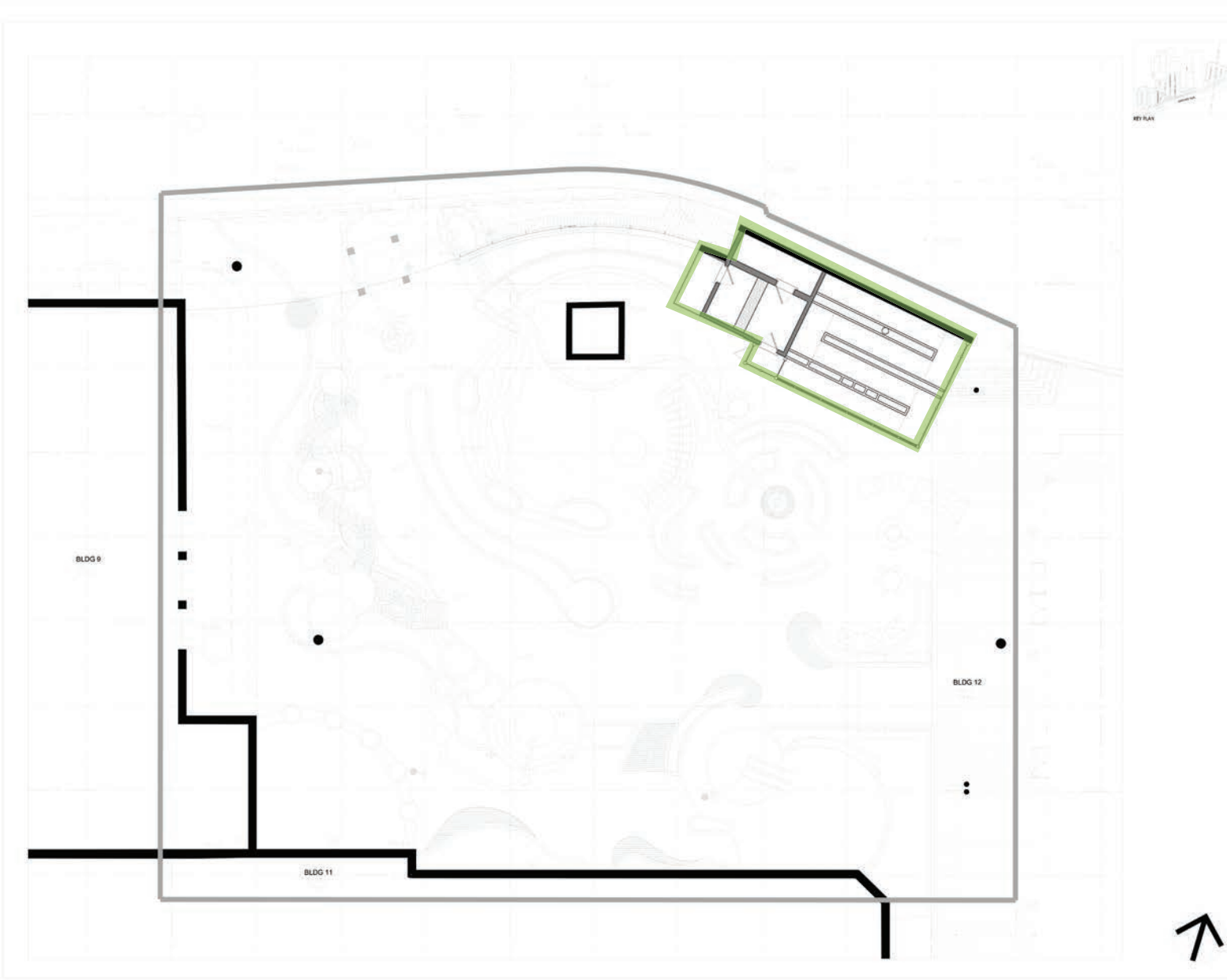


Chicken Appreciation Room

Experiencing the animal life cycle



Site Plan



From seed to tummy...

Summer programming

9am - Children access classroom at upper level

9-9.30am - Short lesson and seeds given to each student with cardboard pots

9.30-10.30am - walk down the ramp planting and watering

10.30-11.00 - picking plants and vegetables

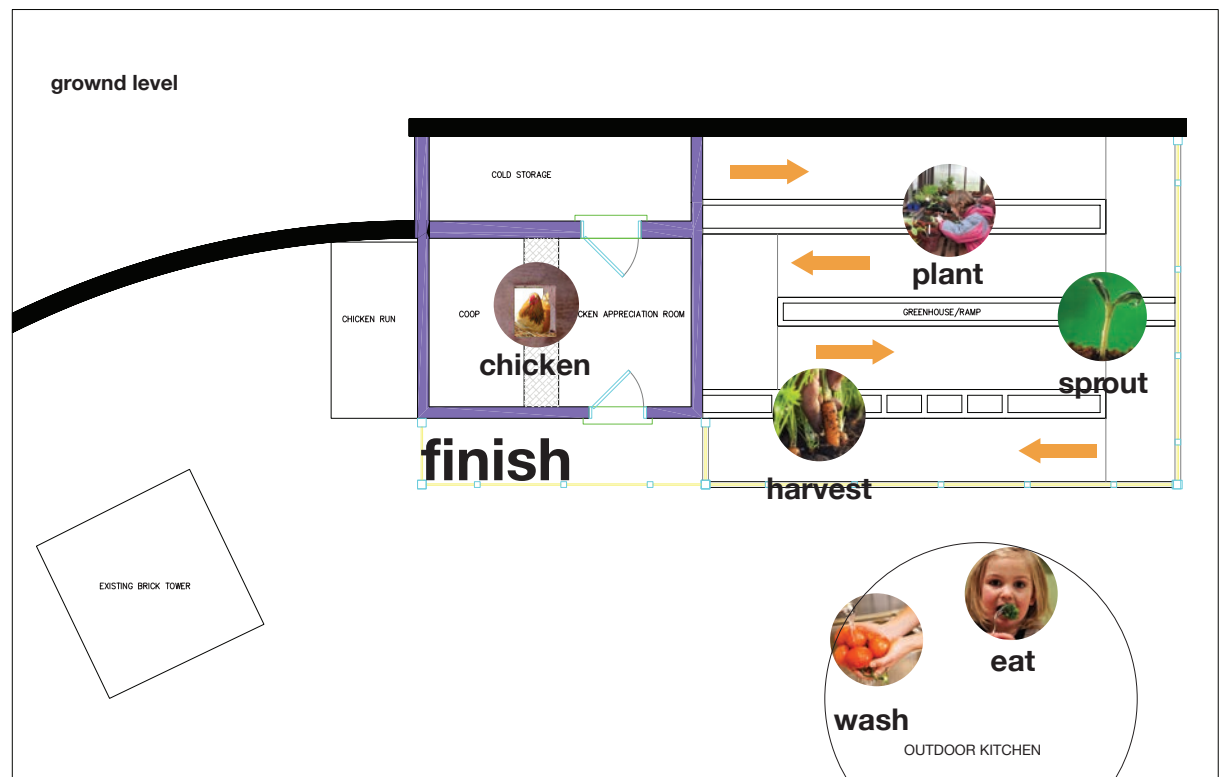
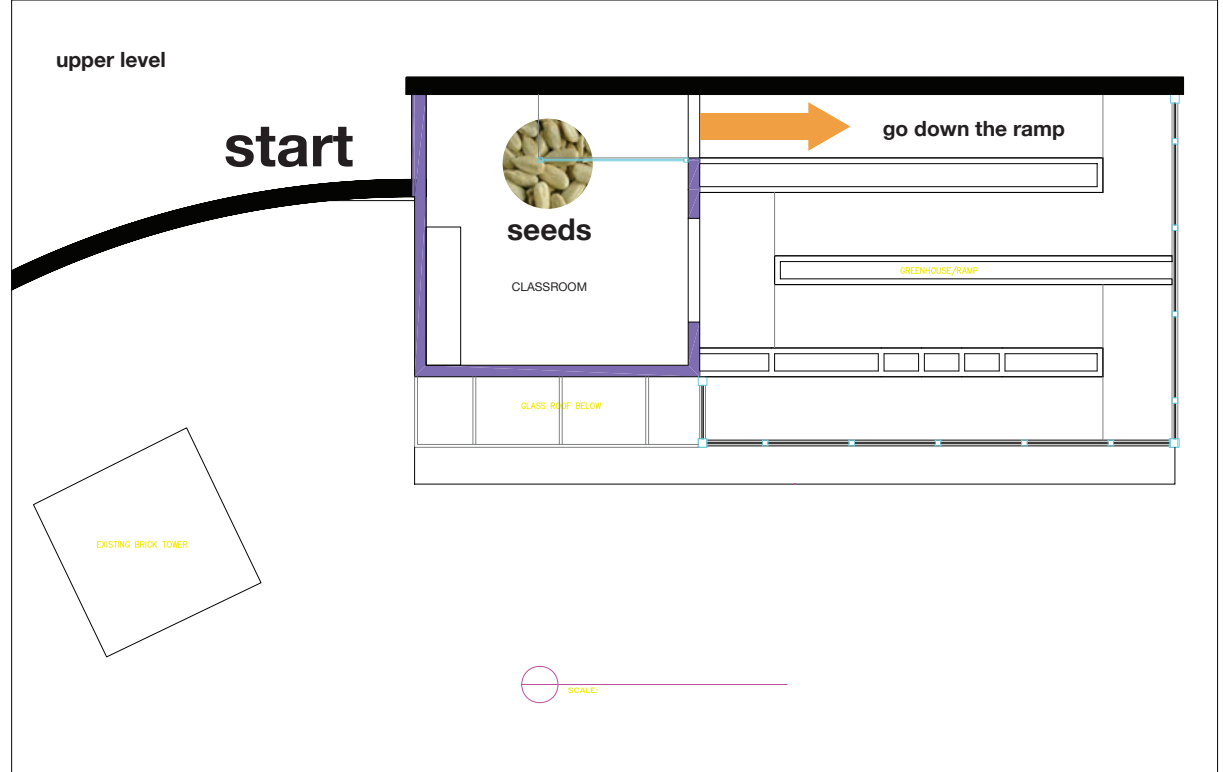
11-11.30 - preparing food in outdoor kitchen using solar cooker

11.30-12 - lunch & munch

12-12.30 -chicken appreciation time

12.30-1pm - compost demonstration

1pm - go back to school bus



Winter programming

9am - Children enter through lower level/mud room

9-9:30am - Chicken appreciation time

9:30-10.30am - Students are given seeds with cardboard pots, they pots and plant up the ramps

10.30-11am - water plants

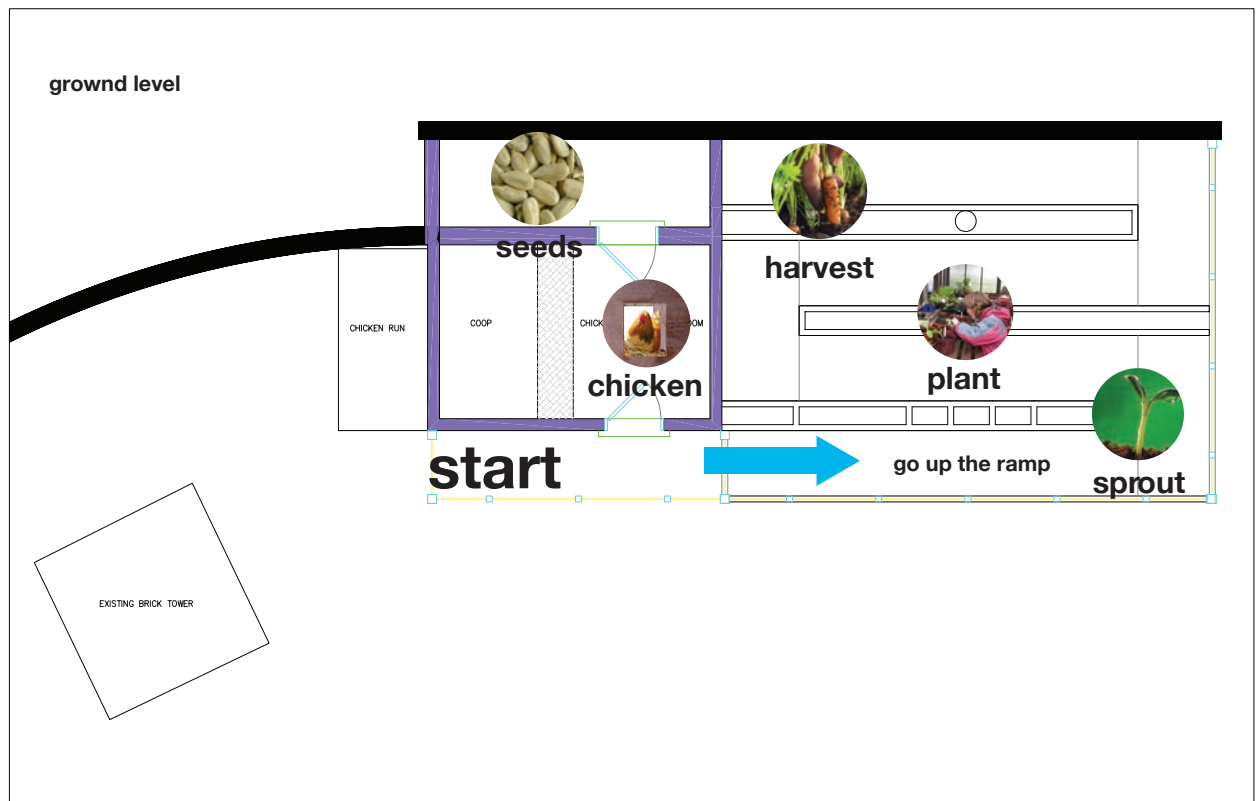
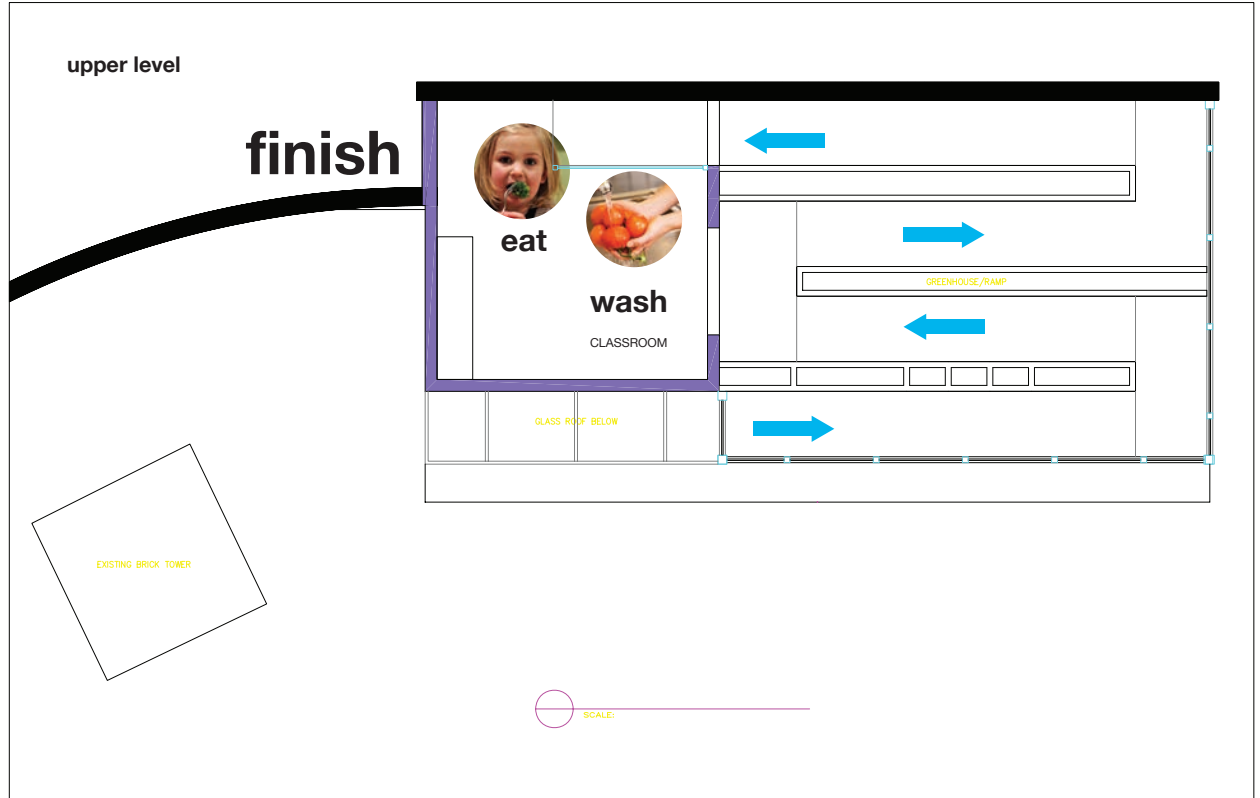
11.00-11.30am - picking plants

11.30-12pm - preparing food in upstairs classroom/kitchen

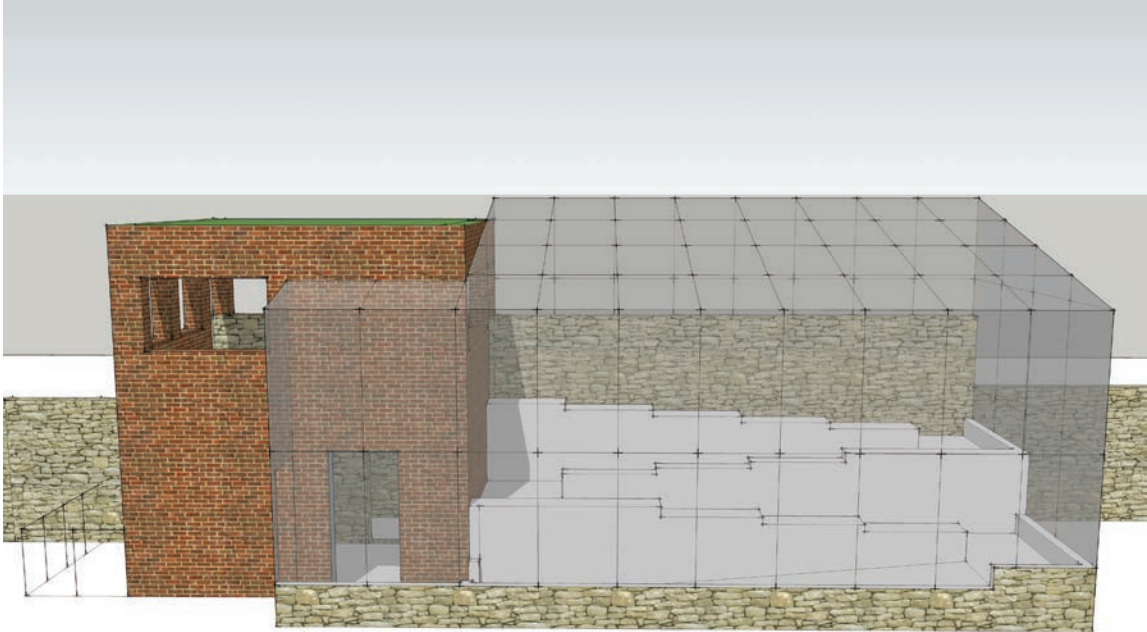
12-12.30pm - lunch & munch

12.30-1pm - compost demonstration

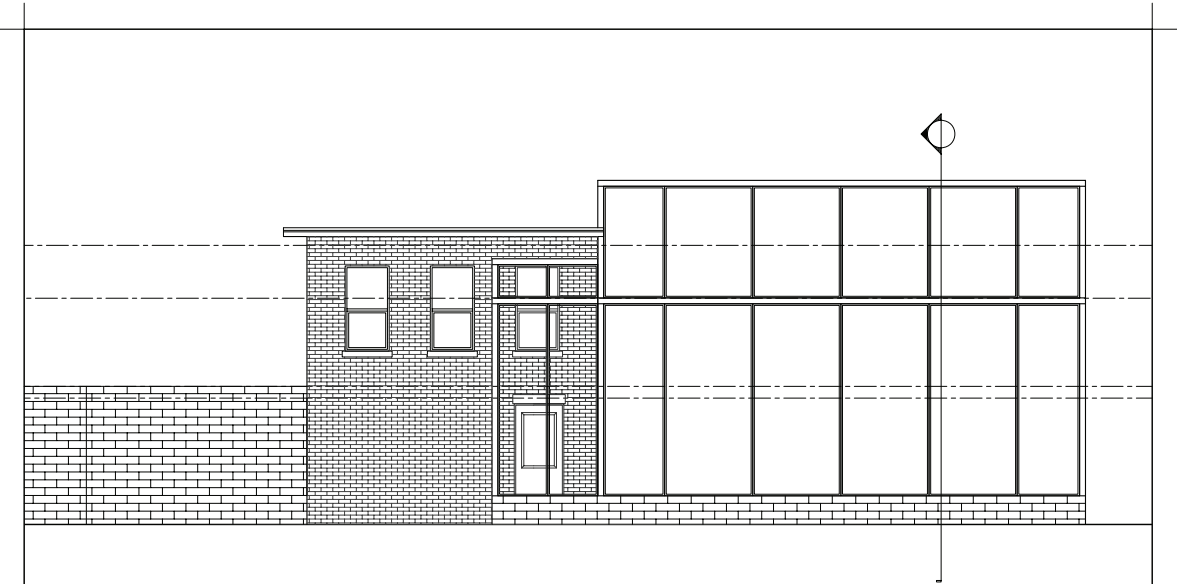
1pm- go back to school bus



The factory collides with nature



front perspective



front elevation

FRONT ELEVATION
SCALE: 1/4"=1'-0"

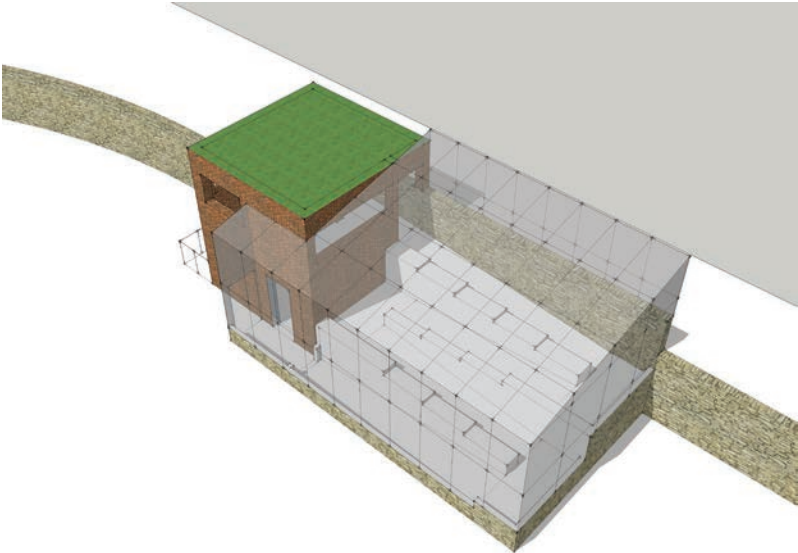
Views from:



west



southeast

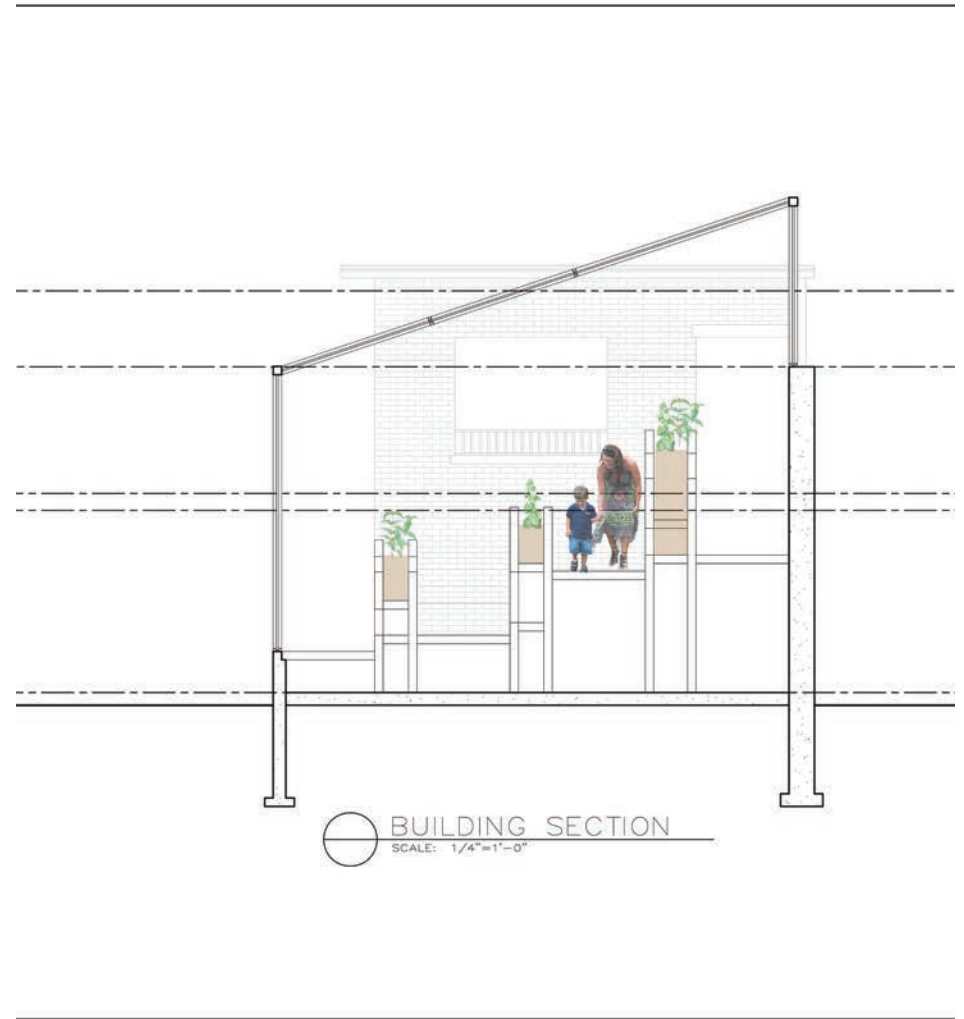
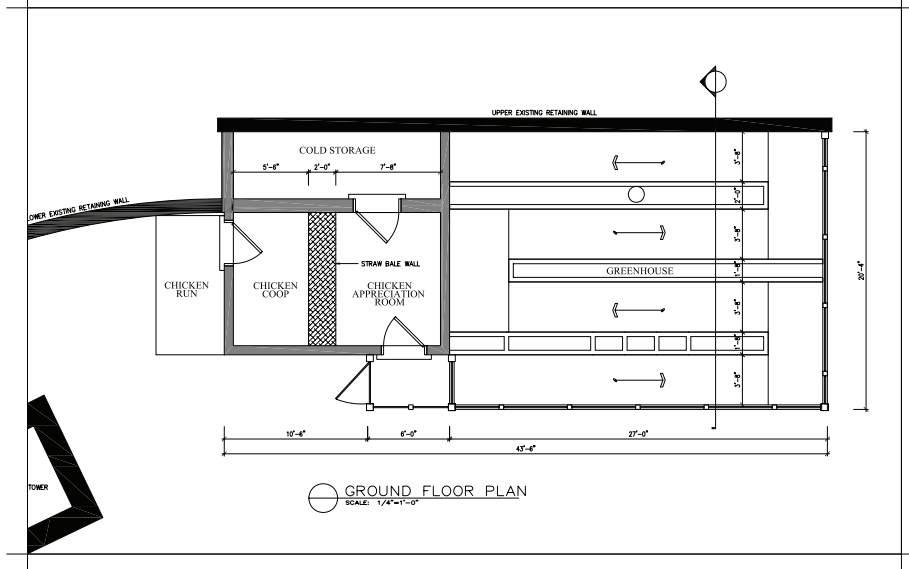
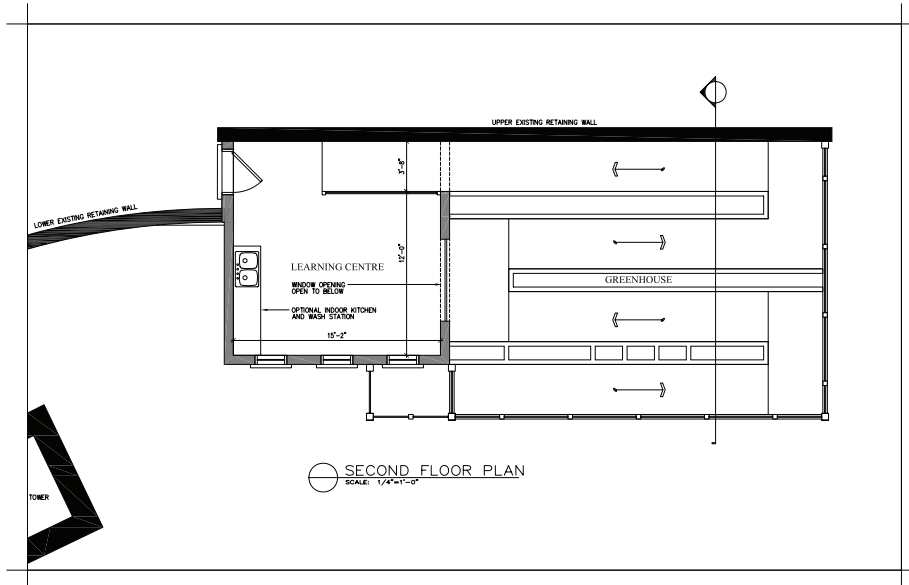


aerial



north

Plans and Elevation



SWOT analysis

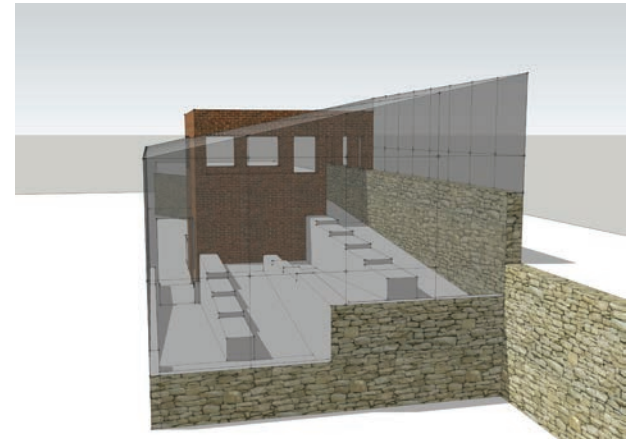
Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> • Fully accessible and barrier free • Good user Flow • Use of Space • Building on existing plan • Safe • Educational and Fun • Aesthetics matching the current site • Efficient use of energy • Use of reclaimed materials • Green features • Multi-seasonal use and programs • Cold storage • Green roof matches the adjacent building • Planters create a railing along each ramp • Chicken well protected from possible predators • Greenhouse is lifted because of ramps • Ramps provide full visual access • Tree provides decoration and structural support 	<ul style="list-style-type: none"> • Extending concrete base by 7 feet, towards the east side – could affect the site layout • Ramp takes away from floor plan • Planters only accessible from one side – but adults could reach the other side • Education room casts a shadow into greenhouse in the evening • Heat loss by the connection between glass wall and retaining wall • Drainage from planters 	<ul style="list-style-type: none"> • Window in north side promotes greenhouse • Interaction with chickens and collecting eggs through strawbale wall • Seeds are given to plant at home, children educating parents • Programs that can be adapted and varied to suit different age groups • Planters and drawers in the ramps can be used for a variety of learning tools 	<ul style="list-style-type: none"> • Possible flooding from hill behind • Soil erosion • Detoriation of strawbale • Insects and pests • Rats and mice (compost)



You flow right through it...

Implementation Strategy

- Concrete pad
- Poured concrete floor is a ramp
- Poured concrete planting containers with storage cubbies in spaces below.
- Steel frame construction
- North wall sits on top of the north retaining wall
- Interior finishes to include reclaimed wood, bright colour schemes and rope-pulley apparatuses.
- Glass sloping roof oriented to maximize sun exposure.
- The green roof will be built last with weight bearing walls and proper sealing.





Materials

- reclaimed bricks
- reclaimed steel beams and supports
- reused wood
- glass and cob
-

Technology

- Green roof
- Rainwater/grey water collection system
- Solar power
- Aquaponics



Team 02

Angélica Ramos
Swapna Tamhane
Rob Giusti
Christine Graystone
Mehrdad Gramifard
Jessie Gresley-Jones
Erika Richmond