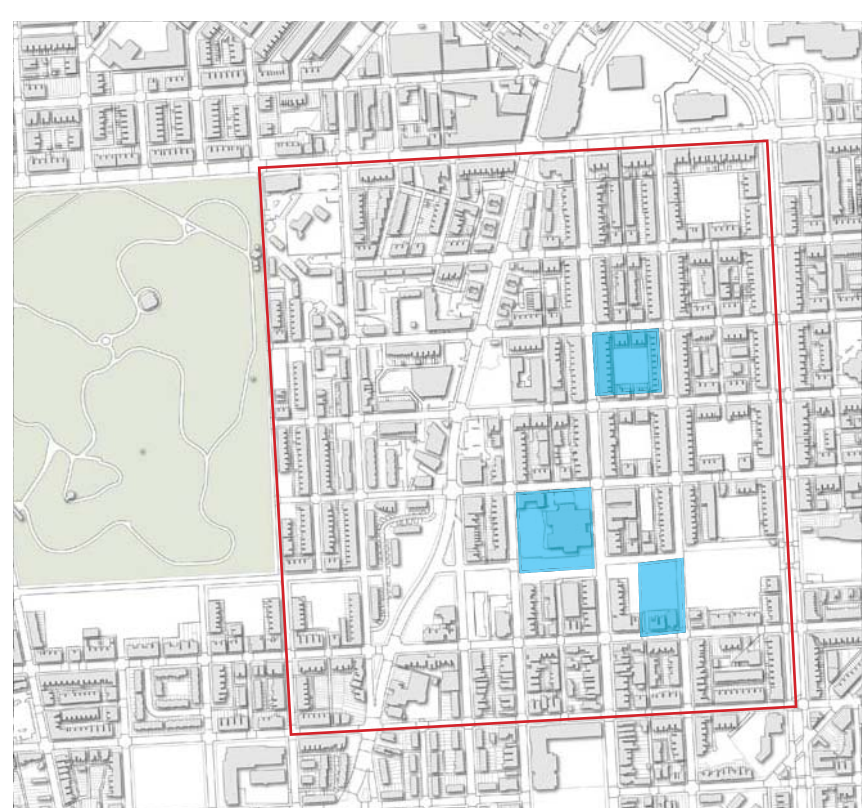


Revealing Urban Ecology: Education, Community, and Environment Overlaps

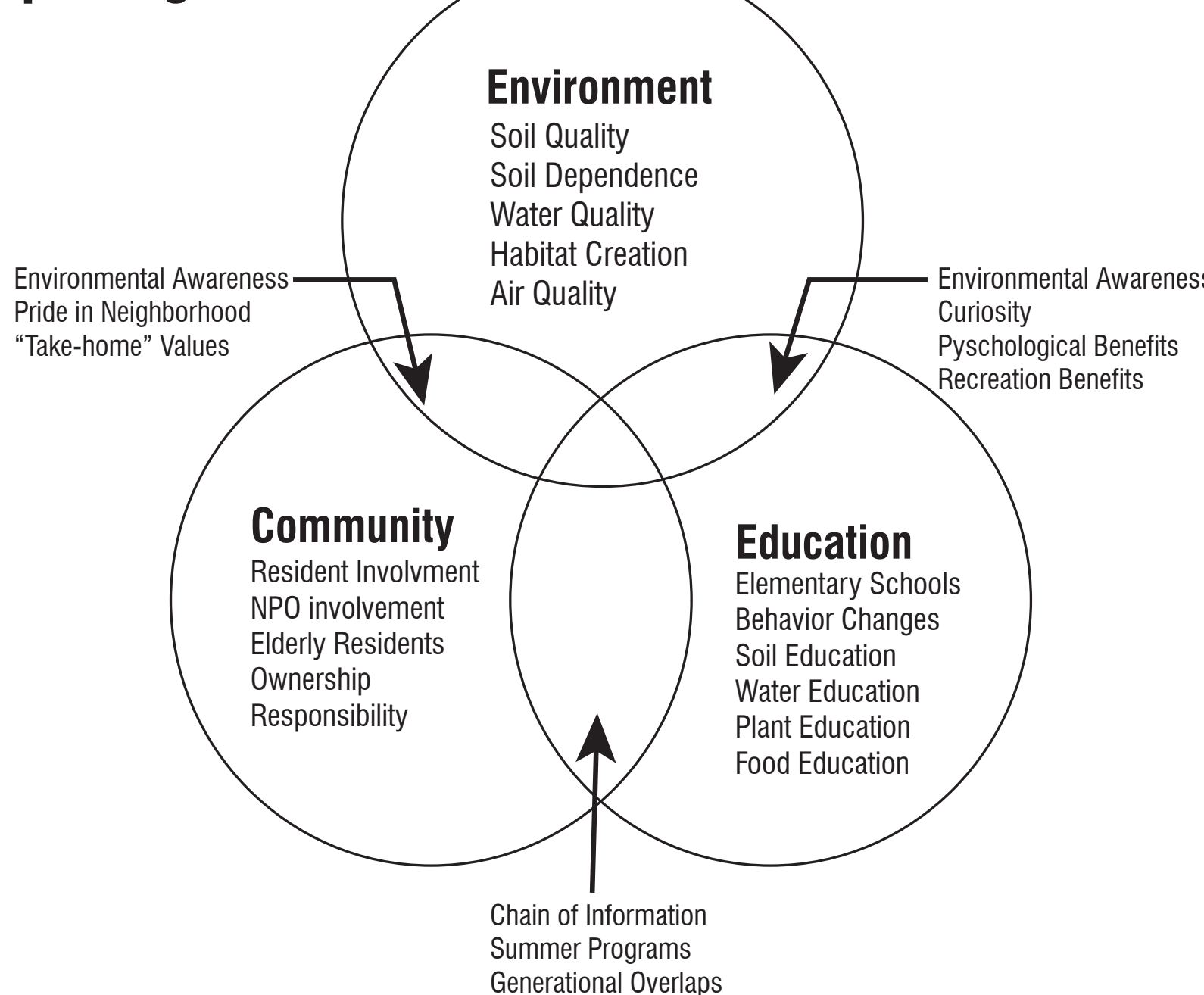
CONTEXT



CONCEPT

In many cities, nature has become a foreign idea for residents who have been separated from it for so long. Many residents believe nature exists only outside the city, while outside their doors there are endless examples of urban ecology. As a new phenomenon, urban ecology works to reveal the overlap between humans and nature in the city. The combination creates unique ecosystems, which are diverse and abundant, but often invisible to the city's residents. The goal of my design is to reveal the urban ecology of Oliver and bring value back to the nature within cities. The combination of education, environment and community involvement can create a system template that may be used in other similar Baltimore neighborhoods. The overlap of these three target areas can target key problems within the neighborhood of Oliver. Design phasing will begin at the Baltimore City Public School Systems, and expand to utilize vacant lots throughout the neighborhood of Oliver. Through education, the residents of Oliver can be informed at a young age about environmental awareness and spread this awareness through a chain of information in the community. Ecologically, the design will focus on the importance of soil in the urban environment. The goal is to make residents aware of the importance of soil in making a successful ecological system. The landscape of Oliver will be used as a tool to educate and support environmental awareness throughout the neighborhood. Potentially, the impact of this expansion will overlap many neighborhoods and create a ecological network through the entire city.

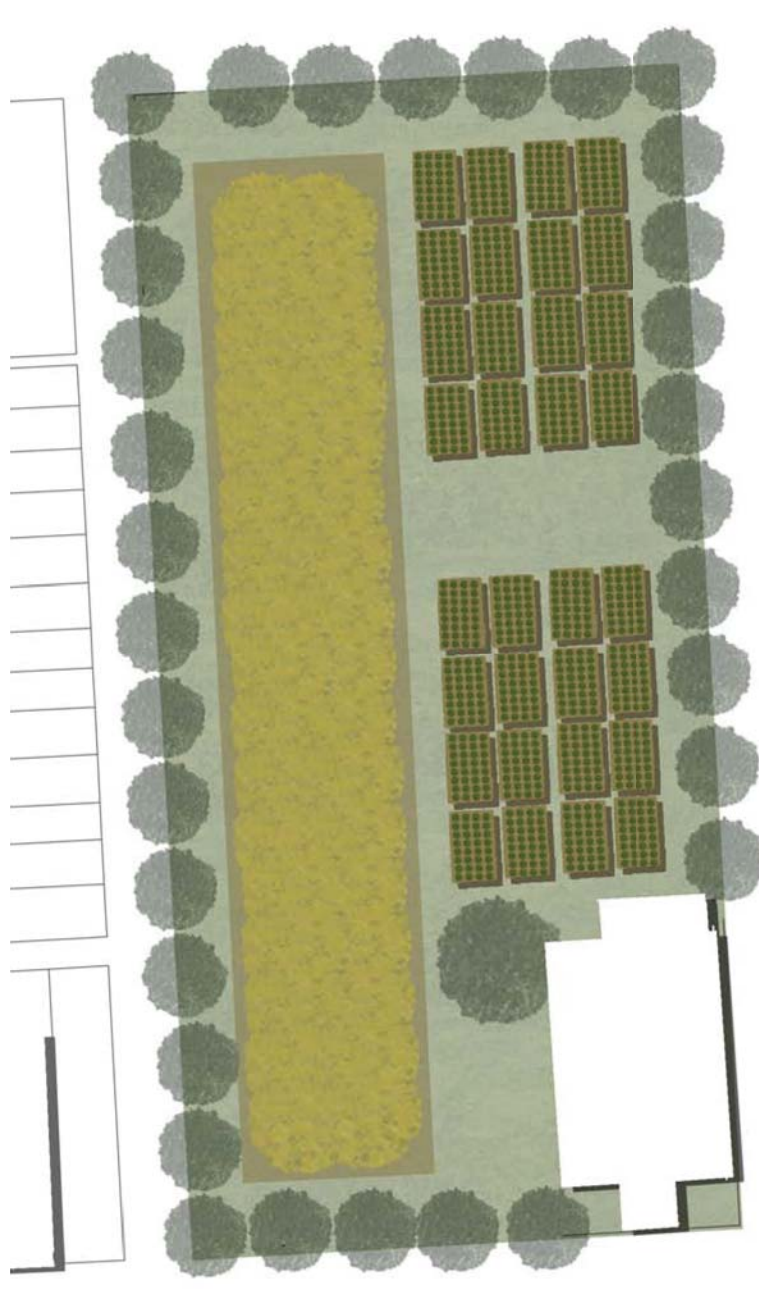
Concept Diagram



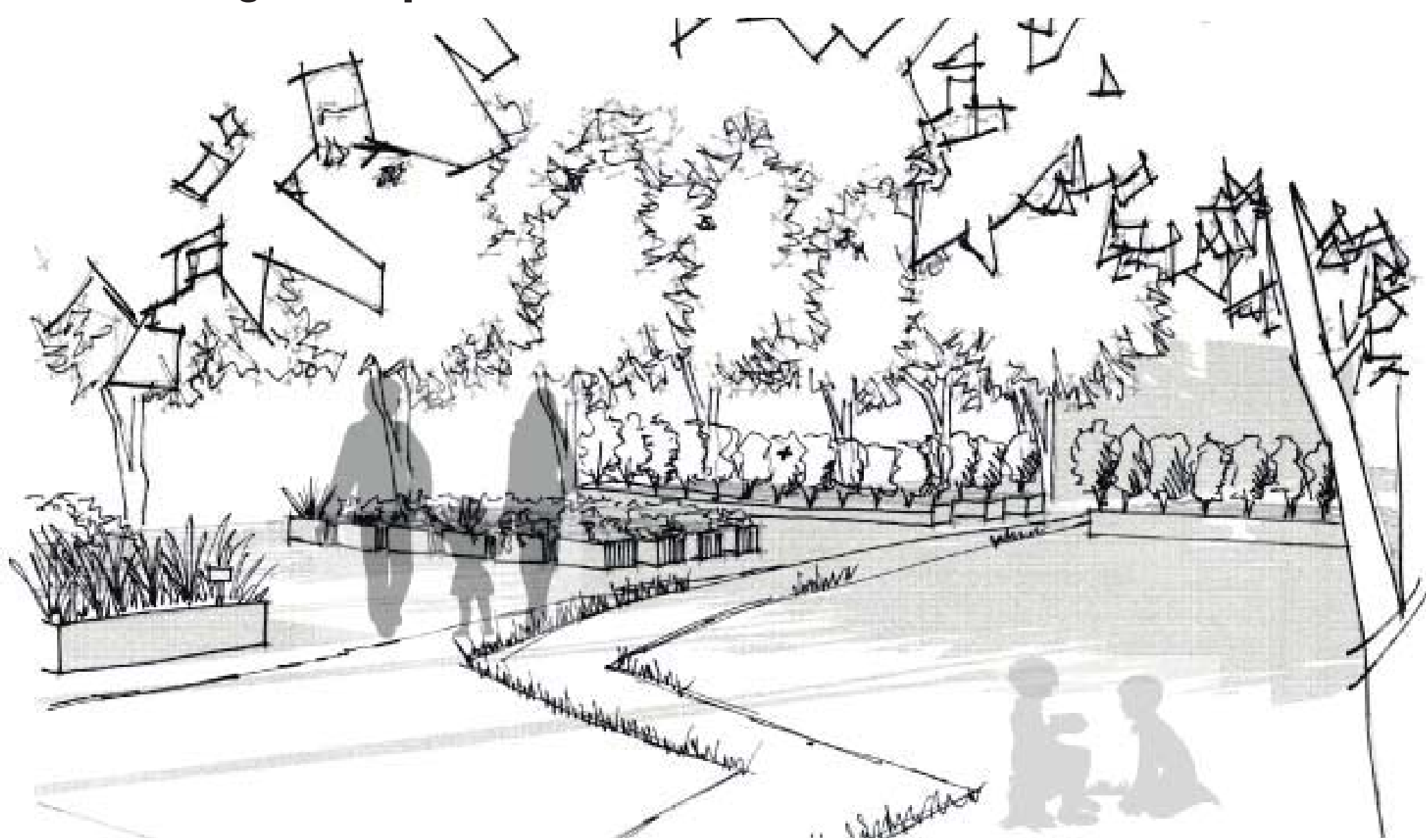
Concept Phasing

- Phase 1**
 - Utilize BCPSS as an asset to bring eco-literacy in Oliver at a young age
 - Utilize vacant land at Dr. Bernard Harris Elementary School for environmental education use
 - Phase 2**
 - Target nearby vacant lots for expansion of the education system and resident involvement
 - Phase 3**
 - Target larger and high-risk vacant lots in the neighborhood for multi-purpose uses
 - Connect landscapes throughout the neighborhood through street corridors
- Vacancy within 2.5 blocks of the Elementary school provide opportunity for program development
- Vacant Lots adjacent to community organizations provide opportunity for funding and expansion of the educational resources
- Interior lots provide opportunity for interaction between Oliver residents and the school, fostering environmental awareness

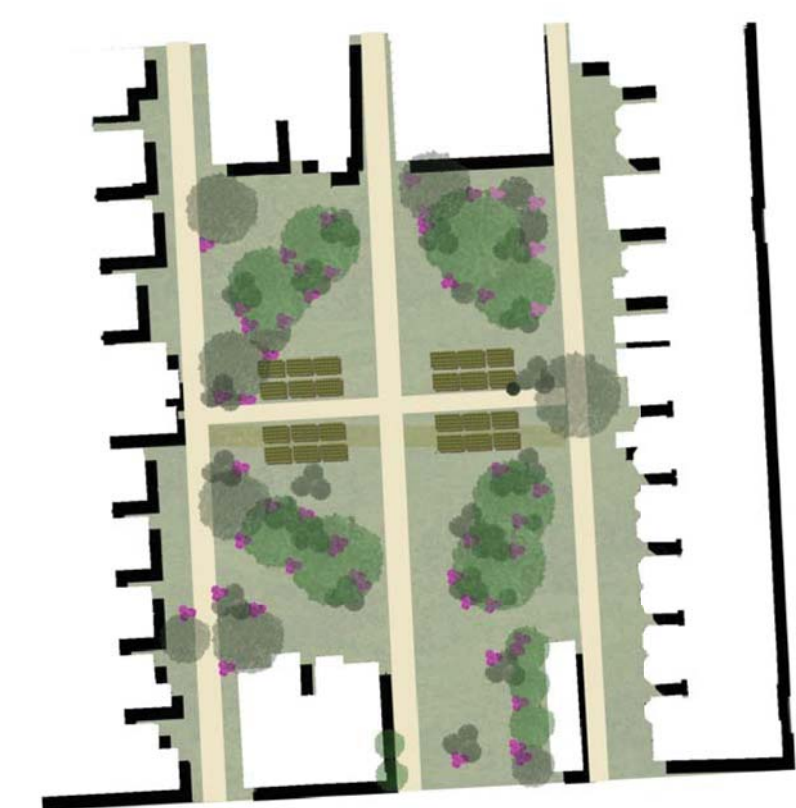
Phase 1.2: Vacant Lot Plan



Vacant Lot Design Perspective



Phase 2: Interior Lot Plan



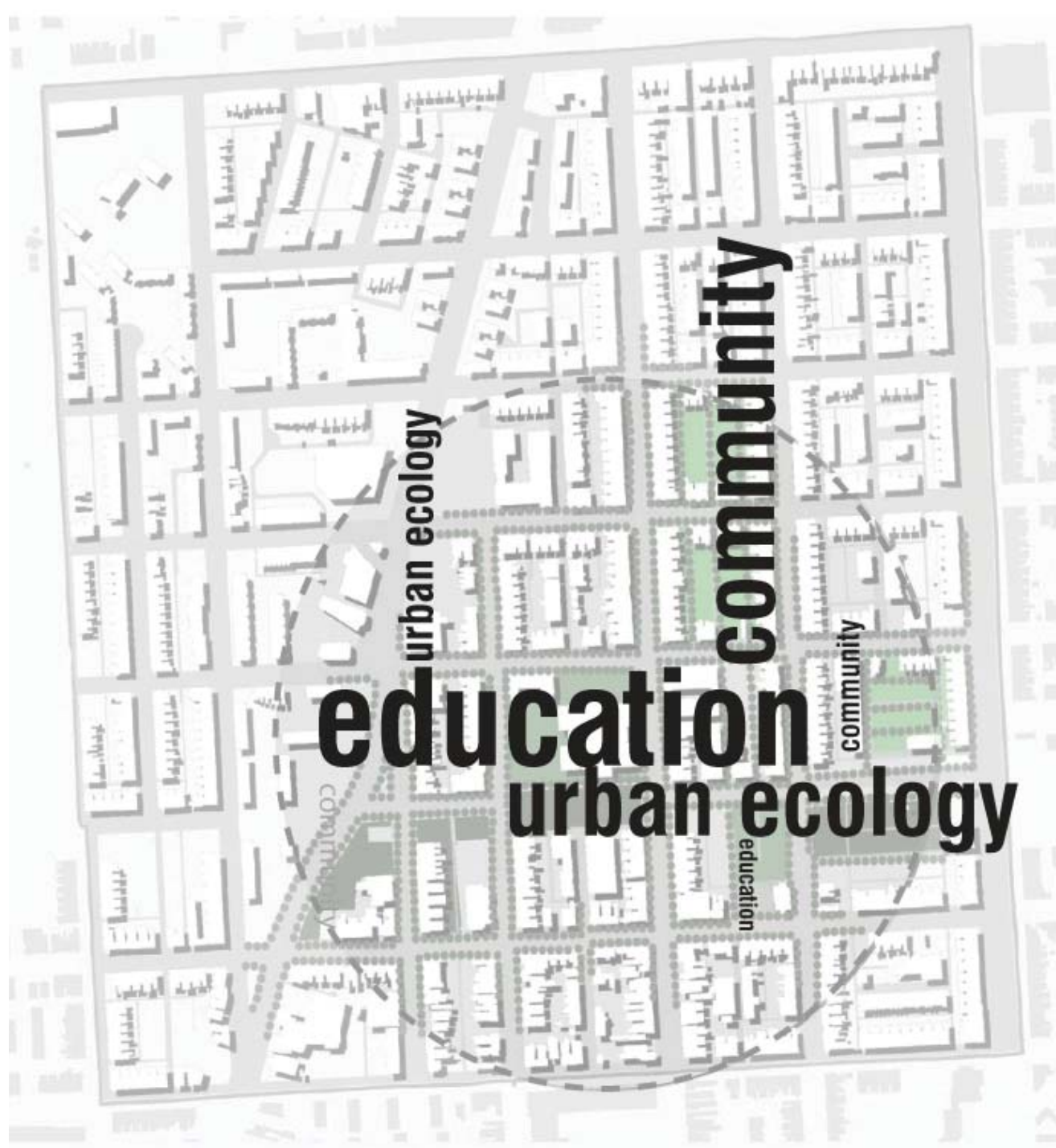
Vacant Lot Elevation Cut



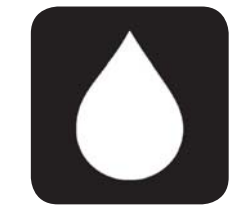
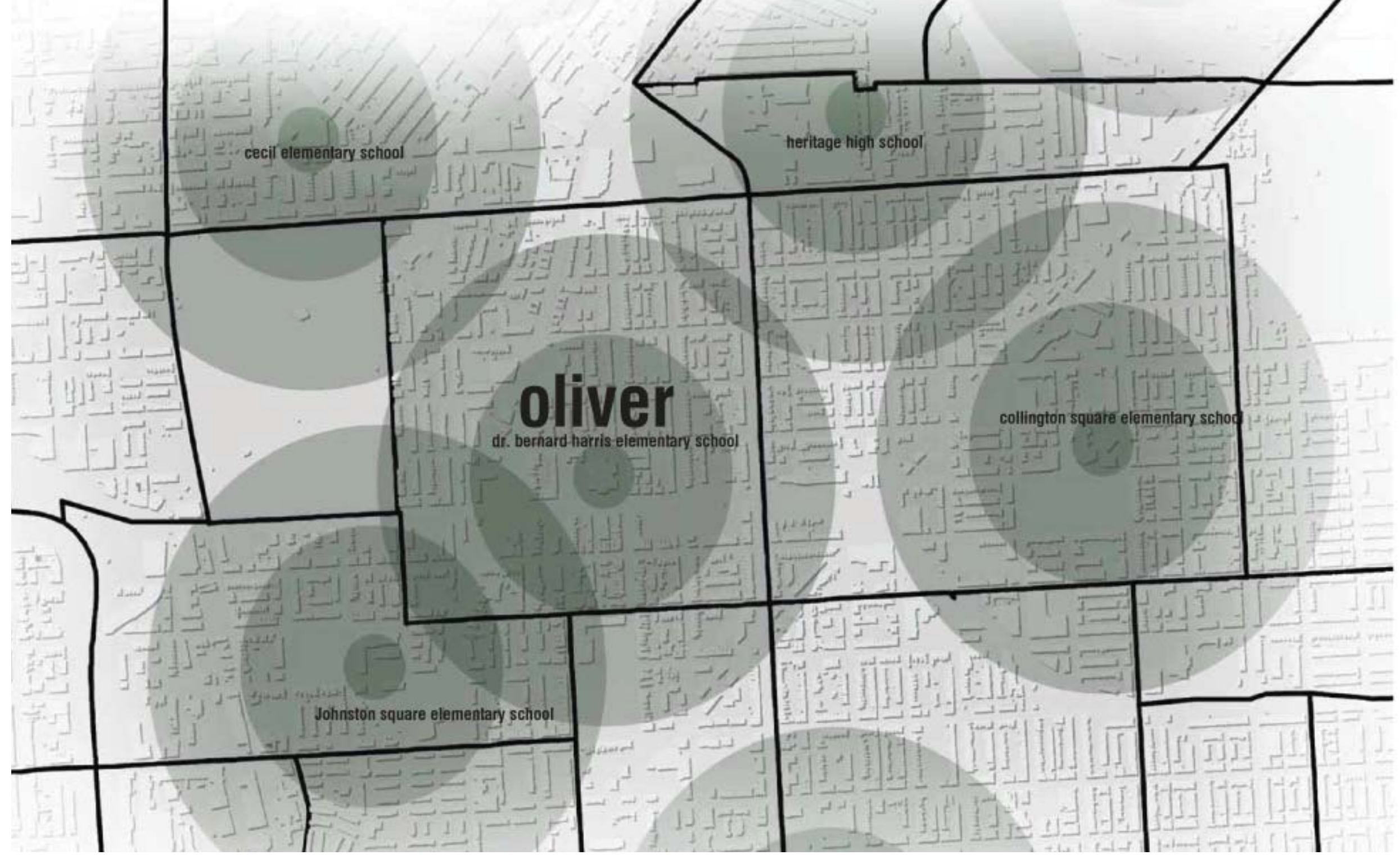
Oliver Site Plan and Phasing



Program Diagram



Neighborhood Connections

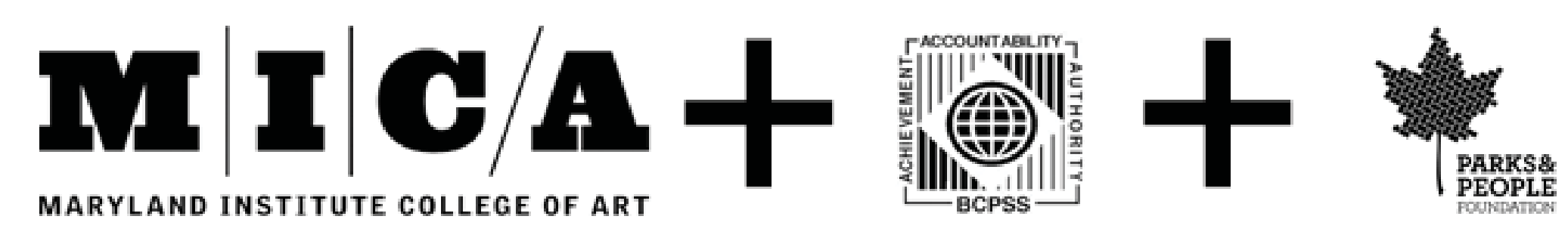
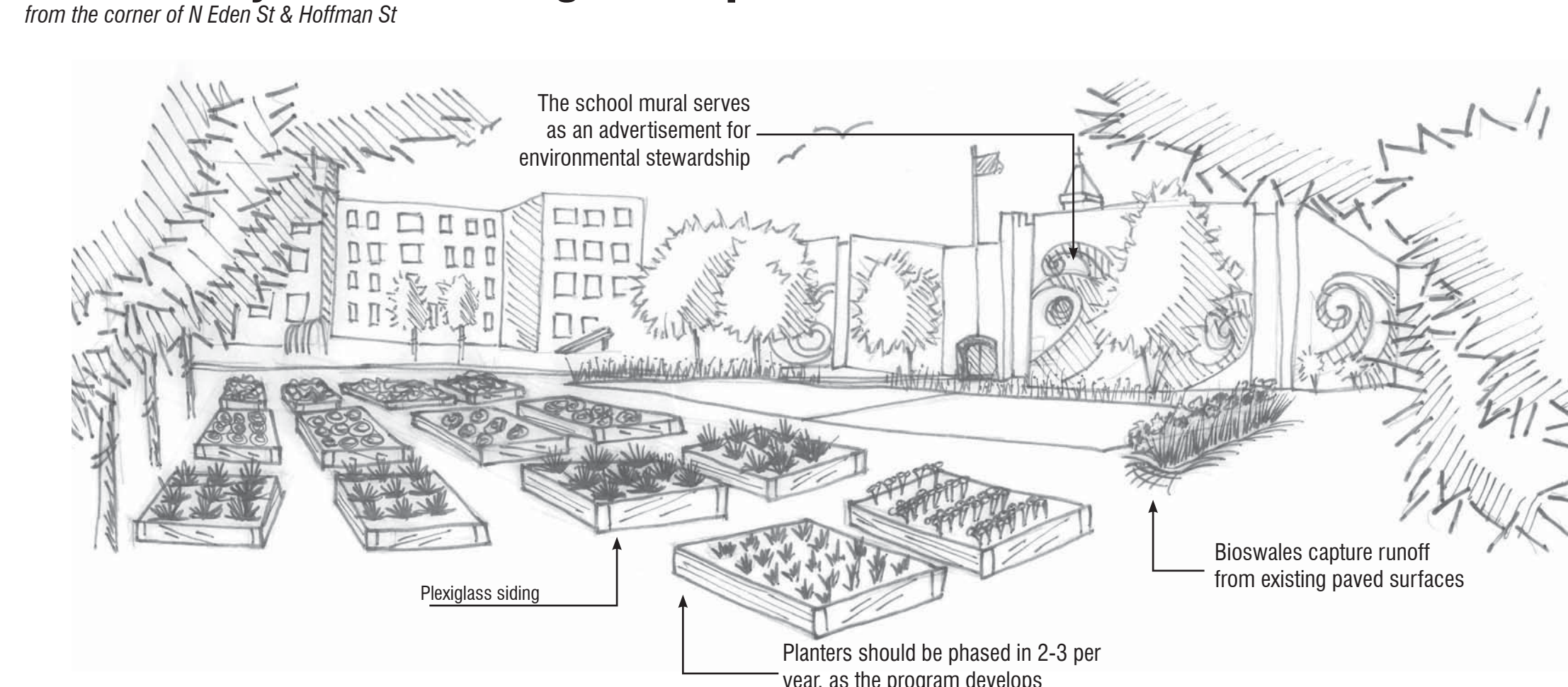


Revealing Urban Ecology: Education, Community, and Environment Overlaps

Site 1.1 Elementary School Plan



Elementary School Design Perspective



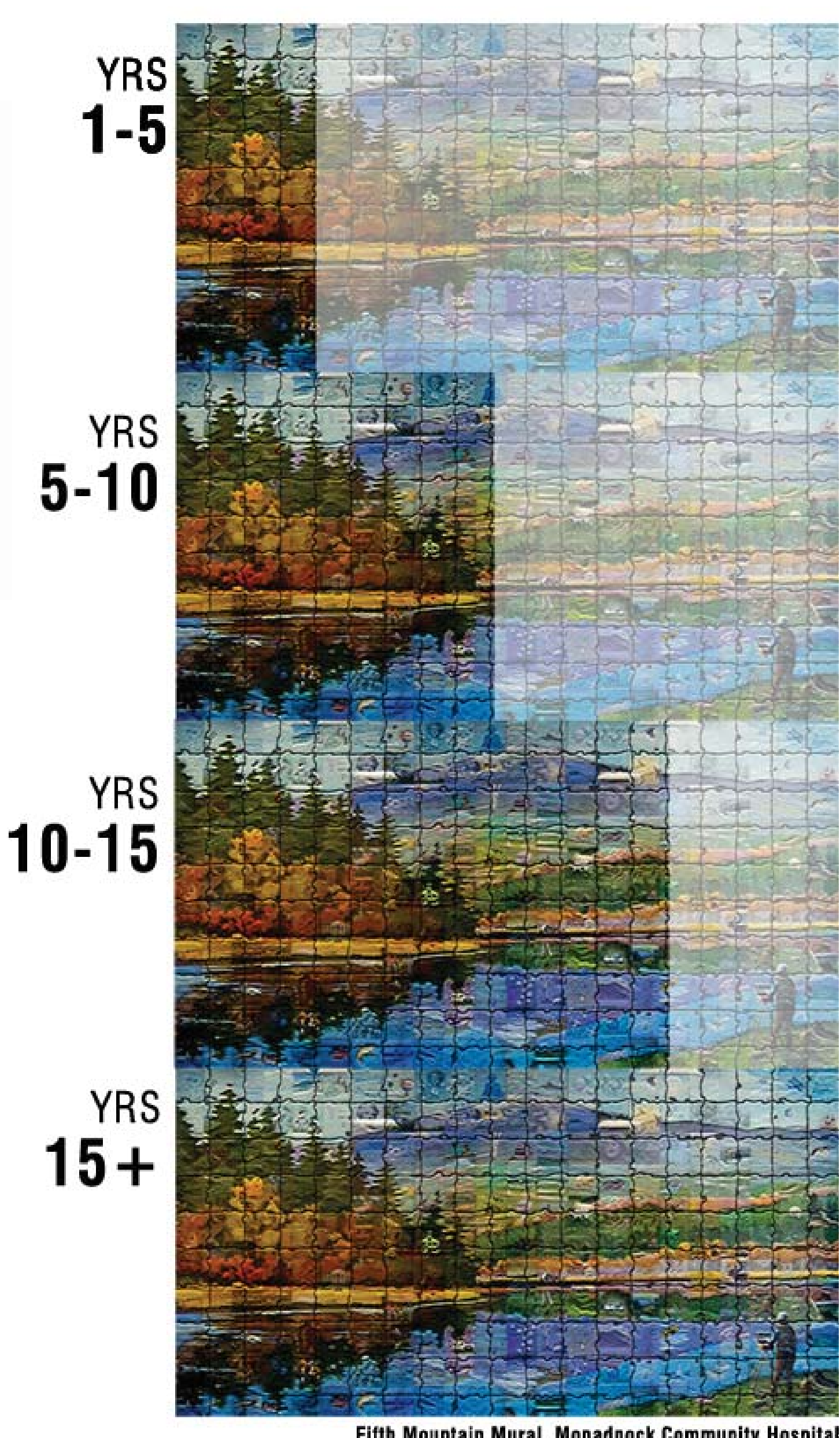
Environmental Tile Mural

Environmental awareness is a strong component when community is involved in the design. Through murals, the elementary school can advertise their knowledge and concern for the environment around them, which will encourage others to get involved.

A tile mural encompasses the work of many individuals into one large piece. Working with MICA, students will each paint their own tile which will be one piece to the complete mural. Over time, the mural will grow until one image is complete. At this point, another side of the school building can begin another mural. The murals are long-term, as an icon within Oliver, which students may come back to visit when they have grown up. Tiles may also be made by community residents or sponsored by companies and organizations involved locally.

- School Student Tiles
- +
- Community Resident Tiles
- +
- Company Sponsered Tiles

- Tile Mural Public Art Benefits for the Community:**
- attracts visitors who may not otherwise visit
 - photo tile murals enhance building identity
 - strengthens citywide pride
 - celebrates diversity
 - cultivates a sense of community
 - creates an environment of discovery
 - establishes a common ground for different groups
 - engages partnerships between citizens, historic groups and the facility
 - invites discussion and interpretation
 - has a strong visual impact from afar and close up
 - directly connects the facility, the city, the citizen
 - becomes a gathering place where people connect and share stories

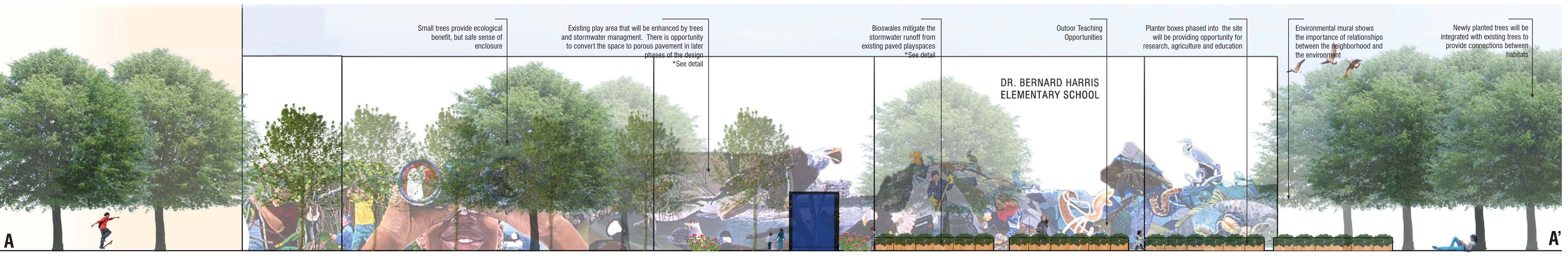


Fifth Mountain Mural, Monadnock Community Hospital



1.1 acres

Elementary School Elevation from N Eden St Entrance



Small trees provide ecological benefit, but safe sense of enclosure

Existing play area that will be enhanced by trees and stormwater management. There is opportunity to convert the space to porous pavement in later phases of the design *See detail

Bioswales mitigate the stormwater runoff from existing paved playspaces *See detail

Outdoor Teaching Opportunities

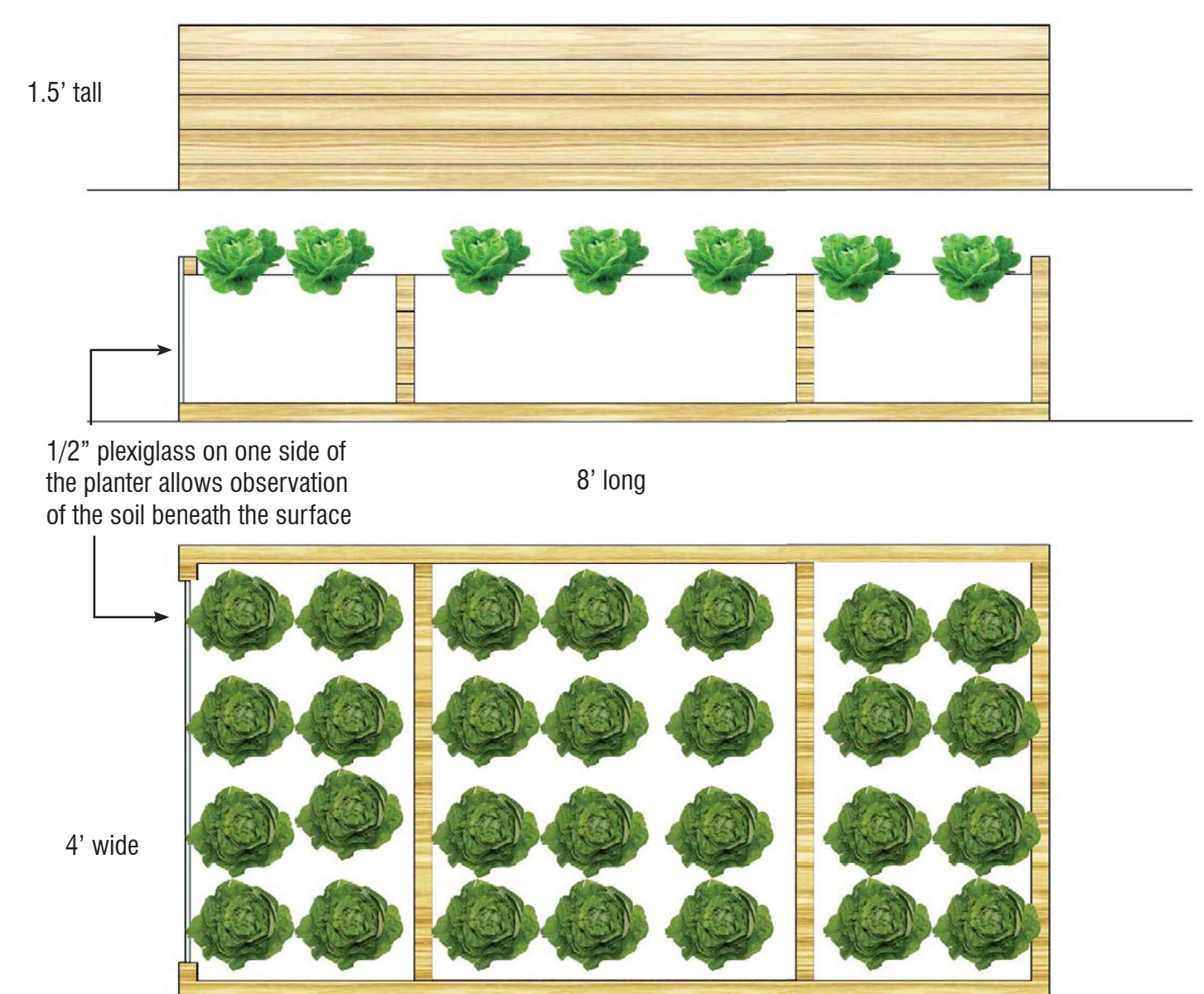
Planter boxes phased into the site will be providing opportunity for research, agriculture and education

Environmental mural shows the importance of relationships between the neighborhood and the environment

Newly planted trees will be integrated with existing trees to provide connections between habitats

Revealing Urban Ecology: Education, Community, and Environment Overlaps

D2 Detail 1.1 Wood and Plexiglass Planter



Plant and Maintenance Schedule

Plant Schedule

Vegetable growing (low summer maintenance)

- Carrots
- Broccoli
- Kale
- Lettuce
- Onions
- Peas
- Potatoes
- Pumpkins
- Radish
- Spinach
- Turnips
- Winter Squash
- Zucchini

Herb Growing (low maintenance)

- Basil
- Cilantro
- Parsley
- Rosemary

Vegetable growing (med-high summer maintenance)

- Tomatoes
- Cucumbers
- Celery
- Raspberries
- Swiss Chard
- Beets
- Brussel Sprouts
- Garlic
- Green Beans
- Okra
- Sweet Potatoes
- Cauliflower
- Radishes
- Sweet Peppers

Rain Garden Plants (med-high maintenance)

- Goldenrod
- Butterfly Weed
- Common Milkweed

Maintenance Schedule

December-January

Mulch 3" in planters and around trees. Do not put mulch against the tree trunks

February

Control weeds by using a pre-emergent or hand-weeding

March

Fertilize plants if necessary. Plant spring flowers & plan for summer vegetables

April-May

Maintain mulch within the planters. Prune perennials.

June-August

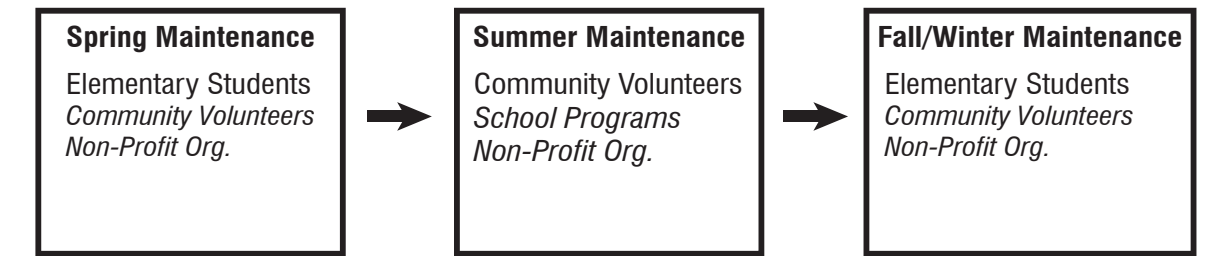
Plant, harvest, and water vegetables. Remove and replace dead plants. Rotate plant types to different beds each year.

September-October

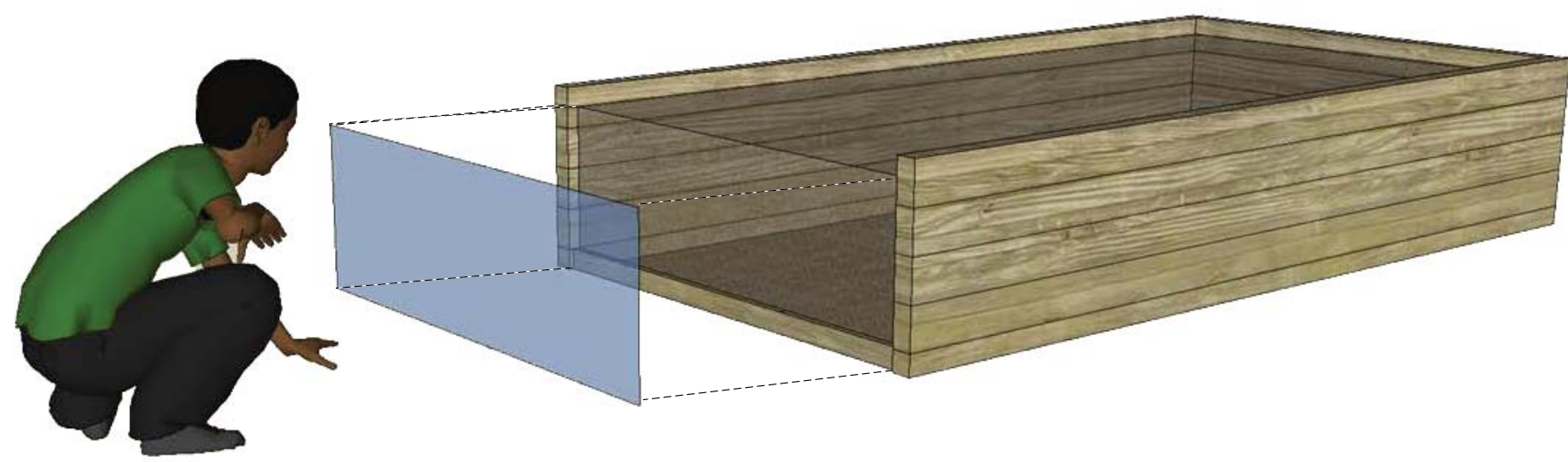
Weeding and Watering. Maintain appearance of existing plants. A pre-emergent may be used to prevent weeds and reduce maintenance.

November

Plant fall flowers (optional). Mulch existing plants.

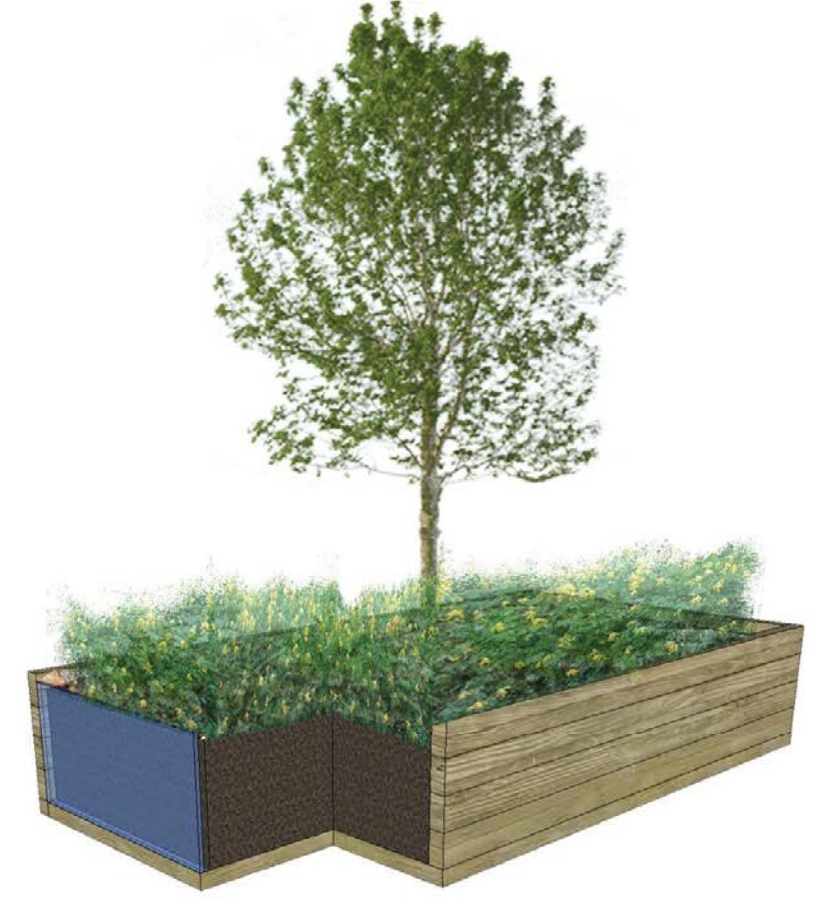


Detail 1.2 Wood and Plexiglass Planter

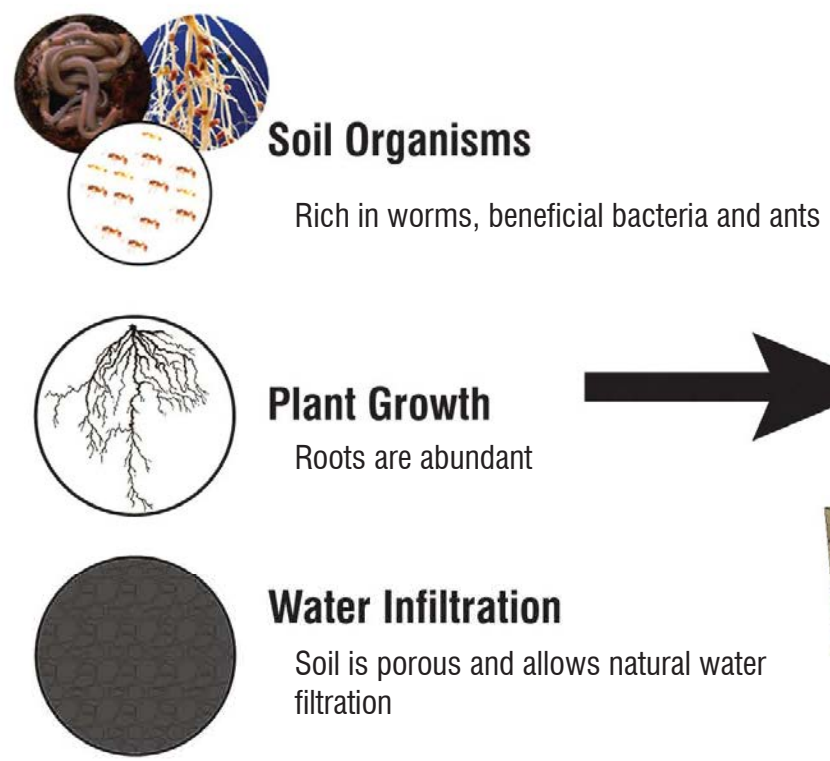


- Plexiglass siding reveals
- Observing the change of soil over time

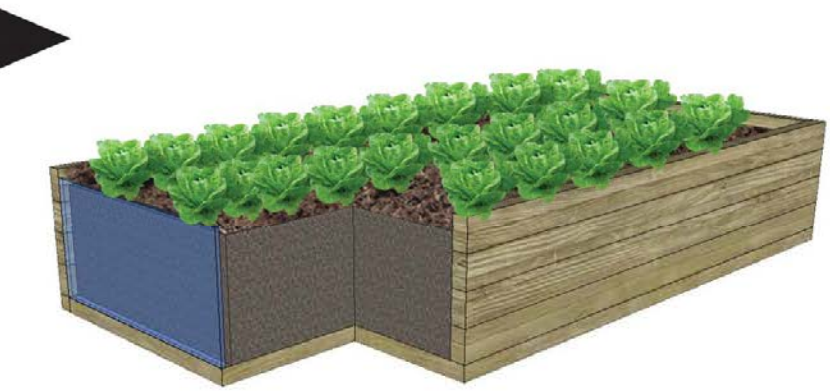
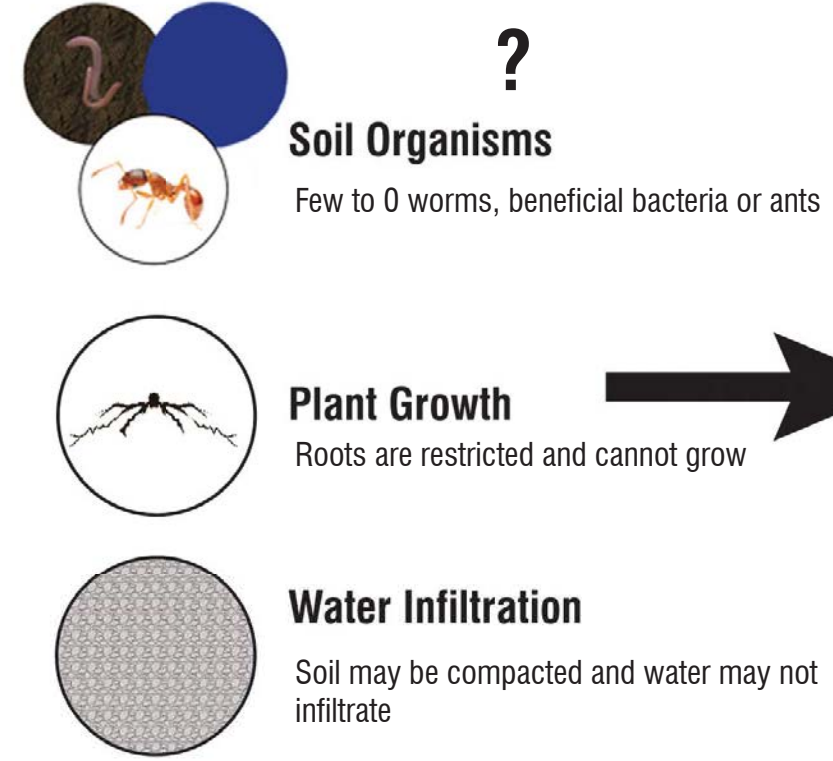
Human-Habitat Connection



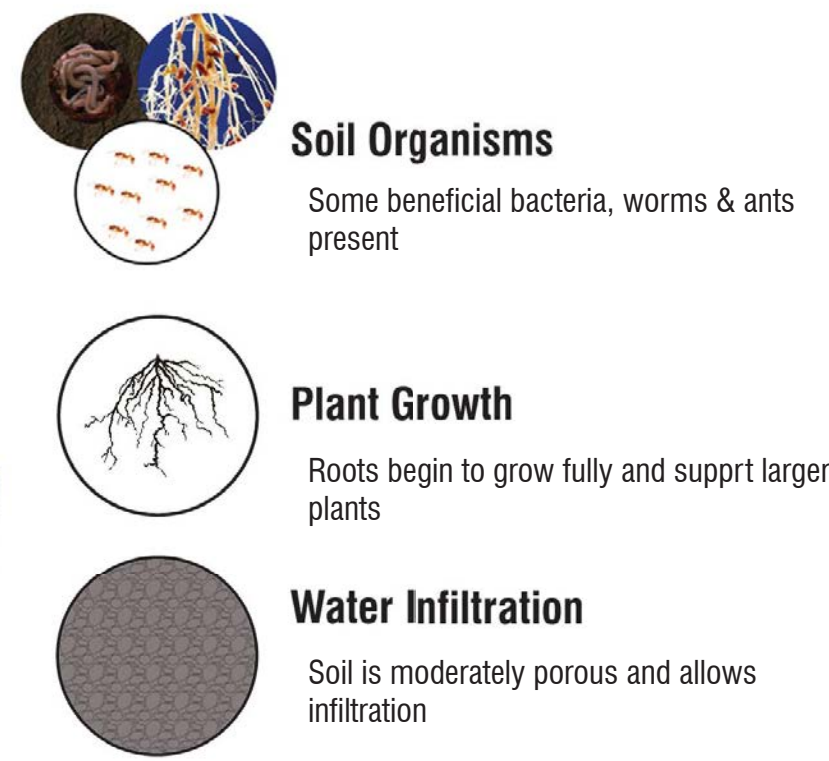
Past - Before Urbanization



Current - Damaged Soils



Improved - After Remediation

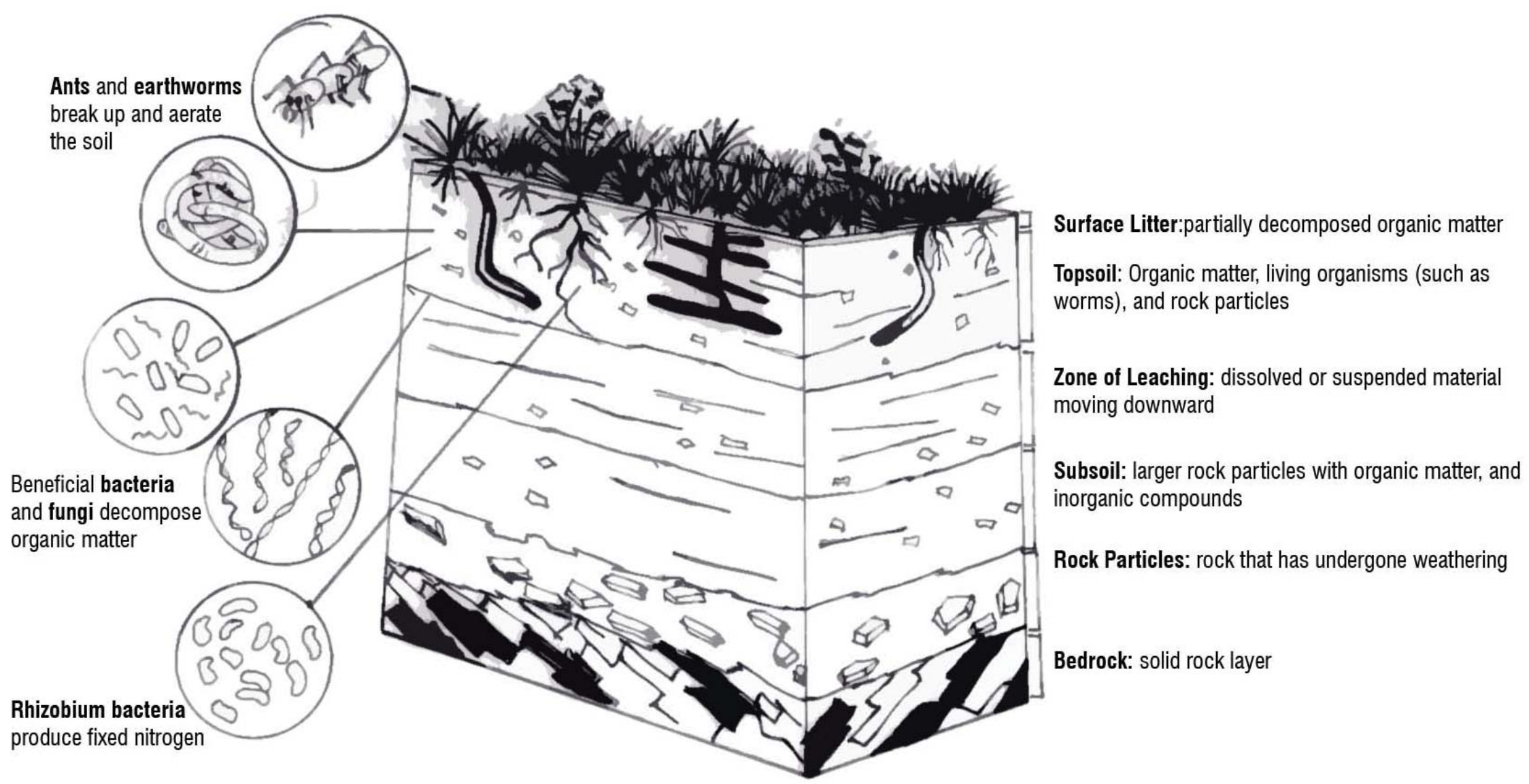


Revealing Soils Design

It is important to reveal to the residents of Oliver how soil impacts their neighborhood and the ecosystems around them. Through a series of planter plots on the elementary school site, students and passerby can observe the effects of different types of soil. The plots will be built within the planters shown above, within one plexiglass side to reveal life below the surface. The plots will represent

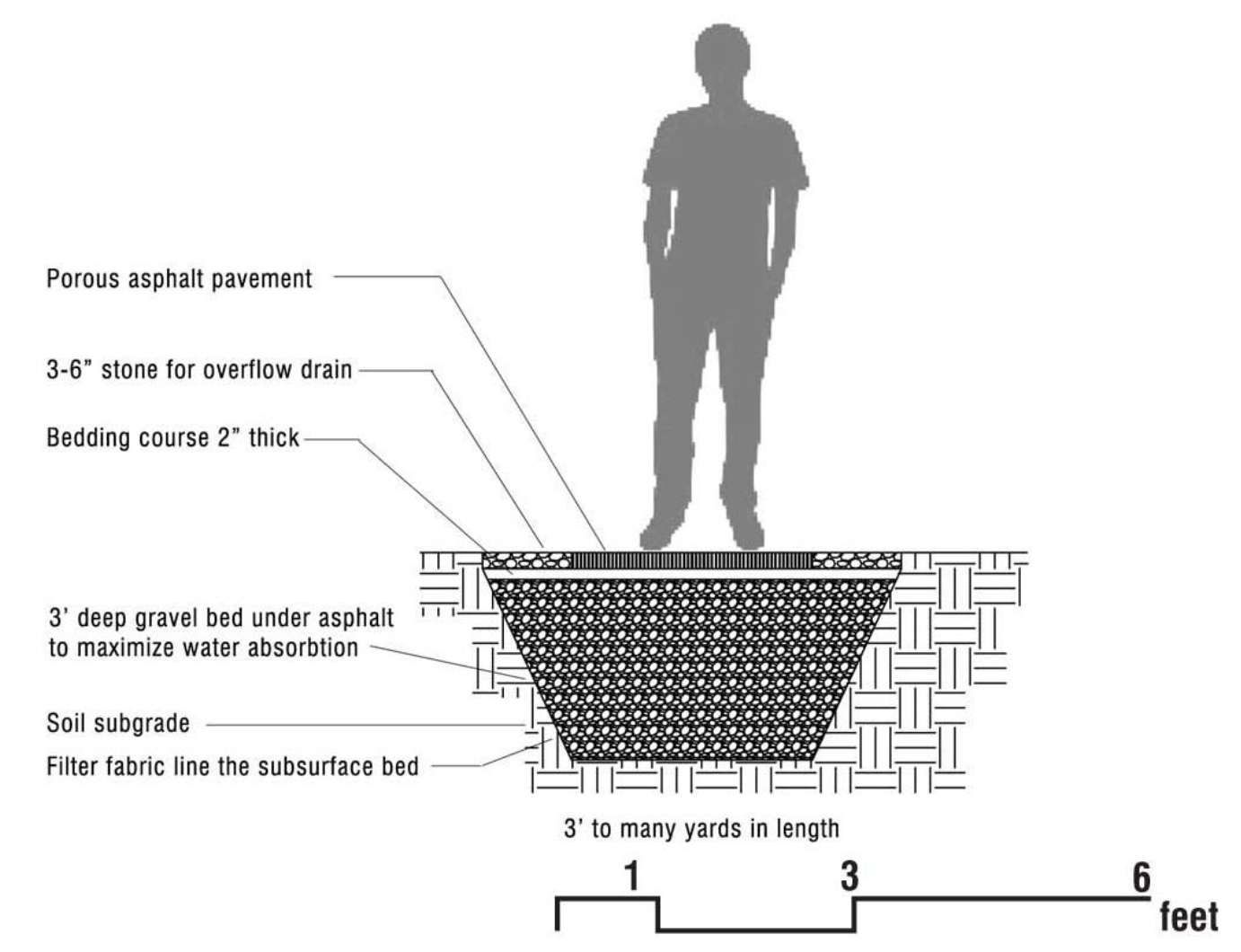
1. The Past- Before urbanization, when this land was once a woodland
2. The Current Situation - soils are damaged and may be compacted, which limits plant productivity and
3. Improved- after remediation, the soil is rich in organisms and can support growth of vegetables for the community to eat. The comparison of these three plots shows how improving soil can affect the lives of residents, flora, and fauna in Oliver.

Soil Horizon Diagram (Ideal Soils)



Arms, Karen. Holt Environmental Science. Orlando: Holt, Rinehart and Winston, 2008. Print.

D2 Detail 2: Permeable Pavement



D3 Detail 3: Bioswale

