



Kids Farming in the City

#1047





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Can one simple act change lives in many different ways? We believe the answer is yes. Something as simple as growing your own salad can make our planet, our cities and ourselves, better, healthier and happier; perhaps only by a little measure, but it's a start in the right direction, and we believe that much more can come when these first steps are taken by our young people.

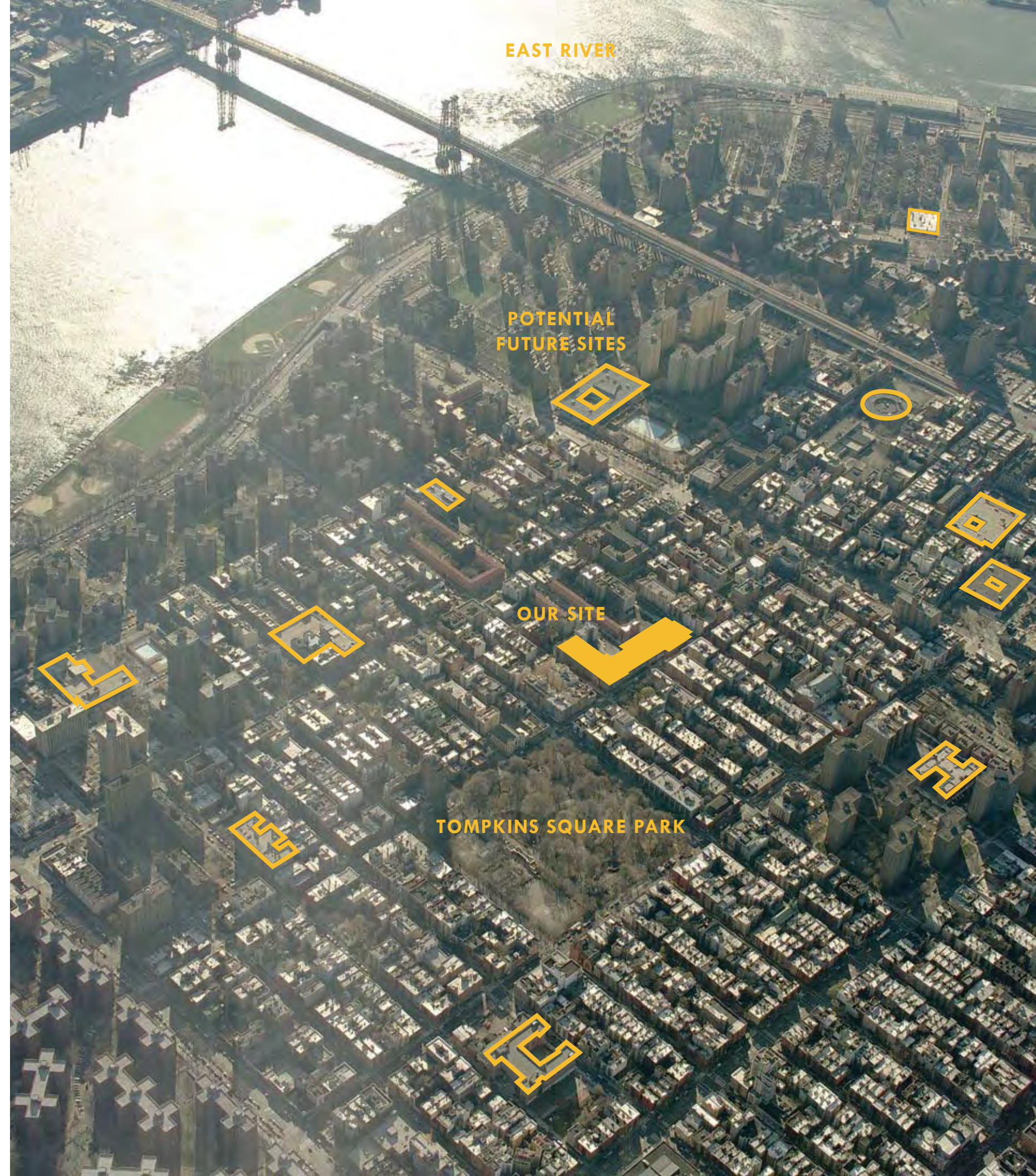
Kids Farming in the City is a simple gesture that we hope will have profound effects. It is a real project, with all the difficulties, challenges and joys of any building project in New York City. Our true identity is concealed to comply with the restrictions of this competition, but we want to be clear that our project is real, and here and now. It is both utopian and realistic at the same time; we are dreamers with our feet firmly on the ground - or in this case the roof. We have not allowed perfect design solutions to be the enemy of good design solutions, and the compromises we made as we have struggled with a tight design budget and bureaucratic red tape were made with an eye towards building the best design within our means.

Our project is located at a public school in Manhattan's East Village/Lower East Side. It is a neighborhood that has a long history of immigration and has been the first step into America for countless individuals and families. Today, the neighborhood is a mix of rich and poor, and every ethnic group, but despite the growing affluence of the neighborhood, the schools' student body has a poverty rate of 60%. Healthy eating habits and access to outdoor recreation are not a birthright in this neighborhood, but we are hoping that this project will begin to change that.

Our project, retro-fitting a green farm-able roof on an existing city public school building, is intended to allow teachers at the school to weave growing and cultivating plants into the curricula of different classes and areas of inquiry, ranging from science to art. Like any green roof, we hope this project will mitigate heat islands, reduce storm water run-off and provide areas of refuge to increase natural bio-diversity, but we wanted to set the bar higher for ourselves on this project. We want this project to affect social as well as environmental change. What better place to do that than at a school?

If we were going to grow plants on the roof, why not grow plants we could eat? Well, for starters, growing plants requires a lot more soil than a typical green roof covered in succulents requires, no small challenge when dealing with aged structures that might not be able to carry the additional weight of a cubic foot of soil on every square foot of roof surface. But we were intrigued – it seemed like such a perfect loop – kids growing plants on the roof, and eating plants in the cafeteria... could we make it happen? Yes! We developed a simple green roof deck system that would allow us to turn our barren roof into a green oasis - our 'Green Deck'.

The seedlings of our Green Deck were already growing. At the edges of the schoolyard's concrete surfaces, one of our science teachers had set up with the aid of many volunteers a container garden made of sawn pickle barrels. In it we grew everything from apples to zucchini. Elsewhere a compost pile grew to earn the school the golden shovel award. A program called 'Days of Taste' was introducing school children to neighborhood chefs and teaching them about food, nutrition and health through hands on learning about ingredients and preparation leading to communal feasting at the chefs' restaurants. A permit was granted by the state's department of agriculture for the harvest of the container garden to be offered as lunch fare in the cafeteria. The ingredients were all there, coalescing and fermenting, blending and brewing.





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The first plans for a farm-able roof were wildly ambitious and well over budget – a budget that was established through pledges and budget allocations from our elected officials. We went back to the drawing board again and again, determined to find a way to build a modest project, rather than build none. After discovering that a ‘standard’ green roof installation which would require extensive new structural and waterproofing work was not within our means, we began to investigate other ways of bringing farming – and all the weight associated with the soil depth required - to our roof.

Our very first idea had been to use cheap plastic children’s wading pools as container gardens. It appealed to our thriftiness and DIY ethos, and we appreciated the speed and simplicity with which we could transform our barren roof into a green space with a small circular plot for every child. However, that direction was judged as too temporary and ad-hoc in nature for a public institution utilizing municipal funding. Was there a way for us to revisit some of these ideas, but in a more substantial and planned form?

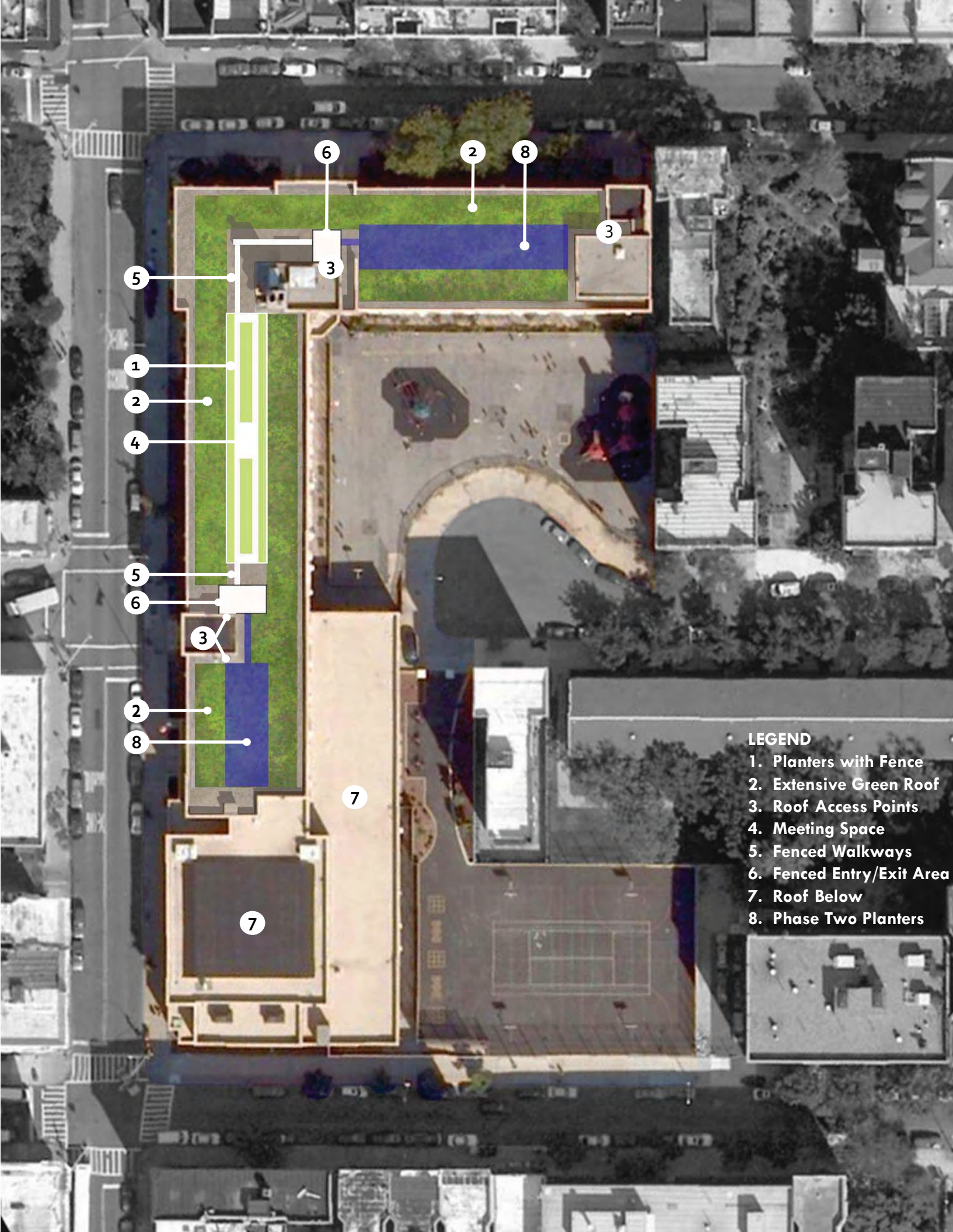
A structural investigation that was commissioned by the Schools Construction Authority revealed that our roof slab was unable to support the weight and amount of soil we wanted to bring to the roof, but that the building’s columns and beams could carry the extra weight with ease. In response we developed a design that would perch a green deck on the roof, resting its weight directly onto the columns below the roof. Through a process of further design refinements and consultation with builders and engineers, we finally adopted a system that is very similar to the way most roof dunnage (i.e. heavy mechanical equipment) is handled. We ‘stubbed-up’ a select number of columns from below, designed a pitch pocket waterproofing detail to wrap the base of these short columns, and then built a steel framed deck that rests on these columns. The simple and standard deck construction that rests on these columns can then serve as a foundation for anything from planters to a greenhouse.

This simple system has allowed us to bring our construction cost estimates in line with our budget, and move forward with the project. It has also allowed us to phase the development of our green roof in to stages making future expansions of the project more feasible. More importantly, we have developed a system that can be easily replicated in other buildings where the roof slabs were not designed to carry the weight of a farmable green roof. The end result is a green deck that has come to rest on our roof, and we would like to imagine a whole flotilla of these green rafts landing on the rooftops of many other buildings throughout the city.



THE GREEN DECK

- STEEL FENCE POSTS
- FIBERGLASS PLANTERS
- DECKING MATERIAL
- EXISTING ROOF
- CONVENTIONAL DECK FRAMING
- STEEL BEAM
- STUBBED UP COLUMN WITH PITCH POCKET WATERPROOFING



- LEGEND
- 1. Planters with Fence
 - 2. Extensive Green Roof
 - 3. Roof Access Points
 - 4. Meeting Space
 - 5. Fenced Walkways
 - 6. Fenced Entry/Exit Area
 - 7. Roof Below
 - 8. Phase Two Planters



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We might be utopian, but we are not revolutionary, we are not advocating for something new and untested, we are advocating for a return to things that are old and familiar in many ways. We are calling for a return to our roots; it is about rediscovering practices that have historically been an essential part of our lives. If thrift helped motivate city farmers fifty years ago, and necessity motivated their predecessors

five hundred years ago, today, we have many compelling reasons to bring small scale urban farming back into our lives. Whether it is to combat childhood obesity, global warming or to build better ties in our communities, a proposal like this allows us to reconnect with our past as well as with the environment, and helps us and our families to live healthier lives, enriching us in many different ways.



STUDY MODEL, THE GREEN DECK



NEW YORK CITY CHILDREN'S AID SOCIETY VICTORY GARDEN, 1943



A RENDERING OF THE GREEN DECK IN ACTION



OUR FIRST PLANTERS: A DEMONSTRATION CONTAINER GARDEN AT OUR SCHOOL FAIR



AN UNCLAIMED STRIP OF ASPHALT NEXT TO THE SCIENCE LABS



THE EXISTING CONTAINER GARDEN AT FIRST PLANTING



THE EXISTING CONTAINER GARDEN IN FULL GROWTH



CHILDREN TENDING CHIVES IN THE EXISTING CONTAINER GARDEN



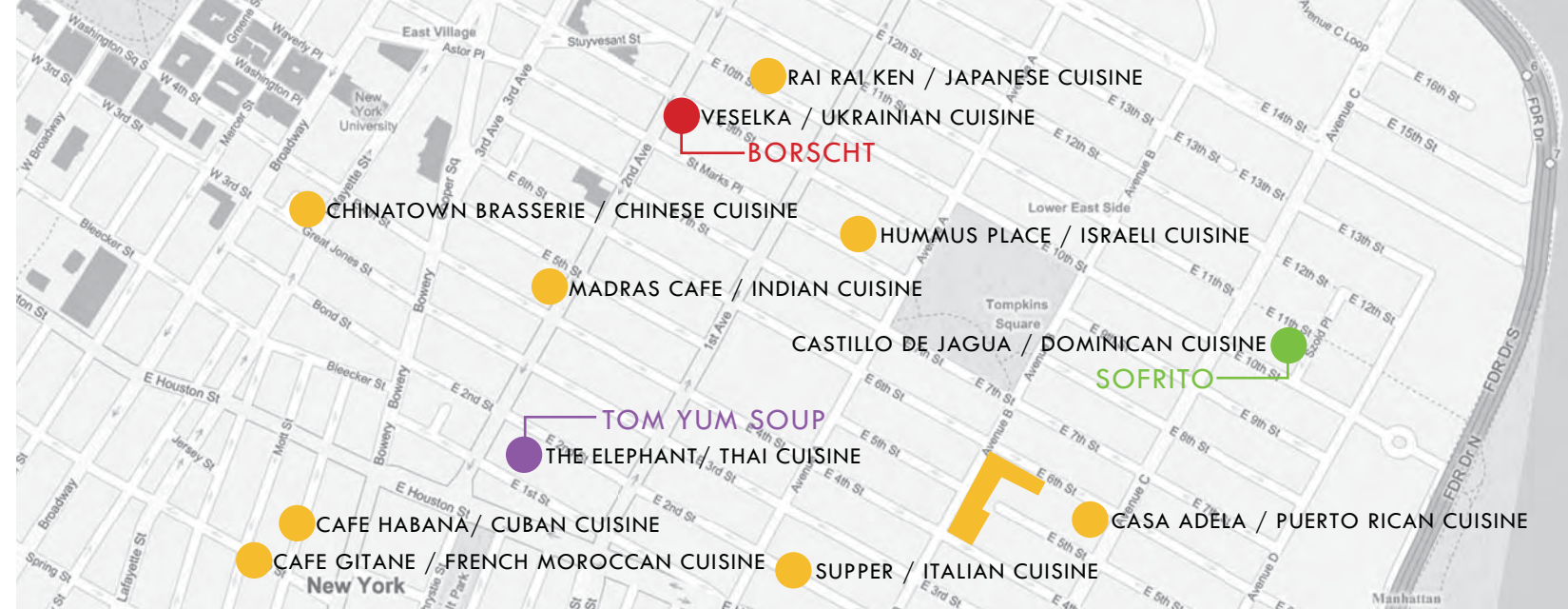
A STUDENT OBSERVING THE PLANTING OF BULBS

Kids Farming in the City

and Eating

One way in which we are hoping to connect our rooftop farm to our neighborhood is by linking to the rich ethnic diversity of this part of New York City. Through the selection of plants for cultivation that play an important role in the kitchens of various cultures, we can connect the garden and the curriculum to the cuisines, and lives, of the families and businesses that surround our farm.

The East Village/Lower East Side is one of the oldest neighborhoods in the city. Its history connects people from all over the world to the city and, reciprocally, is an avenue for New Yorkers to know the world. This cultural history can naturally be explored and celebrated through gardening and cooking. The following are three examples of many culinary micro gardens which would provide healthy ingredients for dishes from Borscht, a refreshing Polish beet soup, to Sofrito, the base of Dominican cooking, to a Tom Yum soup originating in Thailand and Vietnam. These examples are intended to demonstrate just one path of the many educational possibilities for our farm-able roof.



EAST VILLAGE / LOWER EAST SIDE NEIGHBORHOOD CUISINE



STUDENTS PREPARING A MEAL AT A 'DAYS OF TASTE' RESTAURANT

BORSCHT

Ukrainian & Polish Garden

- Beets, Beta vulgaris Prefer deep, rich, moist soil
- Cabbage, Brassica oleracea
- Dill, Anethum graveolens, 'Fernleaf' dwarf variety 20" tall Annual prefers full sun
- Kale, Brassica oleracea, Acephala Group 'White Russian'
- Marjoram, Origanum majorana Annual hardy to Zone 9-10. Prefers full sun. 1' tall 2' wide
- Parsley, Petroselinum crispum 'Favorit' Curly leaf parsley Hardy biennial prefers full sun

SOFRITO

Puerto Rican & Dominican Garden

- Chilies; Cubanelle pepper, Cachucha pepper and Caballero pepper
- Cilantro/ Coriander, Coriandrum sativum Annual grows 1-3' tall prefers warm, dry, light soil
- Culantro, Eryngium fortidum Grows in moist shade
- Oregano brujo, Plectranthus amboinicus; A succulent perennial herb
- Pepper, Green & Red Bell
- Pigeon Peas, Cajanus cajan Draught tolerant plant prefers full sun
- Saffron, Crocus sativus Hardy to Zones 5-8 Prefers full sun

TOM YUM SOUP

Thai & Vietnamese Garden

- Basil, Ocimum basilicum, Asian variety
- Chilies, Asian variety
- Chinese Cabbage, Brassica rappa, Pekinensis Group, Soloist variety; A summer through fall crop
- Chives, Garlic or Nira, Allium tuberosum
- Cilantro/ Coriander, Coriandrum sativum Annual
- Edamame, Glycine max, Edible Soybean, Sayamusume variety; An ancient staple of the Asian diet
- Fennel, Foeniculum capillaceum, F. vulgare Ingredient of Chinese five spice blend
- Garlic, Allium sativum, Shandong and Chinese Pink varieties. Prefers rich, composted soil
- Lemongrass, Cymbopogon flexuosus Annual, Zones 8-9
- Mustard, Brassica rapa Kyoto Mizuna Fall & Winter seasons
- Scallions, Allium
- Mint