

GROWING FORWARD

THE GREEN HOUSE VENTURE Education Center will take 18 months to build, and we have a goal to open in fall 2019. Toward that end, 2017 will be a period of intensive fundraising to raise the capital needed to start construction. Supporting that effort, we have the commitment of the former CEO of a major agri-business company to lead the Capital Campaign, the financial involvement of all board members, plus the commitment of some great companies and professional firms in St. Louis providing in-kind donations. In total, the generosity of our active supporters has resulted in more than 5,400 volunteer hours and more than \$200,000 in pro bono contributions. This early support has given us the jump start needed to pursue our goals quickly and gain momentum as we enter 2017.

*We have accomplished a great deal in our first two years, and we are excited for the year ahead as we pursue our goal to raise \$6.9 million for the completion of the project by fall 2019. At its core, **THE GREEN HOUSE VENTURE** is a community initiative, using strategies and local talent to forge relationships and partnerships between institutions and students on a scale not seen before.*



First Ambassadors Program graduation ceremony held December 2016



We continue to believe this initiative can set the standard and create a replicable model for elementary education in bioscience and urban agriculture nationwide. Achieving that goal will require considerable support and resources, and we welcome the involvement of individuals and organizations who share our enthusiasm for pursuing that vision.



THE GREEN HOUSE VENTURE

IMPROVING SCIENCE EDUCATION AND CHILDHOOD NUTRITION

SPRING 2017: PROGRESS REPORT AND FUTURE PLANS



Students working on scientific experiments in an Alliance school laboratory



Guidance being provided by student mentor from the Saint Louis University Micah Program

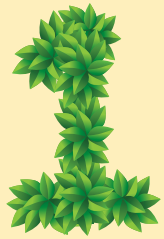


THE GREEN HOUSE VENTURE made substantial progress in the first two years toward our vision of creating a nationally recognized elementary education center for bioscience and urban agriculture. A number of significant factors have converged to provide the impetus for this initiative.

Key driving forces include:

- 1** Re-development of the South Central Corridor, with the emergence of Cortex and expansions of both Saint Louis University and Washington University medical campuses;
- 2** Support of educators and scientists from around the region interested in creating an innovative agricultural education center;
- 3** Availability of land and the cooperation of four diverse elementary schools within a two-mile radius;
- 4** A surge in the St. Louis area technology and bioscience industries, demanding a larger workforce with advanced STEM skills

THE PRIMARY GOALS FOR THE GREEN HOUSE VENTURE ARE TO:



Introduce children to a rich, hands-on learning experience that improves bioscience education.



Increase student knowledge of and appreciation for proper nutrition, and encourage children and their families to adopt healthier everyday eating habits.



Lead more students to potential careers in bioscience to meet the pressing need to fill emerging area jobs in science and agriculture.

URBAN EDUCATION ALLIANCE



The Urban Education Alliance represents over 2,000 students from 58 zip codes attending four elementary schools with economically, racially and socially diverse student bodies coming together in a community setting for a common cause. To formalize the partnership, memorandums of understanding have been signed with the four schools, including St. Margaret of Scotland School (Parochial), St. Louis Language Immersion School (Charter), Mullanphy Investigative Learning Center (Public Magnet) and Tower Grove Christian Academy (Christian).

Through **THE GREEN HOUSE VENTURE**, the Alliance schools will provide hands-on bioscience education and teach children how to build relationships with fellow students in crossing boundaries and working cooperatively. These children will travel outside the traditional classroom environment as they learn side-by-side growing produce that will be shared with their families and donated to urban schools serving students from low income families.

GREENHOUSE AND EDUCATIONAL GARDENS

THE GREEN HOUSE VENTURE Education Center will be unique in the region and will include the following features:



Students taking soil samples in their neighborhood

- Growing galleries with fish-breeding tanks and soilless beds
- Floating rafts, wicking troughs and growing towers (all using fish waste to nourish the plants)
- Demonstration kitchen
- Multi-purpose classroom and lab
- Solar arrays and hydrogen cells
- An ozone garden
- A weather station
- Sustainable heating and cooling systems
- Rainwater collection systems for irrigating plants and minimizing runoff.

Outside, students will work on a variety of educational gardens, the largest of which is the Embankment Garden. This area will include a pollinator prairie planting, native fruit tree plantings, and a section of raised beds, terraces and demonstration plantings on the 3.5 acres of land along I-44. Designs are complete, fundraising is underway, and construction is set to begin in summer 2017.

KEY ACCOMPLISHMENTS

The majority of our efforts thus far have focused on creating the infrastructure for the organization that will support the construction of a new greenhouse educational center plus the programming to go along with it.

With donated services from several leading St. Louis companies, we have:

- 1** Created the **Urban Education Alliance**, a collaboration of four diverse elementary schools in the South Central Corridor
- 2** Designed the curriculum and launched the first session of the **Ambassadors Program**
- 3** Signed **Memorandums of Understanding** for collaboration with Saint Louis University, Tower Grove Park and Gateway Greening
- 4** Secured land for the **greenhouse facility** and **five educational gardens**
- 5** Completed **design work** and **preliminary architectural drawings** for the main greenhouse facility and Embankment Garden
- 6** Launched **THE GREEN HOUSE VENTURE web site** and attracted notable **media coverage**

AMBASSADORS PROGRAM

The Ambassadors Program was launched in fall 2016 at one of the Alliance schools with a class of 20 students – 5 from each school. It was our first step toward engaging students from all four participating schools in the vision we have for a dramatically new approach to bioscience education.

The aim of the program is to give the children the experience of being student scientists – starting with an interesting problem, devising hypotheses, conducting experiments, and drawing conclusions. It offers rich, hands-on learning, and the 20 ambassadors then share what they learn with classmates at their respective schools.

The fall 2016 semester was devoted to sky and soil. Children tested soil found in Missouri and tested plants for their reactions to various kinds of soil and weather conditions. Saint Louis University faculty in Earth and Atmospheric Sciences taught lessons on climate change and weather.

The spring 2017 session of the Ambassadors Program is focusing on scientific comparisons of plants grown aquaponically and in soil, using equipment developed at Saint Louis University and housed at each school. Educators from the Danforth Plant Science Center will offer lessons in soil composition and testing. The program will take up new topics each semester for three years, and then begin again with a new group of children studying the fundamental effects of soil and weather.



This program is already gaining positive public attention and was featured on February 1, 2017 on KETC Channel 9 in the nationally syndicated program SciTech Now. You can view it on the home page of our website at <http://www.greenhousetl.org/>.