

Quality and Productivity Commission
30th Annual Productivity and Quality Awards Program
"Heritage of Excellence"

2016 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: TGE RESOURCE CENTER – MORE THAN JUST URBAN FARMING

DATE OF IMPLEMENTATION/ADOPTION: JULY 2014
(Must have been implemented at least one year - on or before July 1, 2015)

PROJECT STATUS: Ongoing One-time only

HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT? Yes No

EXECUTIVE SUMMARY: Describe the project in 15 lines or less using Arial 12-point font. State clearly and concisely what difference the project has made.

1 The Growing Experience (TGE), operated by the Housing Authority of the County of Los
2 Angeles, is an award winning urban farm located at Carmelitos Public Housing
3 Community in Long Beach. From January 2014 through June 2015, TGE launched its
4 Environmental Resource Center to provide long-term replicable solutions to
5 environmental challenges currently being experienced throughout Los Angeles County
6 such as drought, lack of access to a sustainable local food system, and pressures on
7 limited landfill capacity. Comprised of three initiatives, the Environmental Resource
8 Center expands community service by: 1) growing large volumes of produce for the
9 community through a water-efficient Aquaponics and Vertical Towers Growing System
10 combining plants with edible species of fish; 2) providing a water-conserving
11 demonstration Community Food Forest featuring drought-tolerant species of plants with
12 edible value; and 3) implementing a Food Waste Composting Program in conjunction
13 with the City of Long Beach's Office of Sustainability and local restaurants to divert food
14 waste from landfills. Implementation of the Environmental Resource Center establishes
15 TGE as a Countywide leader in agricultural technology and resource conservation.

BENEFITS TO THE COUNTY

(1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE	(2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS	(3) ACTUAL/ESTIMATED ANNUAL REVENUE	(1) + (2) + (3) = TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT	SERVICE ENHANCEMENT PROJECT
\$ 1,620	\$1,000	\$ 17,500	\$ 20,120	<input type="checkbox"/>

ANNUAL = 12 MONTHS ONLY

SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS Housing Authority of the County of Los Angeles 700 W. Main St. Alhambra, CA 91801	TELEPHONE NUMBER 626-586-1500
PROGRAM MANAGER'S NAME Jimmy Ng	TELEPHONE NUMBER 562-756-0988 EMAIL Jimmy.Ng@hacola.org
PRODUCTIVITY MANAGER'S NAME AND SIGNATURE <small>(PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME)</small> Elisa Vasquez 	DATE 6/29/16 TELEPHONE NUMBER 626-586-1762 EMAIL Elisa.Vasquez@lacdc.org
DEPARTMENT HEAD'S NAME AND SIGNATURE Sean Rogan 	DATE 6/29/16 TELEPHONE NUMBER 626-586-1500

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1st FACT SHEET – LIMITED TO 3 PAGES ONLY: Describe the **Challenge, Solution, and Benefits** of the project. State clearly and concisely what difference the project has made. Use Arial 12-point font

The Growing Experience Environmental Resource Center (Environmental Resource Center), operated by the Housing Authority of the County of Los Angeles, addresses environmental conditions and challenges, which Los Angeles County communities and constituents are currently experiencing. The Environmental Resource Center is a timely solution to advance and promote environmental sustainability in unique ways that benefit and engage the community. As a whole, the three initiatives below represent the future of TGE as a countywide community environmental resource center featuring cutting edge technology, demonstration space, and educational opportunities.

1) The Aquaponics and Vertical Towers Growing System:

Challenge:

After operating a Community Supported Agriculture (CSA) program and farm stand for several years, it became apparent there was more demand than supply for fresh produce from TGE. There was a need to expand TGE’s growing capacity to provide for a larger number of underserved families, many of whom had limited access to healthy food options. There were also constraints such as suitable land in an urban setting; environmental challenges such as the ability to grow crops consistently given climate unpredictability and drought in Southern California; and engaging underserved youth and young adults through pertinent training and skills development opportunities.

Solution:

Through funding from the Los Angeles County Productivity Investment Fund, TGE developed The Aquaponics and Vertical Towers Growing System, which is housed in an existing 1,000 square-foot climate controlled greenhouse. The system consists of 175 vertical growing towers planted with leafy greens and herbs, all inter-connected with two-650 gallon tanks populated with edible species of fish. Water circulates between the fish tanks and growing towers, with crops taking up nitrates from liquid fish waste, while plants oxygenate the water. Participants recruited in partnership with the Los Angeles County Probation Department’s Juvenile Justice Crime Prevention Act Program (JJCPA) participate in after-school and summer programs to learn system operations.

Benefits:

Growing capacity and harvests of leafy greens in the same footprint of land have increased four-fold from 2,200 pounds with traditional in-ground agriculture, to 8,750 pounds by maximizing vertical space. This has translated to increased CSA shares, larger weekly farm stand, and wholesale transactions to Long Beach City College’s food court salad bar, as well as several local businesses. Total sales of produce have been approximately \$17,500 to date. Water consumption by the system is approximately 67%

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less than traditional in-ground growing resulting in a savings of approximately 14,728 gallons annually. Fertilizer inputs have also been reduced by 75% as liquid fish waste provides the bulk of nutrients for plants in the system. Youth and young adult participants are engaged in the project as the system combines aspects of science, technology, and agriculture in one package, which appeals to a broad range of interests, and encourages positive interactions.

2) Community Food Forest:

Challenge:

The drought in Southern California has affected the ability of residents to landscape in traditional ways. This is due to the fact that traditional ornamental landscaping in the Los Angeles region has historically consisted of non-native plants requiring ample irrigation, much of which runs off to the ocean. With no clear end to the drought, changes in landscape water usage have been implemented Countywide. However, there remains a general disinterest from the public on drought-tolerant landscaping, due to lack of education and aesthetically pleasing examples.

Youth and young adults, in particular, have little knowledge or incentive in their daily routines to learn about water conservation. As a result, behaviors relating to consumption remain unchanged during times of drought.

Solution:

Through funding from the State of California’s Natural Resources Agency, TGE implemented a half-acre Community Food Forest, unique in not only featuring native and drought-tolerant species of plants, but also which has edible, herbal, or medicinal value for human benefit. Design of the site contains no paved surfaces and includes trails meandering through the plantings, along with informational signs and graphics.

In addition to working with the Aquaponics and Vertical Towers Growing System, participants recruited in partnership with the Los Angeles County Probation Department’s JJCPA Program receive education and skills training pertaining to water and resource conservation. This is through hands-on project implementation of the Community Food Forest and understanding of its concepts, along with workshops and informal classes on drought-tolerant landscaping best practices.

Benefits:

Because the food forest contains only permeable materials, run-offs of water and pollutants to the ocean are greatly reduced, allowing for percolation into the ground to build up groundwater levels. The site is open to the public and serves as a demonstration garden. Signage and info-graphics educate and engage visitors to recognize the importance and aesthetics of drought-tolerant landscaping. Trails allow access to safe, open green space, which is generally lacking in the community. When

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ready, harvests from food forest plantings are shared with the community by youth in programming at the farm and at public open house days.

The hands-on training received by youth and young adults has resulted in changed behaviors due to increased knowledge about environmental challenges such as drought and resource conservation. The training curriculum encourages critical thinking of the issues surrounding these challenges, ultimately leading to environmental stewardship.

3) Food Waste Composting Program:

Challenge:

Food waste from restaurants accounts for tens of thousands of tons of garbage hauled to landfills, either to be incinerated or stored, both of which produce atmospheric pollutants. Hauling this requires fossil fuels and results in pollutants produced from transporting. Space in landfills is finite and will become overburdened, requiring further remote areas for disposal and the requisite fuel to transport.

Solution:

In partnership with the City of Long Beach’s Office of Sustainability and five local restaurants, all of which are within a six-mile radius of the farm, food waste is collected and dropped off at TGE on a weekly basis.

Benefits:

By diverting food waste from the five participating restaurants on a weekly basis throughout the year, approximately 34 tons of garbage is diverted from landfills. Because the restaurants are in close proximity, fossil fuel usage and the resulting pollutants are greatly reduced. The collected food waste is subsequently composted, producing approximately 12 cubic yards of nutrient rich soil amendment for TGE’s crop production areas, saving the amount of compost TGE would otherwise need to purchase. Signage and info-graphics educate the community about the composting program, and serves as a model of what can be done on a household level to divert waste.

In conclusion, the Environmental Resource Center is a positive change-maker and a timely solution that advances and promotes environmental sustainability. It does so by incorporating a multi-pronged approach through projects showcasing newly emerging technologies in urban agriculture, providing a demonstration site featuring best practices, and engaging the community in the process. This unique approach at The Growing Experience by the Housing Authority of the County of Los Angeles is providing meaningful long-term replicable solutions to environmental challenges being experienced throughout Los Angeles County.

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LINKAGE TO THE COUNTY STRATEGIC PLAN (DETAIL IS REQUIRED FOR COUNTY DEPARTMENTS): Use Arial 12 point font

The Resource Center fulfills the County Strategic Plan’s Goal of Community Support and Responsiveness, “To enrich lives of Los Angeles County residents by providing enhanced services, and effectively planning and responding to economic, social, and environmental challenges.” The Environmental Resource Center specifically does so in two key Strategic Initiatives outlined by the County: 1) Job Creation Efforts; and 2) Environmentally Sustainable Practices.

In terms of Job Creation Efforts, TGE’s Aquaponics and Vertical Towers Growing System provides underserved low-income youth and young adults from Carmelitos Public Housing Community and North Long Beach with paid training opportunities, learning all aspects of the emerging aquaponics industry. Placement is made through partnership with the Pacific Gateway Workforce Investment Network in short-term summer youth employment and after-school opportunities in which the participants “gain valuable skills necessary for academic and professional success,” as outlined in the County’s focus area for Job Creation Efforts.

All three of the new initiatives and projects fulfill the County’s Strategic Initiative of Environmentally Sustainable Practices “To reduce consumption of energy, water, and other resources” through the following:

- The Aquaponics and Vertical Towers Growing System fulfills the Strategic Initiative’s focus area on Net-Zero Water (Sustainable water resources), as the project relies on re-circulated water for the growing of leafy greens, with minimal water or nutrient inputs.
- The Community Food Forest also fulfills the Net-Zero Water focus area, as it features drought-tolerant plants and features design elements which improve sustainable local water supplies by reducing run-off of pollutants and encouraging natural build-up of ground water supply onsite.
- The Food Waste Composting Program fulfills the focus area of Net-Zero Waste (Solid waste reduction and recycling) by diverting food waste from going to landfill, instead composting it onsite for use as a soil amendment. This program also fulfills the Net-Zero energy focus area as it reduces fossil fuel based energy consumption and reduces greenhouse gas emissions.

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COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFITS TO THE COUNTY): If you are claiming cost benefits, include a calculation on this page. You must include an explanation of the County cost savings, cost avoidance or new revenue that matches the numbers in the box. Remember to keep your supporting documentation. Use Arial 12 point font

Cost Avoidance: Costs that are eliminated or not incurred as a result of program outcomes.

Cost Savings: A reduction or lessening of expenditures as a result of program outcomes.

Revenue: Increases in existing revenue streams or new revenue sources to the County as a result of program outcomes.

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\$ 1,620	\$ 1,000	\$ 17,500	\$ 20,120	<input type="checkbox"/>

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Calculations:

Annual Cost Avoidance - \$1,620 – Wholesale cost of 12 cubic yards of compost produced from diverted food waste onsite, including delivery by flatbed truck

Annual Cost Savings - \$1,000 – Reduced water consumption from Aquaponics and Vertical Towers Growing System, savings of approximately 14,728 gallons or 20 CCF, as calculated on Long Beach Water Department’s “Water Bill Estimator”

Annual Revenue - \$17,500 – Approximately 8,750 pounds of leafy greens @ \$2/lb. produced from 175 growing towers in the Aquaponics and Vertical Tower Growing System