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Adjusted Allocation 0.00

Remaining -1,000,000.00
A) APPLICANT INFORMATION - General Information

1. Project Title:
Steubenville City Schools Solar Garden

2. Project Tweet: Please limit your responses to 140 characters.
Urban communities face numerous challenges related to the health and well-being of citizens.
This is an ultra-concise introduction to the project.

3. Estimate of total students at each grade level to be directly impacted each year.
This is the number of students that will receive services or other benefits as a direct result of implementing this project. This does not include students that may be impacted if the project is replicated or scaled up in the future. It excludes students who have merely a tangential or indirect benefit (such as students having use of improved facilities, equipment etc. for other uses than those intended as a part of the project). The Grant Year is the year in which funds are received from the Ohio Department of Education. Years 1 through 5 are the sustainability years during which the project must be fiscally and programmatically sustained.

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4. Explanation of any additional students to be impacted throughout the life of the project.
This includes any students impacted indirectly and estimates of students who might be impacted through replication or an increase in the scope of the original project.

Steubenville City Schools provides students in grades 6-12 with career pathways to take as their elective courses. Students in grades 6-8 take a rotating 6 week career pathway course. In this way, all students in grades 6-8 will be directly impacted by the rooftop garden program. Students in grades 9-12 have a selection of career pathway courses to take as electives. We expect the students in grades 9-12 to increase by 10 students each year for the life of the grant project.

5. Lead applicant primary contact: - Provide the following information:

First and last name of contact for lead applicant
Shana Wydra

Organizational name of lead applicant
Steubenville City Schools

Address of lead applicant
1400 West Adams Street, Steubenville, OH 43952

Phone Number of lead applicant
740-283-3767

Email Address of lead applicant
swydra@acsohio.org

Community School Applicants: After your application has been submitted and is in Authorized Representative Approved status an email will be sent to your sponsoring entity automatically informing the sponsor of your application.

6. Are you submitting your application as a consortium? - Select one checkbox below

☑ Yes
☐ No

If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the educational service center.

Add Consortium Members

7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

☑ Yes
☐ No

If you are partnering with anyone, please list all partners (vendors, service providers, sponsors, management companies, schools, districts, ESCs, IHEs) by name on the "Partnering Member" page by clicking on the link below.

Add Partnering Members

B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

The response should provide a clear and concise description of the project and its major components. The following questions will address specific outcomes and measures of success.

a. The current state or problem to be solved; and

Since storm water is a large issue in urban centers, having a green roof that functions as both a garden and as a water collection unit will serve the community on multiple levels. To accomplish this project, a Design Build Specialists will work with the local stakeholders to make this project as robust and comprehensive as possible. The Roof Top Garden will seek to decrease energy usage, save money, and encourage a community gardening center that would thrive with student involvement and help promote localized and seasonal eating. The proposal focuses on the idea of green roofing on school buildings that are viable as rooftop gardens as well. The focus will be on the promotion of energy efficiency through the use of green roof and the promotion of localized farming to decrease the number of miles students and community members travel in order to purchase localized food.

b. The proposed innovation and how it relates to solving the problem or improving on the current state.

Historically, rooftop gardens have been used to create green space in the built environment. Today (2015), city planners and community members are using them to create green spaces, start urban micro-farms, teach students, provide relief for vulnerable populations, and develop green office buildings and green cities. On a city wide level the benefits are clear. One of primary benefits touted and researched by
9. Select which (up to four) of the goals your project will address. For each of the selected goals please provide the requested information to demonstrate your innovative process. - (Check all that apply)

a. Student achievement

i. List the desired outcomes.

Examples: fewer students retained at 3rd grade, increase in graduation rate, increased proficiency rate in a content area, etc.

-Address multiple learning styles -Provide opportunities for interdisciplinary lessons -Improve environmental attitudes -Promote good nutrition and exercise -Teach patience and responsibility -Instill a positive work ethic -Increase students' self-esteem -Build classroom relationships, improve teamwork, and strengthen school spirit -Beautify the environment

ii. What assumptions must be true for this outcome to be realized?

Examples: early diagnosis and intervention are needed to support all children learning to read on grade level; project-based learning results in higher levels of student engagement and learning, etc.

setting, but once it is established, we are hoping to find that from year-to-year, students will develop more independence and cooperative skills for their ongoing explorations. -Cooperative Structures -Small-group cooperative learning is especially effective in an outdoor classroom setting -Team Teaching -Solar installations on schools will provide teachers with a unique opportunity to team teach concepts in science, technology, engineering, and mathematics (STEM) and pique student interest in these critical subjects.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

To achieve sustainability, food and agriculture must be an important part of how we define our cities (Thompson et al. 2007). Soil, water, nutrients and biodiversity are fundamental to the biological systems that make up farms. Sustainability is achievable by establishing cultivation practices that encourage the health of these systems. This ecological approach increases plant and animal species diversity that is critical for disease resistance, pollination and healthy soil and water. Soil depletion due to erosion and chemical application can be mitigated through reduced tillage, cover cropping, and reincorporating composted plant nutrients (2005). This also prevents the release of carbon dioxide from the soil into the atmosphere. "Intensive soil tillage, erosion, and fertilization" on U.S. farms and around the world which are large contributors of greenhouse gas emissions contributing to global climate change. In 2004, agriculture was responsible for over 13% (6.5 billion tons) of the total annual human-induced greenhouse gas emissions (49 billion tons), a majority of which came from the soil (Scherr and Sthapit 2009, 7,9). Environmentally food security (CFS) projects and local food initiatives strive to decrease consumer food miles. Food miles refer to the distance food travels from farm to fork. It is often quoted that American meals travel an average 1,500 miles--and this number is growing (Dixon 1998; Piro 2001). The fossil fuel consumption, carbon emissions and other pollution associated with this staggering fact are not sustainable. CFS also addresses our nation's food deserts. Food deserts are areas without reasonable access to traditional supermarkets or fresh affordable food options. This phenomenon is rural and urban, though it often affects low-income communities and communities of color in urban neighborhoods where the economic base has been eroded (Flisram 2009). Historically, rooftop gardens have been used to create green spaces in the built environment. Today (2015), city planners and community members are using rooftop gardens to create green spaces, start urban microfarms, teach students, provide relief for vulnerable populations, and develop green office buildings and green cities (Kilmer, n.d.). One potential benefit of the rooftop garden is the creation of a comprehensive urban food system. One example, the Brooklyn Grange is a large urban rooftop farm in New York City that sells produce to restaurants and markets (Hanson, n.d.). As research shows, urban rooftops absorb heat and deflect rainwater, which contribute to proliferate energy use and combined sewer overflows, without contributing any useful benefits. The urban rooftop therefore presents potential as an arena for designed solutions that could have disproportionate value in the overall sustainability performance of the city. This project presents one such designed solution, centered on a long-term vision of an urban rooftop in which dark and/or unused rooftops are rare exceptions, and the prevailing pattern features lively green multi-use spaces where students learn an alternative way to live their lives, rainwater is absorbed and used, vegetation proliferates, and solar energy is efficiently generated. Students working on the...
previously purchased textbooks. Example: transition to “green energy” solutions produce financial efficiencies, etc.; or available digital resources are equivalent to or better than

Examples: lowered facility cost as a result of transition to more efficient systems of heating and lighting, etc.; or cost savings due to transition from

v. List the specific indicators that you will use to measure progress toward your desired outcome.

The following indicators will be measured to ensure the success of the rooftop garden:

- Environment: Teachers and students will create a natural systems ecosystems which will include habitat, water, air quality, waste, resource conservation. Teachers and students will plan and design rooftop use which will include the transportation and mobility of goods to the rooftop, planning and designing a rooftop park, open spaces and space for recreation. Teachers and students will plan and design the energy and climate for the rooftop space, which will include monitoring energy, emissions, renewable energy, and maintaining a green building.

Economy: Teachers and students will plan for economic development by incorporating clean technologies and green jobs, encouraging local commerce, tourism, and maintaining a local food system. Teachers and students will plan for employment and workforce training by researching and supporting green job training, employment, and workforce wages, and you

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

Steubenville City Schools will seek assistance from school districts currently using a rooftop garden for educational purposes to understand why it is successful, and how to mirror the success. By gathering and tracking information about the rooftop garden's activities, Steubenville City Schools may see new opportunities to refine the rooftop garden to work better to accomplish or expand goals the districts goals. Collecting data that describes the rooftop garden's activities and output will help raise awareness of healthy eating habits. Teachers will collect qualitative, quantitative, direct and indirect data.

b. Spending reductions in the 5 year forecast

i. List the desired outcomes.

Examples: lowered facility cost as a result of transition to more efficient systems of heating and lighting, etc.; or cost savings due to transition from textbook to digital resources for teaching.

The district will also continue to save students and families money with the college credit plus program. The program offers 71 college credit courses to students, with the addition of the rooftop garden and the implementation of new programs such as agri science, the district will increase the amount of college credits available to students thus saving families more money.

ii. What assumptions must be true for this outcome to be realized?

Example: transition to “green energy” solutions produce financial efficiencies, etc.; or available digital resources are equivalent to or better than previously purchased textbooks.

Green Roofs cost from $15-$30 per square foot installed. The cost varies depending on the type of roof garden system, project size and accessibility, height of the building, square footage of pavers, quantity of planters, and the overall design complexity. Reduced HVAC Costs:

The ambient temperature on a unvegetated rooftop can reach 160F. A green roof reduces this temperature by as much as 60F. For every 1 degree the ambient air that an HVAC unit extracts is reduced, a 1% reduction in energy use results. This can equate to substantial, long-term energy savings. Reduced Heating & Cooling Costs: The roof garden is able to transfer heat from the rooftop and away from the building by a process known as evaporative cooling. This reduces the HVAC energy costs for the space directly below the green roof. Roof Membrane Life Extension: Roofs that are covered by a green roof are protected from harmful UV rays, and will last twice as long as unprotected roofs.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc.), or how these are well-supported by the literature.

Green roofs can contribute to landfill diversion by: -Prolonging the life of waterproofing membranes, reducing associated waste -The use of recycled materials in the growing medium -Prolonging the service life of heating, ventilation, and HVAC systems through decreased use

With green roofs, water is stored by the substrate and then taken up by the plants from where it is returned to the atmosphere through transpiration and evaporation. -In summer, depending on the plants and depth of growing medium, green roofs retain 70-90% of the precipitation that falls on them; in winter they retain between 25-40%. -Green roofs not only retain rainwater, but also moderate the temperature of the water and act as natural filters for any of the water that happens to run off. -Green roofs reduce the amount of stormwater that runs off and also delay the time at which runoff occurs, resulting in decreased stress on sewer systems at peak flow periods. -Through the daily dew and evaporation cycle, plants on vertical and horizontal surfaces are able to cool cities during hot summer months and reduce the Urban Heat Island (UHI) effect. The light absorbed by vegetation would otherwise be converted into heat energy. -UHI is also mitigated
by the covering some of the hottest surfaces in the urban environment - black rooftops. -Green roofs can also help reduce the distribution of
dust and particulate matter throughout the city, as well as the production of smog. This can play a role in reducing greenhouse gas
emissions and adapting urban areas to a future climate with warmer summers. -The plants on green roofs can capture airborne pollutants
and atmospheric deposition. -They can also filter noxious gases. -The temperature moderating effects of green roofs can reduce demand
on power plants, and potentially decrease the amount of CO2.
http://www.greenroofs.org/index.php/about/greenroofbenefits

80000 iv. Please enter the Net Cost Savings from your FIT.

v List and describe the budget line items where spending reductions will occur.
The district will monitor utility bills to ensure the gas and electric bills are decreasing The district will monitor the amount of college credit
is offered to the students, to ensure the continued cost savings to the students and families with the increase in courses and programs QZAB
bonds will be used to offset the total cost of the project, the cost savings will reflect the 10% match and cost savings required. The district is
estimating $80,000 cost savings per year.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?
Steubenville City Schools will seek assistance from school districts currently using a rooftop garden for educational purposes to
understand why it is successful, and how to mirror the success. By gathering and tracking information about the rooftop garden’s activities,
Steubenville City Schools may see new opportunities to refine the rooftop garden to work better to accomplish or expand the districts goals.
Collecting data that describes the rooftop garden’s activates and output will help raise funds to support the districts ongoing work and future
projects.

c. Utilization of a greater share of resources in the classroom
i List the desired outcomes.
Example: change the ratio of leadership time spent in response to discipline issues to the time available for curricular leadership.
Team teaching will be utilized during the rooftop garden program. Teachers and students will be working together to accomplish the
following outcomes to ensure the success of the rooftop garden: Outdoor classroom and meeting area Designate a shaded area with
adequate seating for class discussion, writing, and drawing. A dry erase board attached to one side of your outdoor structure is useful for
instructions and ongoing communication. Beds or planting areas for each classroom 3 feet wide or bigger so students can work from
either side without stepping on the plants and compacting the soil. Community growing area These can include a cut-flower growing area,
herb garden, market garden, and specialty areas such as a pumpkin patch or plantings that attract butterflies and birds. Special project
area for student experiments Dedicate a portion of the garden for individual projects. Signs can tell visitors what student scientists are
investigating.

ii. What assumptions must be true for this outcome to be realized?
Examples: improvements to school and classroom climate will result in fewer disciplinary instances allowing leadership to devote more time to
curricular oversight.
Teachers and students will work together to ensure the outcomes are achieved by communicating with each other on the progress of the
program. The below outcomes are what Steubenville City Schools hopes to meet: -Address multiple learning styles -Provide opportunities
for interdisciplinary lessons -Improve environmental attitudes -Promote good nutrition and exercise -Teach patience and responsibility -
Instill a positive work ethic -Increase students’ self-esteem -Build classroom relationships, improve teamwork, and strengthen school spirit
-Beauty the environment

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the
literature.
Steubenville City Schools has researched other rooftop garden initiatives, the following research has been used to support our initiative. A
rooftop garden would help to alleviate costs associated with heating and cooling of the buildings that they were built upon. The Chicago
City Hall is an example of a successful green roofing project, as it saw decreases in temperatures of the town hall, and the installation
helped to absorb 75% of the rainfall of an inch before there was stormwater discharge. Since the inception of the project, the City of
Chicago has seen and increases to around 5,469,463 square feet of green roofing. Since stormwater is a large issue in urban centers,
with a green roof that functions as both a garden and as a water collection unit will serve the community on both levels. A report from the
University of Michigan states, a space of 21,000 square feet could cost $464,000 to install if it were a green roof versus $335,000 for conventional.
This is a price difference of 12,900 dollars but the savings of the roof, due to energy efficiency in the building itself, numbered around 200,000 dollars annually-much higher than the initial price difference The EPA lists that green roofing can cost
anywhere from 10-25 dollars per square foot, which is higher than most conventional roofing. That price increases with the inception of
intensive roofs, such as those used in rooftop gardening. The savings of a green roof versus a traditional roofing system could number in
the 200,000 dollars range and it would decrease the usage of stormwater drainage and costs associated with temperature regulation as
well, thus, bringing energy costs and uses down. A similar study in Canada of a 32,000 square foot structure showed a savings of 21,000
kWh total, as well as decreases by 10% of heat energy use. Community Garden Business Plan (2011) indicates that, Along with exercise,
the health benefits of growing and eating fresh vegetables and fruit are foremost in the fight against obesity and diabetes, which has
increased in a large segment of the population. Steubenville City Schools students will have the opportunity to work with and learn how to:
Work with other urban agriculture groups, including large-scale urban food producers, to create a complete web of urban food production.
Promote Produce for People, which is a Community Gardens program that donates food to local groups who distribute and increase
community access to food. ? Integrate edible perennials into community gardens. ? Keep up with community members’ interest in growing
their own food. ? Provide healthy nutrition information. ? Discuss food shed issues with gardeners The Steubenville City Schools rooftop
garden project will seek volunteers along with staff and students to oversee the rooftop gardens by keeping track of vacancies, reporting
maintenance issues, and working with gardeners. Volunteers from the community and partner organizations help gardeners by
coordinating and participating in advocacy, outreach, fundraising, and work parties to maintain garden commons.

iv. Please provide the most recent instructional spending percentage (from the annual Ohio School Report Card) and discuss any impact you
anticipate as a result of this project.
Note: this is the preferred indicator for this goal.
67.5% of spending was spent on instruction. The district ranks 111/279 of similar districts. The operating spending per pupil is: $7,943
**C) BUDGET AND SUSTAINABILITY**

10. Which of the following best describes the proposed project? - (Select one)

- **a. New - Never before implemented**
- **b. Existing - Never implemented in your community school or school district but proven successful in other educational environments**
- **c. Replication - Expansion or new implementation of a previous Straight A Project**
- **d. Mixed Concept - Incorporates new and existing elements**
- **e. Established - Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership**

11. Financial Information: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 12-19.

- **a. Enter a project budget in CCIP (by clicking the link below)**
  
  **Enter Budget**

- **b. If applicable, upload the Consortium Budget Worksheet (by clicking the Upload Documents link below)**

**Financial Information:**

Increased student interest in rooftop gardening and agriscience. Increase student interest in the district from other districts by staying on top of new programs and technologies. Increase student management of the rooftop garden by employing the following measures to ensure the success of the rooftop garden: Increase the variety of plants and vegetables. Enhance the ecological value of plants and vegetables. Enhance biodiversity through partnerships with other community partnerships. Increase community awareness of biodiversity.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

*Steubenville City Schools will work with area business to ensure the success of the rooftop garden project. Steubenville City Schools will seek out volunteer garden managers to assist with and oversee individual gardens by keeping track of vacancies, reporting maintenance issues, and working with gardeners. Volunteers from the community and partner organizations help gardeners by coordinating and participating in advocacy, outreach, fundraising, and work parties to maintain garden commons.*
The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab of the workbook. Applicants must submit one Financial Impact Table with each application. For consortium applications, please add additional sheets instead of submitting separate Financial Impact Tables.

The project budget includes (estimated): Professional Services - $17,000 Landscape and furnishing materials - $136,000.00 Hardscape materials and expenses $147,000.00 Total = $300,000 for supplies (listed below) Professional services - $17,000 Design fees - $14,000.00 Preliminary Design - $4,000 Design Development - $4,000 Construction Documents - $5,000 Includes design of all landscape and water elements Consultant Allowances - $1,500 Mechanical Designs Allowance for water features ($1,500) Water includes developing, sizing and specification of mechanical systems for the water elements. Landscape Materials and Expenses Plant Materials - $19,000 Specimen Trees - $4,000 Middlestory Trees - $6,000 Groundcover (plants and grass) - $2,000 Freestanding (plants and containers) - $2,000 Costs are the nursery prices at time of grant write up Freight Charges - $500 Soil - $15,000 Costs reflect custom premixed soil to work with the sub-irrigation system. Cost per cubic foot is $3.55 Drainage - $5,000 Underlayer drainage of all roof top areas Irrigation System - $7,000 The system waters only the plants and effectively reduces maintenance time Installation labor - $6,000 Time required to complete the installation On site supervision and project coordination - $4,000 Equipment Rentals - $2,000 Site Furnishings - $12,000 Lighting - $6,000 Water Feature, Paving, Retainage Wall Expenses Waterproofing - $47,000 Guard Rail and Retainage Systems - $24,000 Paving Treatments - $12,000 Rock work - $16,000 Castings and natural rock Mechanical Costs - $2,500 Pump and filter units Remaining budget will be used for the roof: Total square footage of roof: Original Building: 46,000 sf 1993 expansion: 55,000 sf Total: 101,000 sf Approximate replacement cost (without solar panels and vegetation): $20 per square foot or $2,020,000.00 for the entire roof Vegetative roofing: $30 per square foot Solar Panels: $5.50 per square foot The estimated total cost of the Roof Top Garden is: $2,000,000.00

14. Please provide an estimate of the total costs associated with maintaining this program through each of the five years following the initial grant implementation year (sustainability costs). This is the sum of expenditures from Section A of the Financial Impact Table.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>105,000.00</td>
</tr>
<tr>
<td>2</td>
<td>105,405.00</td>
</tr>
<tr>
<td>3</td>
<td>107,202.00</td>
</tr>
<tr>
<td>4</td>
<td>108,009.00</td>
</tr>
<tr>
<td>5</td>
<td>108,821.00</td>
</tr>
</tbody>
</table>

15. Please provide a narrative explanation of sustainability costs. Sustainability costs include any ongoing spending related to the grant project after June 30, 2017. Examples of sustainability costs include annual professional development, staffing costs, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in this narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.

The district will be applying for 1,000,000.00 through the Straight A grant, the remaining $1,020,00.00 will be requested through QZAB Bonds. The district is eligible to request the QZAB Bonds based on the following criteria: Our business partner, Kalkreuth will match 10% by providing roof maintenance for the next five years for free, which is a cost savings of $50,000 a year. In partnership with Kalkreuth, we are able to develop the rooftop garden and begin an agriscience program for our students. With the increase in space, we now have a greater use of space and classrooms at the high school. With the addition of the agriscience program, the district is now able to offer additional college credit plus courses. Currently, the district offers 71 for a cost savings of approximately $20,000 a year for families. With the rooftop garden and agriscience program, this number will increase. The district is 100% free and reduced lunch. The district will use the cost savings from the rooftop garden to pay for the maintenance of the garden and purchase supplies. The cost savings from the energy efficiency will allow the district to pay back the QZAB bonds and reallocate funding for the high school by hiring a dedicated teacher for the rooftop garden and agriscience program.

44.00 16. What percentage of these costs will be met through cost savings achieved through implementation of the program?

Total cost savings from section B of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table. If the calculated amount is greater than 100, enter 100 here.

17. Please explain how these cost savings will be derived from the program. Applicants who selected spending reductions in the five-year forecast as a goal must identify those expected savings in questions 16 and 17. All spending reductions must be verifiable, permanent, and credible. Explanation of savings must be specific as to staff counts; salary/benefits; equipment costs, etc.

The cost savings of the rooftop garden will allow the district to hire a full time dedicated teacher to run the rooftop garden, and teach the agriscience courses. The district will be able to repurpose the classrooms with the greater use of space. The district will continue to offer vocational education programs that would otherwise not be possible in the urban city. The district will continue to offer college credit plus courses for students to take to offset the cost of college for families. Currently, the district offers 71 total courses, with the addition of the rooftop garden and agriscience program, the district will increase the number.

56.00 18. What percentage of sustainability costs will be met through reallocation of savings from elsewhere in the general budget?
19. Please explain the source of these reallocated funds. *Reallocation of funds implies that a reduction has been made elsewhere in the budget. Straight A encourages projects to determine up front what can be replaced in order to ensure the life of the innovative project.*

The source of the reallocated funds will be in the maintenance fees of the roof. With the partnership of the Kalkreuth roofing, the company will be providing maintenance to the roof for five years at no direct cost, which is a cost savings of $50,000/year. The reallocated cost savings from the food program of $5,000 and the cost savings of the electrical and gas bills which is estimated at $75,000 will be reallocated to teacher salary for a dedicated teacher to run the rooftop garden and the agriscience program. The cost savings that this program will provide to our students through the increase college credit plus opportunities will increase the already $20,000 saved a year for families pursuing college credit.

**D) IMPLEMENTATION**

20. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members or partners.

*This response should include a list of qualifications for the applicant and others associated with the grant. Please list key personnel only. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.*

Add Implementation Team Key Personnel information by clicking the link below:

**For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.**

A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.

<table>
<thead>
<tr>
<th>Planning</th>
<th>Date Range October 2016 - January 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Date Range</td>
<td>October 2016 - January 2017</td>
</tr>
<tr>
<td>b. Scope of activities - include all specific completion benchmarks.</td>
<td>Select roofing company - October 2016 - Submit Straight A Grant - December 2016 - Plan the statement of probable costs which include the following: - October 2016 - The plants, often specially selected for particular applications - An integrated irrigation system and controls - An engineered growing medium - Landscape or filter cloth to contain the roots and the growing medium, while allowing for water penetration - A specialized drainage layer, with built-in water reservoirs - Selection of hardscape materials (paving, structural materials, site furnishings and water as a design element) and their special use and requirements as part of a roof garden system - Public safety and security - Ease of maintenance - The waterproofing/roofing membrane, with an integral root repellent - The roof structure, with traditional insulation either above or below</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Grant Funded Start-up Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Date Range</td>
<td>March 2017 - August 2017</td>
</tr>
<tr>
<td>b. Scope of activities - include all specific completion benchmarks</td>
<td>Remove and dispose of existing roofing material. Roof deck shall be thoroughly inspected, and any repair/replacement will be billed as a change order. Provide and install new polyisocyanurate roof insulation board. Provide and install a .060 fully adhered EPDM rubber roofing system. Flash watertight all existing roof penetrations. Fabricate and install a new metal edge around the perimeters of all roof areas. Owner to choose from manufacturer's standard color chart. Provide and install Live Roof vegetated roofing on all roof areas. All modules to be standard 1' x 2' x 3.25' in size. Kalkreuth includes the Classic Mix from Corso's Perennials. Please note that the growing season begins in mid April and concludes no later than the end of July. Plant growth takes approximately 90 days to fully mature and cannot be installed once the soil has become completely frozen. Kalkreuth includes all aluminum edge restraints. Kalkreuth includes a .045 mil black EPDM slip sheet between the roof membrane and the modules. Provide and install new solar panels on all roof areas. Provide a 20 year manufacturer's warranty upon completion of the project. Organize and clean-up project at the completion of each day. All work will be completed within strict accordance to the manufacturer's specifications</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programmatic Sustainability</th>
<th>(Years following implementation, including institutionalization of program, evaluation and communication of program outcomes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Date Range</td>
<td>September 2017 - Ongoing</td>
</tr>
<tr>
<td>b. Scope of activities - include all specific completion benchmarks</td>
<td>Work with Kalkreuth to ensure the upkeep of the rooftop garden. Work with local higher education institutions to ensure college credits continue for coursework in the agriscience program. Work with staff and students to ensure interest is still viable for the project. Continue to promote the agriscience program and rooftop garden to the community and local businesses to encourage partnerships and continued growth. Continue to research funding options to increase the rooftop gardens supplies and produce. Continue to research rooftop gardens</td>
</tr>
</tbody>
</table>

**Note:** The responses to questions 16 and 18 must total 100%.

**Total reallocation from section C of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table**

**Ongoing**

**Public safety and security**

**Sustainability**

**Programmatic Sustainability**

**Implementation**

**Planning**

**ADD IMPLEMENTATION TEAM**

**Enter Implementation Team Key Personnel information by clicking the link below:**

**For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.**

A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.

**For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.**

A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.
E) SUBSTANTIAL IMPACT AND LASTING VALUE

24. Describe the expected changes to the instructional and/or organizational practices in your institution.

The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.

Please enter your response below:

Educational: As a place for experimentation with nature, the garden will be a space for pedagogical and recreational activities that will reinforce scholastic materials or themes from day camps (ecology, botany, health, alimination, cooking, gardening, biology, etc.) and increase the spirit of initiative, teamwork, patience, etc.; Economic: The rooftop garden will improve the building’s energy efficiency and increase its value for little cost by expanding the useable space. Food cultivation also diminishes expenses related to acquiring food; Environmental: The improvement of air quality through the absorption of carbon dioxide and the production of oxygen by plants. The consequent increase in humidity and evaporation will bring down the ambient temperature, biodiversity will attract birds and insects; and plants will absorb ambient noise. Using rainwater to irrigate plants will reduce pressure on the municipal waterworks and can be integrated in a system that uses household wastewater. Eating organic and local will reduce the quantity of chemical products used to grow plants and to transport food; Horticultural: Experimenting with new gardening techniques or developing a new model for urban gardening to spread urban agriculture could be on the menu; Personal: The simple pleasure of gardening and being able to benefit from a relaxing space at home will be the foremost motivation.

25. Please provide the name and contact information for the person and/or organization who will oversee the evaluation of this project.

Projects may be evaluated either internally or externally. However, evaluation must be ongoing throughout the entire period of sustainability and have the capacity to provide the Ohio Department of Education with clear metrics related to each selected goal.

Please enter your response below:

Dr. Charles Kokiko, Jefferson County ESC

26. Describe the overall plan for evaluation, including plans for data collection, underlying research rationale, measurement timelines and methods of analysis.

This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project’s progress, success or shortfall. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio. Note: A complete and comprehensive version of the evaluation plan must be submitted to ODE by all selected projects.

Data collection will begin with the tracking of students enrolled in the agriscience program. This will begin with students in grades 6. The rationale is that our career pathways begin in grade 6. All students in grades 6-8 will have exposure to the rooftop garden and the a introductory course work of agriscience. This will be done to peak student interests in the programs. Students in grades 9-12 will select their career pathways based on their individual interests. Students in the agriscience program will have a dedicated teacher and classroom utilization through the lifetime of the program. Steubenville is expecting an increase of 10 students per year in the agriscience program, which would begin in grade 9 and go through grade 12. Data collection will be used to track the amount of college credits awarded to the students.

With the implementation of agriscience, the current coursework available of 71 credits will increase. We will work with the local community college and other higher education entities to increase this number and offer additional opportunities to the students in the program. Data collection will be used to monitor the gas and electric bills. The total cost savings should be 1/3 the total cost. Steubenville is estimating $75,000 cost savings for the combined gas and electric bills per year. Data collection will be used to monitor the produce costs. With the rooftop garden and agriscience program, the estimated cost savings is $5,000 per year. Data collection will be used to monitor the roof costs. With the project, Kalkreuth will be monitoring the roof at no charge, for a cost savings of $50,000 a year. The $50,000 a year is expected to pay back the QZAB bonds.

27. Please describe the likelihood that this project, if successful, can be scaled-up, expanded and/or replicated. Include a description of potential replications both within the district or collaborative group, as well as an estimation of the probability that this solution will prove useful to others.

Discuss the possibility of publications, etc., to make others aware of what has been learned in this project.

The response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from this proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be noted here.

While thousands of schools have already realized the cost savings and other benefits of installed solar energy capacity, this opportunity is generally underutilized. The large, flat rooftops typically found on public and private K-12 school buildings throughout Ohio make many of these properties excellent candidates for rooftop solar thermal systems. School parking lots can be put to productive use with solar canopies, which provide the added benefit of shading parked vehicles on sunny days, and tracts of vacant land on campus can be used to support modestly-sized solar PV farms. Taken together, this untapped potential for solar on K-12 schools is immense. If each of the more than 72,000 schools for which solar could represent a cost-effective investment were to install an average-sized system, total PV capacity on K-12...
By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

Shana D'Aurora- Wydra- Director of STEM Education/Research Development Outreach Bryan D'Aurora- Director of Technology/Building and Grounds
### Consortium Contacts

No consortium contacts added yet. Please add a new consortium contact using the form below.
<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Telephone Number</th>
<th>Email Address</th>
<th>Organization Name</th>
<th>IRN</th>
<th>Address</th>
<th>Delete Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Josh</td>
<td>Wack</td>
<td>304-281-1480</td>
<td><a href="mailto:joshw@krsrn.net">joshw@krsrn.net</a></td>
<td>Kalkreuth Roofing and Sheet Metal</td>
<td></td>
<td>53-14th Street Suite 100, Wheeling, WV, 26003</td>
<td></td>
</tr>
<tr>
<td>First Name</td>
<td>Last Name</td>
<td>Title</td>
<td>Responsibilities</td>
<td>Qualifications</td>
<td>Prior Relevant Experience</td>
<td>Education</td>
<td>% FTE on Project</td>
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<tr>
<td>------------</td>
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<td>-------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Shana</td>
<td>D'Aurora-Wydra</td>
<td>Director of STEM Education/Research Development</td>
<td>Oversee the grant project</td>
<td>Director of STEM Education for the district Oversee all STEM Education projects and curriculum</td>
<td>Nine years in higher education, teaching information systems and communication. Served as a Dean of Information Systems and Communication in the West Virginia Higher Education System</td>
<td>Doctor of Science in Information Systems and Communication Master of Education in Information Systems Bachelor of Arts in Communication</td>
<td>1</td>
</tr>
<tr>
<td>Bryan</td>
<td>D'Aurora</td>
<td>Director of Technology/Building and Grounds</td>
<td>Oversight on the solar roofing Oversight on the building and maintenance of the solar rooftop garden Oversight of the contractors working on the project</td>
<td>10 years working as an electrical engineer in for corporate America. 10 years working with IBM Data centers for corporate American.</td>
<td>10 years working as an electrical engineer in for corporate America. 10 years working with IBM Data centers for corporate American.</td>
<td>Bachelor of Science- Electrical Engineering</td>
<td>1</td>
</tr>
</tbody>
</table>