U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

2015-2016 School Nominee Presentation Form

ELIGIBILITY CERTIFICATIONS

School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes grades Pre-K-12.
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

U.S. Department of Education Green Ribbon Schools 2015-2016

☒ Public ☐ Charter ☒ Title I ☐ Magnet ☐ Private ☐ Independent ☐ Rural

Name of Principal: **Ms. Donnan Stoicovy**
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name: **Park Forest Elementary**
(As it should appear on an award)

Official School Name Mailing Address: **2181 School Drive**
(If address is P.O. Box, also include street address.)

County: **Centre** State School Code Number *: **110148002-0020006233**

Telephone: **814-231-5010** Fax: **814-235-4588**

Web site/URL: **http://www.scasd.org/parkforest** E-mail: **dms11@scasd.org**

**Private Schools: If the information requested is not applicable, write N/A in the space*

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Donnan M. Stoicovy Date: 12/16/16
(Principal's Signature)

U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

Name of Superintendent: **Dr. Bob O'Donnell**
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)

District Name: **State College Area School District**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

_____ Date: 12/16/15
(Superintendent's Signature)

Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: **Pennsylvania Department of Education**

Name of Nominating Authority: **Mr. Pedro Rivera**
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.

_____Date:1/29/16
(Nominating Authority's Signature)

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

SUBMISSION

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to ed.green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: March 31, 2018

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

U.S. DEPARTMENT OF EDUCATION
GreenRibbonSchools

pennsylvania
DEPARTMENT OF EDUCATION

PENNSYLVANIA GREEN RIBBON SCHOOL APPLICATION FORM

School Contact Information

_____ School District Application
__X__ School Application

School Name (for building application): Park Forest Elementary School
Street Address: 2181 School Drive
City, State, Zip: State College, PA 16803
School Website: www.scasd.org/parkforest

School District (if applicable): State College Area School District
Street Address: 131 West Nittany Avenue
City, State, Zip: State College, PA 16801
District Website: www.scasd.org

Principal: Donnan Stoicovy
Principal Email: dms11@scasd.org **Principal Phone:** 814-231-5010
Superintendent: Dr. Robert J. O'Donnell
Superintendent Email: rjo11@scasd.org **Superintendent Phone:** 814-231-1016
Lead Applicant Name: Donnan Stoicovy
Lead Applicant Email: dms11@scasd.org **Lead Applicant Phone:** 814-231-5010

School District AUN Number: 110148002 School Building Number: 6233

School Type: __X__ Public _____ Private/Independent _____ Charter _____ Magnet
School Description: _____ Urban __X__ Suburban _____ Rural
School Level: __X__ Elementary _____Middle _____ High School

Number of schools at each level and enrollment (for district application):
_____8_____ Elementary
_____2_____ Middle
_____2_____ High School
____7500_____ Total Enrollment

Disadvantaged Households Certification:
Does your school/district serve 40 percent or more students from disadvantaged backgrounds?
(i.e., Students who are eligible for free and reduced-price school meals, students with disabilities, students who are limited English proficient, migrant, or receiving services under Title I of the Elementary and Secondary Education Act)
___ Yes _X_ No

By checking all of the statements below, the school district superintendent certifies that each of these statements is true concerning the school district's eligibility and compliance with noted requirements:

_X_ The school district's configuration includes one or more buildings with Grades PK-12.

_X_ The school district is not refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district-wide compliance review.

_X_ OCR has not issued a violation letter of findings to the school district concluding that the school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.

_X_ The U.S. Department of Justice does not have a pending suit alleging that the school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.

_X_ There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school district in question; or if there are such findings, the school district has corrected, or agreed to correct, the findings.

_X_ The school district meets all applicable federal, state, local, and tribal health, environmental and safety requirements in law, regulations, and policy, and is willing to undergo an EPA on-site verification.

SUMMARY NARRATIVE

Provide a 1,500-word maximum narrative describing your school or district's efforts to reduce environmental impact and operating costs; improve student and staff health; and provide effective environmental and sustainability education. Focus on unique and innovative practices and partnerships. Use the bullets below as a guide to frame your narrative and include relevant information that the reviewers are looking for during their evaluation of your application. If your school or district is selected as a Green Ribbon School, this summary will be used in ED-GRS publications and publicity. Please ensure this narrative is comprehensive and addresses your strengths in all three pillars. Remember, this narrative is where you can make your program shine for all to read about your efforts and initiatives.

- Is your school or district participating in a local, state or national school program, such as the U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager, Eco-Schools USA, Project Learning Tree GreenSchools! or others that ask you to benchmark progress in some fashion in any or all of the Pillars?
- Has your district, school, staff or student body received any awards for facilities, health or environment?
- Has your school or district sought or achieved Leadership in Energy and Environmental Design (LEED), Collaborative for High Performing Schools (CHPS), Green Globes or other green building standards? What certificate or level has your school obtained?
- Do you use the Federal High-Performance Sustainable Buildings Checklist in Portfolio Manager to assess the school building(s)?
- What efforts have you made to reduce environmental impact and costs?
- How have you improved student and staff health?
- How have you provided effective environmental and sustainability education?
- What are your unique and innovative practices and partnerships?

Insert narrative here:

Park Forest Elementary School (PFE) strives to be a caring community of learners connecting our learning with the world outside. With that said, we view what we do in our school through the four lenses of Community, Democracy, Inquiry and Environment. Using those lenses we work to provide opportunities for all learners - youth and adult - to engage meaningfully in authentic learning experiences, which provide engagement through choice and the opportunity to amplify their voice as they are involved in learning. These apply to all learners in our school. As part of the State College Area School District (SCASD), we recognize that one of the goals for all graduates of State High is to have every student be a steward of the environment. Multiple activities throughout their schooling career point to that admirable goal to ensure that our environment provides clean air to breathe, drinkable water, soil that provides healthy foods and energy that meets the needs of our population. As an elementary school, we provide the building blocks for teaching and learning those basic tenets that support life and ensure a sustainable environment for generations to come.

Our school, has been working to educate for a sustainable future in numerous ways. Our school has worked to reduce its environmental footprint by reducing the energy that we use. We are participating in the ENERGY STAR program that allows us to monitor our progress which began as a baseline of 73 to our current status of 84. We continue to search for ways to reduce energy and have reached out to a consultant to help us. We

have also greatly reduced our waste footprint as we work towards Zero Waste. Our efforts have been recognized with us receiving 9 different Waste Watcher Awards through the Professional Recyclers of Pennsylvania (PROP), we have participated in the annual America Recycles Program and have received recognition from them for the past 4 years and was one of three Emerald Award recipients from the Centre County Recycling and Refuse Authority (CCRRA) as a Green Business Partner. We have had a Project Learning Tree GreenWorks grant that gave us seed money to support our outside compost bin construction and the start of composting program to support our gardens. Additionally, we have had grants from Captain Planet and the PA Department of Education to support efforts with our school gardening program.

Our partnership with Penn State (Altoona Campus) and the Star School in Kigali, Rwanda, afforded us the opportunity to build a greenhouse at PFE that was a model for two that were built in a partner school in Kigali, Rwanda at the Star School. Our principal worked on the greenhouses at PFE and in Rwanda. During another trip, she was able to help install an irrigation system in the Rwandan greenhouse. We had hoped to share climate data with the Star School; however they did not have access to the internet which limited the data that we were able to share. We also had a 3-year grant from the Department of Environmental Protection that allowed us to establish a professional development model that enhanced the use of our schoolyard through teacher inquiries, which continues to be enhanced by various Boy Scout projects as part of the Eagle Scout requirements. Projects have included our Trail of Life nature trail; the construction of two raised bed gardens (with six new raised beds underway right now with the support of the scouts and Farm to School grant funds); the building of a cold frame to allow for early preparation of plants for the garden; the construction of honeybee hives with on-going support from local beekeepers; the installation of our rain garden/wetlands with a grant from Environmental Concerns; the creation of a pollinator garden that accents our new school signage; installation of bluebird and bat boxes to enhance wildlife on our school grounds; an amphitheater as an instructional area; an interactive sundial and an animal observation (bird blind) area that allows students to observe two different instructional areas (vegetable and butterfly) gardens. We have also been fortunate to have two different weather stations donated and installed at PFE. One collects regular data from from the wetlands area and is monitored by a Penn State Wetlands Professor and is link to our school's website . The other weather station was recently donated and installed by WeatherSTEM and provides data that is used by both our teachers and other schools in our District.

Although our school was not considered for LEED Certification by our Board as they rebuilt our school 9.5 years ago, there were some features that were considered to assist our building in its energy efficiency. The building was oriented with a southern exposure with a two story classroom main wing. Lights in all classroom spaces have two different lighting settings and there are automatic light shutoffs in those spaces when there is no movement. The water in the bathrooms is regulated with water activation through motion sensors to reduce the flow of water. We have installed a rain garden/wetlands area outside of one of the wings of the school for both a learning area and for the value of the recharge of the water.

We participate in District sponsored Health and Wellness programs for both students and faculty. Each year our students participate in the Apple Crunch Day, the Walk to School Day and the Go for the Greens which are supported by our District. We also have some various activities that our Physical Education (PE) teacher has instituted such as the Jump Rope for Heart program which ultimately donates funds to the American Heart Association and with the support of a grant our PE teacher also purchased bicycles to teach bicycle safety and recreational riding to all 5th graders. She also encourages our students to be active daily outside of school and to share photographs of them engaging in those activities for her Wall of Fitness. Our District also has monthly activities that faculty and staff are encouraged to participate in with the support and encouragement of our building's Wellness Liaison. Our principal serves on the District's School Health Council. They have also given staff members water bottles to encourage hydration and earbuds to encourage walking. The District also hosts an Annual Wellness Fair. This year, the District has offered a health insurance discount for wellness with faculty and staff who meet 3 of the 6 requirements.

For the past several years we have worked with a local school psychologist, Dr. Peter Montminy, to bring mindfulness practices to our school. In his first year with us, he worked with four different classrooms who had researched the benefits of mindfulness and with his support implemented through an 8-week program. While he was doing his instruction, our school counselor observed his practice and during the following year, she worked with all Kindergarten and First Grade classrooms to implement it. We also had Dr. Montminy work with our faculty to learn about the value of mindfulness and the benefits to teachers and students. This year our school counselor is working with all Kindergarten through Second Grade classrooms. Several of our teachers and our principal are participating in a book study of the Mindfulness for Teachers book by Patricia Jennings. We are planning to have Dr. Montminy work with several classrooms in grades 3-5 who have not worked with Dr. Montminy's structured 8 week program. The value of this program has been reported by our school's counselor, teachers and families.

Additionally, we have had several grants from the PA Department of Education to support Inclusive Practices in our school. Through these funds our behaviorally involved students with autism have been included in the general education classrooms with the support of our own developed Peer Supports Program and our Mystery Readers Program where we have an extensive library of children's books that has helped build empathy in our students. We have also encouraged the use of People First Language in our school and look at students as being shared by everyone, not just by a case manager. We continue to seek opportunities to engage our students in developing empathy through gratitude, generosity, kindness, "bucket filling" and raising our hands to stop negative interactions (anti-bullying), etc. Our school has been recognized and is one of 75 ChangeMaker Schools in the Ashoka Empathy Network. They continually offer opportunities for us to engage in professional development and the sharing of our strengths.

Finally, our school has engaged students in numerous things that help students learn what it is to live in a democracy by doing such things as writing our school's constitution, connecting with our community in numerous service learning projects and engaging students in deliberative

practices rather than discussions and debates to determine pro and cons of decisions by identifying tradeoffs to make decisions that will be productive.

PILLAR ONE: REDUCED ENVIRONMENTAL IMPACT
Element 1A: Energy Conservation and Efficiency

Provide a 1,500-word maximum narrative of how your school or district has promoted energy conservation and improved energy efficiency, as well as reduced greenhouse gas emissions. Below are guiding questions to help frame your narrative.

- Have you received the U.S. Environmental Protection Agency's ENERGY STAR certification? If so, in what year was the certification earned?
- Are you currently tracking your school or district's energy use in a tool such as ENERGY STAR Portfolio Manager? If so, what tool and for how long?
- Do you have an energy management plan in place at your school or district?
- How has the school/district reduced its total non-transportation energy use (i.e., electricity, lighting and heating/cooling) from an initial baseline?
- Provide your percentage reduction measurement unit used (kBTU/sf, kBTU/student, or annual therms). Include time period, and how documented.
- Are there any student-led energy saving campaigns in place?
- Is a purchasing and procurement policy for energy efficient products in place?
- Are there occupancy sensors or daylight harvesting controls in the building(s)?
- What percentage of your energy consumption comes from on-site renewable energy (solar, wind, biomass, etc.) generation or purchased renewable energy?
- Can your school or district demonstrate a reduction in greenhouse gas emissions? What is the percentage of reduction and the time period of reduction? How is it documented?

Insert Narrative Here:

There has been a commitment within our district to reduce the energy footprint since 2004. Our school was built between 2004-05. Although our faculty's hope was to have features that would identify our school as a green school, the stance of the Board of Directors at that time was not where it is now. They currently require LEED Certification for all new construction. There are, however, some features in our school that the architect built into the project such as a southern orientation, light deflectors on western exposure classrooms, automatic light including half lights and automatic water features to reduce water usage on the restroom hand washing stations.

Our District has had a long-term commitment to reducing energy usage and increasing the efficiency of buildings. The District has adopted a Resolution on Sustainability and the Design and Construction of High Performance Schools in 2008, which was 3 years after our school was built. SCASD Physical Plant Office has enrolled all SCASD buildings including Park Forest Elementary in the Energy Star Portfolio Program in 2007 and has all district facilities enrolled in an energy management plan. PFE's baseline score for Energy Star Rating was 73 and is now an 84. Our percentage reduction measurement unit used (kBTU/sf, kBTU/student, or annual therms) between 2007 and 2015 has been 14.3% and has been documented in our Energy Star portfolio. We have also reduced our Greenhouse Gas emissions by 16% in that same time period as documented in our Energy Star Report. Our building has occupancy sensors in most classroom spaces. All purchasing and procurement of energy efficient products is compliant with the Board resolution. Over the past several years, the District has applied many energy conservation steps throughout the District such as lighting upgrades, boiler upgrades, installed cool roofing systems, window upgrades, LED exit signs, kitchen equipment upgrades and a third party energy audits through a West Penn Power grant.

There have been some concerted efforts to make change to continue to increase our Energy Star rating and reduce our greenhouse gas emissions. Although we have not had that information certified, we have made contact with Ed Ritter from Barton Associates Inc., Consulting Engineers to have him come to PFE to help with that certification and to provide ideas for further reductions. Heidi Kunka from the Pennsylvania Department of Environmental Protection (PA DEP) helped PFE make that Energy Star connection as she also is encouraging PFE to apply as an ECO-School. We anticipate applying when the SCASD Director of Physical Plant is able to arrange his schedule. PFE has worked to help our building operate efficiently but doing some of the following things: students at as energy monitors when they are studying their energy unit; our light switches are located in places where students can easily operate them; students have calculated energy savings when replacing incandescent and florescent bulbs with CFL and LED lights; air vents are not blocked and are cleaned on a regular basis for maximum energy efficiency; school computers are set to power management features so they go into sleep mode when not active; computers are turned off and charged every school day and on the weekends; and others are suggested by students.

For example, our SCASD Director of Physical Plant has regularly made himself available to our teachers and students to take energy tours of PFE. In the various times that he has taken tours, he has had students question some of the energy usage and lighting fixtures that were installed in this building. Students made suggestions about eliminating lights over classroom doors as being unnecessary which was eliminated. After making that change, the students went back and asked about shutting off every other bank of lights in the hallway to see if that makes any difference in the lighting. It did not, so that bank of lights was shut off. Some of the outside lighting was changed to LED bulbs and other areas were shut off being careful to balance what is needed for safety and security.

Regularly a Summer Shutdown message is sent out to faculty and staff from Physical Plant, Food Services and Computer Services worked together to remind staff to shut down and/or unplug most everything in their rooms. Teachers were reminded to clean out their refrigerators and unplug them. Food Services consolidated their inventory, Computer Services worked to identify equipment that was not likely to be used over the summer and Physical Plant staff began pulling plugs during the first week of summer. It has significantly reduced the amount for the SCASD energy bill by $120,000 over the last five summers while conserving resources and reducing our carbon footprint.

Based on numerous guidelines and standards, our District attempts to maintain heating set points from 68 - 72 degrees. Air Conditioning is set between 72 and 75 degrees. Our PFE plant supervisor maintains control over all spaces in the building for consistency.

Several PFE teachers at different grade levels and our Principal have attended Keystone Energy Education Program (KEEP) workshops, the most recent was in one of our other SCASD LEED certified schools, Ferguson Township Elementary School. The experiences within this workshop empowered us to look at energy sources, energy conservation for schools, transportation technologies and using the building as a teaching tool. We were provided with many resources and look forward to implementing them when we are using various units of instruction on energy, transportation and conservation. It has also prompted us to work to certify our school in the Energy Star Program. We were given information about various grants and incentives that are available to our schools to further enhance our work.

Instructional units taught in our District that include energy or STEM are Transportation (Kindergarten), The Community Playground Project (Primary), Air & Weather (Primary), Energy and Electricity (Intermediate) and Environmental Sciences (Upper Intermediate) are just some of the units that are used to support student learning to help students understand how things work and what our impact can be to conserve resources and increase awareness of our individual role in reducing greenhouse gas emissions. Empowering students is our most effective tool for improving energy usage, reducing water usage; reducing waste, using wise transportation choices, and working towards a sustainable future for our planet.

Element 1B: Improved water quality, efficiency and conservation

Provide a 500-word maximum narrative of how your school or district is progressing toward water conservation. Below are guiding questions to help frame your narrative.

- Do your facilities have low flow fixtures (e.g., faucets, toilets, sinks)?
- Can the school/district demonstrate a reduction in total water consumption intensity (measured in gallons/square foot or gallons/occupant) from an initial baseline?
- Do you conduct audits of facilities and irrigation systems to make sure they are free of significant water leaks and to identify opportunities for savings?
- Do all outdoor landscapes consist of water-efficient or regionally appropriate plants (native species and/or adapted species)?
- Does your school use a smart irrigation system that adjusts watering time based on weather conditions?
- Has your school or district implemented storm water best management practices and/or low-impact development strategies (i.e., rain gardens, vegetated swales, pervious paving, rainwater harvesting, green roofs)?
- Does your school or district use non-potable water sources, such as rainwater or greywater (i.e., water from sinks or kitchens), for irrigation or toilet flushing?
- If you use drinking water from a well, how is the water source protected from potential contaminants?
- Do you have a program in place to control lead in drinking water, including voluntary testing and measures to reduce lead exposure in drinking water)?
- Are all taps, faucets and fountains used for drinking and cooking cleaned on a regular basis to reduce possible bacterial and other contamination? Are faucet screens and aerators regularly cleaned to remove particulate lead deposits?
- Is an area of the school/district grounds devoted to ecologically or socially beneficial uses, including those that give consideration to native wildlife (such as school vegetable garden, wildlife or native wildlife habitat, outdoor classroom, running/walking trails, environmental restoration project, etc.)?
- Describe other ways you are working to improve water quality, efficiency and conservation.

Insert Narrative Here:

PFE's commitment to water conservation and water quality is demonstrated through both practice and theory. Practical measures have been taken to ensure the reduction of water usage throughout the building and grounds. Multi-station gang sinks are used outside the lavatories and water flow is regulated by motion sensors thereby reducing waste. Water outlet screens are regularly cleaned to remove lead deposits and hard water scaling. To ensure water quality and safety, The District voluntarily tests for contaminants as well as monitors the pH and hardness of the drinking water at regular intervals each year. In an effort to provide adequate and locally sourced drinking water, two water bottle filling stations have been installed reducing the dependency on purchased bottled water. To date over 33,000 bottles have been filled sparing the environmental burden caused by the production, shipping and disposal of packaged water bottles.

As the name Park Forest Elementary implies, the school grounds are sited in a heavily wooded neighborhood. Existing mature oaks, maples and pine trees contribute to the landscape design and provide opportunity for shaded woodland plantings. A rain garden/wetlands area is located outside of one of the wings of the school providing native planting areas that serve as not only wildlife habitats but also learning areas demonstrating the value of recharge water. The school vegetable and herb gardens as well as various butterfly and pollinator ornamental landscaping rely on rainfall alone for watering. The incorporation of compost has improved the water holding capability of the soil and mulching ensures that moisture is retained.

The environmental studies curriculum includes learning standards relating to water conservation and quality. For example, our fifth grade students take a field trip to the University Area Joint Authority (UAJA) which provides regional wastewater treatment and is an award-winning biosolids composting facility. In addition, students learn about UAJA's Beneficial Re-Use Project whose mission is to reuse water to benefit the environment, quality of life, and economy of the region. The Beneficial Reuse project consists of the treatment and purification of treated water from using microfiltration, and some combination of ozonation, ultraviolet light, and chlorination. The treated water is then available for industrial, agricultural, and commercial reuse, and environmental enhancement projects. Classroom learning projects relating to water conservation and pollution occur in all grade levels. K-4 students attend Millbrook Marsh Nature Center and Wetlands each year during their Planet Protector unit in which they observe habitats/wildlife and build aquariums. Students additionally learn about the interconnectedness of our three watersheds - Spring Creek, Susquehanna and the Chesapeake Bay and the impact of human actions on them. Students have had the experience of predicting the environmental impacts of various pollutants using Enviroscapes models. Guest speakers from Clearwater Conservancy and municipal planning agencies have shared their knowledge with students which they applied to their models.

Element 1C: Reduced waste production, improved recycling, and composting programs
Provide a 500-word maximum narrative of how your school or district diverts solid waste from landfills and incinerators by reusing, recycling, and/or composting. Include a description of how you dispose of hazardous waste. Below are guiding questions to help frame your narrative.

Municipal Solid Waste

- What percentage of waste is diverted from the landfill or incinerator by reuse, composting and/or recycling?
- Does your school or district have a yard and/or food waste composting system?
- Are you using post-consumer recycled products or wood products certified by the Forest Stewardship Council, Sustainable Forestry Initiative, American Tree Farm System or other certification standard when possible?
- Are procurement policies in place to encourage the purchase of recycled content materials, supplies or furniture?
- Are other waste reduction programs in place?

Hazardous waste

- How much hazardous waste do you generate (pounds/person/year)? How is it disposed?
- Is there a hazardous waste policy in place and actively enforced for storage, management and disposal of chemicals, and hazardous waste in laboratories and other areas?
- What percentage of total computer purchases are Electronic Product Environmental Assessment Tool (EPEAT) certified products? How do you dispose of unwanted computer and other electronic products?
- Do you use certified "green" cleaning products that meet the environmental standards of established eco-label programs (e.g., Green Seal, Ecologo, etc.)?
- Is your custodial program certified by the Green Seal Standard for Commercial and Institutional Cleaning Services (GS-42), the ISSA Cleaning Industry Management Standard – Green Building, or an equivalent standard?
- Has your school or district participated in PADEP School Chemical Cleanout Campaign (SC3)?
- What other indicators show that you are reducing waste and eliminating hazardous waste?

Insert Narrative Here:

In 2013, students and staff collaborated with Pennsylvania State University (PSU) waste management professionals conducting a waste audit to understand PFE's waste stream. A "Fresh Eyes" tour of waste professionals and building visitors provided additional feedback. Findings revealed items that could be targeted for reduction or alternate disposal. Thorough consideration was given to the types of containers needed to address those items and their optimum placement increasing capture rates.

A Green Team comprised of students, faculty and staff subsequently developed an educational campaign with the accompanying slogan of "Are You Sure?" This campaign has challenged students and staff to reduce their waste and to properly dispose of items that could be repurposed or recycled through school assemblies, hallway displays, student run television and other numerous initiatives. Two banks of Zero Waste Zones are located in common areas for recycling, composting, TerraCycling and a reduced sized "landfill" container. Each classroom has a large recycling bin that students empty and sort at the Zero Waste Zones. Custodial staff repurposed a discarded waste sort station from PSU into a custom lunch disposal system resulting in milk cartons, silver lined packaging and straws being virtually the only landfill bound lunchroom waste. Book donation stations and a "Little Free Library" encourage the sharing of resources among students and the community.

Reduction and recycling of resources have resulted in a financial gain to SCASD allowing for improvements to the Zero Waste initiative infrastructure. Spurred by a TED Talk, everyone is encouraged to use only one paper towel when hand drying resulting in a reduction of 26 cases of towels per year. Food services stopped using disposable service ware returning to reusable items. In addition, straw and napkin dispensers were purchased to reduce over consumption. Proceeds from TerraCycling afforded the purchase of two water bottle filling stations eliminating a total of 32,050 bottles since their installation in 2014. An 85% diversion rate has resulted in lowering dumpster hauls from five to two times per week and landfill waste disposal bills from $534 to $261 per month.

PFE's zero waste numbers are encouraging. In 2014, PFE recycled 1,070 pounds of plastic bottles, 670 pounds of metal cans, and 11,060 pounds of mixed paper—over 6 tons of diverted waste. Additional recycling includes corrugated cardboard, glass, plastic bags, and other plastic packaging. Three methods of composting are employed as means of diversion and education; vermicomposting for classroom waste, container composting for garden waste and commercially collected lunchroom organic waste - averaging 1.5 tons per month. The resulting compost from these methods is used on the school grounds and gardens.

In 2005, the district participated in the PADEP SC3 eliminating hazardous waste from its stores and purchasing policies have removed HW from further use. PFE's custodians are certified and utilize Green Seal Certified® products. Fluorescent tubes and discarded electronics are collected for recycling. All paper products purchased by the District contain post-consumer recycled content. MSDS data safety sheets and asbestos free building certifications are current and readily posted.

Element 1D: Use of alternative transportation to, during, and from school

Provide a 500-word maximum narrative of how your school or district is promoting alternative transportation, utilizing alternative fuels, and/or upgrading current modes of transportation. Below are guiding questions to help frame your narrative.

- What percentage of students walk, bike, bus or carpool (i.e., two or more students in the car) to/from school?
- Do you have a no-idling policy on file and signs posted stating that all vehicles, including school buses, are to limit idling on school/district premises?
- Are all vehicle loading and unloading areas at least 25 feet away from all buildings' air intakes (including doors and windows)?
- Describe how your school/district transportation fleet reduces environmental impacts (e.g. percentage of electric/hybrid/alternative fuel vehicles, idle reduction equipment, bus route revised to reduce fuel usage/emissions).
- Have you participated in PennDOT's Safe Routes to School program?

Insert Narrative Here:

The catchment area for students attending Park Forest Elementary is primarily composed of multi-family townhomes and single family houses in a suburban setting. Living outside of one mile radius from the school, 66.5% of PFE students are bussed to school. Of the remaining students 33.5% are walkers and 1% regularly bike to school.

Fifth grade students participate in bike training and safety as part of the Physical Education curriculum through a Safe Routes to School grant awarded to the school. Once PFE students reach 6th grade they are encouraged to participate in the Battle of the Bikes which boast a participation rate of 7.8% - 8.6% of students biking to school in a friendly competition between area middle schools. Crossing guards are employed to ensure the safety of students and to encourage pedestrian travel. Public transportation available to those students outside the school bussing area is provided by Centre Area Transportation Authority whose fleet is comprised solely of CNG powered vehicles.

Over the past 5 years, the District has eliminated 15 bus routes to increase efficiency and reduce fuel consumption as well as road miles travelled. By staggering the school start/end times of the District's elementary and middle/high schools the same busses are able to be used on a rotational

basis for the most productive routing. Vehicle loading and unloading areas are located more than 25 feet from the school building ensuring the air quality within the structure is not compromised. The District enforces a non-idling policy that prohibits busses from idling for more than 5 minutes in any continuous 60 minute period.

Future improvements to the regional transportation infrastructure will allow for continued enhancements. The State College-Centre Region was ranked the 9th most cycle friendly city in the country by Walk Score and has received bronze level Bicycle Friendly Community recognition from the League of American Bicyclists demonstrating the area's commitment to pedestrian/cyclist safety. In November 2014, the Centre Region was awarded a $1.8 million dollars under PennDOT's Transportation Alternatives Program (TAP). Portions of the awarded TAP funding will be used to construct bicycle repair stations along shared use paths and to connect existing portions of bike paths in the region. TAP projects enhance pedestrian and bicycle facilities, improve access to public transportation, create safe routes to school, preserve historic transportation structures, provide environmental mitigation, create trails that serve a transportation purpose and promote safety and mobility. On December 15, 2015, Clean Energy Fuels Corporation will open the first public quick fill CNG station in the region allowing for the viable option of school bus fleet conversion in the future. Kindergarten children explore an instructional science unit about transportation as they learn about our State College community. They have the opportunity to visit the Centre Area Transit Authority (CATA) to ride a CNG powered bus as they learn about the benefits of public transportation in our community. They also discuss other forms of transportation including cars, trains, bicycles and pedestrian travel.

PILLAR TWO: POSITIVE IMPACT ON STUDENT AND STAFF HEALTH
Element 2A: Integrated school/district environmental health program

Provide a 1,500-word maximum narrative of how your school or district is improving the quality of health for students and staff. Keep in mind that an integrated school/district environmental health program is based on an operations and facility-wide environmental management system that considers student and staff health and safety in all practices related to design, construction, renovation, operations and maintenance of schools and grounds. Below are guiding questions to help frame your narrative.

Integrated Pest Management

- Do you have an integrated pest management plan in effect to reduce or eliminate pesticides?
- Do you follow posting guidelines regarding the application of pesticides and herbicides? Do you notify parents and school employees about methods of application?
- Do you maintain annual summaries of pesticide applications, copies of pesticide labels, copies of notices and Material Safety Data Sheets (MSDSs) in an accessible location?
- Do you prohibit children from entering a treated area for at least eight hours following the application (or longer if required by the pesticide label)?

Ventilation

- Does your school/district meet ASHRAE Standard 62.1-2010 (Ventilation for Acceptable Indoor Air Quality)?
- Are local exhaust systems (including dust collection systems, paint booths and/or fume hoods) installed at all major airborne contaminant sources, including science labs, copy/printing facilities and chemical storage rooms?
- Have you installed energy recovery ventilation systems, where feasible, to bring in fresh air while recovering the heating or cooling from the conditioned air?

Contaminant Controls

- Radon: Have all ground-contact classrooms been tested for radon within the past 24 months?
- Carbon Monoxide: If you have combustion appliances, do you have an inventory of all combustion appliances and annually inspect these appliances?
- Mercury: Has your school or district eliminated mercury containing thermometers, elemental mercury, chemical compounds, art chemicals, etc.?
- Do you recycle or dispose of unwanted laboratory chemicals, mercury thermometers, gauges and other devices in accordance with federal, state and local environmental regulations?
- Chromated Copper Arsenate: Have you replaced or sealed wooden decks, stairs, playground equipment or other structures treated with Chromated Copper Arsenate within the past 12 months? What percentage?
- Secondhand Tobacco Smoke: Do you prohibit smoking on campus?

- Asthma Control: Do you have an asthma management program in place consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools Guidelines?
- Indoor Air Quality (IAQ): Do you have a comprehensive indoor air quality management program consistent with EPA's Tools for Schools?
- Moisture Control: Are all structures visually inspected on a regular basis to ensure they are free of mold, moisture and water leakage?
- Describe any other measures regarding the school or district's built and natural environment that you take to protect student and staff health.

Insert Narrative Here:

Acknowledging the importance of sustainable initiatives in contributing to a healthy climate for staff, students and local/global communities, the SCASD Board of School Directors adopted a Resolution on Sustainability & the Design and Construction of High Performance Schools in 2008. The resolution impressed the District's commitment to energy conservation, waste reduction, green building and pollution reduction techniques on future planning and renovation projects.

SCASD uses an Integrated Pest Management (IPM) approach for managing insects, rodents and weeds. The goal is to protect students and employees from pesticide exposure. This policy focuses on making the school building and grounds an unfavorable habitat for pests by removing food and water sources and eliminating their hiding and breeding places. This is accomplished through routine cleaning, maintenance and monitoring of the school buildings and grounds to detect any pests that are present.

Chemical pest control is used only when necessary and are not routinely applied. When chemicals are used, the school uses the least toxic products possible and applications are made only when students are not present. Students are then prohibited from these areas for a minimum eight hours. Notices are posted in these areas 72 hours prior to application and for two days following the application. Parents or guardians of students enrolled in the school may request prior notification of specific pesticide applications made at the school. Pesticide application information and logs are maintained at the Physical Plant office.

MSDS sheets are maintained in the PFE building as well as the Physical Plant office. All chemicals used by the PFE custodial staff are Green Seal Certified®. Green Seal Certification® considers the environmental impact of registered products and demonstrates that the products have undergone comprehensive performance testing. Built in 2005, Park Forest Elementary met the ASHRAE Standard of Ventilation for Acceptable Indoor Quality during its construction. Vehicle loading and unloading areas are located more than 25 feet from the school building ensuring the air quality within the structure is not compromised. A no-idling policy contributes to reduced air pollution. Ventilation systems are regularly inspected and maintained. Indoor air quality is monitored by staff that have been trained using EPA's Tools for Schools. The Physical Plant Director has attended the IAQ Tools for Schools National Symposium in Washington DC.

District safety policies and practices are adhered to further minimizing exposure to harmful substances. PFE has undergone radon testing with no issues discovered. Inventory is taken of all combustion appliances which are subject to annual inspection. CO detectors are in place. Mercury containing supplies, thermometers and chemical compounds have been eliminated from use and properly treated as hazardous waste upon their purge. Mercury containing products are no longer purchased. As PFE is of newer construction no lead based paints are on premise. Similarly, asbestos was not used in construction; however, in accordance with the Asbestos Hazard Emergency Response Act, (AHERA, Public Law 99-519), SCASD conducts inspections of all school district buildings for the presence of Asbestos Containing Building Materials (ACBM) triennially. Rooftops are inspected semi-annually and interiors quarterly for mold, moisture and water leaks. Inspections are logged and on file with Physical Plant. Care was taken to use low-VOC paints and flooring reducing exposure to harmful off gassing and potential allergic reactions. Lighting choices were also made to reduce eye strain and natural lighting is used when possible.

In accordance with U.S. Consumer Product Safety Commission (CPSC) and ASTM standards, Chromated Copper Arsenate (CCA) treated lumber is not on the school grounds. Raised plantings beds are constructed from recycled plastic lumber. Playground equipment is manufactured from recycled content materials such as coated recycled steel. Surfacing material is locally sourced wood mulch again not treated with CCA. Smoking on school grounds is prohibited with PFE participating in Pennsylvania Department of Health's Young Lungs at Play program with a sign present at the entrance of our playground area indicating that we support having tobacco-free areas for children. Proudly, PFE can attest that all faculty/staff are non-smokers. School health professionals are trained in asthma management with less than 7 percent of the student population afflicted. To protect the health and safety of students and employees a school nurse or health paraprofessional is on site during school hours. Staff is trained in safety care, first aid and CPR. Food allergy awareness is given thorough concern and attention when necessary. Designated table seating is available in our lunchroom for those children requiring it. All purchased school lunches are peanut-free with careful attention to other food allergies. Student dietary restrictions are carefully addressed with the prescription from a doctor. Epi-pens are available and in the event of a severe allergic reaction staff is trained in their use as needed. An AED defibrillator is also on site with regular training sessions offered for staff.

Student involvement in improving PFE's environmental health has been paramount to the success achieved. As such, characteristics of a PFE student have been identified and include: a responsible and involved citizen, a clear and effective communicator, a competent problem solver who thinks critically and creatively, a productive individual who works independently and collaboratively, an individual who demonstrates respect for self and others in an increasingly diverse society, a user of evolving technologies, a knowledgeable practitioner of wellness behavior, an informed consumer and effective manager of personal and family resources, a responsible steward of the environment and a participant in the arts. Thus, PFE students have been well equipped to lead several projects.

Earth Force is a service action program centered in developing environmental citizenship engaging all of our students as active citizens working to improve the environment and their community. Students identify a community issue through a systematic and complex process. As budding environmental citizens, knowledge is developed through investigation of current local environmental issues, needs and resources. Students research how past political, public and economical decisions and private practices have affected the environment. Additionally, students identify an issue then plan and implement a student driven service action project. Past projects have included: Great PA Cleanup, the launch of All-School Composting, low-energy light bulb drive and native plant reforestation of the parking lot median strips. Staffed by teachers and funded annually by a Greenworks grant, Earth Force is integrated into our science curriculum through the environmental and animal kingdom units.

PFE's Kids Involved in Doing Service (KIDS) has been instrumental in growing our student leadership. Students have written a grant to the Pennsylvania Game Commission for funds to restore habitats surrounding our school after determining that we needed to develop our schoolyard habitat for wildlife. The students chose to write the grant by hand rather than using a computer to demonstrate that the grant was truly theirs not written by adults. Students received the grant and purchased a Grow Lab that continues to be used today for our various gardening projects.

At the opening of the new facility in the fall of 2005, several children approached our principal wanting to memorialize the entrance of the old school building. Believing that our new school emerged from the old building similar to a butterfly emerging from a chrysalis we named our citizenship awards the "Butterfly Awards." This sparked the children's thoughts and as the year progressed the students chose to design and create a butterfly garden to help remember our old school. Parents and community volunteers worked with the students to make their dream a reality. A landscape architect met with the children to listen to their ideas, later presenting them with a blueprint of the Butterfly Citizenship Garden. An outpouring of generosity from parents, students, and teachers provided the plants for the garden in addition to money from PDE. Every class had the opportunity to help plant, water and mulch the garden. One of our classes also participated in a national citizen scientist program, Monarch Watch, gathering data about monarchs.

A small team of teachers and our principal created the The Schoolyard Project (SYP). Following the demolition of our old school, a need arose to re establish the pre-existing ecosystems. This project was designed to integrate standards by documenting temperature and environmental changes over time as well as recording plant and animal life existing within our schoolyard. The children selected and named four observation sites. Once a month every class records their measurements and observations. Previously data was entered in binders, now this is done electronically, allowing the older students to see the re occurring patterns in nature. Presently, 26 of 32 teachers are involved in a professional development opportunity to more fully and effectively integrate SYP into the district's curriculum. Funding for the development of the SYP came from Pennsylvania Department of Education (PDE) in addition to PA Department of Environmental Protection (DEP). Funds from Target also support the purchase of individual student journals.

These many projects, facility enhancements and service programs have positively affected not only the physical but also the mental health of our entire PFE community.

Element 2B: High standards of nutrition, fitness and outdoor time

Provide an 800-word maximum narrative of how your school or district is improving the physical and mental health of students and staff. Below are guiding questions to help frame your narrative.

Fitness and Outdoor Time

- What is the average amount of time over the past year that each student engaged in school-supervised physical education and/or outdoor time per week?
- Do you have outside classrooms or learning labs available?
- Describe any other outdoor exercise opportunities and nature-based recreation available to students.

Food

- Do you participate in USDA's Healthier School Challenge program or another nutrition recognition program?
- What percentage of food purchased is certified as environmentally preferable (e.g., Organic, Fair Trade, Food Alliance, Rainforest Alliance, etc.)?
- What percentage of food purchased is grown and processed locally, including food grown on school grounds?
- Does the school/district have an onsite garden in which the students participate?

Ultraviolet (UV) Safety

- Does your current student body participate in EPA's Sunwise Program or an equivalent program? What percentage of the student body participates?

Mental Health

- Does your school use a Coordinated School Health (CSH) approach or other related initiatives to address overall school health issues?

- Does your school partner with any postsecondary institutions, businesses, nonprofit organizations, or community groups to support student health and/or safety?
- Describe your school's efforts to support student mental health and school climate (e.g. anti-bullying programs, peer counseling, etc.).

Insert Narrative Here:

By protecting the safety and wellbeing of the entire learning community and promoting healthy lifestyles PFE affords techniques for enhanced long term health. The Faculty/Staff Wellness Committee provides opportunities to all SCASD faculty/staff to gain knowledge and skills that foster a healthy lifestyle; and create a positive, healthy climate in our school district.

This year's initiative, The Wellness Focus Point of the Month, educates and inspires employees to improve their health with topics such as nutrition, fitness, stress management and sleep practices. Faculty/staff receive a monthly Wellness Flyer and prize incentives for participation. Zumba classes, volleyball and yoga are held weekly at various locations for employees. Free use of the Fitness Center and Natatorium is available for district employees.

PFE is dedicated to providing students with a supportive environment to learn skills necessary to define, demonstrate and value a healthy life. The SCASD Health and Physical Education Department wants students to recognize importance of a healthy lifestyle and incorporate those concepts in their own lives. Physical activity is promoted at school and at home with outdoor play strongly encouraged. Students, faculty and staff are asked to bring in photos themselves exercising or engaged in activities outdoors to post our community fitness board. The students are encouraged to actively participate during physical education class to the best of their ability. Snapshots of students giving 100 percent effort in class are posted on a bulletin board highlighting their hard work.

Fitness testing is conducted at the beginning of each school, so students can see how well their bodies are working and identify areas for improvement. Students set goals for the following spring to improve upon their current fitness levels. The students are encouraged to come in each morning before school starts and work on the components of fitness and during recess. Fitness stations are being developed to promote physical activity during recess time and to provide suggested activities for those students seeking an activity.

In addition to supervised PE for 160 minutes per week, students participate in a variety of health and fitness activities throughout the year: Walk to School Program, Jump Rope for Heart, and Relay Recess. These community-centered activities are each a valued part of our curriculum helping the students understand the importance of taking care of their bodies and the importance of helping a greater cause.

PFE received a $5000 Safe Routes to School Grant allowing the purchase of 12 bicycles and helmets. Students are taught bike safety, rules of the road, and the importance of bicycling for exercise. We completed surveys for the Safe Routes to School Program. During National Bike Month in May, students are encouraged to walk or bike to school and to participate in a community bike rides. PFE has several outdoor learning labs in wooded and wetland areas as well as a pavilion complete with an instructional blackboard near an interactive sundial. The Trail of Life, climbing/fitness equipment, geodesic dome and teepee also afford natural exploration and learning areas.

SCASD Food Services Department continues to make improvements to student menu selections. Currently, 25% of food is locally grown and promoted on school menus. Students also participate in organic gardening at the school's raised beds and hoop frames. District cafeterias were among the first in Pennsylvania to be certified as meeting federal nutrition standards for meals last year. USDA standards ensure that meals are well-balanced and provide students proper nutrition through measures such as the following: age-appropriate calorie limits; fat-free or 1% milk; increased use of whole grains; reduced sodium content and larger, more varied, required servings of vegetables and fruits.

Treating mind and body as a whole, mental health is given careful consideration through Integrated Mental Health (IMH) Services. With a grant from ED, IMH is able to provide comprehensive mental health services that are strengths-based, developmentally appropriate, data driven, youth guided and family focused. Services include assessment and evaluation, consultation and collaboration, individual, group, and family therapy, and targeted trainings. Helping Elementary At-Risk To Succeed (HEARTS) a collaboration between SCASD and Home Nursing agency providing the opportunity to receive academic and therapeutic needs in one location for those students in need. SCASD partners with the Penn State Psychological Clinic, Centre County Mental Health/Intellectual Disability, Centre County Child and Adolescent Service System Program.

Our caring community creates awareness and empathy through the Membership Participation and Learning Initiative for Inclusive Practices developed with funds from PaTTAN. Programs include: Peer Support- alleviating anxieties in lunchroom, classroom, playground and on school busses; Mystery Readers - addressing timely topics through literature; Art of Friendship- creating joyful representations of self and learning that parts contribute to become a whole.

PILLAR THREE: EFFECTIVE ENVIRONMENTAL AND SUSTAINABILITY EDUCATION

Provide a 1,500-word maximum narrative about how your school or district is improving sustainability and environmental literacy for students and staff. Below are guiding questions to help you frame your narrative.

Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems

- Does your school or district have a graduation requirement for environmental or sustainability literacy?
- How are environmental and sustainability concepts integrated throughout the curriculum?
- Is your school district's curriculum aligned to the Pennsylvania Academic Standards for Environment & Ecology?
- If your school/district does not conduct environmental science, sustainability or environmental education assessments, what percentage of your students scored proficient or better on the state science education assessments last year?
- Are professional development opportunities in environmental and sustainability education available to all teachers at least every other year?
- Does your environmental education curriculum pay particular attention to scientific practices, such as asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations and engaging in argument, and applications based on evidence?
- Do your students have meaningful outdoor experiences (an investigative or experiential project that engages students in critical thinking, problem solving and decision-making) at every grade level?
- How are the sustainable elements of your building used as an educational opportunity?

Insert Narrative Here:

Environmental and sustainability concepts are woven throughout SCASD's curriculum that is utilized by PFE and investigated through the inquiry process. The Pennsylvania Academic Standards for Environment and Ecology are met at each grade level affording PFE's elementary students a strong foundation to support their furthered studies in middle and high schools. Traditionally, PFE's Science Education Assessment scores of "proficient or better" have exceeded 90%. Last year with the re-alignment to PA Core Standards, 82.9% of students attained or exceeded this mark on the PSSA science education assessments last year. Through skills enhanced during the Claim, Evidence and Reasoning process in Environmental and Geological Sciences, students have had the opportunity to become critical thinkers allowing them to find solutions to true case scenarios.

PFE's Schoolyard Project (SYP) has strongly influenced the use of our schoolyard, but has also created another type of sustainability; the influence on children's learning created by a sustainable professional development model for Meaningful Learner Engagement . Our principal believed she could combine her professional knowledge and experience from her doctoral study to become a well balanced and well-grounded teacher educator influencing her approach the way children's learning and professional development of her staff.

"How do we incorporate professional development for teachers using the schoolyard as an integrating context for learning?" was the inquiry question that has driven this work beginning a four-year journey that our principal, a doctoral student and a Penn State Professional Development School (PDS) Associate set out to examine. Wanting to develop a course project into a joint effort that would be "practical" for teachers, offer differentiation, address the varying needs of individual teacher/learners and encourage a culture of inquiry, they applied for and won a grant from the Pennsylvania Department of Environmental Protection (DEP) for a curriculum integration initiative to support a three-year professional development plan for teachers. Funding for the first of two $15,000 grants supports their inquiry into self-directed, differentiated, professional development. They also received $15,000 over a three-year period from the Pennsylvania Department of Education (PDE) from the Office of Environment and Ecology to support their curriculum work and the inquiry.

Their professional development experience, called Turning Learning Inside Out, used the SYP as an inquiry into environmental education through integrating context for learning. Teachers and PDS interns were granted release time and flexible opportunities to engage in inquiry together. These opportunities to form their own professional learning teams gave teachers the time to define their own learning and the means for pursuing it exploring their own wonderings into what forms of professional development were effective.

Teachers and PDS interns formed into various types of groups to explore SYP—study groups, collaborative inquiry groups, lesson study groups or some combination of those. Teacher/intern teams wrote action plans in the language of an inquiry for their team's goals whether it was Math and Science in our school gardens; Using Children's Literature; Lesson Study using Project Learning Tree and Project WILD resources; Writing in the Schoolyard; Mindfulness; Service Learning; etc. They established schedules for meetings, used many resources (Project Learning Tree, Project WILD and Growing Up WILD, Project WET, Aquatic WILD, Wonders of Wetlands, and Planning of Wetlands, etc.), recorded their meeting minutes, collected data and submitted individual reflections at regular intervals. Our PFE principal is a facilitator for many of those national programs and was able to do trainings of our staff.

Our principal established three common meetings – the Kick-off, Mid-year Celebration, and End of Year Celebration. Food, sharing of ideas, and celebration of accomplishments were common parts of those meetings. Public sharing of the SYP experience included formal presentations at conferences of the National Association for Professional Development Schools (NAPDS), National Network for Educational Renewal (NNER), North

American Association for Environmental Educators (NAAEE) and the Annual PSU/SCASD Inquiry PDS Conference. In those public presentations, teachers and interns placed tremendous value on their inquiry initiatives as well as the personal empowerment the program afforded.

In addition to furthering the personal and professional development of teachers and interns, they lived out what it meant to be a teacher educator within the laboratory of practice we call the PDS. Without the encouragement, research, modeling and tensions that a teacher educator program provides, they would not have undertaken such an ambitious inquiry into professional development that, in turn, transformed the learning culture at the school into one where teachers encourage each other to question their practices, whether in the role of a teacher educator (as a mentor to a preservice teacher,) as a teacher inquirer into a wondering about their own practices, or as a teacher modeling inquiry to students. Teachers developed inquiries to share either as a part of the annual PDS Inquiry Conference, as a part of the teacher evaluation process, or as a service learning project where the similar steps of an inquiry were actualized in practice. The resulting culture of inquiry permeated the school further embedding the collaborative and inquiry oriented stance of the lead learner within her building. Our principal came to believe that everyone at PFE is "building their school a question at a time,".

As a result of this inquiry orientation, additional structures were used to explore issues of data, learning, student work, and instructional practices with an inquiry orientation. For example, science instruction at PFE is centered on place-based interdisciplinary units that are meaningful in the lives of our students. When students are able to make connections between their lives and school, they are much more engaged in what is being taught. Encouraging our students to view themselves as community stakeholders who are able to ask questions and think critically using evidence-based reasoning in order to support their thinking. Often, traditional science teaching can be one-dimensional and disconnected from other curriculum. We believe that "Three-Dimensional Learning" emphasized by the Next Generation Science Standards (NGSS) pushes teachers to create multi-faceted lessons that help students experience science and its connections to their lives.

An example of teachers taking the initiative to make science and social studies meaningful with a place-based approach to teaching is our fifth grade teachers who, after a couple of years of refining their science instruction and developing a year-long science content storyline, began to investigate the question "How does water quality affect the ecology of a community?" during the unit on environmental science. While working on their science curriculum, they concurrently evaluated their social studies curriculum in order to determine new ways to emphasize civic engagement while using science concepts to provide evidence to strengthen student thinking. They continued to feel as if they needed the content to be even more integrated, engaging, and relevant to students. They began to wonder if they could ever effectively combine science and social studies to create an experience for students, which would be hands-on, engaging—personally and civically—and would make the content more accessible for more students.

This instructional struggle drove them to create a socio-scientific framework centered on a local land and water issue. They began to develop ways to help students think about water and water quality issues through the lens of being a citizen, with authentic questions and true concerns, instead of a student simply focused on grades. They have found that when students begin to understand the purpose of science, they are able to think critically and are engaged in learning the science behind an issue in order to gather evidence to support their work. Because this type of application of science is meaningful, it greatly impacts a student's ability in becoming scientifically literate, as demonstrated through authentic assessment experiences.

Over the course of the curricular investigation, the fifth grade teachers participated in a deliberation professional development opportunity provided by the Kettering Institute. During this experience, they realized the number of connections to be made between science and social studies simply by helping students to understand the importance of examining an issue from as many perspectives as possible. For example, they invited a speaker who is currently on the township board of supervisors to speak to in their classes regarding his opinion that the development should be allowed to occur. In addition, they invited a supervisor-elect, who is adamantly opposed to the development, addressed the students. Both speakers were able to present scientific data to solidify their respective stances about the development and it was interesting to see the students change their minds multiple times as each speaker presented data. Connecting the theory and real world application through Skills are enhanced through the Claim, Evidence and Reasoning process students have had the opportunity to become critical thinkers allowing them to find workable solutions to such case scenarios.

Element 3B: Use of the environment and sustainability to develop STEM content knowledge and thinking skills

Provide an 800-word maximum narrative of how your school or district is utilizing the environment and sustainability to improve STEM knowledge and problem-solving skills. Below are guiding questions to help frame your narrative.

- Does your general science curriculum include a deep understanding and connections of life, physical and earth sciences?
- Does your curriculum provide connections between classroom content and college and career readiness, particularly to post-secondary options that focus specifically on environmental and sustainability fields, studies and/or careers?

Insert Narrative Here:

STEM concepts are incorporated throughout the curriculum. Introduced at the primary level, students study simple machines through playground design and equipment observation. Concepts learned are then applied to the practical construction of Rube Goldberg machines by students. During the intermediate energy unit students construct energy use models examining the impact of energy consumption, create AC/DC circuit

boards and explore alternative forms of energy for powering these models. Putting knowledge into action, fifth graders use and maintain the garden and IPM border throughout the Environmental and Animal Kingdom units.
As a microcosm of the world, the PFE schoolyard includes wetland, butterfly, produce and native plant gardens to enhance curriculum and instruction. Partnering with community members to help maintain and care for our schoolyard, PFE's grounds have become a community classroom. Through observation, data collection and analysis, and journaling about the schoolyard sites, students study our phenology and changes over time as they monitor the effects on our school's environment. Students have embraced the power of technology and the expanded capabilities of using laptops and probes onsite throughout the schoolyard for data collection. Thanks to a very generous gift from Ed Masorti, a former Penn State Meteorologist, PFE now boasts a PFE Weather STEM station that allows students to monitor weather conditions at the school and compare this data with other local weather stations at PSU's Beaver Stadium, Pasto Agricultural Museum and at PSU's Arboretum. As another community outreach, students have decided to host free-cycling events where the community brings in lightly used clothing, toys, books and household items to trade with others as a means of reuse and recycling.

At Physical Plant's request, students have identified opportunities that impact our sustainability initiative: Produce and Butterfly Gardens, SchoolYard Project, Waste Reduction and Reduction of Resource Consumption. Visuals are at every turn in the building to reinforce these concepts. From the large "Are You Sure" banners, the Zero Waste Centers, the water bottle filling station, indoor vermiculture units and numerous awards. Our school is blessed with permanent visual art through our collaboration with Artist/Muralist Terry Johnson from the GALAXY Arts in Education Project that has created murals with our students entitled Schoolyard, Wetlands, Things with Wings and Mindfulness. These murals serve as constant reminder of our school's community commitment to the environment. They also underscore our belief that our school is a palette to display our passions and our interests. Through these displays, students and staff receive positive feedback and reinforcement of these sustainability concepts.

Physical Plant has also asked our school to investigate ways to reduce our energy and resource consumption. Students have identified areas to examine, such as energy efficient heat, cooling, lighting, hot water heating, Penn State Green Roof partnership and resource conservation. Students continue to explore and educate their peers and greater school community through an annual Energy Expo as part of the 3rd/4th grade curriculum. Student led waste reduction and management investigations has led to changes in purchasing, consumption and disposal as noted in section 1C.

In other STEM investigations students examined local, current event issues, where they discovered that our town is in the middle of a deliberation about whether a luxury student housing planned residential development (PRD) should be built near the aquifer that supplies much of the community with water. PSU proposed to sell the land for this development to a housing construction company contingent on the construction company receiving approval from the local township, where the land is located. The company has applied for approval to the local township, of which the land is a part. The proposal has been met with a large, grassroots resistance from the community. There have been multiple community meetings, consultations and reviews by experts (including the Borough Water Authority), and opinion pieces and letters to the editor in the local print media. The township development issue affects every student in our classrooms directly as it is their drinking water supply, which will potentially be affected by the development. The students began to naturally ask questions like, "How do you know if water is clean? Who gets to have clean water? Who decides who gets to have clean water?"

By examining this local water issue, students learned the structures of local government. They conducted research about the natural and human history of our local area. We conducted a number of water quality tests using indicators such as pH, dissolved oxygen, temperature and turbidity. Students used the evidence gained from these tests to generate claims backed by evidence and scientific reasoning in order to communicate their findings, in person, and through writing, to local officials and the general public.

Element 3C: Development and application of civic engagement knowledge and skills

Provide a 500-word maximum narrative of how your school or district is improving civic and community partnerships toward sustainability. Below are guiding questions to help frame your narrative.

Community and Civic Engagement

- Are your students required to conduct an age-appropriate civic/community engagement project around a self-selected environmental or sustainability topic at every grade level?

- Do you partner with local academic institutions, businesses, government agencies, nonprofits, informal science institutions and/or other schools to help advance the school/district and community toward sustainability and other environmental issues?

- Do you have outdoor classrooms on your grounds that include native plantings or a community garden? If so, how do you use them to teach an array of subjects in context, engage the broader community and develop civic skills?

- What are other indicators or benchmarks of your progress toward the goal of 100 percent of your graduates being environmental and sustainability literate?

- What opportunities exist for parents to learn about the green practices implemented at your school, including how these practices are benefiting the children and reducing operation and maintenance costs?

Insert Narrative Here:

The foundation of our school philosophy is a strong desire to engage our community in the practices of democracy. One cornerstone of this philosophy is the need to connect our classrooms and school to the community to provide service where we are needed and to foster the spirit of making a difference in our students.

PFE, our students are encouraged to investigate issues within our school community, the local community or the state-level community in order to work to affect change. For example, a student working to understand the issues surrounding childhood hunger, created a program called Penguin Packs, which provides food over the weekend for students who receive free and reduced lunch. This program partners with the local and state food banks, a local church, Park Forest Elementary and other local organizations in order to finance and facilitate the packs of food. Other programs that have begun at PFE as a result of deep investigations into community needs are Stockings for Troops, 5th Grade Red Cross Blood Drive, Centre House Homeless Shelter and many Eagle Scout projects.

Our Zero Waste Team includes everyone in our school community--students, faculty/staff, parents, etc. Working with CCRRA, UAJA, PROP and PSU for guidance, this team effort succeeds as students sort our waste daily to help ensure that it is making it into the proper receptacles in all school settings. In addition, we can easily see that the Zero Waste initiative transfers to the homes of our students as they can be seen almost every morning sorting their waste from home into our recycling bins.

Partnering with other agencies such as Bald Eagle State Park, Millbrook Marsh Nature Center, Shaver's Creek Environmental Center, Penn State's Arboretum and the PSU Sustainability Institute, PFE students have had the benefit of enjoying many nature based speakers and activities to reinforce classroom concepts. A wonderful product of our collaborative democracy and civically engaged school community was the creation of our Park Forest Elementary School Constitution, which states:

We the people of PFE, in order to form a better school, create a place where people want to be, establish fairness and kindness, insure the safety and well-being of all, and promote learning and citizenship, do hereby create this Constitution for Park Forest Elementary School.

We have the right to feel safe in our school, speak what we believe and not be judged for it, be appreciated and recognized & celebrate our success, experience creative, engaging, and fun learning, learn and help others learn, have a safe learning environment, both inside and outside, be respected, help our community both inside and outside. Be treated fairly and have opportunities to serve our school.

We have the responsibility to learn & teach others what we have learned, work hard & do our personal best, respect our school and those in it & use our manners, care for others and our environment, actively engage in learning, work with others & cooperate, and share appreciation of others, take notice their needs, & show faith in them.