U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

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 early learning to 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 and sustainability 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

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

Official School Name: Francis Scott Key Elementary School
(As it should appear on an award)

**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.

David Landeryou
(Principal's Signature) Date: 1/28/2021

Name of Instructional Superintendent: Mr. Shawn Stover
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)

District Name: District of Columbia Public Schools

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

Shawn Stover
(Instructional Superintendent's Signature) Date: 01/28/2021

U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

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: DC Office of the State Superintendent of Education

Name of Nominating Authority: Dr. Heidi Schumacher
(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.

Heidi Schumacher

(Nominating Authority's Signature): Date: 2/10/2021

SUBMISSION

The nomination package, including the signed certifications, narrative summary, documentation of evaluation in the three Pillars, and photos should be submitted online according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: December 31, 2023

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.

SUMMARY NARRATIVE

Francis Scott Key Elementary is a nationally recognized 2008 Blue Ribbon School in the District of Columbia Public School System (DCPS) that serves over 350 students in pre-K through 5th grade. Key was also recognized in 2014 as a DC Gold Ribbon School based on three consecutive years of outstanding academic performance. The school first opened its doors in 1932 in a unique area of Washington, DC that combines city living with abundant natural resources. Students are within walking distance of the scenic Potomac River, the historic C&O Canal, and several national parks and develop a close relationship with their natural environment.

The Key Community combines environmental education with real world action and is always eager to try something new. As one of the first schools to participate in DC Farm to School Week in 2011, students started a School Garden Market for the community that continues today. Partnering with the DC Office of the State Superintendent of Education, Key's PTO, and neighborhood associations, Key expanded to fourteen raised beds that support a wide range of vegetables, fruit, and visiting wildlife. In 2013, Key was one of six DC public elementary schools chosen to participate in a pilot program for recycling food waste from the cafeteria and garden that became instrumental in shaping the compost pickup program used today.

Once the pollinator garden and woodland forest were added, the school grounds became a learning laboratory to explore pollinators, plant cycles, composting, soil sampling, erosion and habitats. Students use math skills to measure plant growth, and seed spacing, make scientific observations when comparing root structures to other plant parts, and connect literacy to the school garden through read alouds and poetry. In 2016, the garden was featured as *Kent Magazine's Garden of the Month* and the Parent Teacher Organization (PTO) raised funds for an environmental specialist to ensure the longevity of the environmental literacy program.

Key has a well-established Staff & Parent Green Committee tasked with, "spearheading all initiatives with healthy eating, recycling in the classrooms, energy efficiency in the building and organization of composting/recycling in the cafeteria during lunch. The committee works to organize a student group to help with these initiatives, as well as provide ongoing education to staff around healthy eating and recycling." *(Key School Staff Handbook: Building Responsibilities)*

Key's Student Green Team members are a visible, dynamic, and active part of school life composed of approximately forty 3rd to 5th grade students that meet during lunch and after school to manage the garden and recycling programs. Key partnered with Slow Food USA's Plant a Seed Program to plant endangered seeds to maintain biodiversity for future generations. Green Team students did research and learned how to collect, dry, weigh, and package vegetable seeds to plant for the next season. Applying similar techniques in the pollinator garden, students harvest dried milkweed pods to maintain the monarch butterfly's habitat, and are now looking to create their own Key School seed varieties. These experiences demonstrate Key's ability to integrate various curriculum areas such as science, social studies, English and language arts, and math with environmental learning and service to the greater community.

As of January 2021, Key School's metered Building Energy Benchmarks were in compliance with the District of Columbia's sustainability plan, Sustainable DC, to reduce citywide greenhouse gas emissions and energy consumption by 50% by the year 2032. Active in the fight to reduce energy consumption, Key was a participant in the first-ever DC Sprint to Savings competition that helped decrease energy consumption at 23 schools by an average of 17% over five weeks, saving the city approximately $20,000 in 2014!

To divert waste from landfills and incinerators, Key is deeply committed to the "4 R's" of Reduce, Repurpose, Recycle, and Rot (compost). In 2018, students made a concerted effort to reduce overall waste earning the DC Reduce First! Challenge: Plastic Edition Most Improved for cutting plastic utensil use by more than half. In 2019, Key won the Highest Performance Category in the Department of General Services (DGS) annual DC Recycle Right! Competition for proper sorting. The average percentage of bins that were sorted correctly by Key students during the competition increased from 48% to 69%!

The custodial team is involved in every aspect of school cleaning, maintenance, and waste reduction, collaborating with students and staff to streamline the system and educate the community on best practices. In 2018, the high performance of our custodial team was recognized when the custodial foreman received the DGS Recognition of Custodial Leadership in Recycling Award. That same year, the foreman and the environmental specialist showcased the school's recycling strategies for *Discovery Education's STEM Connect* video series.

Water conservation at Key is also a priority. In 2020, the student Green Team built a collection method to measure the amount of water removed from the air during the cooling process that drains out from the HVAC condensate line. They found that in the period of three hours, a 5 gallon jug could be filled to capacity and used to water the garden, giving the school an additional source of water that would otherwise be wasted.

Key was the winner of the first-ever National Bike to School Golden Bicycle in 2012, and has had a consistent showing of over half the school biking every year. Walk to School Day is also a Key School tradition. In 2019, a school record was set when the MPD, parents, and principal lent a hand escorting 166 student walkers. The PTO was instrumental in keeping students safe by successfully advocating to install new sidewalks and bike lanes along pathways to our school, as well as organizing a pickup and drop-off system to minimize idling.

Key's school nurse monitors student health and wellness and won the STAR Nurse Award for excellence in 2020. To help keep allergens at a minimum throughout the school, students created eco-cleaning kits for all classrooms. They tested various recipes for environmentally safe homemade cleaning solutions. Different types of essential oils were researched to determine their disinfecting value and to prevent the possibility of allergic reactions. Each teacher was given a tub containing refillable spray bottles, white vinegar, baking soda, sponges, lemon oil, and a booklet containing approved recipes.

DCPS is committed to developing trauma responsive school environments to meet the social and emotional health needs of its students. Key's psychologist and special education teachers co-facilitate staff training in the DCPS Trauma-Responsive Schools Model that supports student safety and a sense of belonging by

emphasizing empathetic listening and language to develop growth mindset. A school counselor is available to assist. Key is supported in this work by the staff and parent Equity Team committed to ONE KEY COMMUNITY.

At Key, co-curricular learning opportunities connect environmental awareness with local nature-based field trip experiences for all grades, including Meaningful Watershed Experiences (MWE) helping to restore American Shad in local rivers and the studying ecosystems on overnight camping trips. The ability of Key students to use science to solve real world problems is evident as they stand on the podium at the DC Elementary School STEM Fair every year, including placing 1st in Environmental Science and 2nd Overall for a Key School Cafeteria Waste Study in 2017

As a member of the DC Environmental Literacy Leadership Cadre, Key's beloved Science Teacher Amy Johnson, was the driving force behind integrating environmental education across all curriculum areas and establishing the school's environmental literacy program. Her ability to align core curriculum with environmental stewardship has allowed Key School to exponentially increase engagement with our students, staff, parents, and community members. As she stated in the Key School Garden Year End Report in 2017, "We strive to develop caring individuals who recognize that their actions have a direct impact on their environment, other people and themselves. We have been able to allow all of our students to become understanding of their role in their environment and identify ways they can lead a responsible life."

NOMINEE INFORMATION

School, District (LEA), or Postsecondary Institution Name: Key Elementary School
Category of Nomination (School, District, or Postsecondary): School

Address: 5001 Dana Place NW City: Washington DC State: DC ZIP: 20016
Twitter: N/A Facebook: N/A

Top Official (School=Principal; District=Chancellor/CEO; Postsecondary Institution=President)
Title (Mr./Ms./Mrs./ Dr.): Dr. First Name: David Last Name: Landeryou
Position/Role (Principal/ Chancellor/ CEO/ President): Principal
Email: David.landeryou@k12.dc.gov Phone: 202-729-3280

Lead Applicant (if different)
Title (Mr./Ms./Mrs./ Dr.): Ms. First Name: Alexandra Last Name: Harbold
Position or Role (e.g., Teacher/ Sustainability Director/ Facilities Director): Environmental Specialist
Email: alexandra.harbold@gmail.com Phone: 202-236-6244

Check all that apply:

Early Learning ☒	Middle ☐	Public ☒
Elementary ☒	High ☐	Charter ☐
Magnet ☐	Two-Year ☐	Community College ☐
Non-Public ☐	Four-Year ☐	Career and Technical ☐

Provide percentages, if any are relevant to your school, district, or institution:

Pell Recipients: N/A	Special Education: 8%
Free and Reduced Price Lunch: 2%	Graduation Rate:
Minority: 33%	Attendance Rate: 97%
Limited English Proficient: 11%	

Provide the following:
Total Enrolled: 352 Number of Schools: 1 Buildings: 1 Campuses: 1

DOCUMENTATION OF SUSTAINABILITY ACHIEVEMENT

Pillar I: Efforts to Reduce Environmental Impact and Costs

Energy Efficient Facilities & Practices

In 1932, Francis Scott Key Elementary School (KS) opened its doors in a residential neighborhood of Washington, DC with eight classrooms as part of the District of Columbia Public School System (DCPS) for Kindergarten through 5th grade students. After decades of increased enrollment, renovations in 2002 added a cafeteria, auditorium, gym, library, computer lab, administrative office and classroom space to accommodate 240 students. In subsequent years, pre-K classes were added and by 2018, Key had reached a high of 417 students, requiring mobile learning cottages to be built to house 4th and 5th graders in the parking lot area. To keep pace with a 10-year enrollment growth projection of approximately 26%, Key's Green Committee is revisiting its environmental impact reduction plan.

Key's well-established Staff & Parent Green Committee is tasked with, "spearheading all initiatives with healthy eating, recycling in the classrooms, energy efficiency in the building and organization of composting/recycling in the cafeteria during lunch. The committee works to organize a student (Green Team) group to help with these initiatives, as well as provide ongoing education to staff around healthy eating and recycling." *(Key School Staff Handbook: Building Responsibilities)* The Student Green Team is composed of approximately forty 3rd to 5th grade students that meet during lunch and after school to manage the garden and recycling programs.

As of January 2021, Key School's metered Building Energy Benchmarks were in compliance with the District of Columbia's (DC) sustainability plan, Sustainable DC, to reduce citywide greenhouse gas emissions and energy consumption by 50% by the year 2032. With a reported gross floor area of 68,290 sq ft., Key has an ENERGY STAR rating of 65, total greenhouse gas CO2 emissions of 270.8 metric tons, energy use intensity (EUI) of 51 kBTU FT, natural gas use of 14692 therms, and 0 KBTU of fuel oil and diesel fuel use.

The electricity provided by Potomac Electric Power Company (Pepco) is powered by a fuel mix that has progressively decreased its share of coal while increasing its share of renewable resources. The District of Columbia (DC) requires that all electricity within the city come from renewable energy sources by the year 2032 and Key has sought out solar power for cutting energy costs and reducing our carbon footprint. The Department of General Services (DGS) completed a solar feasibility roof assessment on our building but the orientation of the building and steep slope of the roof was found to significantly limit solar potential. Fortunately, large windows on the original building face directly south, providing heat and natural light that reduce energy costs during the cooler months. Shades are available during warmer months to cool classrooms and cut down on glare. The student Green Team is experimenting with alternative ways to use solar power such as heating water in a solar oven for cooking demonstrations at the Garden Market to eliminate the need for electricity.

Classroom light switch plates have “Switch Off When Not in Use” labels and the Student Green Team Energy Patrol monitors the hallways during lunch making sure unused rooms have lights turned off. Additional efforts to reduce energy consumption have included participation in the DGS DC Sprint to Savings Energy Competition in 2013 and 2014, designed to raise energy consumption awareness. Key reduced energy use by 7% over the course of the five-week competition and was among 23 other DC schools that together decreased their energy consumption by an average of 17 percent, saving the city approximately $20,000.

In the fall of 2020, cost-effective energy-efficient upgrades were made to Key’s HVAC Systems to increase fresh air filtration throughout the school building via an existing Dedicated Outside Air System (DOAS) and the installation of high efficiency MERV-14 and HEPA filters which help earn points toward possible LEED green building certification. High-efficiency Particulate Air (HEPA) filters have also been placed throughout the building. DGS performs yearly maintenance, such as confirming registers and diffusers are not blocked, disinfection and cleaning of air handling equipment, and visual inspection of air distribution mechanisms in walls and ceilings, etc. in order to maintain energy efficiency over time. Daily inspections are performed by the Key custodial foreman. A Demand Control Ventilation System (DCV) is in place allowing ventilation rates to be adjusted according to the number of occupants in various areas of the building to reduce energy use and minimize costs. In addition, a wireless platform is being used to ensure proper operation of equipment and maintain energy efficiency.

Improving Water Quality, Efficiency, & Conservation

Water is supplied through the District of Columbia Water & Sewer Authority (DCWASA). Every student and staff member at Key has access to cold filtered drinking water. All first floor classrooms contain drinking fountains with an additional two water coolers provided in the hallway. Half of the second floor classrooms contain drinking fountains, while the other half have access to two hallway drinking fountains and two water coolers. The basement area contains a water fountain and a water filler station specially designed to refill reusable water bottles. Students are encouraged to bring refillable water bottles to school and use them throughout the day in order to help conserve water and eliminate plastic bottle waste. Two additional water fountains with bubblers are available in our outdoor play area and per DC Law 22-21, at least one kitchen sink in our food service area is designated as a drinking water source. Water filters are installed in all faucets and drinking fountains found in classrooms, break rooms, and health suites with expiration dates recorded.

Water quality is maintained through valve inspections, the flushing and sanitization of the plumbing system, and annual lead testing by DGS. Key’s most recent test on December 20, 2019 recorded <1 parts per billion (ppb), which is well below the District of Columbia law requirement (and Food and Drug Administration (FDA) standard for bottled water) that all drinking water sources must test below 5 ppb. The principal notifies parents and staff of lead levels via email. If contaminants were to be detected in the school’s drinking water supply, a sufficient supply of 5-gallon water jugs is on hand for emergency use.

In addition to conserving water by refilling reusable bottles, water conservation is practiced in the outdoor classroom. Rainwater is harvested via three rain barrels able to hold 560 gallons each with the potential to fill approximately 450 watering cans. A rain barrel is available by the raised garden beds, by the pollinator garden,

and by the greenhouse. The environmental specialist maintains the system by clearing the greenhouse gutters, checking the filter for debris, and inspecting downspouts. DGS reported that our storm water system was in good condition and working adequately as of 2013. Additional green infrastructure, such as a bioretention dry stream bed, rain garden areas, planter boxes, bioswales, permeable pavements, and a tree allee were put in place to reduce stormwater runoff.

In 2020, the student Green Team built a collection method to measure the amount of water removed from the air during the cooling process that drains out from the HVAC condensate line. They found that in the period of three hours, a 5-gallon jug could be filled to capacity and used to water the garden, giving the school an additional source of water that would otherwise be wasted. Key School has partnered with DCWASA by using their Bloom biosolid soil amendment in the garden to help conserve landfill space and promote the benefits of water reuse. Bloom testing samples have remained below 10 MPN/gram (well below the 1,000 MPN/gram requirement for Class A certification) and was certified Class A by the EPA.

Reducing Waste Production - **The 4R's: Reduce, Repurpose, Recycle & Rot (Compost)**
To divert waste from landfills and incinerators, Key School is deeply committed to the "4 R's" of Reduce, Repurpose, Recycle, and Rot (compost). Over the years, Key has expanded from responsible composting and recycling on "Trash Free Wednesdays" to a concerted effort to reduce overall waste every day on a much larger scale.

The Green Team takes the lead in recycling paper, plastic, and organics from classrooms, offices, and food service areas. All staff and students are trained in proper sorting procedures presented at a kickoff recycling assembly by guest speakers from partner organizations such as Audubon Naturalist Society at the start of each school year. Sorting bins in the cafeteria, throughout the building, and on the grounds, are clearly labeled to depict acceptable materials. Bins for food waste are colored yellow, bins for paper and plastics are colored blue, and bins for trash are colored black. Student-made posters depicting proper recycling techniques can be found throughout the building. The Green Team provides weekly monitoring in the cafeteria to reinforce proper sorting habits and the principal drops in regularly to monitor progress.

Each classroom has a labeled scrap paper station for reusable paper scraps which must be exhausted before new paper can be used. Blue 7-gallon paper recycling waste baskets from the classroom are emptied by students into 32-gallon bins found in the hallway. At the end of the day, custodians empty these bins into the correct outdoor secured dumpster for recycling. The custodial team is involved in every aspect of school recycling and waste reduction and works with students to streamline the system and educate the community on best practices. In 2018, the high performance of our custodial team was recognized when the custodial foreman received the DGS Recognition of Custodial Leadership in Recycling Award. That same year, the Foreman and the environmental specialist showcased the school's recycling strategies for *Discovery Education's STEM Connect* video series.

In 2019, student and staff collaboration resulted in Key winning the Highest Performance Category in the DGS annual DC Recycle Right! Competition. The four-week competition involved collecting data during weekly

surveys of recycling and trash bins to determine if bins were being sorted correctly. Students created action plans designed to improve future performance. From 2015-2019, the average percentage of bins that were sorted correctly by Key students during the competition increased from 48% to 69%!

Key was one of six DC public elementary schools chosen to participate in a pilot program in 2013 for recycling food waste that became instrumental in shaping the compost pickup program used today. Students were asked to separate and properly sort compostable cafeteria waste and provide feedback on their results. The positive results led to a push to use compostable lunch trays and biodegradable compost liners to further reduce trash. Since then, our school has earned the DGS Honor Roll with Distinction Award for Organics Recycling every year! Uneaten cafeteria produce is used for both on-site outdoor composting in raised garden beds and indoor composting in science lab worm bins for educational purposes. Unsold produce from the School Garden Market is distributed to staff or served as snacks for the after-school program.

Concerned about disposable plastic utensils in the cafeteria ending up in a landfill, Green Team students collected and repurposed them as branches for a cherry blossom tree built out of discarded materials and as garden markers in the raised beds. Repurposing evolved into reducing, when a Green Team campaign asking students to bring reusable silverware from home won the DGS's Reduce First! Challenge Plastic Edition Most Improved Award in 2018. The competition involved performing an initial waste audit to determine how much and what types of plastic were discarded, selecting a specific target single-use plastic item to reduce, and creating and implementing a Reduction Action Plan. Key students cut plastic use by more than half by volunteering as waste bin monitors and peer educators in the cafeteria and by reusing plastics for art projects. Improvements in signage were made when students realized that the bin labels were hard to see. The problem was corrected by creating easy to read instructional posters to post throughout the school. The most significant piece of data was discovering that students had been using plastic utensils that came packed as a set of two, but only used one, discarding the other. The project sparked the idea to change how we distribute utensils. Utensils are now able to be distributed one at a time using a dispenser. This has significantly reduced plastic use in the cafeteria.

Parents also play an important part in diverting waste from landfills. In 2009, parents organized an E-Cycle Day to provide paper shredding and safe disposal of electronics, batteries, and other household items. It has become a popular annual event for the school and surrounding community. DCPS School electronics are returned to the DC Public Schools' central office for recycling. A PTO Bulk Supplies Committee sources eco-friendly products for students and teachers that are ordered all at once, preventing multiple trips to the store and reducing greenhouse gas emissions.
During school wide Back-to-School and End-of-Year Picnics, the Parent Teacher Organization (PTO) provides compostable utensils and five-gallon water jugs to eliminate single-use plastic water bottles. The PTO Hospitality Committee and Green Committee combined efforts to find the most effective and practical methods for diverting waste during large scale events. Parents took shifts to empty recyclable containers, clear picnic tables, and monitor the waste sorting station. They achieved a 72% waste diversion rate by weight of 60% organics, 12% mixed recycling, and 28% landfill. The results greatly surpassed the 45% goal set in the

2010 Healthy Schools Act for DC Public Schools. Their efforts were recognized in 2016, when the PTO was featured in the *DGS Best Practices Guide for Recycling at Events in DCPS Buildings.*

School administration challenges staff to come up with solutions to combat the waste of school learning materials and reminds staff that "we have a team at Key who cares about the earth." Staff meetings have gone paperless and information is shared electronically whenever possible. In instances when only a hard copy is available, staff members scan documents into the copy machine and distribute via email. Notices to the greater school community are sent via social media, email, and posted on the school website. To save on toner cartridges, staff uses a multifunction printer in the main office instead of individual desktop printers. Copy paper is limited and double-sided printing is required for multiple pages. When a class set of materials is required, teachers print one copy to the office copy machine and check for errors to avoid wasteful reprints. Used toner cartridges are sent for recycling. At the end of the school year, teachers hold a rummage sale by putting unwanted items in the hallways. Teachers who are able to secure necessary materials on their supply lists are encouraged to update their orders to cut down on costs. Concerned with the number of used markers that were ending up in the landfill, Key found a way to have them refilled by the manufacturer and collection bins are now in the science lab. All student bathroom sink areas are equipped with wall-mounted soap dispensers to cut down on waste from tabletop pumps, as well as hand dryers to reduce paper towel usage.

Reducing Greenhouse Gas Emissions & Alternative Transportation

As a DC Safe Routes to School (SRTS) program participant, Key School students are encouraged to walk, bike, or use mass transit to commute to school. With 85% of students living in-boundary, parents who regularly lead walking and biking trains were instrumental in successfully advocating to install new sidewalks and bike lanes along pathways to our school. During morning drop-off and afternoon pickup, Student Safety Patrol members are stationed at strategic areas around the school to ensure that walkers and bikers can cross safely. Students using mass transit are assisted at the crosswalk by an officer stationed at the bus stop.

Bike racks are accessible at three entrance points to the school and are typically filled to capacity. An overflow area is available near the gym. Modeling positive behaviors and leading by example, the school's environmental specialist and physical education (PE) Teacher commute by bike and the principal is an avid cyclist, often sharing stories of local bike trips with students and staff. Reduced available staff parking due to school grounds renovations and residential parking constraints has led to increased interest in car pooling and biking to school.

DC has a well-publicized strict Anti-idling law (20DCMR900) that prohibits gasoline powered motor vehicles from idling for more than 3 minutes when parked, stopped, or standing. The District Department of Energy and Environment (DOEE) encourages citizens to report idling violations through a DC311 mobile app and fines of up to $1000 can be imposed. School buses that bring students from Bolling Air Force Base have a dedicated loading/unloading area at least 25 feet from building air intakes, doors, and windows and passengers are unloaded immediately upon arrival. A security officer communicates with the bus driver and is stationed at the stop to walk students into the school to limit idling time. This year, the Clean Energy DC Plan to reduce greenhouse emissions is moving for the 100% replacement of school buses to electric once current useful life

has ended. Upon learning that non-commercial private passenger vehicles are exempt from the anti-idling law, parents and staff moved to play an active role in reducing harmful greenhouse gas emissions from personal vehicles. During morning drop-off, parent and staff volunteers are stationed at the front entrance of the school to quickly escort students from vehicle to classroom, thereby reducing idling time. In 2020, the DC Department of Public Works (DPW) that picks up our waste received a grant to purchase vehicles that run with 100% biodiesel (B100) reducing truck emissions by over 75%.

Ecologically and Educationally Beneficial Uses of Grounds
Key school property grounds contain 44,000 sq. ft. of green space to explore and science teachers, classroom teachers, and the environmental specialist regularly use the grounds for experiential learning, offering students hands-on experiences. Our National Wildlife Federation Certified Schoolyard Habitat sustains a pollinator garden, woodland forest, rain gardens, vegetable beds, native flowers and trees, and habitats for small creatures. A secondary area contains a greenhouse and a smaller pollinator garden.

The pollinator garden provides monarch butterflies with milkweed to lay their eggs, water for bees, butterflies, and birds, and space for native ground nesting bees. Featured in *Kent Magazine's Garden of the Month* in 2016, the garden supports life cycle and habitat curriculum. The outdoor woodland forest learning lab contains several bird nesting boxes and bird feeders with a bench surrounded by native low maintenance plants for biodiversity that provide a quiet space from which to observe wildlife for small group learning. A weather station offers students the opportunity to collect data to examine how changes in weather can affect animal behavior.

The outdoor classroom shaded by native trees provides fixed and flexible seating and worktables to encourage individual and group work. There is also a lockable shed for garden tools and supplies, signage, an outdoor whiteboard, a hose rack, various planters, and a hand washing station with a sink that uses water harvested from rain barrels or municipal water. Fourteen raised beds filled with organic soil receive 6-8 hours of sunlight per day and have direct access to the science room. A demonstration and digging bed are located next to worktables. An ADA compliant trail connects the raised beds to the greenhouse that is used during cooler months. Protective retaining walls line the path, keeping students from walking on roots.

Visits from community partners including Casey Trees Clean Air Project, Bartlett Tree Experts, the Audubon Naturalist Society, and National Park Service Rangers, enhance the connection to local environmental issues by joining students in planting trees, mapping trees, and releasing ladybugs.

Pillar 2: Efforts to Improve the Health and Wellness of Students and Staff

Cleaning & Maintenance
Our custodial team is trained in green cleaning procedures as well as deep cleaning protocols using EPA approved cleaning supplies that follow CDC guidance. Cleaning products are locked in a basement storage area inaccessible to students and with custodians in possession of keys at all times. Inventory of cleaning supplies is posted outside the storage area. The district central office has an established standardized inventory

monitoring protocol to ensure timely replenishment of supplies. Dust control mats are placed at all school entrances to minimize dirt and lead dust from the outside. Kitchen staff clean and sanitize the kitchen after each food service and refrigerate leftover food at the proper temperature.

Custodial staff consists of a custodial foreman and two custodians to cover all shifts. Custodians dispose of trash and recycling after each meal cycle and clean food service areas several times per day. Deep cleaning is performed each evening and on weekends when students and staff are not in the building to avoid coming into contact with possible irritants. The foreman arrives every morning before 6:00 AM for a walk-through inspection of all classrooms and offices before opening. Custodians meet once a month with the principal and quarterly district custodial foreman meetings are held to keep abreast of current cleaning and maintenance procedures. Professional development is available for all custodians.

Students on the Green Team created eco-cleaning kits for all classrooms to help minimize allergens in the school building. They tested various recipes for environmentally safe homemade cleaning solutions. Different types of essential oils were researched to determine their disinfecting value and to prevent the possibility of allergic reactions. Each teacher was given a tub containing refillable spray bottles, white vinegar, baking soda, sponges, lemon oil and a booklet containing approved recipes.

Mold & Moisture

Moisture levels are controlled and mold is minimized through a dedicated outside air system (DOAS) designed to maintain a maximum relative humidity level of 60% by dehumidifying outside air drawn into the building for ventilation. In addition to regular cleaning, custodians are on call to respond to any building moisture problems and are trained to promptly call DGS Environmental Health & Safety (EHS) should the repairs be beyond their expertise. Teachers disinfect and dry classroom and cafeteria tables daily in order to prevent microbial growth. DGS EHS workers perform baseline IAQs to assess the presence of mold. To prevent leaks, a pre-winter inspection of the school roof was completed in October and repairs completed. Gutters are regularly cleared of leaves and downspouts either drain into rain barrels or are directed away from the building.

Chemical & Environmental Contaminants

Chemicals are not used during instruction. Science experiments are conducted using natural materials and all art supplies are non-toxic. The Environmental Health & Safety (EHS) Division of DGS surveys DC schools every four years for radon. Building renovations in 2002 included lead and asbestos abatement.

Ventilation

Our commitment to improve the health and wellness of students and staff includes ensuring that HVAC equipment is in compliance with environmental health and safety guidelines through yearly inspections. After completing upgrades in 2020 under the guidance of a nationally recognized expert from the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) Epidemic Task Force School Team, specialists with the DGS inspected system safety and efficiency. In addition, our Ward Councilmember joined school leaders, custodial staff, and parents, in a walk-through tour of Key School, further verifying that

improvements met high safety standards. Our HVAC systems are equipped with hospital grade air filters with a Minimum Efficiency Reporting Value (MERV) of 14, designed to capture more than 90% of large particles and 70-90% of smaller particles. This year, portable medical grade High-Efficiency Particulate Air (HEPA) filters designed to filter 99.99% of particles with a diameter of 0.3 microns will be added to all learning spaces providing additional improvements to indoor air quality. Indoor air quality (IAQ) sensors monitor levels of particulates, CO2, VOC's, ozone, formaldehyde, temperature and humidity and Key uses the Senseware wireless platform to collect data and ensure effective operation. Window and door seals have been checked for drafts and are operational if increased air circulation is required.

Pests & Pesticide

Chemical pesticide products are not utilized within the school building for pest control. Instead, the school has adopted a system of integrated pest management (IPM) that focuses on preventative measures such as sealing cracks and openings, fixing leaks, and daily vacuuming of carpets, mopping of floors, and emptying of all trash and recycling receptacles into secured outdoor dumpsters. Glue-based sticky traps used inside are pesticide free and are replaced every two weeks. Unless there is an immediate use for them, cardboard boxes are immediately broken down and recycled to prevent the creation of homes for pests. Teachers and students assist by wiping down tables after each lunch period to control food debris and with the exception of preK, food and beverages are not consumed in the classroom. Pests found on indoor plants are removed with soapy water or by hand. IPM extends to the garden area, where pests are also controlled by spraying plants with soapy water or hand removal. Trees and bushes are trimmed to prevent pests from accessing the building and mulch is carefully laid on the grounds.

Nutrition & Outdoor Physical Activity

The DC Healthy Schools Act of 2010 sets requirements for school health and wellness and calls for locally and sustainably grown food to be served in DC schools. In 2011, Key was the first school to sign up for DC Farm to School Week. Since then, vegetables and herbs grown by students in the outdoor garden have been prepared and consumed by students and staff and sold at the weekly fall Garden Market supported by DC Greens.

The annual Strawberries & Salad Greens Day is organized by Green Team students who display strawberry plants grown on campus alongside nutritional information and recipes in the cafeteria. A question and answer session is conducted while serving samples of fresh strawberries and greens grown in outdoor beds and indoor Tower Gardens. When strawberry and greens smoothies are made, food staff contractors collaborate with students during taste tests by supplementing school grown produce with available fruit and vegetables from the kitchen. Key also participates in the annual Growing Healthy Schools Month with class visits by Olympic athletes, nutritionists, and chefs.

Food service is provided by SodexoMAGIC with menus, nutritional content, and information on where produce is sourced, available through the school website, main office, kitchen, and school cafeteria. DCPS food services contracts require that 30% of all food products served are purchased locally. Key has featured salad bars and vegetarian food options are rotated daily to avoid repetition. Breakfast is provided through the Second Chance Breakfast serving model in which students can grab their meal and go and milk alternatives are available. Key's before and after school extended hours program (KEHP) makes an effort to supply fruit as a snack option.

Soda is not served at any school functions and vending machines are not available. Key partners with local charities such as the Capital Area Food Bank by participating in a national cereal drive to provide healthy breakfasts to at-risk area children and bring awareness to food shortages in our city.

Students receive 340 minutes of exercise per week during Physical Education (PE) instruction and recess, with over 50% of that time spent outdoors. Two basketball courts are available on the blacktop along with designated areas for hopscotch and four square. Basketball practice is available for two months per year, with 30-minute practices twice per week and weekend tournaments held in the gym. The gym also contains a climbing wall. Boys and Girls Track (coached by parents and teachers) is available once per week throughout the year. After school programs are available in hockey, taekwondo, golf, and dance. Students enrolled in Key's Extended Hours Program (KEHP) play outside for at least one hour every afternoon. After school activities sponsored by the PTO include hockey, soccer, and tennis.

Renovations to the grounds in 2012 included a complete transformation of the playground area designed for 2-12-year-old children. A nature inspired treehouse structure with boulders for climbing provides opportunities for interactive play. A custom-made trolley themed structure representing the history of the neighborhood trolley trail provides music making apparatus for imaginary play and sensory stimulation. Shade cloths keep the playground cool during warmer months, blocking up to 97% of UV rays.

Key School participated in the first-ever National Bike to School Day on May 9, 2012 and won the Golden Bicycle Award with 22% student participation (81 out of 365) from the District Department of Transportation. By 2016, our participation increased to over 55% student participation as we once again won the Golden Bicycle Award. Interest continues as 102 cyclists took to the streets for our most recent event in May 2019. The Metropolitan Police Department shut down the street allowing MPD's Mountain Bike Unit to escort students, teachers, and Key's principal for a one-mile bike ride to school.

Walk to School Day is also a Key School tradition. In 2019, a school record was set when the MPD, parents, and staff, lent a hand escorting 166 student walkers. Participants started from a local park so that out of boundary students could meet up and walk with students who lived closer to school. Students received flashing reflectors to encourage them to continue walking throughout the school year.

Health Education at Key

Health Services: Counseling, Psychological and Social Services

Key School uses a coordinated health approach and partners with Children's National Hospital for training in administration of medication, prevention and response to food allergies, emergency preparedness and response planning, nutrition and physical activity, and first-aid. A full-time school nurse provides teachers with updated student allergy and asthma lists and asthma prevention materials and resources. Vision, hearing, and asthma screenings are available in the nurse's office. Prior to field trips, teachers are required to provide the school nurse with a copy of specific medical needs for students with nut allergies, asthma, and diabetes. The school nurse and teachers coordinate to assign an Administrator of Medication (AOM) to accompany the class on all field trips. In 2017, all staff were trained as epinephrine auto-injector (EpiPen) only AOM's with seven

staff members currently serving as full AOM's. The school has at least two unexpired and undesignated EpiPens, as well as an Automated External Defibrillator (AED).

DCPS is committed to developing trauma responsive school environments to meet the social and emotional health needs of its students. Mental health education is available to students and parents. A social worker is available at Key who is currently holding virtual social emotional check-ins with students. Key's Certified School Psychologist and Special Education Teachers co-facilitate all staff training in the DCPS Trauma-Responsive Schools Model that supports student safety and a sense of belonging by emphasizing empathetic listening and language to develop growth mindset. Psychologists schedule interventions and student observations. Mindfulness, yoga, and static stretching is practiced in PE class to relieve stress. Immediately following the disturbing events on January 6, 2021, at the US Capitol, the DCPS Office of Social Emotional and Academic Development provided support for schools in the form of age appropriate lesson plans, healthy coping skills, and mental health support. Key administration shared these resources with teachers and parents who worked together to hold age appropriate conversations with students.

Staff Health Promotion

DCPS partners with the DC Department of Human Resources (DCHR) to support staff health through workplace wellness programs including an Employee Assistance Program (EAP). The PTO periodically provides massage and healthy lunches during conference days and Staff Self Care sessions are held in school during Mental Health Awareness Month. Teachers form meditation and yoga groups open to all staff before school. Staff Mentors are assigned to all incoming staff members to make them comfortable at Key. Weekly staff meetings are used to promote staff emotional well-being. Meetings start with a "Gathering" activity designed to share something new and finish with a "Closing" encouraging staff to reach out to someone new.

Family & Community Involvement

Key School involves students, staff, and parents in health education initiatives, and partners with organizations that promote healthy habits such as American Heart Association's Jump Rope for Heart program. School wide annual events include Field Day, an annual school wide event that culminates in a tug of war between staff and 5th grade students. Community members participate in weekend basketball team tournaments and drop-in pick-up basketball games.

Key staff works with parents and the community in an Equity and Diversity Partnership. Since 2019, hands-on curricular support and training has been provided to all staff on Social Justice Standards to be embedded into the standard curriculum, and resources are periodically provided so that teachers can explore independently.

The Student Council is active in the community, and has spearheaded initiatives to collect pre-owned clothes, stuffed animals, and towels to donate to the Humane Rescue Alliance, SOME, and to various Children's Hospitals.

Pillar 3: Efforts to Ensure Effective Environmental and Sustainability Education

Interdisciplinary Learning
Environmental issues are integrated into the classroom through collaboration between Key's environmental specialist, classroom teachers, and inner core teachers to align garden-based lessons with DCPS curriculum standards in all subject areas from PreK-5th Grade. Teachers often expand on DCPS Cornerstones units to incorporate environmental education and over 80% of teachers use the grounds as a teaching tool. Library staff members provide support by introducing students to research databases, teaching digital citizenship, and connecting literacy to the school garden through read-alouds and quick writes.

Experiential environmental learning is included within several topic areas across all grades:

PreK: Seasonal Changes, Plant & Animal Life Cycles (science/English/language arts), Rainforest Play (English/language arts)

Kindergarten: Plant & Animal Needs (science), Medieval Medicinal Herbs (social studies), Peter Rabbit Garden (English/language arts), Building Birdhouses With Recycled Materials (art)

1st Grade: Animal Parts, Arctic Ecosystem, Ocean Habitats (science/English/language arts), Planet Play (English/language arts), Aztec, Inca, Maya Agriculture (social studies)

2nd Grade: Animal & Plant Trait Inheritance (science), Pollination (English/language arts)

3rd Grade: Animal Growth & Survival, Processes & Impact of Natural Hazards (science), Animal Habitats (English/language arts), Square Foot Gardening (math)

4th Grade: Changes over time to Earth's Surface (science), Organism Structures & Behavior (science), Square Foot Gardening (math)

5th Grade: Human Impact On Earth's Systems (science/English/language arts), Invention of the Cotton Gin (social studies), observing our sky (science/English/language arts)

Music instruction spans from sing-alongs, dances, and sound recognition, to music theory, composition, and performance while exploring different styles of music. School chorus performs several times per year at the Black History Assembly, Veterans Assembly, Winter Show, and Hootenanny.

Digital Arts instruction combines animation design with narrative living through history.

Developing STEM Content & Civics Works
Key has one of the largest science programs in District elementary school with an annually held School STEM Fair and Family Science Night open to the community. Two science teachers work with the environmental specialist and classroom teachers to cover pre-K through 5th grade. Key students compete annually at the DC

Elementary STEM Fair and are consistently on the awards podium for environmentally conscious studies including 1st in Environmental Science and 2nd Overall for a Key School Cafeteria Waste Study in 2017. An indoor container garden of tropical fruit trees, tropical vegetable plants, and a grow light system is available to students for the opportunity to conduct year-round plant experiments.

With an emphasis on conservation, Key partnered with Slow Food USA's Plant a Seed Program to plant endangered seeds in order to save them for future generations. Saving seeds provides an important lesson in preventing food shortages as well as preserving culture and biodiversity. Students learned how to collect, dry, and package vegetable seeds to plant for the next season. Seeds were carefully weighed to produce equal amounts per package and a description of the product was agreed upon. Applying similar techniques in the pollinator garden, students harvest dried milkweed pods to maintain the monarch butterfly habitat and are now looking to create their own Key School seed varieties. These experiences demonstrate Key's ability to integrate various curriculum areas such as science, social studies, English and language arts, and math with environmental issues and community service.

The entire school had the opportunity to plant seeds in milk cartons to create a pollinator garden on our school yard through the Carton 2 Garden Challenge in the spring of 2017. The student Green Team then took the milk cartons and designed plant sculptures. The plants were then placed in the ground and formed our garden to display during an unveiling at our annual Earth Day celebration. In addition, extra seedling cartons could be donated to a school that hoped to start a butterfly garden. Student volunteers gave up recess time twice a week in order to collect cartons from each grade's lunch period. They then washed cartons in the cafeteria. The students were so excited about collecting cartons that a "Recycle Cartons Here" Bin had to be put outside of the Science Lab after students began dropping off cartons on non-collection days!

A greenhouse for our school was a Student Green Team generated idea that brought the entire school community together to help make it happen. The environmental specialist helped pitch a presentation to the administration, the students and staff on the School Council helped write a proposal to the PTO, the PTO wrote a grant to the community, and the Palisades Citizen Association provided the funding. The building was completed by students, staff, parents, and community members in a location visible to the street for all to enjoy. Students learned how to research product specifications, measure the area, write convincing proposals, and engage the community while once again using science, social studies, English and language arts, and math in combination with environmental studies.

Literacy Professional Development

Teachers participate in environmental learning experiences provided by outside organizations such as the DC Environmental Literacy Cadre School Cohort 2, Anacostia Watershed Society, Washington Youth Garden Summer Institute for Garden-Based Teaching, FoodPrints Intensive, Life Lab NGSS in the Garden Training: The Growing Classroom, Chesapeake Bay Foundation Shad Restoration Project, Project Aquatic Wild Watershed Course, Captain Planet Foundation Project Learning Garden, OSSE DC School Food Training: Connecting the Cafeteria to the Classroom , Common Threads Healthy Teacher Trainings, and Rooting DC. In addition, the environmental specialist and a classroom teacher have both completed the University of DC (UDC) Beginning Beekeeping Certificate with the hopes of expanding the pollinator area.

Field Trips & Clubs

Key's Student Green Team members are a visible, dynamic, and active part of school life composed of approximately forty 3rd to 5th grade students that meet during lunch and after school to manage the garden and recycling programs. The Student School Council works with the Green Team to push green initiatives and collect pre-worn clothes and stuffed animals to donate to the Humane Rescue Alliance and SOME.

Co-curricular learning opportunities connect environmental awareness with local nature-based field trip experiences and teachers are encouraged to take as many field trips as possible during the year to support their educational programs. Field trips to the U.S. Botanic Children's Garden, National Arboretum, Washington Youth Garden, Kenilworth Aquatic Gardens, and National Monument Area in Washington, DC have become part of the Key curriculum and every class is given the opportunity to participate. The PTO provides funds for one bus per class to accommodate field trips that take students outside the local area.

Key offers upper grades the opportunity to conduct in-depth studies grounded in research and inquiry in a Meaningful Watershed Educational Experience (MWEE). Key partners with the Chesapeake Bay Foundation Shad Restoration Project to help raise shad fry from eggs in the classroom. Students monitor water quality, experience the hatching process, and study the shad life cycle. Upon completion, students release the shad fry into the Anacostia River with the hope of restoring shad population. In addition, Overnight camping trips to Prince William Forest Park Nature Bridge in Triangle, VA and Hard Bargain Farm Environmental Center, in Accokeek, MD open to 4th and 5th graders enable students to be absorbed in longer term projects such as comparing the ecosystem from the farm to the schoolyard at Key.