



**U.S. Department of Education Green Ribbon Schools**

**2011-2012 Presentation of Nominee to the  
U.S. Department of Education**

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Attach State or Nominating Authority’s Evaluation of School Nominee (Either application or other documentation of review)

OMB Control Number: 1860-0509  
Expiration Date: February 28, 2015

## **PART I - ELIGIBILITY CERTIFICATION 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 are true and correct.

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school achieves or comes close to achieving the goals of all three green Ribbon Pillars: 1) environmental impact and energy efficiency; 2) healthy school environments; and 3) environmental and sustainability education.
3. The school has been evaluated and selected from among schools within the state or Nominating Authority's jurisdiction (BIE, DoDEA), based on *documented achievement* toward the three Green School Pillars and Elements.
4. 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.
5. 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.
6. 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.
7. 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.
8. The school meets all applicable federal, state, tribal and local 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 2012

For Public Schools only: (Check all that apply)  Charter  Title I  Magnet  Choice

Name of Principal Mrs. Judy Lackey

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

Official School Name Fishburn Park Elementary School- Focus for Environmental Science  
(As it should appear in the official records)

School Mailing Address 3057 Colonial Avenue SW  
(If address is P.O. Box, also include street address.)

Roanoke, VA 24015  
City State Zip

County N/A (Independent City) State School Code Number\* 124

Telephone (540 ) 853-2931 Fax (540 ) 853-1122

Web site/URL www.fishburn.rcps.info E-mail jlackey@rcps.info

I have reviewed the information in this application, including the award and eligibility requirements on page 2-4, and certify that to the best of my knowledge all information is accurate.

Judy Lackey Date March 16, 2012  
(Principal's Signature)

Name of Superintendent\* Dr. Rita D. Bishop

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name\* Roanoke City Public Schools Tel.(540 ) 853-2505

I have reviewed the information in this application, including the award and eligibility requirements on page 2-4, and certify that to the best of my knowledge all information is accurate. I concur that this is one of the highest performing green school applicants in our state.

Rita D. Bishop Date March 16, 2012  
(Superintendent's Signature)

*\*Private Schools: If the information requested is not applicable, write N/A in the space. U.S. Department of Education*

Green Ribbon Schools 2012

## **PART II – SUMMARY OF ACHIEVEMENTS**

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### **Instructions to School Principal**

Provide a concise and coherent "snapshot" that describes how your school is representative of your state's highest achieving green school efforts in approximately 600-800 words. Summarize your strengths and accomplishments. Focus on what makes your school worthy of the title U.S. Department of Education Green Ribbon School. Be sure to note if students were actively involved in preparing the application.

This summary should be written as a stand-alone document. It will provide the ED review panel with an overview of the school's green activities that were detailed in the application to the state, DoDEA or BIE evaluators. If the school is awarded a U.S. Department of Education Green Ribbon, this information may be shared with other schools, candidates for next year, the press, and the public.

## **PART III – DOCUMENTATION OF STATE EVALUATION OF NOMINEE**

### **Instructions to Nominating Authority**

For the pilot year, the Nominating Authority must review nominated schools for high achievement based on the schools' *documented achievement* toward reaching the goals of each of the three U.S. Department of Education Green School Pillars and elements. For each school being nominated by the Authority to ED, please attach state (or equivalent) evaluation materials (application) based on the Nominating Authority Evaluation Support Framework provided by ED to facilitate your evaluation of schools.

The Nominating Authority must review and sign the following certification for each school being nominated to ED.

### **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.

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school achieves or is one of those overseen by the Nominating Authority which comes the closest to achieving the goals of all three green Ribbon Pillars:
  - 1) environmental impact and energy efficiency; 2) healthy school environments; and
  - 3) environmental and sustainability education.
3. The Nominating Authority has evaluated the school and selected it for submission to the U.S. Department of Education from among those schools overseen by the Nominating Authority which have applied for a Green Ribbon, based on *documented achievement*

toward the three Green School Pillars and Elements.

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

Name of Nominating Agency Virginia Department of Education

Name of Nominating Authority Dr. Patricia I. Wright, Superintendent of Public Instruction  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application, including the award and eligibility requirements on pages 2-4, and certify, to the best of my knowledge through a documentary verification assessment, that the school meets the provisions in this Part of the Nominee Presentation Form.

 Date 3/13/12  
(Nominating Authority's Signature)

Note to Nominating Authority: The application, including the signed certifications and documentation of evaluation in the three pillars should be converted to a PDF file and emailed to Director, ED-Green Ribbon Schools at [green.ribbon.schools@ed.gov](mailto:green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

### 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](mailto: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.

## SCHOOL ELIGIBILITY, COMPLIANCE, AND INFORMATION

**Name of School** Fishburn Park Elementary – Focus for Environmental Science

**School Division** Roanoke City Public Schools

**Public**  Yes  No **Percentage of Disadvantaged Students**  
50.96%

**Title I/Eligible**  Yes  No

**State Accredited in 2011-2012**  Yes  No  N/A

**In Title I School Improvement 2011-2012**  Yes  No  N/A

**The applicant school must verify that it is in compliance with applicable civil rights, health, safety, and environmental statutory and regulatory requirements.**

Yes  No The nominated school or its division is not refusing United States Department of Education Office of Civil Rights (USED/OCR) access to information necessary to investigate a civil rights complaint or to conduct a division-wide compliance review.

Yes  No USED/OCR has not issued a violation letter of findings to the school/division concluding that the nominated school or the division as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if USED/OCR has accepted a corrective action plan from the school/division to remedy the violation.

Yes  No The United States Department of Justice does not have a pending suit alleging that the nominated school or the school division as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.

Yes  No There are no findings of violations of Individuals with Disabilities Education Act (IDEA) in a USED monitoring report that apply to the school or school division in question; or if there are such findings, the state or division has corrected, or agreed to correct, the findings.

Yes  No The school has no outstanding citations for violation of Federal environmental regulations and standards (including, but not limited to: Clean Air Act; Clean Water Act; Safe Drinking Water Act; Solid Waste Disposal/Resource Conservation and Recovery Act; Oil Pollution Act; Superfund/Comprehensive Environmental Response Compensation and Liability Act; Federal Insecticide, Fungicide, and Rodenticide Act; and Toxic Substances Control Act), nor has it resolved another noncompliance case within one year of concluding successful performance of all requirements of a settlement.

Yes  No The school has no outstanding citations for violation of Federal, state or local occupational safety and health regulations and standards, nor has resolved such a case within the past year.

Yes  No The school has no outstanding citations for violation of federal food and drug standards, nor has resolved such a case within the past year.

Yes  No The school has no outstanding citations for state or local environmental, health, existing building, fire, plumbing, mechanical, or property maintenance codes, laws or regulations, nor has resolved such a case within the past year.

Additional information about [eligibility](#) is available on the USED Green Ribbon Schools Web page at [Civil Rights, Health, Environment and Safety Statutory and Regulatory Requirements](#).

## GOAL AREA 1: POSITIVE ENVIRONMENTAL IMPACT

### Element 1A: Zero Greenhouse Gas (GHG) Emissions

#### ENERGY

**1A1.** Using the inventory module from [Clean Air Cool Planet's Campus Carbon Calculator](#) or similar green house gas calculator, what are your school's GHG emissions per person? 0.566 (MT eCO2/person)

Documentation: Using the Carbon Footprint Calculator from the Roanoke Clean and Green Coalition, it was determined that the school generates 209.5 tons of carbon dioxide. When this figure is divided by the student body plus staff, the carbon footprint is 0.566 tons/person.

**1A2.** Has your school received EPA's ENERGY STAR certification, and if so, in what year was the certification earned?

Yes  No If "Yes," what year?

**1A3.** Has your school reduced its total nontransportation energy use (i.e., electricity and temperature control) from an initial baseline?

Yes  No

If "Yes," please provide:

Percentage reduction: 5.8 %

Measurement unit used (kBTU/Square foot or kBTU/student): KWH

Time period measured: from 2009-2010 to 2011-2012

Documentation: The school reduced electrical energy consumption by 5.8 percent in school year 2010-2011 over the previous school year. The school is on target to reduce energy consumption by 8.3% for 2011-2012 compared to 2010-2011 and by 13.6% compared to 2009-2010. Through an agreement with a community partner with a strong Green ethic, electrical consumption at any time can be monitored at both the central office and school level. This data is being used to help the school monitor electricity energy consumption. As a part of the school's smart energy use instruction, students are monitoring the change in electric consumption when the classroom lights are on and off. In addition, the heating system is centrally controlled at the division level and is programmed to heat/cool the buildings when students are present only.

**1A4.** What percentage of your energy consumption is derived from:

On-site renewable energy generation: 0.0%

Purchased renewable energy: 7.0%

Documentation: Electric power for Fishburn Park Elementary School is purchased from Appalachian Electric Power. This company states that they generate 7% of their power from a combination of Hydroelectric, Wind, Solar, and Pumped Storage. See appendix B section 1A4 or data and AEP's plan to increase renewable energy.

#### BUILDINGS

**1A5.**

If your school has constructed and/or renovated buildings in the past three years, what percentage of the building area meets:

- Leadership in Energy and Environmental Design (LEED),
- Collaborative for High Performance Schools (CHPS),
- Green Globes,
- or other standards?
- 0.0%

What is the total constructed area? 29000(SQ.FT.)

What is the total renovated area? N/A (SQ.FT.)

Which certification (if any) did you receive and at what level (e.g., Silver, Gold, Platinum)?

LEED CHPS Green Globes Other Level

**1A6.**

What percentage of your school's total existing building area has achieved:

- LEED Existing Buildings: Operation & Maintenance,
- CHPS Operations Report Card,
- Green Globes
- or other standards?

0.0%

What is the total building area? 29000 (SQ.FT.)

Which certification (if any) did you receive and at what level (e.g. Silver, Gold, Platinum)?

LEED CHPS Green Globes Other (name)  
Level

**1A7.**

If your school reduces or offsets the greenhouse gas (GHG) emissions from building energy use, please provide:

- Current Total GHG Emissions (MtCO<sub>2</sub>e)
- Baseline Total GHG Emissions (MtCO<sub>2</sub>e)
- Change from Baseline: GHG Emissions (MtCO<sub>2</sub>e)
- Time period: from to

Explain any offsets used.

**1A8.** Has your school fully implemented the **Facility Energy Assessment Matrix** within **EPA's Guidelines for Energy Management**?

Yes No

Has the school building been assessed using the **Federal Guiding Principles Checklist in Portfolio Manager**?

Yes No

Documentation: Roanoke City Schools has an extensive plan for energy management within its buildings. An extended effort was made to use the EPA Portfolio Manager to complete the Federal Guiding Principles Checklist. However, building and central office staff lacked the extensive training that would be required to begin to understand how to use the tool. The division is interested in hiring an energy facilities manager, but recent budget constraints have delayed this initiative. The school is looking into other energy management tools that may be within the scope of the staff and is actively using the Electrical Energy usage monitoring tools described in section 1A3.

**1A9.** What percentage by cost (of all your school's furniture purchases) is certified under the **Business and Institutional Furniture Manufacturers Association's** "level" Ecolabel?

0.0% See note below

Documentation: No furniture purchases have been made at Fishburn Park Elementary School in the last three years.

**1A10.** Does your school have an energy and water efficient product purchasing and procurement policy in place?

Yes No

Documentation: Fishburn Park Elementary School has a protocol of purchasing products that are produced in as energy and water efficient ways as possible, within the boundaries of School Board procurement policy and Virginia Code. This protocol directs that, when other factors (cost, vendor status) are equal, purchasing decisions should go to the most energy and water efficient vendor. The leadership of Fishburn Park Elementary School Focus for Environmental Science in this area led to the replacement of most Styrofoam products with cardboard and paperboard products in the cafeteria which are composted through a contract with Poplar Manor Enterprises in Floyd, Virginia. This protocol started at Fishburn Park as a part of the Environmental curriculum and is now the standard for the entire school division.

**1A11.** Other indicators of the applicant's progress towards elimination of GHG emissions (Describe in detail and include metrics if available in the Documentation cell below.)

## **Element 1B: Improved Water Quality, Efficiency, and Conservation**

**1B1.** If you can demonstrate reduced total water consumption intensity (measured in gal/square foot) from an initial baseline, please provide:

Percentage reduction in domestic use: 1.2 %

Percentage reduction in irrigation: N/A %

Time period: from 2009 to 2012

Documentation:

1. Overall water consumption has increased from 2010 to 2011 by 1420 gallons. The main cause of this increase is the addition of an extensive Summer School program held at Fishburn Park in the summer of 2011. Part of that summer program involved outdoor gardening, with the student raising and selling their own produce. This implementation of an extensive vegetable garden required water consumption. The garden was hand watered for water conservation.
2. Elimination of the July and August data for both 2010 and 2011 (when the vegetable garden needed to be watered) shows a school year water consumption decrease of 980 gallons, or 1.2%. It should be noted that water consumption decreased despite the implementation of the environmental focus. The Environmental Science Focus mandated extensive gardening experiences for students in the classrooms and hallways, greenhouse, outdoor grade level raised beds, and flower and vegetable gardens, all of which required additional water consumption.
3. Horizontal comparison (comparison of the same month over the two to three year span) indicated that less water was used in eight out of twelve months of the year as a general trend from 2009 to 2012.

**1B2.**

Does your school have an irrigation system?

Yes No

If so, how often does your school conduct audits of facilities and irrigation systems to ensure they are free of significant water leaks and to identify opportunities for savings?

**1B3.**

Describe how your school's site grading and irrigation system and schedule are appropriate for your 1) climate, 2) soil conditions, and 3) plant materials, with an emphasis on water conservation.

Documentation: Fishburn Park students plant and cultivate trees and other indigenous species of plants across our campus. All growing beds are mulched with natural materials to reduce water evaporation from the soil and reduce erosion and water runoff. To insure student safety, a retaining wall has been built to prevent muddy water runoff across sidewalk areas.

**1B4.**

Do **all** your outdoor landscapes consist of water-efficient or regionally-appropriate (native species and/or adapted species) plant choices?

Yes No

If "No," what percentage of the total consists of this type of plantings:            %

Describe the type and location of plantings.

Documentation: In the 1990's the school was an Environmental Science Magnet School and a number of trees were planted on the school grounds during the magnet school years. Many of those trees are reaching maturity, including a grove of sugar maple trees (*Acer saccharum*) which the students, under the supervision of the forester from the Department of Forestry, tap to collect maple syrup. A complete survey of the trees on the school grounds was conducted by the Virginia Tech Department of Forest Resources and Environmental Conservation and is included in Appendix B Section 1B4. In addition, a survey was conducted to ensure that few, if any, invasive alien species had been planted. The only invasive alien found was English Ivy (*Hedera helix*) which is moderately invasive and is being monitored. In the spring of 2011, the students planted an additional 24 trees from the list of local native species.

**1B5.**

Are alternative water sources (e.g., grey water) used before potable water for irrigation?

Yes No

If "Yes," describe these alternative water sources.

Documentation: There are three large rain barrels made of recycled plastic connected to the guttering system at Fishburn. These collect non-potable water for watering raised beds and campus plants. The rain barrels were built as a joint project between the school and several business partners (Lowe's, Coca Cola, and Norfolk Southern). The collected water is used by the students to water the raised beds. Water from the regular cleaning of the school's freshwater fish and turtle aquariums is used to water flower beds.

**1B6.** If drinking water is acquired from the school's own well, are your drinking water sources protected?

Yes  No  N/A

If "Yes," describe how they are protected.

Documentation: The water at Fishburn is provided by the Western Virginia Water Authority which uses Crystal Spring, Carvins Cove and Spring Hollow Reservoirs. All water is treated in accordance to Virginia statutes and policies for potable drinking water.

**1B7.** Does your school have a program to control lead in drinking water (including voluntary testing and implementation of measures to reduce lead exposure in drinking water) in place?

Yes  No

If "Yes," describe this program.

Documentation: As a part of the upcoming Earth Week Environmental Science programs, students will be conducting lead testing of the school's drinking water supplies. Data from the testing will be submitted to the director of facilities for the school system for any follow up. A copy of the lab activity and SOL connection is attached in Appendix B Section 1B7.

**1B8.** Has your school been cited within the past three years for failure to meet federal, state or local potable water quality standards?

Yes  No

**1B9.** Are all taps, faucets, and fountains used for drinking and cooking cleaned on a regular basis to reduce possible bacterial and other contamination; and are faucet screens and aerators regularly cleaned to remove particulate lead deposits?

Yes  No

If "Yes," how often is such cleaning conducted?

Documentation: All school taps, faucets, and fountains are cleaned regularly following the cleaning protocols listed in Appendix B Section 1B9.

**1B10.** Describe any other ways, not addressed above, that the school is improving water quality, efficiency, and conservation.

1. Fourth grade students participate in World Water Monitoring Day. This international program promotes public awareness and involvement in the protection of water resources worldwide. Fishburn students work in teams of five to collect samples from a nearby stream. They conduct tests in order to determine pH levels, temperature, turbidity, and dissolved oxygen. Upon returning to the classroom, the groups compare data and discuss the condition of the stream. From the most recent World Water Monitoring Day, it was determined that the stream, Murray Creek, is a healthy habitat for aquatic creatures. 2. The third graders conducted similar tests on one of the ponds on school grounds. The third graders found that the pond was not a healthy environment for aquatic creatures. The students went back into the classroom to research ways to make the pond a healthier environment. As a team, they decided to clean the pond, add fresh water, and add new fish and plants. The third grade continues to conduct tests to compare this pond habitat to the other pond on

campus.3. The kindergarten classes have a program to teach children how to conserve water. The teachers help the students monitor their water usage while washing their hands using a step by step method so that the water does not run continually. 4. The school has three rain barrels on its campus. The barrels, which are connected to the roof guttering system, are located near the school's raised beds so that students can use collected rain water to water the plants growing in their raised beds.

## GROUNDS

**1B11.** What percentage of your school grounds are devoted to ecologically or socially beneficial uses (e.g., playgrounds, outdoor spaces designed and used regularly for social interaction, athletic or recreational areas, etc.), including those that give consideration to native wildlife? 85 %

Please describe.

Documentation: The school grounds are a large contributor to both the “net positive” impact on the health and performance of students and the “net zero” environmental impact. Only 15 % of the school grounds are devoted to building, roads, and parking lot. As seen on the map in Appendix B Section 1B11, approximately 5% of the grounds are specifically devoted to playgrounds, a basketball court, picnic area, pergola and amphitheater. The grounds contain both an extensive vegetable garden, flower garden, and 8 raised bed areas devoted to grade specific gardens, and a specially designed wheelchair accessible raised bed to serve the Regional Multiple Disabilities Program housed at the school. 60% of the ten acre school property is devoted to open grassy areas. These areas are crossed by part the city's greenway trail. These open areas are used in addition to the formal playgrounds for many outside educational and recreational activities. The open areas and the wooded areas (7%) are also home to assorted wildlife including deer, raccoons, groundhogs, snakes, and many bird species. The two small ponds located on campus provide aquatic habitats.

## Element 1C: Reduced Waste Production

### WASTE

**1C1.** What percentage of waste is diverted from the landfill or incinerator by reuse, composting, and/or recycling:

Monthly garbage volume (garbage dumpster size(s) X frequency of collection):  
36 cubic yards.

Monthly recycling volume(s) (recycling dumpster sizes(s) X frequency of collection):  
3.44 cubic yards.

Monthly compostable materials volume(s) (food scrap/food soiled paper dumpster size(s) X frequency of collection): 8.10 cubic yards.

Recycling rate calculation: Total monthly recycling quantity plus total monthly compostable material quantity divided by total monthly recycling, composting, and garbage quantity x 100 = 24.3%

Documentation: The school produces 36 cubic yards of garbage monthly, recycles 3.44 cubic yards, and composts 8.1 cubic yards, yielding a recycling rate of 24.3%.

**1C2.** What percentage of total office/classroom paper content by cost is postconsumer material or fiber from forests certified as responsibly managed by the

- Forest Stewardship Council,
- Sustainable Forestry Initiative,
- American Tree Farm System, or

- other certification standard:

30%

(If a paper is only 30% recycled, only 30% of the cost of that paper should be counted towards the recycled portion.)

Which standard did you use?

- Forest Stewardship Council       Sustainable Forestry Initiative  
 American Tree Farm System       Other: Please name:

Documentation: Appendix B Section 1C2 contains a scan of a package of the paper the school district uses and a copy of the paper bid contract documenting 30% postconsumer content paper.

**1C3.** What percentage of total office/classroom paper content by cost is "totally chlorine-free" (TCF) or "processed-chlorine-free" (PCF)?

100%

Documentation: To the best of our knowledge, 100% of the total office/classroom paper content by cost is "totally chlorine-free" (TCF) or "processed-chlorine-free" (PCF). The data is difficult to confirm as the paper company does not list this information on the paper packaging or on their website.

## HAZARDOUS WASTE

**1C4.** How much hazardous waste does your school generate?

0.0 lbs/student/year.

How was this calculated?

List 1) each hazardous waste used and 2) the amount of each hazardous waste present at the end of the year

Documentation: Elementary Schools in Roanoke City Public Schools do not generate hazardous waste by RCPS protocol. A copy is in Appendix B 1C4, 5, and 6.

**1C5** How does your school monitor hazardous waste?

Documentation: Hazardous waste is both controlled by strict adherence to the Hazardous Waste Protocol and by annual school-based inventories. A copy of the protocol is in Appendix B1 C5, and 6.

**1C6.** Is a Hazardous Waste Policy for storage, management, and disposal of chemicals in laboratories and other areas with hazardous waste in place and actively enforced?

Yes     No

Documentation: Hazardous waste is both controlled by strict adherence to the Hazardous Waste Protocol and by annual school-based inventories. A copy of the protocol is in Appendix B 1C5, and 6.

**1C7.** Has your school been cited within three years for improper management of hazardous waste according to Federal and State regulations?

Yes     No

**1C8.** What percentage of total computer purchases by cost are Electronic Product Environmental Assessment Tool (EPEAT) certified products? 100%

How does your school dispose of unwanted computer and other electronic products?

Documentation: Roanoke City Public Schools has contracted with Dell to provide all computers and projectors. The attached files (Appendix B Section 1C8) indicate that the computers being purchased from Dell are mostly Gold EPEAT certified. If not Gold, they seem to be Silver. Fishburn Park Elementary School disposes of unwanted computers following the protocol established for Roanoke City Public Schools detailed in appendix B. Because of security issues, all hard drives and storage devices are removed and shredded. Some components are put up for surplus auction and reused by the community. E-waste is disposed of following the protocol.

**1C9.** What percentage by cost of all cleaning products in use are "third-party certified" green cleaning products? 0.0%

Which standard(s) are you using?

Documentation: Roanoke City Public Schools has a protocol of purchasing "green" products if the costs are equivalent to "non-green" products. Our procurement policies do not allow the district to pay more for "green" products, all other factors being equal.

**1C10.** Has your custodial program been certified by the ISSA Cleaning Industry Management Standard - Green Building (or an equivalent standard).

Yes  No

If certified by an equivalent standard, please list that standard.

**1C11.** Describe any other indicators, not included above, of the school's reduction of solid waste and elimination of hazardous waste:

Documentation:

1. The school collects gently used household items, clothing and toys and sells them in an indoor yard sale in order to raise money for the environmental activity fund. A fashion show featuring the students showcases clothing items for sale. This program allows the school community to donate items rather than disposing the items in the landfill.
2. The school collaborates with Goodwill Industries of the Roanoke Valley to conduct a donation drive. The students, staff, and members of the community are encouraged to donate items (clothing, books, toys, household items, etc.) in order to help reduce, reuse, and recycle.
3. Fishburn Park has a recycling program for paper, aluminum, and plastics. The classrooms have bins for paper and plastics where items are placed each day. SGA members empty the classroom bins on Friday and ready the containers for city pickup.
4. Each Friday students and staff are encouraged to bring in recyclable items from home (cell phones, plastic twist tops, ink cartridges, soda tabs, cookie bags and plastic rings). Each grade level is assigned an item to manage over the course of the school year.
5. At the end of each school year, students and faculty collect gently used school materials and supplies which are then donated to the local "Bookbag Santa Program". These items are taken to needy school children in the country of Belize.

### **Element 1D: Use of Alternative Transportation to, during, and from School**

**1D1.** What percentage of students walk, bike, bus, or carpool (2+ students in the car) to/from school?

84%

Describe how this information has been collected and calculated.

Documentation: Teachers responsible for student arrival and dismissal collected data over the course of five days and calculated the number of students arriving and departing by bus, carpool, walking, and bicycling. See appendix B, 1D1, for data.

**1D2.** Does your school have a no-idling policy on file and signs posted stating that all vehicles, including school buses and other vehicles dropping off and picking up students, are prohibited from idling on school premises?  
Yes No

Documentation: Three no-idling signs are placed at high-traffic locations where drivers are likely to notice them. A memo from the school was sent to parents explaining the no-idling protocol. Mountain Valley Transportation Company which operates buses for Roanoke City Schools informed its drivers of the protocol. See appendix B, 1D2, for documentation.

**1D3.** Are all vehicles loading and unloading areas at least 25 feet away from all buildings air intakes (including doors and windows)?  
Yes No

Documentation: There are six doors that are located at designated student loading and unloading areas. Out of the six doors, two doors are more than 25 feet from the loading/unloading areas (See appendix B, 1D3). The four doors which do not meet the 25 foot criteria are located in the building which houses the regional program for students with multiple disabilities and preschool students (ages 2-4 yrs) with special needs. Many of these students have mobility challenges and require a shorter distance to load and unload buses.

**1D4.** Describe how your school transportation use is efficient and environmentally benign (e.g., the percentage of school-owned electric/hybrid/alternative fuel vehicles in your fleet, or other indicators of significant reductions in emissions).

Documentation: The school system and the company that operates the privatized transportation operations have established several "green fleet" protocols. Several key actions steps are that all oil drained from the vehicles in oil changes is utilized by a neighboring school district to provide heat for a building with a heater capable of burning this product. Vehicles are washed in a facility that recycles the wash water so that 90% of the water is recycled. All school buses administered by Mountain Valley Transportation are operated on biodiesel fuel. A computer based routing system and in-board GPS units ensure that the most efficient bus routes are planned and followed.

**1D5.** Have "Safe Pedestrian Routes" to school or "Safe Routes to School" been designated, distributed to parents, and posted in the main office?  
Yes No

Documentation: Less than one percent of the students at Fishburn Park walk to school. These families have been provided with information on the safest routes to school.

**1D6.** Please describe other important accomplishments that have been made in improving your school site's environmental footprint and eliminating any negative environmental impact.

Documentation: The school community works diligently to minimize its environmental footprint. From training its students in green practices to site improvements, Fishburn strives to eliminate any negative impact on the environment. The school building is over 50 years old, so most of our focus on decreasing environmental footprint and eliminating negative environmental impact has centered on the factors that the staff and students can control- energy usage awareness, recycling, composting and use of environmentally friendly products, and gardening. Energy usage has been

controlled by efforts like installing shade cloth over the greenhouse to better control heating and cooling needs for the greenhouse and faculty, staff, and students exercising energy conscious behaviors daily by turning off lights and computers when not in use and by keeping classroom doors and window blinds closed in order to reduce the amount heated or cooled air escaping from the room. “No idling” signs are posted around driveways and parking lots to discourage vehicles from idling while on campus. A culture of recycling and reuse has been established at Fishburn and is the model for the school district. The removal of Styrofoam products from the cafeteria and their replacement with cardboard based products started at Fishburn and is now the protocol for the entire school district. Similarly, composting of these products and food waste started at Fishburn is now occurring across the school division. These products are collected by a Poplar Manor Composting and composted into soil, resulting in an almost 50% decrease in trash dumpster emptying. Fishburn is collaborating with Goodwill Industries of the Roanoke Valley and the Roanoke Rescue Mission in recycling used clothing. Both agencies partner with Fishburn Park to collect clothing, households, books, toys, etc. which keep these items out of landfills. In addition, each grade level has adopted a product such as plastic, paper, aluminum and various other common materials to recycle. Grade levels regularly pick up trash from around the campus while transitioning from one building to another throughout their day. Organic gardening is practiced at Fishburn Park. Sterilized manure and natural compost are used in the garden, raised beds and other growing beds. Some of this compost originated as cafeteria waste at the school, demonstrating the entire process of “trash to soil” to the students. Twenty-four trees have been planted around the Fishburn campus in the past twelve months. The growth of these trees will serve several purposes from environmental science lessons to providing shade and oxygen. All gardening beds have been mulched to enrich the soil, reduce water evaporation, and mitigate erosion/water runoff, and rain barrels connected to building guttering system are used to water raised beds and gardens. See documentation, Appendix B, 1D6.

**GOAL AREA 2: Positive Impact on Students’ and Staff Members’ Health**

**Element 2A: Integrated School Environmental Health Program**

**INTEGRATED PEST MANAGEMENT**

**2A1.** Does your school have an integrated pest management plan in effect to reduce or eliminate pesticides?  
Yes No

Documentation: Roanoke City Public Schools has implemented Integrated Pest Management in all of its schools and facilities. A copy of the IMP policy is in Appendix B Section 2A1.

**2A2.** Does your school provide notification of your pest control policies, methods of application, and requirements for posting and pre-notification to parents and school employees?  
Yes No

Documentation: The IMP policy is available on the school system’s website at [www.rcps.info](http://www.rcps.info).

**2A3.** Does your school maintain annual summaries of

- pesticide applications, Yes No
- copies of pesticide labels, Yes No
- copies of notices and Materials Safety Data Sheets (MSDS) Yes No
- in an accessible location? Yes No

Documentation: Following school district protocol, this data is available at the school site (MSDS) and from the contracted vendor (Terminex).

**2A4.** Does your school prohibit children from entering the pesticide area for at least 8 hours following the application or longer, if feasible, or if required by the pesticide label?  
Yes No

Documentation: When possible, pesticide application is done on weekends and non-student and non-staff times. The use of Integrated Pest Management has minimized the use of pesticides.

## VENTILATION

**2A5.** Does your school meet:

- ASHRAE Standard 62.1-2010 (Ventilation for Acceptable Indoor Air Quality) or
- The current state or local code?

Yes No

If "Yes," which standard does your school meet? Code

Documentation: Roanoke City Public Schools buildings meet or exceed requirements specified by local code. The school has not been cited for failure to meet any codes.

**2A6.** 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, chemical storage rooms?  
Yes No

If "No," which airborne contaminant sources or areas do not have exhaust systems installed?

Documentation: The only area that requires a fume hood is the kitchen. This hood is pictured in Appendix B Section 2A6. The school does not have any other areas requiring special exhaust systems.

**2A7.** Has your school installed energy recovery ventilation systems, where feasible, to bring in fresh air while recovering the heating or cooling from the conditioned air?  
Yes No

## CONTAMINANT CONTROLS

**2A8.** **Radon:** Have all ground-contact classrooms been tested for radon within the past 24 months:  
Yes No

What percentage of all classrooms with levels greater than 4 pCi/L has been mitigated in conformance with ASTM E2121? N/A%

**2A9.** **Carbon Monoxide (CO):** If your school has combustion appliances, does your school

- have an inventory of all combustion appliances  
Yes No
- annually inspect these appliances to ensure no release of Carbon Monoxide (CO)?  
Yes No

- The school has no combustion appliances.

Are CO alarms installed that meet the requirements of the National Fire Protection Association code 720?  Yes  No

Documentation: The school district maintains a central inventory of all appliances. The buildings are inspected twice annually for needed maintenance, cleaning, and for compliance with the Integrated Pest Management protocol.

**2A10. Mercury:** Have all unnecessary mercury containing devices been replaced with non-mercury devices?

Yes  No Please explain.

Does your school recycle or dispose of unwanted mercury laboratory chemicals, mercury thermometers, gauges and other devices in accordance with federal, state and local environmental regulations?

Yes  No

Documentation: All unnecessary mercury containing device have been replaced by non-mercury devices. At Fishburn Park these were predominantly thermometers. Following the Roanoke City Public Schools Hazardous Material protocol (Appendix B Section 2A10), such devices were removed from the schools and disposed of by a federally licensed vendor.

**2A11. Chromated Copper Arsenate (CCA):** Have all wooden decks, stairs, playground equipment or other structures treated with Chromated Copper Arsenate been either removed or sealed within the past 12 months?

Yes  No

Documentation: Following Roanoke City Public Schools protocol, all CCA wood was removed from Fishburn Park.

**2A12. Asthma Control:** Does your school have an asthma management program in place consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools Guidelines?

Yes  No

Documentation: Roanoke City Public Schools follow the Virginia Asthma Action Plan, which is based on NAEPP guidelines.

**2A13. Indoor Air Quality:** Has your school developed and implemented a comprehensive indoor air quality management program consistent with EPA's Indoor Air Quality Tools for Schools?

Yes  No

**2A14. Moisture Control:** Are all structures visually inspected on a regular basis and free of mold, moisture and water leakage?  Yes  No

Is indoor relative humidity maintained below 60% (cold climates during freezing temperatures should target 20-30%)?  Yes  No

Are moisture resistant materials/protective systems installed (e.g., flooring, tub/shower, backing, and piping)?  Yes  No

Documentation: All Roanoke City Public Schools are inspected twice annually. If any signs of mold or moisture leakage are noted, an outside contractor is contacted.

**2A15. Chemical Management:** Does your school have a chemical management program in place that includes the following elements:

- Chemical purchasing policy, including low- /no-VOC products

Yes  No

- Chemical inventory Yes No
- Storage and labeling Yes No
- Training and handling Yes No
- Hazard communication Yes No
- Spills, clean up, and disposal Yes No
- Select EPA's Design for the Environment approved cleaning products Yes No

Explain any missing elements or additional components of your school's chemical management program.

Documentation: The school system's hazardous chemical policy is attached (Appendix B Section 2A15). Procurement decisions must follow the School Board Procurement policy which is based on cost.

**2A16. Secondhand Tobacco Smoke:** Is smoking prohibited on campus?\*

Yes No

Documentation: Smoking is prohibited by School Board Policy (Appendix B Section 2A16) inside all schools.

**Element 2B: High Standards of Nutrition, Fitness, and Quantity of Quality Outdoor Time for both Students and Staff**

**FOOD AND NUTRITION**

**2B1.** Has your school earned USDA's Healthier US School Challenge award for school food?

Yes No 0.

List award level earned.

**2B2.** What percentage (by cost) of food purchased is certified as "environmentally preferable" (e.g., Organic, Fair Trade, Food Alliance, Rainforest Alliance, etc.)?

14%

Documentation: As stated in a letter from Roanoke Fruit and Produce (appendix B, 2B2), bananas are purchased under the fair trade agreement by the company which supplies Fishburn Park with its fresh vegetables and fruits.

**2B3.** What percentage (by cost) of food purchased is grown and processed within 200 miles of the school (including food grown on school grounds)? 15-20 %

Does the school have an on-site garden in which the students participate?

Yes No

Documentation: Roanoke Fruit and Produce Company supplies Fishburn Park with seasonal fresh vegetables and fruits. These include squash, cucumbers, apples, cabbage, peppers, and tomatoes (appendix B, 2B3).

**2B4.** Does the school have an on-site food garden?

Yes No

If "Yes," does the school garden supply food for the school cafeteria?

Yes No

Documentation: Vegetables grown in the Fishburn gardens are consumed in the classrooms and at home by students.

There is also a vegetable stand that is managed by students during the last week of summer school. Currently, the garden does not produce enough vegetables to supply the cafeteria although there was enough squash harvested to serve students and staff during summer school.

## PHYSICAL EDUCATION, OUTDOOR OPPORTUNITIES, AND UV SAFETY

**2B5.** What percentage of students over the past year engaged in at least 150 minutes of school-supervised physical education and/or outdoor time per week? 100%

Documentation: Students receive an average of 50 minutes of physical education each week and 125 minutes of outdoor recess which includes transition time since Fishburn Park is an open campus. The school participates in Brain Gym, yoga, the Achilles Kids program, Special Olympics, and the MD swimming program (once a week, fall/spring). The Greenbucks program which recognizes students who demonstrate the pillars of character provides a Fun Fitness at Fishburn day once a month. Students use their Greenbucks to purchase this activity. Classrooms that demonstrate acceptable behavior in the cafeteria earn an extra recess or PE class once their jar is filled with marbles. The school held its first Green School on the Greenway and invited its families to walk and pick up litter on the city's Greenway. Teachers schedule time outside, weather permitting, to work in a raised bed or in the garden. During Earth Week, one of the students' favorite activities is a Walk a Thon on the soccer field.

**2B6.** What is the average amount of time over the past year that each student engaged in school-supervised physical education (including outdoor time) per week?

50 minutes/week

Documentation: Students are scheduled into physical education classes according to their age. On days when the gym is not in use, classes can sign up to use the gym. Students in the regional multiple disabilities program at Fishburn Park receive as much as 100 minutes of physical education per week, through the Achilles' Kids Walking Program, special ed swimming program, Special Olympics training, and adapted PE periods.

**2B7.** What percentage of school-supervised physical education is spent outdoors?

30%

Documentation: Approximately 30% of the physical education classes are spent outdoors. Students use the back field as well as the adjoining soccer field for outdoor activities.

**2B8.** What percentage of your school's current student body has participated in EPA's Sunwise Program or an equivalent program regarding UV protects and skin health?

30%

Documentation: Students are educated in the EPA's Sunwise Program and related UV light protection through the fifth grade science curriculum as it relates to the study of light in Virginia Standard of Learning 5.3 and third and fourth grade Earth Hour activities. A typical lab activity is attached (Appendix B Section 2B8) in which students use UV detecting beads to determine the presence or absence of UV light and make a qualitative estimate of the amount of UV light. They then hypothesize and test different methods of blocking the light, including covering the beads with cloth or paper and coating them with sunscreen.

## COORDINATED SCHOOL HEALTH, MENTAL HEALTH, SCHOOL CLIMATE, AND SAFETY

**2B9.** Does the school use a Coordinated School Health approach or other health-related initiatives to address overall school health issues?

Yes No

If “Yes,” describe the health related initiatives or approaches used by the school.

Documentation: Roanoke City Public Schools uses a coordinated school health plan as evidenced by case management of chronic health conditions by the school nurse with individual health plans indicated by the medical condition.

**2B10.** Does the school partner with any community groups to support student health and/or safety?

Yes No

If “Yes,” describe these partnerships.

Documentation: Roanoke City Public Schools has partnered with the Carilion Hospital system to provide school nursing services in each school in the district. Due to the high level of need at Fishburn Park, the school has a full time nurse who is the case manager for the students with chronic medical conditions. Fishburn Park worked with Norfolk and Southern to construct a pergola over the amphitheater to provide shade. During a school-wide walking program, Roanoke Cement Company (Titan Industries) donated bottled water for participants. All fifth grade students participate in the Drug Awareness Resistance Program provided by the Roanoke City Police Department. The local 4-H program provided trees to be planted around the campus, and the W.E. Skelton 4-H Educational Conference Center instructs fifth grade students in water safety.

**2B11.** Describe any other measures regarding the school's built and natural environment that your school takes to protect student and staff health and which you feel should be considered.

Documentation: The school’s ten acres and the natural environment are taken advantage of to improve and maintain the health of its students and staff. Numerous hand-washing signs and antibacterial dispensers are located around the campus. Students are encouraged to wear sunscreen when outdoor learning activities are planned. Gardening gloves are on the school supply list for all grade levels. Trees have been planted around the campus to provide shade. A pergola was constructed over the amphitheater to shade the area. Benches have been installed at all outdoor learning areas. Utilizing the campus style site, there are numerous opportunities for physical activity for students and staff such as raking leaves and organized walkathons like the Achilles’ Walk as well as the district’s walking challenge which provided staff members with pedometers. A new connecting trail was constructed to allow students who use wheelchairs to access the greenway trail without having to cross the speed bumps in the driveway. A new safety fence was constructed to enclose the outdoor play area utilized by the preschool special needs classes, as well as the multi-disabilities classes. A “no idling” protocol was implemented in the school parking lot to decrease air pollution in that area. A safety zone has been constructed around each of the campus ponds utilizing natural stones. A short retaining wall was built to control muddy water runoff across sidewalks to reduce the risk of falls. See appendix B, 2B11.

### GOAL AREA 3: Environmentally Literate Students

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

#### LEARNING AND ENVIRONMENTAL LITERACY

**3A1. High Schools:** What percentage of last year's graduates scored proficient or better during their high school career on state or school: N/A

- environmental education assessments? %
- sustainability assessments? %
- environmental science assessments? %

Briefly describe the assessment(s).

**3A2. High Schools:** Does your **school or school division's** program of study have coursework that permits students to graduate environmentally (or sustainability) literate?

Yes  No

If "Yes," please describe. N/A

**3A3.** Are environmental and sustainability concepts integrated throughout the curriculum?

Yes  No

If "Yes," please describe how environmental and sustainability concepts are integrated among various disciplines, grade levels, or courses in your school.

Documentation: As noted in appendix B, 3A3, the daily routines of recycling and composting are embedded into our school culture. In addition teachers incorporate environmental science into the core curriculum by utilizing theme based novels, periodicals, and read- alouds. Teachers further integrate through the use of Project Learning Tree and Roots and Shoots lessons to address the Virginia Standards of Learning. As a supplementary curriculum, teachers in grades K-2 are piloting the Green Education Foundation Curriculum this year. The library also contains additional resources for environmental exploration activities. The school song supports our environmental focus while our art program frequently uses recyclable materials. The teachers sponsor three special events that enhance the students' understanding of their effect on the environment. In the fall the school holds its annual Environmental Fashion Show and Resale while in the winter the school hosts an Evening with the Arts. Many of the art displays feature the use of recycled materials. In the spring the school holds its main special event, Earth Week, a weeklong celebration of Earth Day.

**3A4. High Schools:** What percentage of your eligible graduates last year had completed Advanced Placement Environmental Science during their school career? N/A %

What percentage of these students scored 3 or better on the Advanced Placement Environmental Science assessment? N/A %

**3A5.** If neither your state nor school conducts environmental science, sustainability, or environmental education assessments, what percentage of your students scored proficient or better on science education assessments in the last year? 89.2 %

Please provide data by grade level/subject Science SOL test.

Documentation: Students at Fishburn Park Elementary School achieved an overall Science pass rate of 89.2 % in 2011. Third grade students had a science pass rate of 94.3% and fifth grade students had a pass rate of 83.7%.

**3A6.** Are teacher professional development opportunities in environmental and sustainability education provided for all teachers in your school?

Yes  No

If "Yes," please describe these professional development opportunities including the number and percentage of teachers who participated in these over the last 2 years.

Documentation: Teachers are encouraged to participate in programs such as: Project Learning Tree, Project Wild, Roots and Shoots, Growing Wild, Virginia Extension Agency Programming on gardening, Master Gardeners, School Yard Habitat workshops, Hollins Science Institute, MWEE program hosted by Claytor Nature Study Center of Lynchburg college. Specifically, 100% of teachers were trained in Project Learning Tree and Roots and Shoots. 60% of the teachers

have received Project Wild training. 100% of preschool teachers have been trained in Growing Up Wild.

**3A7.** Does your school's environmental education program pay particular attention to scientific (systematic) practices, including

- 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?

Yes No

Documentation: Environmental education at Fishburn Park is guided by scientific practices with an emphasis on understanding the nature of science. Much of the environmental instruction is conducted through inquiry-based science investigation activities. Students learn to ask questions and conduct investigations into real life experiences using a hands-on approach which enhances the acquisition of science process skills. Problem solving and research become a priority for students as they want to determine answers to their questions. (Why aren't the seeds germinating? Why is the oxygen level low in the small pond? Why is the corn infested with stink bugs?) Students use journaling to explain and visualize their thinking and use graphs and charts to communicate their knowledge. They learn to use standard and metric tools for measurement such as thermometers, pH indicators, and GPS devices. The weather station located in the cafeteria uses information from the NOAA weather radio broadcast and is displayed on a surface weather map using correct meteorological symbols. Local problems like the health of the schoolyard pond and global problems like recycling are investigated through data collection and analysis. Students then develop action plans and implement local solutions. Examples include the second grade students' participation in the Trout in the Classroom program in which students are the caretakers of trout that belong to the Commonwealth of Virginia. The students raise the trout from eggs and are responsible for their care including the monitoring of the temperature and pH level in the tank. Fishburn students study animals and incubate chicken and duck eggs each spring. Students discuss the development of the babies and candle the eggs as they grow. When the eggs hatch, the children get the experience of caring for newly hatched ducks and chicks for a few days and then release the birds to a farm. This year Fishburn students in grades K-2 are participating in a pilot program through the Green Education Foundation. Weekly hands-on lessons have included building and testing wind vanes, learning about the stages of ripeness of fruits, and assembling the "my plate" for nutritional science. All of these activities are approached from an experimental/problem solving point of view. Students chart recycling amounts through data collection and graphs posted in the hallways. Third grade students used handheld technology (probeware) to measure temperature, pH, and dissolved oxygen content of the two campus ponds. The students analyzed the data they collected, discussed the differing health of the two ponds, and developed and implement an extensive cleanup and redesign project for the pond they determined was not healthy based on the water monitoring data they collected. Finally, all students at Fishburn take part in a monthly program called Earth Hour. These sessions meet once a month and the students can select the programs they are interested in. In the Earth Hour sessions students explore topics and issues related to a three-year rotation dealing with water, land, and air.

**3A8.** **All Schools:** Do your students engage in Meaningful Watershed Education Experiences (MWEE) or have other meaningful outdoor experiences (investigative or experiential projects that engage students in critical thinking, problem solving and decision making) at every grade level?

Yes No

If "Yes," please describe these experiences for the last school year and how

many different classrooms and students were involved. If not all grades, specify which grades.

Documentation: At Fishburn Park, the fourth graders participate in World Water Monitoring Day. This international program promotes public awareness and involvement in the protection of water resources world-wide. The Fishburn students work in teams of five to collect samples from a nearby stream. They conduct tests in order to determine pH levels, temperature, turbidity, and dissolved oxygen. Upon returning to the classroom, the groups compare data and discuss the condition of the stream. From the most recent World Water Monitoring Day, it was determined that the stream, Murray Creek, is a healthy habitat for aquatic creatures.

The third graders conducted similar tests on one of the ponds on school grounds. The third graders found that the pond was dirty and not a healthy environment for aquatic creatures. The students went back into the classroom to research ways to make the pond a healthier environment. As a team, they decided to clean the pond, add fresh water, and add new fish and plants. They conduct tests to compare this pond to the other pond on campus.

The second grade students culminate a year-long “trout in the classroom” activity with a spring MWEE activity and trout release in a local river.

Preschool and Kindergarten students participated in a series of outdoor station activities sponsored by the Clean Valley Council and Western Virginia Water Authority. These activities were designed to develop the students’ understanding of watershed concepts.

**Element 3B: Use of the environment and sustainability to develop STEM content knowledge and thinking skills to prepare graduates for the 21st century technology-driven economy**

**3B1.** Do your students matriculate or graduate with a robust general science education that includes a deep understanding of life, physical, and Earth sciences?

Yes  No

How many hours per week on average do students spend in science content classes?

8.51hrs.

Documentation: Fishburn Park fully implements the Virginia Standards of Education for science in grades K through 5. Students are successful in their mastery of the standards as evidenced by the overall pass rate on the Virginia Standard of Learning Science assessments of 89.3% (Appendix B Section 3B1). The Fordham Report gave Virginia an A- for the quality of the science standards in their State of Science Standards report (Appendix B Section 3B1).

**3B2.** **High School:** If your school is a high school, does your curriculum provide a demonstrated connection between classroom content and college and career readiness, particularly to post-secondary options that focus explicitly on environmental and sustainability fields, studies, and/or careers?

Yes  No N/A

If “Yes,” please describe these college and career connections.

**Element 3C: Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community**

**3C1.** Are all students required to conduct an age-appropriate, self-selected civic/community engagement project at

every grade level?

Yes No If not in all grades, specify which grade levels and subjects.

What percentage of these projects focused on environmental or sustainability topics? 100%

What percentage of students satisfactorily completed such a project last year?

100%

Documentation: Students self-select their Earth Hour project each session. These projects frequently involve opportunities to serve the school community through landscape maintenance, tree planting, and cleaning of aquatic habitats. Through the student government association, students are empowered to support community service projects through organizations such as SPCA, the American Red Cross, the Salvation Army, and the Ronald McDonald House.

**3C2. High School:** What percentage of last year's graduates scored proficient or better on a community or civic engagement skills assessment?

%

Describe the assessment. N/A

**3C3. All Schools:** Does your school partner with local academic, businesses, government, nonprofits, informal science institutions, and/or other schools to help advance your school, other schools (particularly schools with lesser capacity in these areas), and/or the community toward meeting the three overarching goals of Green Ribbon Schools?

Yes No

If "Yes," please describe the scope and impact of these partnerships:

Documentation: Fishburn Park values the connections with the Roanoke community. With their support, the school continues to expand the environmental curriculum and increased opportunities for the students to learn how they can have a positive impact on the environment and community. It is the stated mission of our school to teach the students how to become an advocate for the environment and a model for responsible citizenship. Fishburn Park is working with the Sugarloaf Garden Club to support the development of the garden and increased greenhouse use. Due to their continuing efforts to support the school's environmental focus, the school just received a check for \$750 for garden and greenhouse supplies. The Western Virginia Water Authority visits the school frequently and provides hands on experience with water conservation. They provide field trips which are free of charge to the students. Roanoke Cement Company (Titan Industries) has teamed with Fishburn Park to teach students about energy conservation. By using thermal imaging, students were able to determine where heat escapes from a room. The interactive assembly provided a learning platform about alternative energy sources and different ways to conserve energy at home and at school. Roanoke Cement also provided bottles of water for students and their families participating in the Green School on the Greenway. Appalachian Power Company provided information on how to compare energy consumption and materials for the energy conservation assembly. Fishburn collaborates with the Hotel Roanoke. The school received the "People's Choice Award." when the students created their "Guardians of the Environment" display (Fashions for Evergreens). The school interacted with the Hotel Roanoke and their Kids Care program to donate 2,500 cookies to the local Ronald McDonald House. TRANE contributes time and offers financial support to Fishburn Park and our environmental activities. They are sponsoring the airplane races during Earth Week, a school wide activity to support Fishburn's 2011-2012 theme of air. Fishburn Park partners with Goodwill Industries of the Roanoke Valley to collect items for resale which in turn reduce the amount of garbage in the landfill. The students walk to Virginia Western Community College to visit the arboretum, their large greenhouse, and engineering classes. One of the construction classes at WVCC built a gardening shed for Fishburn.

Fishburn Park is partnering with Cycle Systems for the recycling of aluminum at school. Cycle Systems picks up the crushed aluminum cans and recycles them at their place of business. Cycle Systems is an Earth Week sponsor for the Walk a Thon. Fishburn Park donates all items leftover from the Environmental Fashion Show and Resale to the Roanoke Rescue Mission. Norfolk Southern built the pergola over the school's amphitheater. They constructed the benches that are located at each pond. Lowes donated \$5000 worth of lumber for the building of the pergola and the pond benches. Several employees helped to build both. The Virginia Extension Agency provides in classroom instruction using the Project Learning Tree curriculum. Members of the Master Gardening Program provide professional development to teachers. Foresters from the Virginia Department of Forestry help to plant the many trees on the school's campus and taught the teachers how to tap maple trees.

**3C4. All Schools:** Does your school provide outdoor learning opportunities for students (e.g., outdoor classrooms)?

Yes  No

If "Yes," describe how outdoor learning is used to teach an array of subjects in context, engage the broader community, and develop civic skills:

Documentation: The following outdoor learning spaces are used across grade levels and curriculums to enhance the environmental instruction of our students:

- Two pond habitats
- Butterfly habitat
- Migratory bird station
- Greenway walking trails
- Large vegetable garden
- Amphitheater
- Recycling/Compost Center
- Virginia learning bed
- Raised bed for each grade
- Outdoor learning commons
- Desert habitat
- Preschool flower garden

**3C5. All Schools:** What other indicators or benchmarks (quantified whenever possible) of your progress towards the goal of 100% of your graduates being environmental literate does your school feel should be considered by the review committee?

Documentation: Fishburn Park Elementary School-Focus for Environmental Science is in its third year of operation as a focus school for environmental science. The school serves students from the local attendance zone and additional students from across the school division who apply by application. Applicants have to submit an essay written by the student (or parent in younger grades) on why they think it is important to study about the environment and why they want to study the environment at Fishburn Park. Thirty eight percent of the students are attending by application. All of the students at Fishburn- neighborhood students, students attending by application, regional handicapped students, and even preschool students get an education in which environmental literacy is infused into all aspects of the curriculum. Extensive summer planning was done and is ongoing to establish and enhance the environmental literacy theme. From environmental math activities like graphing recycling totals to Jamestown plantings of beans, squash and corn in social studies to an extensive library of environmentally themed books and leveled readers in the library, the curriculum works together to meet the goal of 100% of the students being environmentally literate.

### Crosscutting Questions:

**CcQ1.** If your school is participating in a local, state, or nationally recognized green school program, please explain what program and what level (if applicable) your school has achieved?

Documentation: Roots and Shoots has been implemented at Fishburn in its primary classrooms. Project Learning Tree is the foundation of the environmental curriculum for grades K-5. In addition, the students and faculty participate in the Green School Challenge sponsored by the US Green Building Council Center for Green Schools. Fishburn Park is piloting a new environmental curriculum for grades K-2 by the Green School Foundation (MA). Fishburn Park has completed the

first two investigations for PLT Green Schools and has completed the application to be a Virginia “Naturally” School.

**CcQ2.** If your school has received any green school, environmental, healthy school, environmental education, or sustainability education awards, please describe.

Documentation: Fishburn Park was awarded the 2011 Outstanding Sustainability Curriculum Award by the USGBC Green Schools Challenge-Southwest Virginia. In recognition of its community involvement and its environmental focus, Fishburn Park was named by Channel WSLs as a “Cool School” during the month of February, 2012. The increase in student interest and motivation brought about by the environmental focus was a key factor in the school being awarded the Virginia Board of Education’s “Competence to Excellence Award” in March 2012.

## Summary of Achievements

“No job is too big, no action too small, for the care of the earth, is the task of us all.” Children’s voices resonate throughout the hallways of Fishburn Park as they pledge to continue caring for the earth at school and at home. This profound quote, Fishburn Park’s Pledge, encapsulates the school’s mission to educate young people to become stewards of the earth.

Fishburn Park Elementary School-Focus for Environmental Science is a campus school located on ten acres in the city of Roanoke, Virginia. Fishburn students, of whom 84% are bus riders, come from all four quadrants of the school system; creating a rich, diverse population. The school serves a population that is 50.96% disadvantaged. The school’s premise of learning by doing provides the foundation by which the school reduces its environmental footprint. Through strong recycling and composting programs as well as energy conservation practices, the school is working towards a net zero environmental impact.

Trout Hall, which is the main building of the school, hosts a multitude of creatures, including salt and fresh water fish, lizards, turtles, birds and a worm habitat. The classroom hallways in all buildings display students’ environmental artwork and vegetation in the grow carts. The greenhouse showcases unique projects including water cycle experiments and the monitoring of plant growth. Raised beds are located throughout the campus. Each grade level takes ownership of their bed and is solely responsible for its maintenance. The three rain barrels provide water for the eight raised beds and help to teach students water conservation methods. The two ponds serve as water habitats in which students are given opportunities to observe plant and animal life and conduct ongoing watershed investigations.

Healthy eating habits and regular exercise are crucial in the development of young minds. The faculty and staff consistently make concerted efforts to instill a love of fitness and promote healthy eating. Students can choose to participate in monthly Fun Fitness at Fishburn activities by earning “Greenbucks” for exhibiting desirable character traits as opposed to receiving unhealthy treats. Additional recess or an extra physical education period is awarded to classrooms with excellent cafeteria behavior. The annual Earth Week celebration includes a Walk-a-Thon. Fishburn Park hosts a Green School on the Greenway and invites its families to participate in an early morning walk which includes litter collection. To recognize students who participate in the numerous community outreach projects, students and faculty engage in games such as the annual kickball competition between teachers and students. The cafeteria recently changed the

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cereal options. Cereals are now being offered which contain lower sugar content. The school believes that children should take care of the earth and take care of their bodies.

The students and staff share an infectious passion and commitment to the environment, which is evident in our daily green practices. The goal is to educate young minds, adhering to Virginia Standards of Learning with the seamless integration of environmental concepts. It is not unusual to observe students with clipboards outside recording their environmental observations, filling one of the many birdfeeders, describing the birds from one of the three outdoor murals, testing pH levels in one of the ponds, planting in the garden, measuring the circumference of the class tree or weeding in one of the raised beds. The students and staff recycle various materials daily. Among these are cans, cell phones, bottle tops, rings, cookie wrappers, ink cartridges, batteries, and soda tabs. Paper and plastic are part of the school wide recycling initiative. Students are encouraged to bring in recycled items from home on Fridays. In addition, the students are very savvy composters. They are able to discern which items on their lunch tray are compostable, recyclable, and what is deposited into the trash.

Fishburn Park celebrates Earth Day with a week of activities planned around the environmental theme (land, water, or air). Students are provided many opportunities to participate in art, music, and/or theatrical projects which are conducted in one of the many outdoor learning labs. Fishburn partners with community businesses to support a variety of fun and educational experiences during the week. One activity is the “Give Back to Fishburn Day” where all students do projects to beautify the campus. Another is sitting inside of an inflatable whale and learning about whales. The special week concludes with a school assembly and campus parade where students come adorned in student-made costumes that reflect the theme of Earth Week.

Fishburn Park is truly a Green Ribbon School. Our focus on environmental literacy guides all that we do. Programs to minimize a school’s environmental footprint that originated at Fishburn Park are now standard for the school district. The school serves as a model for environmental instruction in an urban setting while exceeding state and federal expectations for academic success.

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