



**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 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 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 [ X ] Title I [ ] Magnet [ ]  
Choice

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

Official School Name: Richardsville Elementary  
(As it should appear in the official records)

School  
Mailing Address: 1775 Richardsville Road  
(If address is P.O. Box, also include street address.)

Bowling Green Kentucky 42101  
City State Zip

County Warren County State School Code Number\* 571150

Telephone (270) 777-3232 Fax (270) 777-3463

Website/URL: www.warrencountyschools.org/richardsville  
E-mail: Janice.casada@warren.kyschools.us

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.

Janice S. Casada Date 3/14/12  
(Principal's Signature)

Name of Superintendent\* Mr. Tim Murley  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name\* Warren County Public Schools Tel. (270) 782-5150

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.

Tim Murley Date 3-19-12  
(Superintendent's Signature)

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

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

### **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.

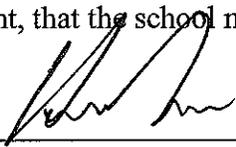
Name of Nominating  
Agency

Kentucky Department of Education (KDE)

Name of Nominating  
Authority

Mr. Hiren Desai, Associate Commissioner  
Office of Administration & Support  
(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

3/22/12

(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.

## Summary of Achievements

As the **first Net Zero** school building in the nation Richardsville Elementary School strives to be an example to other schools and districts by our emphasis on energy efficiency as a standard for all buildings, a structured energy management program and by integrating energy concepts into the daily lives of students. The 72,285 square foot school building is registered **LEED gold** and scored 100 on **EPA's Energy Star** portfolio (pending verification for Energy Star label). The building currently uses 18.3kBTU/square foot, well below the 73-78kBTU/square foot national average for K-12 schools. Energy efficiency is first achieved through the design of the building.

**Insulated Concrete Forms** were utilized for interior and exterior walls in order to create an energy efficient building envelope. Day-lighting features were incorporated throughout the building. **Solar tubes**, interior and exterior **light shelves**, north-south building orientation and the shape of the ceilings were designed to work together in order to bring **natural light** into the building. This not only creates a healthier, more positive atmosphere for learning but the opportunity to use less electricity. Artificial lights are automated and have a dimming system that uses less energy. Both **CFL** and **LED** bulbs are used for interior and exterior lighting. Hands-free sinks run using **photovoltaic cells**. Plug loads are kept to a minimum by using **Energy Star certified appliances** and laptop carts instead of desktop computers. A **Geothermal** system is used for heating and cooling. It is also designed to store hot water; therefore, eliminating the need for hot water heaters. All of these building features work together to reduce our energy consumption.

On-site **renewable energy production** through **solar panels** allows us to offset our total energy consumption. Amorphous thin film panels are located on the roof of the building and mono-crystalline panels are on a solar structure in the parking lot. Energy production and consumption can be monitored daily in the lobby of the school. Due to the direct offset of renewable energy production **greenhouse gas emissions** have been **reduced** 682.6 eCO<sub>2</sub>/year.

Other sustainable features include a rainwater collection system on the roof that pipes water to a **Rain Garden** with **native plants**. Renewable materials such as soy-based stained concrete and bamboo were used for flooring. 90% of the cleaning products utilized are **Green Seal Certified** and eco-friendly.

Through our district, the school is assessed using the **Federal Guiding Principles Checklist in Portfolio Manager**. The district's energy management program is focused on energy education in schools. We have received the **Stewardship, Champion, and Leadership awards** for 2011-2012 from Kentucky Energy Education Program for Schools (KEEPS).

Energy Education is an integral part of Richardsville Elementary. **Themed hallways** (solar, geothermal, water conservation and recycling) with **learning murals** allow students to learn from the building. Teachers participate in professional development through National Energy Education Development (NEED). A curriculum

guide for energy education using NEED materials has been developed for all grade levels.

The **Richardsville Student Energy Team** leads the building in school-wide recycling and energy education. Last school year the team won **Elementary Energy Team of the Year** and **Overall School of the Year** at the district level. They were also Kentucky's **Junior Rookie of the Year** for NEED Youth Awards.

Energy Team students lead **school-wide recycling**. Currently the recycling rate is 51.22. Our goal is to increase our recycling rate each year. Students from the energy team promote **energy education** through:

- leading tours of the building and explaining how we are energy efficient and environmentally responsible
- hosting field trips for other schools
- attending faculty meeting and leading teachers through "Science of Energy" stations for Energy Awareness Month
- conducting regular energy audits and recognizing "Energy Stars"
- giving energy tips to the student body through Town Meeting
- hosting a community wide Energy Fair at the local IGA

Our school's promotion of environmental responsibility through energy education is only one step in maintaining a Green Ribbon School. Additional best practices are focused on nutrition, physical activity and overall health of our students. Our school participates in **USDA's Healthier School Challenge** and the cafeteria focuses on USDA dietary guidelines. We are a **Team Nutrition** and **Award of Excellence** school. Our cafeteria use best practices to decrease energy consumption (no fryers) while increasing the nutrition of every meal served. Students are offered larger portions of vegetables through **Vegetable Treasures**. 6% of money spent on fruits and vegetables is used on **Farm-to-school** produce.

In accordance to the school's **wellness policy**, we provide a minimum of 120 minutes of physical activity for students per week. There are a variety of indoor/outdoor exercise opportunities (playground, obstacle fitness center, baseball field, rock climbing wall, etc.); as well as, physical education class. For overall health, the indoor air quality ASHRAE standards are met and monitored through Aircuity.

Visit our website – [www.warrencountyschools.org/richardsville](http://www.warrencountyschools.org/richardsville)

	Possible Points	Fayette Rosa Parks	Scott GMS	Warren Richardsville
Cross Cutting Questions - Participation in Green School Programs and/or awards for environmental and sustainability efforts	5.0	5.0	2.0	5.0
<b>PILLAR 1: Environmental Impact and Energy Efficiency</b> - Buildings, grounds and operations. The school has significant progress toward net zero environmental impact (zero carbon, solid waste, and hazardous waste footprints)	30.0	19.0	12.0	22.0
<b>ELEMENT 1A</b> - Reduced greenhouse gas emissions, using an energy audit or emissions inventory and reduction plan, cost-effective energy efficiency improvements and on-site renewable energy and/or purchase of green power	15.0	7.5	5.5	13.0
<b>ELEMENT 1B</b> - Improved water quality, efficiency, and conservation	5.0	3.5	2.5	2.0
<b>ELEMENT 1C</b> - Reduced solid waste production, through increased recycling, reduced consumption, and improved management, reduction, or elimination of hazardous waste streams	5.0	4.5	1.0	4.0
<b>ELEMENT 1D</b> - Expanded use of alternative transportation to, during and from school, through active promotion of locally-available options and implementation of enabling projects and policies	5.0	3.5	3.0	3.0
<b>PILLAR 2: Healthy School Environments</b> - Healthy Students and Staff. The school improves the health and performance of students and staff.	30.0	20.0	24.5	19.5
<b>ELEMENT 2A</b> - An integrated school environmental health program based on an operations and facility-wide environmental management system that considers student and staff health and safety in all practices related to design, construction, renovation, operations, and maintenance of schools and grounds	15.0	13.0	15.0	11.5
<b>ELEMENT 2B</b> - High standards of nutrition, fitness, and quantity of quality outdoor time for both students and staff	15.0	7.0	9.5	8.0
<b>PILLAR 3: Environmental and Sustainability Education</b> - 100% of the school's graduates are environmentally and sustainability literate	35.0	24.5	31.5	22.0
<b>ELEMENT 3A</b> - Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems	20.0	13.0	17.5	8.5
<b>ELEMENT 3B</b> - Use of the environment and sustainability to develop STEM content knowledge and thinking skills to prepare graduates for the 21st century technology-driven economy	5.0	3.5	5.0	5.0
<b>ELEMENT 3C</b> - Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community	10.0	8.0	9.0	8.5

<b>TOTAL</b>	<b>100.0</b>	<b>68.5</b>	<b>70.0</b>	<b>68.5</b>
<b>Cross Cutting Total</b>	<b>5.0</b>	<b>5.0</b>	<b>2.0</b>	<b>5.0</b>
<b>Pillar 1 Total</b>	<b>30.0</b>	<b>19.0</b>	<b>12.0</b>	<b>22.0</b>
<b>Pillar 2 Total</b>	<b>30.0</b>	<b>20.0</b>	<b>24.5</b>	<b>19.5</b>
<b>Pillar 3 Total</b>	<b>35.0</b>	<b>24.5</b>	<b>31.5</b>	<b>22.0</b>
<b>Sum</b>	<b>100.0</b>	<b>68.5</b>	<b>70.0</b>	<b>68.5</b>

**School Contact Information**

**School Name**

Richardsville Elementary

**Street Address**

1775 Richardsville Road

**City**

Bowling Green

**State**

KY

**Zip**

42101

**School Website**

[www.warrencountyschools.org/richardsville](http://www.warrencountyschools.org/richardsville)

**Principal First Name**

Janice

**Principal Last Name**

Casada

**Principal Email Address**

[janice.casada@warren.kyschools.us](mailto:janice.casada@warren.kyschools.us)

**Principal Phone Number**

270-777-3232

**Lead Applicant First Name (if different from principal)**

Manesha

**Lead Applicant Last Name (if different from principal)**

Ford

**Lead Applicant Email**

[manesha.ford@warren.kyschools.us](mailto:manesha.ford@warren.kyschools.us)

**Lead Applicant Phone Number**

270-777-3232

**District Number and District Name**

571 - Warren County

**Level**

Elementary (PK - 5 or 6)

Public

How would you describe your school?

Rural

Does your school have at least 40 percent of your students from a disadvantaged background? (In Kentucky, this is identified as "at least 40% of the school's average daily membership of students is approved for free & reduced lunch, as reported through the Student Information System".)

Yes

#### 4. Page Four

### Application Scoring Rubric

Kentucky will utilize the following points breakdown, provided by the USDOE, during the application evaluation process.

<u>Green Ribbon Pillars and Elements</u>	<u>Points</u>
<b>Cross-Cutting Questions:</b> Participation in Green School Programs and/or Awards for Environmental and Sustainability Efforts	5 points
<b><u>PILLAR 1 - Net zero environmental impact:</u></b>	
<b>Element 1A: Zero greenhouse gas (GHG) emissions</b>	15 points
Energy	
Buildings	
<b>Element 1B: Improved water quality, efficiency, and conservation</b>	5 points
Water	
Grounds	
<b>Element 1C: Reduced waste production</b>	5 points
Waste	
Hazardous waste	
<b>Element 1D: Use of alternative transportation to, during, and from school</b>	5 points
<b><u>PILLAR 2 - Positive impact on student and staff health:</u></b>	
<b>Element 2A: An integrated school environmental health program</b>	15 points
Integrated pest management	
Contaminant controls and ventilation	
Asthma control	
Indoor air quality	
Moisture control	
Chemical management	
<b>Element 2B: High standards of nutrition, fitness, and quantity of quality outdoor time</b>	15 points
Fitness and outdoor time	
Food and nutrition	
Ultra Violet (UV) safety	

<b>Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems</b>	<b>20 points</b>
<b>Element 3B: Use of the environment and sustainability to develop STEM content, knowledge, and thinking skills</b>	<b>5 points</b>
<b>Element 3C: Development and application of civic engagement knowledge and skills</b>	<b>10 points</b>
<b>TOTAL</b>	<b>100 points</b>

## 5. Page Five

**Q CC1: Is your school participating in a local, state, or nationally recognized green school program which asks you to benchmark progress in some fashion (for example, National Wildlife Federation Eco-Schools USA, Green Schools Alliance, Collaborative for High Performance Schools, or Project Learning Tree's Green Schools!)?**

Yes

**Which program(s) are you participating in and what level(s) have you achieved?**

Kentucky Energy Education Program for Schools (KEEPS) - Received Stewardship, Champion & Leadership 2011-2012; Leadership in Energy and Environmental Design (LEED) - Gold Certification; Energy Star - Score of 100; National Energy Education Development (NEED) - State winner for Junior Rookie of the Year 2010-2011 (included plug load study); Warren County Public Schools Energy Management program - School Energy Team won Elementary of the year and Overall School of the year; Energy Cost Avoidance Program - used with district to benchmark and track energy usage

**Q CC2: Has your school, staff or student body received any awards for environmental or sustainability stewardship/action?**

Yes

**Please list the awards you have received and the years you received them.**

Kentucky Energy Education Program for Schools (KEEPS) - Received Stewardship, Champion & Leadership 2011-2012; Leadership in Energy and Environmental Design (LEED) - Gold Certification; Energy Star - Score of 100; National Energy Education Development (NEED) - State winner for Junior Rookie of the Year 2010-2011 (included plug load study); Warren County Public Schools Energy Management program - School Energy Team won Elementary of the year and Overall School of the year

## 6. Page Six

### **Pillar 1: Environmental Impact and Energy Efficiency**

**Buildings, grounds and operations goal: The school has made significant progress toward "net zero" environmental impact (zero carbon, solid waste, and hazardous waste footprints).**

**Pillar 1 includes four main elements:**

**A) Reduced greenhouse gas emissions, using an energy audit or emissions inventory and reduction plan, cost-effective energy efficiency improvements and on-site renewable energy and/or purchase of green power.**

**B) Improved water quality, efficiency, and conservation.**

**C) Reduced solid waste production, through increased recycling, reduced consumption, and improved management, reduction, or elimination of hazardous waste stream.**

**D) Expanded use of alternative transportation to, during and from school, through active promotion of**

Each question in this section is designed to measure your school's progress towards Pillar 1 and its associated 4 elements.

## 7. Page Seven

**Q1A1: Can your school demonstrate a reduction in its greenhouse gas (GHG) emissions?**

Yes

**Please provide the following information:**

Initial GHG emissions rate (MT eCO<sub>2</sub>/person) : 2.01 MT eCO<sub>2</sub>/occupant per year

Final GHG emissions rate (MT eCO<sub>2</sub>/person) : .81 MT eCO<sub>2</sub>/occupant per year

Percentage reduction : 59.7%

Time period measured (mm/yyyy - mm/yyyy) : 1-1-11 to 1-1-12

How did you document this reduction (e.g., the inventory module from Clean Air Cool Planet's Campus Carbon Calculator)? :

Data comes from revenue grade building sub-metering. Total reduction is listed on annual reports from architect firm.

**Q1A2: Has your school received EPA ENERGY STAR certification or does it meet the requirements for ENERGY STAR certification?**

Yes

**If your school received the certification, please note the year it was achieved and the score received:**

2012 - Energy Star portfolio scored 100, application to EPA has been sent February 2012, official label pending

**Q1A3: Has your school reduced its total non-transportation energy use from an initial baseline?**

Yes

**Please provide the following information:**

Measurement unit used (kBtu/square foot, kBtu/student, annual therms, etc.) : 18.3 kBtu/square foot

Time period measured (mm/yyyy - mm/yyyy) : July 1, 2010 - June 30, 2011

How did you document this reduction (ie. ENERGY STAR portfolio, district report)? : ENERGY STAR portfolio,

Architect/Engineer Report (Sherman, Carter, Barnhart)

Percentage reduction : New facility

**Q1A4: What percentage of your school's energy is obtained from:**

On-site renewable energy generation : 100%

**In what year was your school constructed?**

2009-2012

**What is the total building area (gross square feet) of your school?**

72,285 square feet

**Q1A5: Has your school constructed a new building or renovated an existing building in the past ten years?**

Yes

**Please provide the following information:**

Percentage of the building area that meets green build standards (for example, LEED, CHPS, Green Globes or other standards)

: 100%

Which certification did you receive and at what level? : LEED Gold

What is the total constructed area? : 72,285 square feet

**Q1A6: Do any parts of your existing buildings meet green build standards (for example, LEED, CHPS, Green Globes, or**

Yes

**Please provide the following information:**

What percentage of the existing building area has achieved green build standards (LEED, CHPS, Green Globes, or other standards)? : 100%

What is the total building area (in sq. ft.)? : 72,285 square feet

Which certificate did the school receive and at what level? : LEED Gold

**Q1A7: Does your school reduce and/or offset the greenhouse gas emissions from building energy use?**

Yes

**Please provide the following information:**

Current total GHG emissions (MtCO<sub>2</sub>e) : 682.6 MT eCO<sub>2</sub>/year

Baseline total GHG emissions (MtCO<sub>2</sub>e) : 1137.7 eCO<sub>2</sub>/year

Change from baseline : 455.1 MT eCO<sub>2</sub>/year

Time period measured (mm/yyyy - mm/yyyy) : 1-1-11 to 1-1-12

List offsets used : direct (new energy efficient building and enough solar panel installed to provide energy for school building and additional homes)

**Q1A8: Please indicate which green building practices your school is using to ensure your building is energy efficient.**

School has fully implemented the Facility Energy Assessment Matrix within EPA's Guidelines for Energy Management.

School building has been assessed using the Federal Guiding Principles Checklist in Portfolio Manager.

School has an energy and water efficient product purchasing and procurement policy in place

Other (please describe): student led energy team

**8. Page Eight**

**Q1B1: Can you demonstrate a reduction in your school's total water consumption (measured in gallons/occupant) from an initial baseline?**

Yes

**Please provide the following information:**

Percentage reduction domestic : New Facility

Percentage reduction irrigation : New Facility

**Q1B2: Which of the following practices does your school employ to increase water efficiency and ensure quality? (Please check all that apply)**

Our school's landscaping is water-efficient and/or regionally appropriate.

**Please provide the following information about your school's landscaping:**

What percentage of your total landscaping is considered water-efficient or regionally appropriate? : 100%

What types of plants are used and where are they located? : Rain Garden at the side of the building (Elderberry, switchgrass, iris, boneset, marsh milkweed, black willow, black chokeberry, joe pye) Other landscaping in front of building (grasses, boxwood, etc)

**Please describe the alternate water sources used for irrigation. (Maximum 100 words)**

**Please describe the process used for cleaning taps, faucets, and fountains. (Maximum 100 words)**

**Please describe the program you have in place to control lead in drinking water. (Maximum 100 words)**

**Q1B3: Our school's drinking water comes from:**

Municipal water source

Please describe how the water source is protected from potential contaminants. (Maximum 100 words)

**Q 1B4: Please describe any additional progress your school has made towards improving water quality, efficiency, and conservation. (Maximum 200 words)**

Rain water collection system on the roof of the building pipe water to the Rain Garden (eliminated need for irrigation system). Sinks in bathrooms are hands free and run with photovoltaic cells. Automated Reduced Flow on urinals. All toilets are reduced flow. Geothermal System is designed to store hot water; therefore, eliminating the need for hot water heaters. Warren County Water District has provided an interactive display where students can learn about water quality and conservation.

## 9. Page Nine

**Q 1C1: What percentage of solid waste is diverted from landfilling or incinerating due to recycling and/or composting (i.e. Recycling Rate)?**

A - Monthly garbage service in cubic yards (garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected). : 360 cubic yards

B - Monthly recycling volume in cubic yards (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected). : 378 cubic yards

C - Monthly compostable materials volume(s) in cubic yards (food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected). : 0

Recycling Rate =  $(B + C) \div (A + B + C) \times 100$  : 51.22

**Q 1C2: What percentage of your school's total office/classroom paper content by cost is post-consumer 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? (If a product is only 30% recycled, only 30% of the cost should be counted.)**

It is in the district's energy conservation action plan to purchase recycled post-consumer material when economically feasible. Our school receives paper from the district. At this time it is not post-consumer material. The paper we use is FAScopy and it says "wood fibre from plantation and sustainable forest". This was used from August until Mid-February. Estimated for the year if we do not receive any more of this type would be - 70% of our total cost.

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

Starting mid February paper from the district comes from "Performace Paper" it is Elemental chlorine free. The approximate percentage for this paper if it is used the remainder of the year is 30%.

**Q 1C4: Please provide the following information about your school's hazardous waste.**

How much hazardous waste does your school produce (lbs/person/year)? : New facility (2010-2011) at this time we have not had any unwanted computers

How is the amount generated calculated? : N/A

List the types of hazardous waste generated. : Unwanted computer/electronic products; Cleaning products in our building are eco-friendly and not considered hazardous waste

How is hazardous waste monitored? : Computers and Electronics through our Technology Department

**Q 1C5: Which of the following benchmarks has your school achieved to minimize and safely manage hazardous waste? (Please check all that apply.)**

Our school disposes of unwanted computer and electronic products through an approved recycling facility or program.

**Which green cleaning standard is used?**

**Q 1C6: Does your school use "third party certified" green cleaning products?**

Yes

**Please provide the following information about the green cleaning products used in your school:**

What specific green cleaning product standard (Green Seal, Ecologo, etc.) does the school use? : Green Seal Certified and Ecofriendly

**Q1C7: What other indicators do you have of your school's reduction of solid waste and elimination of hazardous waste? (Maximum 200 words)**

School-wide recycling program (including cafeteria) is implemented. The student energy team promotes recycling and holds contest during the year. We also have one hallway in the building dedicated to recycling. The hallway has two different learning walls for teachers to incorporate lessons in their curriculum.

**Q1D1: What percentage of your students walk, bike, bus, or carpool (2 or more students in the car) to/from school?**

Walking - .9%, Carpool (2 or more students) - 11.8%, Car (only 1 student) - 8.7%, bus - 78.6%, bike - 0%

**How was this data collected and calculated? (Maximum 100 words)**

Number of students walking and carpooling was tallied after school. A bicycle rack and bike lane is available; however, we are a rural school and it is unsafe for young children to ride their bike on the main road.

**Q1D2: Which of the following policies or programs has your school implemented?**

Our school has a well-publicized no idling policy that applies to all vehicles (including school buses). Vehicle loading/unloading areas are at least 25 feet from building air intakes, doors, and windows.

**Q1D3: Please describe how your school transportation use is efficient and has reduced environmental impacts (e.g. the percentage of school-owned electric/hybrid/alternative fuel vehicles in your fleet, or other indicators of significant reductions in emissions).**

The district owns 4 hybrid busses. Bus routes are annually monitored to ensure the most efficient route possible; therefore, reducing emission and fuel usage. Our district transportation department is energy star labeled. The district utilized burnt oil from the busses to heat the transportation department.

**Q1D4: What percentage of the school grounds are devoted to ecologically beneficial uses (school vegetable garden, wildlife or native plant habitats, outdoor classroom, environmental restoration projects, rain garden, etc.) or socially/culturally beneficial uses (e.g. playgrounds, outdoor spaces designed and used regularly for social interaction, athletic or recreational areas, walking or running trails etc.)?**

Approximately 80% of school grounds are used for socially/culturally beneficial uses and/or devoted to ecologically beneficial uses. Most of these areas are currently in place. Being a new facility some of the outdoor plans are still in progress and should be completed this school year. We have the following areas: Rain Garden, Native plant habitat, Outdoor classroom, playground, Baseball field, basketball court, walking trail, school garden/compost (planned for 2012-2013)

**Q1D5: This is the end of Pillar 1. Please describe any other accomplishments or progress your school has made towards reducing/eliminating environmental impacts or improving your energy efficiency. (Maximum 200 words)**

We are the first net zero building in the nation due to the use of Solar panels (208 kW amorphous thin film panels & 140 kW mono-crystalline panels) that offset the total energy consumption. The building was constructed using Insulated Concrete Form (I.C.F) walls. Daylighting Features are used throughout the building. These include clerestory windows in classrooms, automated daylight-dimming controls, exterior/interior light shelves, solar tubes, and clerestory "spine" that runs the length of the building. Geothermal Energy System is used for heating and cooling. Building is oriented north-south to support daylighting and maximize the output of solar panels. The kitchen uses all energy star equipment in addition to combi-ovens that are utilized in place of fryers or tilting skillets, eliminating the need for Class 1 hoods. Renewable Materials were used in the construction (soy-based stained concrete, porcelain pavers, bamboo flooring, etc.). Wireless technology is used throughout the building so laptops can be utilized by students; therefore, reducing plug loads. Laptops also generated less heat saving on air conditioning cost. LED lighting is used in outdoor spaces. Aircurity is utilized throughout the building to monitor CO2 levels. Learning walls(water, solar, geothermal, recycling)throughout building.

**Healthy student and staff environment goal: The school improves the health and performance of students and staff.**

**Pillar 2 includes two main Elements:**

**A) An integrated school environmental health program based on an operations and facility-wide environmental management system that considers student and staff health and safety in all practices related to design, construction, renovation, operations, and maintenance of schools and grounds.**

**B) High standards of nutrition, fitness, and quantity of quality outdoor time for both students and staff.**

**Each question in this section is designed to measure your school's progress toward Pillar 2.**

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**Q2A1: Which of the following practices does your school employ with regards to pest management? (Please check all that apply)**

Our school has an integrated pest management plan in place to reduce and/or eliminate pesticides.

Pest control policies, methods of application, and posting requirements are provided to parents and school employees.

Copies of pesticide labels, copies of notices, MSDS and annual summaries of pesticide applications are all available and in an accessible location.

Our school prohibits children from entering a treated area for at least 8 hours after the treatment, or longer if required by the pesticide label.

**Q2A2: Which of the following practices does your school employ to improve contaminant control and ventilation? (Please check all that apply)**

Our school meets ASHRAE Standard 62.1-2010 (Ventilation for acceptable indoor air quality).

Our school has installed one or more energy recovery ventilation systems to bring in fresh air while recovering the heating or cooling from the conditioned air.

Our school has CO alarms that meet the requirements of the National Fire Protection Association code 720.

There are no wood structures on school grounds that contain chromate copper arsenate.

Our school visually inspects all structures on a monthly basis to ensure they are free of mold, moisture, and water leakage.

Our school's indoor relative humidity is maintained below 60%.

Our school has moisture resistant materials/protective systems installed (ie. flooring, tub/shower, backing, and piping).

Our school has a chemical management program that includes: chemical purchasing policy (low or no-VOC products), storage and labeling, training and handling, hazard communication, spills (clean up and disposal), and selecting third-party certified green cleaning products.

Our school prohibits smoking on campus and in public school buses.

If your school has combustion appliances, is there an inventory of them and are they annually inspected to ensure they are not releasing Carbon Monoxide? (yes/no/no combustion appliances): No combustion appliances

What percentage of all classrooms with radon levels greater than 4 pCi/L have been mitigated in conformance with ASTM E2121?: Not tested

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**Q2B1: Which practices does your school employ to promote nutrition, physical activity and overall school health? (Please check all that apply)**

Our school participates in the USDA's HealthierUS School Challenge or another nutrition program.

Our school participates in a Farm to School program or other program to utilize local food in our cafeteria.

Our students spent an average of at least 120 minutes per week over the past year in school supervised physical education.

At least 50% of our students' annual physical education takes place outdoors.

**Please list your school's USDA HealthierUS School Challenge award level or describe another nutrition program.**

Richardsville Elementary cafeteria focuses on the USDA Dietary Guidelines by offering whole grains and fresh fruits and vegetables every day. We provide an item with vitamin C each day, and legumes are served once per week. Only low-fat and fat-free flavored and unflavored milk is offered each day. We are a Team Nutrition and Award of Excellence school, and participate in Vegetable Treasures, a local program. Vegetable Treasures offers students larger portions and a wider variety of vegetables; students are not charged for an extra, different vegetable added to their meal. Cafeteria Manager Valarie Twidwell is certified at the state and national (School Nutrition Association) levels. Team Nutrition is an initiative of the USDA Food and Nutrition Service to support Child Nutrition Programs through training and technical assistance, for healthy eating and physical activity. We have developed best practices to decrease energy consumption and increase the nutrition for every meal served at our school. For example, no fryers are used to prepare foods, even French "fries."

**Please describe the type of outdoor exercise opportunities and nature-based recreation available to students. (Maximum 200 words)**

Outdoor exercise opportunities - Playground equipment (includes an obstacle fitness cluster), basketball court, baseball field, and walking trail. These should all be completed spring 2012. Nature-based recreation - We have a rock-climbing wall in our gym that is developmentally appropriate for elementary students.

**Q2B2: What percentage (by cost) of food purchased by your school is certified as "environmentally preferable" (e.g. Organic, FairTrade, Food Alliance, Rainforest Alliance, etc.)?**

Approximately \$10,000 is spent annually on fresh fruits and vegetables at our school. About 6% of that total is used to purchase Farm-to-School produce. We also purchase from local and regional produce vendors, such as Jackson's Orchard and LadyBug Lane. We purchase according to seasonal availability to provide students with fresh fruits and vegetables that they will enjoy.

**Q2B3: This is the end of Pillar 2. Please describe any additional progress your school has made in terms of the school's built and natural environment (including unique community and/or business partnerships) to promote overall student and staff health and safety. (Maximum 200 words)**

\*Each year the Family Resource Center host a Health and Safety fair. This fair brings in community members to promote health and safety. \*Pennyrile Allied Community Services (PACS) comes to our school each year to work with students on nutrition. \*An effort is made to incorporate health and safety into school events (example: For Dr. Suess family night the district food service coordinator will do a nutrition activity using the book Oh the Things You Can Do That Are Good For You.) \*Nutrition - Fried foods have been eliminated in our cafeteria. \*Rock Climbing Wall in gym that is used as part of physical education classes.

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### **Pillar 3: Environmental and Sustainability Education**

**Student achievement goal: 100% of the school's graduates are environmentally and sustainability literate.**

**Pillar 3 includes three main Elements:**

- 1) Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems.**
- 2) Use of the environment and sustainability to develop STEM content knowledge and thinking skills to prepare graduates for the 21st century technology-driven economy.**
- 3) Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community.**

**Each question in this section is designed to measure your school's progress toward Pillar 3.**

**Q3A1: Which practices does your school employ to help ensure the environmental and sustainability literacy of your graduates? (Please check all that apply)**

Environmental and sustainability concepts are integrated throughout the curriculum.

Professional development opportunities in environmental and sustainability education are provided for all teachers.

**Please describe your school's environmental or sustainability literacy graduation requirement. (Maximum 200 words)**

**Please describe your classroom-based or schoolwide assessments in environmental and sustainability concepts and include what percentage of students scored "proficient" or better. (Maximum 200 words)**

**Please describe professional development opportunities available in environmental and sustainability standards. Include the percentage of teachers who participated in these opportunities over the past 2 years. (Maximum 200 words)**

\*75% of teachers have received Professional Development through National Energy Education Development (NEED) that educates staff about energy sources and conservation. \*100% of teachers participated in "Science of Energy" kit from NEED provided by the Student Energy Team. \*Energy Team Leader has participated in the following: Energy & Environmental Sustainability Meeting with Ky. NEED and Kentucky Green and Healthy Schools through GRREC, District Energy training each year, National Green Schools Conference, NEED National Teachers Conference, partnership with Environmental Sustainability department at Western Kentucky University

**Q3A2: If your school serves grades 9-12, please provide the following information:**

**Q3B1: Do your school's science courses frequently use sustainability and the environment as a context for learning science (such as asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations, and engaging in argument from evidence when exploring environmental and sustainability issues)?**

Yes

**Please describe. Include the percentage of students enrolled in environmental and other earth science courses and include assessment results for those students. Please identify post-secondary school or career intended focus areas of graduating students. (Maximum 200 words)**

Environmental responsibility is integrated throughout the school in our learning murals and themed hallways (solar, geothermal, recycling, water conservation). Student Energy Team members lead tours, give energy tips, complete energy audits and hold school-wide and community events that focus on energy conservation and sustainability. Teachers integrate these concepts in the classroom when applicable. The school has an energy conservation curriculum plan (around NEED materials) and maintains an overall atmosphere of conservation and environmental responsibility.

**Q3B2: If your school is a high school, does your school curriculum make connections between classroom and college and career readiness, in particular post-secondary options in environmental and sustainability fields (for example, CTE Green Sustainable Design and Technology course)?**

**Please describe these college and career connections. (Maximum 200 words)**

**Q3C1: Do students conduct an age-appropriate, self-selected, civic/community engagement project at every grade level?**

Not at all grade levels

**If not in all grades, please specify which grades.**

4th - 6th grade

**What percentage of last year's graduates scored proficient or better on a community or civic engagement skills assessment?**

Not Applicable

**Please provide the following information:**

What percentage of these projects focus on environmental or sustainability topics? 100% (Energy Carnival, Solid Waste

What percentage of students completed such a project last year? : Students on the Energy Team (approximately 10% of total population) complete, display and explain/demonstrate project; 100% of students in the building attend the event

**Q 3C2: Do students have meaningful outdoor learning experiences (experiences that engage students in critical thinking, problem solving and decision making) at every grade level?**

Yes

**If not in all grades, please specify which grades.**

**Please share how outdoor learning is used to teach an array of subjects in contexts, engage the broader community, and develop civic skills. (Maximum 200 words)**

It is in the long term plans to develop lessons for outdoor learning. At this time not all outdoor areas are completed. This should be in place by 2012-2013. We would like to see a school garden and learning stations along the walking trail. Last year the planting of the rain garden was discussed with all grades. Students K-6th were suppose to help plant the rain garden; however, excessive rainfall in May did make it possible for students to participate.

**Q 3C4: Please describe your partnerships with the local community (e.g., academic, business, government, nonprofit and informal science institutions) to help advance your school, other schools (especially schools with fewer resources) and the greater community toward the 3 Pillars. Include both the scope and impact of these partnerships. (Maximum 300 words)**

\*Starting 2011-2012 we are partnering with the Environmental Education department at Western Kentucky University. Teachers and interns from the department are working with the energy team to complete a plug load study and support the team in conducting a community wide Energy Conservation Fair. This partnership will directly impact the energy team students and indirectly impact all students in the building through the energy fair. It will also impact community members attending the community day event. \*Warren County Water District (WCWD) partnered with us to complete a learning wall about water conservation and the water cycle. This impacts 100% of students in the building. \*Bowling Green Municipal Utilities, Warren Rural Electric Coop, WCWD, TVA and Atmos Energy are partnering with the district's energy conservation program (RACE - Respect and Conserve Energy) to sponsor activities for school energy teams during a county wide awards event. This will impact our energy team by providing environmental education activities that can be brought back to the entire student body. \*Sherman-Carter-Barnhart Architecture firm - They have helped with learning walls and professional development opportunities. They partner with us to complete student-led tours of the building. This impacts all students in the building. \*TVA Generation Partners Program - They buy back all of the renewable energy that is created. This enable us to be net zero impacting our students and community. \*G&R Recycling - They are a single stream company that picks up weekly. They also sort and pay us for aluminum. This impacts 100% of student through recycling education and money to provide rewards for recycling contest.

**Q 3C5: This is the end of Pillar 3. Please describe other methods and measurements your school uses to ensure matriculating students are environmentally and sustainability literate. (Maximum 200 words)**

Everything about our building supports students that will be environmental citizens that are responsible and understand energy conservation. We have integrated building concepts into our everyday lives. Highlights of the our school are: learning walls, school-wide recycling, curriculum that supports sustainability, a student energy team, energy tips at town meeting, school-wide contest for recycling, student led tours of the building, monthly student led energy audits, monthly recognition/awards for classrooms meeting energy audit goals, participation in district energy conservation program (RACE), participation in NEED youth awards (state & national), teachers attending professional development, partnerships with community, integration of green and healthy school concepts into school events (examples: Dr. Seuss Family Fun Night has a nutrition and energy activity, Career Day will include careers dealing with environmental education and sustainability), participation in media projects (National Geographic documentary, local media, etc)

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**This concludes your Green Ribbon Schools Application. Please take a moment to make sure you've answered every question to the best of your ability. Once you proceed past this page, your application is considered submitted and will not be available for further editing.**