

Kansas Green Ribbon 2012 Nominee



Erie High School

Unified School District 101

PART I - ELIGIBILITY CERTIFICATION

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

Official School Name Erie High School
(As it should appear in the official records)

School Mailing Address 1400 N. Main, PO Box 139
(If address is P.O. Box, also include street address.)

Erie KS 66733
City State Zip

County Neosho State School Code Number* 0113

Telephone (620) 244-3287 Fax (620) 244-3290

Web site/URL www.usd101.com E-mail soliver@usd101.com

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.

Steve Oliver Date 3-20-12
(Principal's Signature)

Name of Superintendent* Dr. John Wyrick
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name* CUSD #101 - Erie/Galesburg Tel. (620) 244-3264

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.

John Wyrick Date 3-20-12
(Superintendent's Signature)

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

PART II – SUMMARY OF ACHIEVEMENTS

ERIE HIGH SCHOOL

Erie High School is high performance high school located in southeast Kansas with a curricular focus on environmental awareness. This rural southeast Kansas school is the first Leadership in Energy and Environmental Design (LEED) certified high school and the first LEED Gold (48 points) K-12 educational building in the state of Kansas. Recently, we have applied to become an Energy Star rated facility.

Our application rating is currently a 94. This environment friendly building is the result of a successful 2007 bond initiative. To promote environmentally friendly practices throughout the school and community, Erie High School formed a student “Green Team”.

Erie High School incorporates numerous green building strategies including extensive use of daylight, energy efficient equipment, water saving fixtures, and sustainable materials.

Classrooms, offices, conference rooms, locker rooms, restrooms, commons area, corridors and mechanical, electrical and storage rooms utilize lighting occupancy sensors. Daylight sensors in the designated areas can reduce and turn off electric lighting when daylight is sufficient.

Erie High Schools’ heating, ventilation, and air conditioning (HVAC) consists of a vertical closed looped geo exchange well field under the football practice fields. Water to air heat pump systems provide the buildings heating and cooling. Dedicated outside air heat-pumps condition raw outside air with energy recovery wheels to supply code compliant ventilation with reduced energy consumption.

This geo-exchange HVAC system includes active humidity control with energy recovery wheels used in energy recovery ventilation.

Each classroom is provided with its own temperature, humidity and CO2 monitoring and adjustments to improve occupant comfort, satisfaction, air quality, and energy conservation. Over 95% of all classroom and core learning spaces and 76% of the non-classroom regularly occupied spaces have extensive daylighting from windows, translucent structural composites used for vertical glazing and overhead skylights, and tubular skylights.

Ultra low flow faucets with automatic sensor operation are used throughout the building to improve water efficiency. Also to conserve water the students on the Green Team researched and recommended to our Board of Education the type of grasses and landscaping to be used that would require no supplemental watering after the first year of establishment for our campus.

Students and visitors to Erie High School will find preferred parking spaces for those who choose to carpool or drive a low emitting and fuel efficient vehicle.

Low-toxicity building products such as adhesives and sealants, paints and coatings and carpeting were used to reduce the quantity of indoor air contaminants and provide a healthier working and learning environment. To maintain a low-toxicity level, a comprehensive green cleaning program has been implemented to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical contaminants that adversely impact air quality, occupant well-being, and the environment.

To expand our air quality control beyond the walls of the building, our student Green Team successfully lead an effort to establish a tobacco free campus.

A portion of Erie High Schools' curriculum is delivered through a project based learning model that includes meaningful outdoor experiences such as a cattle operation that includes livestock reproduction, a lasagna garden, an onsite pond and locally accessible river where students study water quality, species substantiation, and erosion issues. The schools' natural habitat area allows for projects and prairie identification, animal identification and tracking, native grasses and xeriscaping.

The building is used as a learning tool for our students. We also include a walking tour that was designed and organized by our student lead Green Team. Throughout our campus we have signage focusing on the environmental features of the building and surrounding areas.

Our student Green Team is very involved in developing our Green awareness in our school district. Through their efforts we have designated two days out of our school year as 'Green Day Celebration Days". During the course of these days students rotate from a range of one to two hour student led sessions that include hands on activities, question and answer sessions and assessments. Session topics include such items as compositing, lasagna gardening, grasses in Kansas, fossil fuels vs. solar power, erosion, recycling, food of the rain forest, make your own paper and water quality. These sessions are organized and presented by the students. All of our Green Activities are developed and organized by our High School Student Green Team.

Erie High School is very active in promoting our recycling efforts. Placement of recycling containers throughout the campus enables our students and staff to participate in recycling. Through our efforts of recycling we have seen an increase in recycling participation within our community.

Although we are a small rural southeast Kansas High School, we are very proud of our building and campus along with the efforts we have made as a school and community to promote environmentally friendly practices.

PART III – DOCUMENTATION OF STATE EVALUATION OF NOMINEE

III.A – Nomination Committee Summary

The Kansas Green Ribbon Review Committee recommends Erie High School (EHS) for a Green Ribbon award as they have a solid foundation in all three pillars of the award. EHS is a recognized LEED certified school, with indication that there is some assessment of environmental literacy at the school. The EHS application demonstrates evidence of career connections and meaningful green STEM engagement with students. EHS provides impressive training

Green School Programs and/or Awards for Environmental and Sustainability Efforts(5)	Pillar 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems (20)	Pillar 3B: Use of the environment and sustainability to develop STEM content knowledge, and thinking skills (10)	Pillar 3C: Development and application of civic engagement knowledge and skills (10)	Pillar 2A: An integrated school environmental health program (15)	Pillar 2B: High standards of nutrition, fitness, and quantity of quality outdoor time (5)	Pillar 1A: Zero greenhouse gas emissions • Energy • Buildings (15)	Pillar 1B: Improved water quality, efficiency, and conservation • Water • Grounds (5)	Pillar 1C: Reduced waste production • Waste • Hazardous waste (5)	Pillar 1D: Use of alternative transportation to, during, and from school (5)	TOTAL
3.67	16.75	7.25	6.50	11.75	3.00	11.25	4.00	3.50	4.00	71.67

for students to become environmental education leaders in the school community and strong evidence of community partnerships.

III.B – Application and Supporting Materials

Kansas translated the application into a survey that allowed responses to be collected online. A link to the survey and the workbook of resources that were provided to support those applying can be found at <http://www.kansasgreenschools.org/kansas-green-ribbon-schools>. The following information comes directly from the survey as it was submitted:

1. Name of School:

ERIE HIGH SCHOOL

2. School Type: (check all that apply)

High

3. School District Number:

USD101

4. School Address:

Address: - 1400 N Main

Address 2: - PO Box 139

City/Town: - ERIE

State: - KS

ZIP: - 66733

Country: - United States

Phone Number: - 620-244-3287

5. Contact Person:

Name: - Steve Oliver

Email Address: - soliver@usd101.com

Phone Number: - 620-244-3287

6. School Demographics--Approximately what percentage of your school's students qualify for:

Free Lunch: - 41

Reduced Lunch: - 8

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1. Learning and Environmental Literacy Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems What PERCENTAGE of last year's graduates scored proficient or better during their high school career on state or school:

Environmental education assessments? (___%) - 100

Sustainability assessments? (___%) - 100

Environmental science assessments? (___%) - 100

2. Briefly describe the assessment(s):

All students were assessed in environmental education, sustainability knowledge, and environmental science using a variety of methods which included multiple choice, true/false, short answer as well as hands-on activities.

3. Does your school or your state have an environmental or sustainability literacy graduation requirement?

No

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4. Are environmental and sustainability concepts integrated throughout the curriculum?

Yes

Environmental and sustainability concepts are integrated throughout the required curriculum. Standard 1 is integrated in Earth & Space science, Standard 2 in Biology, Standard 3 in both Earth & Space and Biology, and Standards 4 & 5 are covered in science and social science courses. School-wide Green Days are held each semester for all students and staff. All science classes have environmental components. The school is designed as a teaching tool with signs throughout explaining the green features. English and history classes address environmental topics.

5. Advanced Placement Environmental Science

What percentage of your eligible graduates last year completed Advanced Placement Environmental Science during their school career? (indicate N/A if not applicable) - NA

What percentage of these students scored 3 or better on the Advanced Placement Environmental Science assessment? (indicate N/A if not applicable) - NA

6. If your 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? (indicate N/A if not applicable)

100

7. Are professional development opportunities in environmental and sustainability education available to all teachers at least every other year?

Yes

All staff are trained twice a year during environmental science days by trained students. In addition, members of our staff have attended Project Learning Tree, Wild & Wild Aquatic, WET, and Kansas School Gardening workshops. A number of our students have also attended these trainings.

8. Does your environmental education program pay particular attention to scientific practices, such as asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations, and engaging in argument and applications based on evidence?

Yes

Break-out sessions during Green Days include hands-on activities. Question and answer sessions and assessments are held. Our student-led Green Team performs all of the above. The Green Team continues to monitor energy efficiency.

9. Do your students have meaningful outdoor experiences (an investigative or experiential project that engages students in critical thinking, problem solving and decision making) at every grade level?

Yes

The curriculum is delivered through project-based learning that includes meaningful outdoor experiences such as a cattle operation that includes livestock reproduction which addresses artificial insemination, embryo transfer, pregnancy checks and the maintenance and general care of livestock. Other projects include a Lasagna garden, an on-site pond and locally-accessible river where students study water quality, species substantiation, and erosion issues. The school's natural habitat area allows for projects in prairie identification, animal identification and tracking, native grasses and xeriscaping.

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1. Do all your students experience a robust general science education builds toward a deep understanding of life, physical, and earth sciences upon graduation?

Yes

All students must take 3yrs. of science in which all environmental standards and state science standards are

incorporated. All 9th graders take Biology. All 10th Graders take Earth and Space. All 11th and 12th graders choose from Physics, Chemistry or Anatomy and Physiology. Environmental Science class currently has 8% enrollment and is available to students at all grade levels.

2. 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

The curriculum provides career readiness and post-secondary readiness through career assessment, career pathways and expert mentors in their fields who work with students on environmental projects.

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

No

At this time this opportunity is optional; however, we have a number of students working on various endeavors such as the school/community garden, city park restoration, cattle operation, pond erosion, xeriscaping, water-quality testing along the Neosho River, school/community recycling, green building education, and gardening and recycling at the elementary school.

2. Do you partner with local academic, businesses, government, nonprofits, informal science institutions and/or other schools to help advance the school and community toward the 3 Pillars and/or assist the progress of other schools, particularly schools with lesser capacity in these areas?

Yes

We work with local entities to advance the three pillars by incorporating Green Building education and partnering with PBA Architects, Erie Area Foundation, Chamber of Commerce, SEK Genetics, City of Erie, Earthly Ideas LLC of Durango CO, Brian Hollis Landscape, Henderson Engineering, Allied Laboratories. Our partners also include a host of local scientists and community leaders. The list of complete partners can be viewed at www.remarkablelearners.com.

3. Do you have outdoor classrooms on your grounds which include native plantings and do you use them to teach an array of subjects in context, engage the broader community and develop civic skills?

Yes

The outdoor classroom includes native grasses and plants, a pond, a garden, and a pasture area. They are used by science classes, agriculture classes, the Green Team and PLP (Personalized Learning Program) students.

4. What percentage of last year's graduates scored proficient or better on a community or civic engagement skills assessment? (indicate N/A if not applicable)

NA

5. What other indicators or benchmarks (quantified whenever possible) of your progress towards the goal of 100% of your graduates being environmental and sustainability literate do you feel should be considered? (including information from completion of the Kansas Green Schools Learning Community Investigation)

Attendance at our Environmental Green Days. The goal is for each student to attend intensive 16-hour training sessions. We are currently working toward student completion of the Kansas Green Schools Learning Community Investigation.

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1. Integrated Pest Management

	Yes	No
Do you have an integrated pest management plan in effect to reduce or eliminate pesticides?		X

Do you provide notification of your pest control policies, methods of application and requirements for posting and pre-notification to parents and school employees? X

Do you maintain annual summaries of pesticide applications, copies of pesticide labels, copies of notices and MSDSs in an accessible location? X

Do you 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? X

2. Ventilation

Yes No

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? X

Have you installed energy recovery ventilation systems where feasible to bring in fresh air while recovering the heating or cooling from the conditioned air? X

Does your school meet the stricter of: ASHRAE Standard 62.1-2010 (Ventilation for Acceptable Indoor Air Quality) OR your state or local code? X

Which one? : ASHRAE Standard 62.1-2010

3. Contaminant Controls: Radon--Have all ground-contact classrooms been tested for radon within the past 24 months?

No

4. Carbon Monoxide (CO): If you have combustion appliances, do you have an inventory of all combustion appliances and do you annually inspect these appliances?

Yes

5. Carbon Monoxide (CO): Are CO alarms installed which meet the requirements of the National Fire Protection Association code 720?

No

6. Mercury:

Yes No

Have all unnecessary mercury containing devices been replaced with non-mercury devices? X

Do you recycle or dispose of unwanted mercury laboratory chemicals, mercury thermometers, gauges and other devices in accordance with federal, state and local environmental regulations? X

Explain:: We currently have no Mercury containing devices in our classrooms

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

Not Applicable

8. Secondhand Tobacco Smoke: Is smoking prohibited on campus?

Yes

9. Asthma Control: Do you have an asthma management program in place consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools Guidelines?

No

10. Indoor Air quality: Have you developed and implemented a comprehensive indoor air quality management program consistent with IAQ Tools for Schools?

Yes

11. Moisture Control:

	Yes	No
Are all structures visually inspected on a regular basis and free of mold, moisture & water leakage?	X	
Is indoor relative humidity maintained below 60% (cold climates during freezing temperatures should target 20-30%)?		X
Are moisture resistant materials/protective systems installed (e.g., flooring, tub/shower, backing, and piping)?	X	

12. Chemical Management: Do you have a chemical management program in place that includes the following elements:

	Yes	No
Chemical purchasing policy, including low- or no-VOC products	X	
Chemical inventory	X	
Storage and labeling	X	
Training and handling	X	
Hazard communication	X	
Spills, clean-up and disposal	X	
Select EPA's Design for the Environment - approved cleaning products	X	

Explain:: We follow guidelines set forth by Flinn Scientific Chemical Company and OSHA

13. Describe any other measures regarding the school's built and natural environment that you take to protect student and staff health and which you feel should be considered (including documentation from completion of the Kansas Green Schools Healthy School Environment Investigation):

Active humidity controls are built into HVAC systems. Energy recovery wheels are used in energy recovery ventilation to maintain proper humidity in building. We also have carbon dioxide sensors in all spaces.

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1. Fitness and Outdoor Time

What percentage of your students over the past year engaged in at least 150 minutes of school-supervised physical education and/or outdoor time per week? - 47%

What is the average amount of time over the past year that each student engages in school-supervised physical education and/or outdoor time per week in minutes? - 255

2. Food

Have you earned USDA's Healthier US School Challenge award for school food? - No, we have not applied.

3. UV Protection: What percentage of your current student body has participated in EPA's Sunwise Program or an equivalent program?

0%

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1. Has your school received EPA's ENERGY STAR certification?

Yes

We are currently awaiting certification and are rated 94. See supporting document.

2. Non-transportation energy reduction: If you have reduced your total non-transportation energy use (i.e., electricity and temperature control) from an initial baseline, please provide:

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Percentage reduction: - Baseline has just been established.

What documents can you provide to document this reduction (such as ENERGY STAR Portfolio Manager reports) if requested? - Energy Star Portfolio Manager

3. What percentage of your energy consumption is derived from:

Percentage of energy consumption from purchased renewable energy: - 13%

4. BUILDINGS (new construction or renovation): If you have constructed and/or renovated buildings in the past three years, (indicate N/A if not applicable)

What percentage of the building area meets Leadership in Energy and Environmental Design (LEED), Collaborative for High Performing Schools (CHPS), Green Globes or other standards? - 81.39%

What is the total constructed area? - 107,802

What is the total renovated area? - N/A

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

5. BUILDINGS (existing):

What percentage of your total existing building area has achieved LEED Existing Buildings: Operation & Maintenance, CHPS Operations, Green Globes or other standards? - N/A

What is the total building area? - N/A

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

6. Greenhouse Gas Emissions: If you reduce or offset the GHG emissions from building energy use, please provide:

No Response

7. Explain any offsets of greenhouse gases used:

No Response

8. School Building Energy Management

	Yes	No
Have you fully implemented the Facility Energy Assessment Matrix within EPA's Guidelines for Energy Management?		X
Has the school building been assessed using the Federal Guiding Principles Checklist in Portfolio Manager?	X	

9. What percentage by cost of all your furniture purchases is certified under the Business and Institutional Furniture Manufacturers Association's "level" ecolabel?

0

10. Is an energy and water efficient product purchasing and procurement policy in place?

No

11. Other indicators of your progress towards elimination of greenhouse gas emissions (describe in detail and include metrics if available including information from completion of the Kansas Green Schools Energy Investigation)

No Response

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

No Response

2. What documents will you provide to document this reduction (such as ENERGY STAR Portfolio Manager reports, Kansas Green Schools Water Investigation) if requested?

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We have just established our Baseline Data for our Energy Star Portfolio Manager.

3. How often do you conduct audits of facilities and irrigation systems to ensure they are free of significant water leaks and to identify opportunities for savings?

Monthly

4. Describe how your site grading and your irrigation system and schedule is appropriate for your climate, soil conditions, plant materials, and climate, with an emphasis on water conservation:

We have on our property a retention/detention basin that receives stormwater runoff from the majority of the developed site. The ponds purpose is to provide retention storage and treat small storm runoff. These management measures allowed the peak rate and quantity of stormwater discharge from the developed site to not exceed those of the undeveloped site.

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

Yes

The Landscape was designed with no irrigation systems. All plant materials selected are native or adapted to the region and require no supplemental watering after the first year.

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

No

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

N/A

8. Do you 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

The city of Erie, our water supplier, conducts random sampling.

9. Have you been cited within the past three years for failure to meet federal, state or local potable water quality standards?

No

10. 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

Weekly if not daily depending on time of the year and usage.

11. Other ways you are working to improve water quality, efficiency, and conservation (including action plans from Kansas Green Schools Water Investigation):

We have installed low-flow toilets, ultra low-flow urinals, ultra low-flow faucets with automatic sensor operation, low-flow kitchen faucets and low-flow shower heads resulting in a 41.8 percent savings over baseline fixture performance requirements of the Energy Policy Act of 1992

12. What percentage of your school grounds are devoted to ecologically or socially beneficial uses, including those that give consideration to native wildlife? Describe:

We have an undisturbed area equal to 750,778 square feet for the life of our building. This amount of protected and restored open space significantly exceeds the building footprint, which earned a LEED innovation credit.

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1. What percentage of waste is diverted from the landfill or incinerator by reuse, composting, and/or recycling: (calculate total amount reused, composted or recycled/total amount reused, composted or recycled used + total sent to a landfill or incinerator)

76.3% of building construction waste

2. What percentage of 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 paper is only 30% recycled, only 30% of the cost of that paper should be counted towards the recycled portion. To calculate the percentage, multiply the percentage of recycled content by the cost for each paper item, add the totals of these calculations and then divide by the total cost of your paper purchases)

\$ 45

3. What percentage of total office/classroom paper content by cost is "totally chlorine-free" (TCF) or "processed-chlorine-free" (PCF: (see calculation method in question above)

Unknown

4. HAZARDOUS WASTE: Please answer all the questions below if possible regarding elimination of hazardous waste streams.

	Yes	No	Not Applicable
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?	X		
Has your school been cited within three years for improper management of hazardous waste according to Federal and State regulations?		X	

Comments:: Our school follows guidelines set forth by Flinn Scientific Chemical Company and OSHA

5. How much hazardous waste does your school generate in pounds/student/year?

None

6. Describe the types of hazardous waste, how hazardous waste is monitored and how the amount above is calculated:

N/A

7. What percentage of total computer purchases by cost are Electronic Product Environmental Assessment Tool (EPEAT) certified products?

2%

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

We send computers, monitors and keyboards to Apple for recycling. Batteries are sent to Call2Recycle www.call2recycle.org Everything else goes to an E-Waste recycle station in the area.

9. What percentage by cost of all cleaning products in use are certified "green," or can otherwise demonstrate that they meet the environmental standards of established eco-label programs?

99%

10. Which eco-label program standard(s) is your school using?

Green Earth

11. Custodial Services

	Yes	No
Is your school custodial program based in the principles of effective management and "green" service?	X	

Has your school custodial program been certified by the ISSA Cleaning Industry Management Standard - Green Building (or an equivalent standard)? X

Comment:

12. Other indicators that you are reducing waste and eliminating hazardous waste (including action plans from Kansas Green Schools Waste and Recycling Investigation):

No Response

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1. What percentage of students and staff walk, bike, bus, or carpool (2+ students in the car) to/from school? Describe how this information been collected and calculated:

60% We surveyed the students and staff. We have 198 students and staff in our building . We eliminated all bus riders and students and staff who came to school or work in a vehicle with another student or staff member. this gave us a total of 79 students and staff that came to school or work by themselves.

2. Transportation:

	Yes	No
Are all vehicles loading & unloading areas at least 25 feet away from all buildings air intakes (including doors and windows)?	X	
Have "Safe Pedestrian Routes" to school or "Safe Routes to School" been designated, distributed to parents and posted in the main office?		X

Comments:: Our parking lot capacity does not exceed the minimum local zoning requirements and the lot includes preferred parking spaces for carpools and low-emitting and fuel efficient vehicles.

3. 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):

Our bus routes are designed to be as conservative as possible to eliminate consumption of fuel. Our district has purchased more efficient vehicles to accommodate small numbers of people needing transportation.

4. Describe any other accomplishments you've made under Pillar One towards eliminating your negative environmental impact or improving your environmental footprint which you feel should be considered, including investigations and action planning from Kansas Green Schools Investigations:

School Wide recycling Digital homework and assignments instead of paper. LEED Certified Gold school - 1st High School in Kansas Solar lighting in most areas Carpool and Low Emission parking areas Geo-Exchange HVAC system.

ADDITIONAL SUPPORTING DOCUMENTS on the following pages:



Erie High Charter School Green Building Profile

BUILDING INFORMATION

Location	Erie, KS
Building Footprint	87,750 ft ²
Building Population	41 fulltime equivalent staff Space for 240 students
Construction Dates	2009-2010
Owner	Unified School District 101 (USD 101)
Architect	PBA Architects, PA
Mechanical, Electrical, Plumbing, Fire Protection, & Technology Engineers	Henderson Engineers, Inc.
Civil Engineer	Cook, Flatt & Strobel Engineers, PA
Structural Engineer	Mauler Engineering, LLC
Acoustical Consultant	Coffeen Fricke & Associates, Inc.
Food Service Consultant	Montgomery Hoffman Associates, Inc.
Landscape Architect	Brian Hollis Landscape Architect
Construction Manager	Crossland Construction Company, Inc.
Commissioning Agent	Allied Laboratories
Sustainability Consultant	Earthly Ideas LLC

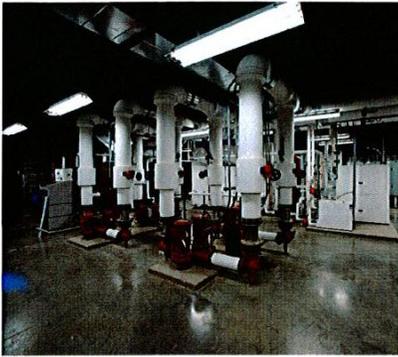
PROJECT NOTES

The rural southeast Kansas community of Erie has had a school system in Neosho County since the late 1800's. In 1964 the District became the first consolidated, unified school district in the state. The new [Erie High Charter School](#) is the result of a successful 2007 bond initiative to replace the existing 1954 high school facility that currently serves the communities of Erie, Galesburg, and Stark. It is the first Leadership in Energy and Environmental Design (LEED®) certified high school and the first LEED Gold K-12 educational building in the state of Kansas. The LEED green building certification program is the nationally accepted benchmark for the design, construction, and operation of green buildings developed by the U.S. Green Building Council.

The educational delivery method of [USD 101](#) was the driving force behind the design of the new high school. Successful experimentation with Project Based Learning (PBL) has been the catalyst for immense positive change and has propelled the current Erie High School and its students into the spotlight.

The design of the single level Erie High Charter School is arranged for daylighting and solar access in the core learning spaces and reflects the collaborative nature of PBL with a focus on transparency and circulation. Transparent schools convey the idea that learning should be visible and celebrated, creating a sense of openness; therefore, the auditorium and media center are open to the rest of the school. Students are encouraged to venture into spaces so they can benefit from the resources present and instruction that is taking place. There is one project based house designed for up to 120 students. (An additional project based house was subdivided into traditional classrooms to provide flexibility and choice.) In the PBL house, students have discussions, work in groups, or sit at individual workstations working on their projects. Each teacher has a workstation and an average of 15 students to advise in her/his area. "Classrooms" for PBL students are actually seminar rooms where students can gather in small groups for discussions, collaboration, or short, targeted instruction.

Also included are traditional high school spaces such as administrative offices, conference rooms, auxiliary and competition gymnasiums, locker rooms, a music room, and a family and consumer services classroom as well as various support spaces. The building occupies a footprint of 87,750 square feet with an interior square footage of 85,380. The Vocational Building is not part of the LEED project.



The school incorporates numerous integrated green building strategies including extensive use of daylight, energy efficient equipment, water saving fixtures, and sustainable materials. The following are some of the specifics of the project's green building strategies and features:

Sustainable Sites

- **Construction Activity Pollution Prevention:** Before and during construction, the contractor implemented measures to control soil erosion, waterway sedimentation, and airborne dust generation.
- **Site Assessment:** Prior to the purchase of the property, the District commissioned an ASTM Phase I Environmental Site Assessment. It showed that there were abandoned oil wells and crude oil residues at the well sites that were later remediated.
- **Site Selection:** Built on a previously developed site, the new development did not impact farmland, endangered species habitat, parkland, or wetlands.
- **Alternative Transportation:** The parking lot's capacity does not exceed the minimum local zoning requirements and the lot includes preferred parking spaces for carpools and low-emitting and fuel-efficient vehicles.
- **Protect and Restore Habitat:** In addition to protecting natural areas during construction for open space, some areas that were disturbed during construction were planted with a Conservation Reserve Program (CRP) native grass mix that was selected for its local suitability after extensive research by District students.
- **Open Space:** The District chose to leave undisturbed and conserve an area east of the Vocational Building (around and including the retention/detention pond) equal to 750,778 square feet for the life of the school building. This amount of protected and restored open space significantly exceeds the building footprint, which earned a LEED innovation credit for the project.
- **Stormwater:** This project enhanced an existing pond area to provide a retention/detention basin that receives stormwater runoff from the majority of the developed site. The pond's purpose is to provide retention storage and treat small storm runoff. These management measures allowed the peak rate and quantity of stormwater discharge from the developed site to not exceed those of the undeveloped site.
- **Heat Island Effect:** Roofing and paving materials reject solar heat to reduce thermal gradient differences between developed and undeveloped areas to minimize impact on microclimate and habitat.
- **Interior and Exterior Lighting:** The lighting design minimizes exterior light trespass and reduces sky-glow for improved night sky viewing ability by use of light fixture shielding, light fixture placement, "full cut-off" type light fixtures, and controls. The use of fewer highly efficient light fixtures minimizes energy costs. Parking lot and roadway pole light fixtures are circuited in a manner to allow the District to reduce light levels by 50% if so desired for reduced energy usage.
- **Community Connections:** USD 101 wanted Erie High Charter School to be an integrated part of the community by allowing the building to be used for non-school events and functions. The auxiliary gym, weight room, wrestling room, commons, and auditorium along with restrooms off the commons are accessible for after-hours use.

Water Efficiency

- **Landscaping:** The landscape was designed with no irrigation system. All plant materials selected (native grass seed and Bermuda grass seed and sod) are native or adapted to the region and require no supplemental watering after the first year of establishment.
- **Water Usage in the Building:** Selection of low-flow toilets, ultra low-flow urinals, ultra low-flow faucets with automatic sensor operation, low-flow kitchen faucets, and low-flow showerheads resulted in a 41.8 percent savings over baseline fixture performance requirements of the Energy Policy Act of 1992.
- **Water Using Equipment and Appliances:** Refrigeration equipment does not use once-through cooling with potable water. Dishwashers, ice machines, and pre-rinse spray valves meet performance requirements for low water usage.

Energy and Atmosphere

- **Energy Efficiency:** Based on the LEED requirements for demonstrating energy performance, Erie High Charter School's energy simulation model demonstrated a 53.2% reduction in energy costs per year when compared to a code-minimum building prescribed in ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Standard 90.1-2004. Exceeding energy cost savings beyond 42 percent earned a LEED innovation credit for the project.
- **Lighting:** Classrooms, offices, conference rooms, locker rooms, restrooms, commons, corridors, and mechanical, electrical, and storage rooms utilize occupancy sensors. Daylight sensors in the PBL house can reduce and turn off electric lighting when daylight is sufficient. Occupancy sensors in classrooms, offices, locker rooms, commons, weight room, and wrestling room also include a photocell for daylight on/off control of light fixtures. Light fixtures efficiently meet the needs of the building while consuming an average of .97 watts per square foot, which is approximately 20% below the ASHRAE requirement of a maximum of 1.2 watts per square foot.

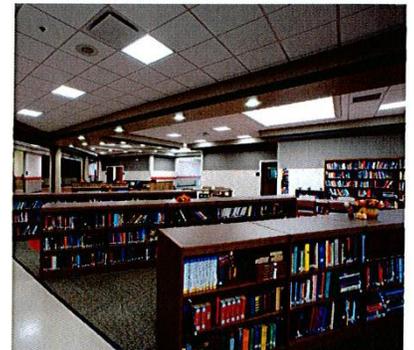
- **Building Envelope:** Double-pane, tinted, low-e glass in thermally broken aluminum frames for vision glazing with fixed shading devices, translucent structural composites for daylight glazing, masonry walls with continuous insulation, insulation below the highly reflective roof, and slab perimeter insulation were used to improve the building's envelope and set a path for long-term energy efficiency.
- **Heating, Ventilation, and Air Conditioning (HVAC):** A vertical, closed loop geexchange well field under the practice fields and water-to-air heat pump system provides the building's heating and cooling. The direct expansion refrigerant system's thermal storage is the earth, which maintains a relatively constant temperature year round. The well field transfers heat to the earth in the summer and extracts heat from the earth in the winter. Heat pumps distribute warm or cool air to condition the interior spaces. The units serving occupied spaces are equipped with active humidity controls that assist in space dehumidification whenever relative humidity rises above 60 percent. Space relative humidity levels between 30 and 60 percent are imperative in keeping the air quality high and space comfortable. Dedicated outside air heat pumps condition raw outside air with energy recovery wheels to supply code compliant ventilation with reduced energy consumption. Variable speed drives serving fans and pumps and operating with a building automation control system further increase energy efficiency. Makeup air for the kitchen makes use of site recovered (normally wasted) heat from the kitchen's cooking process to temper outside air before it is delivered to the kitchen cook-line exhaust hoods.
- **Water Heating:** Most of the building's domestic water heating is produced by water-to-water heat pumps that transfer energy from one stream of water to another. Efficiencies achieved by use of this equipment range from five to seven times that of conventional water heating systems. In addition, site recovered (normally wasted) heat is often used by the heat pumps before it is stored in the well field, which fosters better energy transfer and increases their efficiency.
- **Commissioning:** The project employed this quality-control process to ensure the fundamental building systems were planned, installed, and calibrated to operate as intended by the design team for the District's long-term benefit. The Commissioning Agent's involvement enhanced the design and post-occupancy phases of the project.
- **Refrigerant Selection:** Designers worked to reduce ozone depletion and support early compliance of the Montreal Protocol while minimizing direct contributions to global warming by specifying HVAC equipment refrigerants that minimize or eliminate the emission of compounds that contribute to these global issues.
- **Measurement and Verification:** To provide a method of tracking energy goals, Erie High Charter School will implement a plan to meter and analyze energy consumption and building performance during the first year of occupancy.

Materials and Resources

- **Occupant Recycling:** Easily accessible containers and separate storage areas serve the recycling needs of the entire building, allowing for the recycling of the following materials: paper, corrugated cardboard, glass, plastics, and metals. An area dedicated to collection and storage of plant-based landscaping debris is also provided.
- **Construction Waste Management:** A successful waste management program diverted 76.3 percent or 117.9 tons of the construction waste from landfills. Recycled materials included wood, cardboard, plastic, Styrofoam, metal, brick, and concrete.
- **Recycled Content Materials:** To reduce the impacts of extraction and processing of virgin materials and support closing the loop for recycling, recycled content materials used include the following: steel rebar, fly ash in concrete, concrete masonry units, brick, roof joists and deck, structural steel, steel studs and track, particleboard, roofing, gypsum board, toilet partitions, and wire mesh partitions.
- **Regionally Extracted Materials:** To reduce transportation impacts and support regional businesses, regionally extracted materials (those manufactured and whose raw materials are extracted within a 500-mile radius of the jobsite) used include the following: concrete, concrete masonry units, cast stone, brick, and gypsum board.

Indoor Environmental Quality

- **Tobacco-Free District:** Students led an effort to convince the School Board to pass a Tobacco Policy that made the entire District free of tobacco products and associated marketing. Signage at school entrances promotes the policy.
- **Acoustics:** A combination of wall, roof, door, and window design, material selection, and mechanical system measures provided classrooms and core learning spaces with acoustical performance for background noise, noise from outside of spaces, and sound absorption within spaces to minimize reverberation.
- **Indoor air quality (IAQ) monitoring:** Permanent monitoring and feedback of ventilation system performance help sustain long-term occupant health and well-being. Carbon dioxide sensors located in all regularly occupied areas increase ventilation air from the dedicated outside air equipment during times when high levels of carbon dioxide are detected.



- **Construction Indoor Air Quality (IAQ) Management Plan – During Construction:** To help sustain the comfort and well-being of construction workers and building occupants, the construction team implemented a combination of HVAC protection, source control, moisture control, housekeeping, and scheduling measures.
- **Low-Emitting Materials for IAQ:** Low-toxicity building products such as adhesives and sealants, paints and coatings, and carpeting were used to reduce the quantity of indoor air contaminants and provide a healthier working and learning environment.
- **Pollutant Source Control:** The airlock vestibules contain special carpet to capture dirt and particulates from entering the building. Areas with chemical use (custodial closets) are physically separated from other spaces and have appropriate ventilation and exhaust.
- **Controllability of Systems:** One hundred percent of the individual workstations have task lighting and individual lighting controls and over 50 percent have thermal controls. All classrooms and core learning spaces have lighting systems that operate in two modes: general illumination and audiovisual mode. All shared multi-occupant spaces have controllable thermal comfort systems.
- **Thermal Comfort:** Each classroom is provided with its own temperature, humidity, and CO₂ monitoring and adjustments to improve occupant comfort satisfaction, air quality, and energy conservation. All regularly occupied spaces are provided with two-stage equipment with active humidity controls that provide a means to maintain space relative humidity levels within ASHRAE Standard 55 acceptable ranges without sacrificing temperature.
- **Thermal Comfort Verification:** The District will implement a thermal comfort survey of building occupants to assess overall satisfaction with thermal performance and identification of thermal comfort-related problems in 2012.
- **Daylighting:** Over 95 percent of all classroom and core learning spaces and over 76 percent of the non-classroom, regularly occupied spaces have extensive daylighting from windows, translucent structural composites used for vertical glazing and overhead skylights, and tubular skylights.

Innovation and Design Process

- **Green Building Education:** The Erie High Charter School project will educate its students and staff and the public about sustainable design and the impact of buildings on the environment. In addition to this green building profile, a comprehensive signage program was developed with plans for a future self-guided tour.
- **Green Cleaning:** A comprehensive green cleaning program was implemented to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical contaminants that adversely impact air quality, occupant well-being, and the environment.
- **LEED Accredited Professionals:** Several principal participants of the project team have successfully completed one of the LEED Accredited Professional exams.

Awards and Honors

- Erie High Charter School earned LEED Gold (48 points) under the LEED for Schools 2007 (v2.0) Rating System in March 2011, making it the fourth K-12 educational facility in the state of Kansas to earn LEED certification. It is the first LEED-certified high school and the first K-12 educational facility to earn LEED Gold in the state.





LEED for Schools 2007 (v2.0)

Erie High Charter School
Project # 10230891
Certification Level: Gold
March 23, 2011

48 Points Achieved

Certified 29 to 36 points Silver 37 to 43 points Gold 44 to 57 points Platinum 58 or more points

Possible Points: 79

8 Sustainable Sites POSSIBLE POINTS: 16

Y	Prereq	Points
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
Y	Prereq 4	1
Y	Prereq 5	1
Y	Prereq 6	1
Y	Prereq 7	1
Y	Prereq 8	1
Y	Prereq 9	1
Y	Prereq 10	1

5 Materials Resources POSSIBLE POINTS: 20

Y	Prereq	Points
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
Y	Prereq 4	1
Y	Prereq 5	1
Y	Prereq 6	1
Y	Prereq 7	1
Y	Prereq 8	1
Y	Prereq 9	1
Y	Prereq 10	1

12 Indoor Environmental Quality POSSIBLE POINTS: 20

Y	Prereq	Points
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
Y	Prereq 4	1
Y	Prereq 5	1
Y	Prereq 6	1
Y	Prereq 7	1
Y	Prereq 8	1
Y	Prereq 9	1
Y	Prereq 10	1

13 Energy & Atmosphere POSSIBLE POINTS: 20

Y	Prereq	Points
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
Y	Prereq 4	1
Y	Prereq 5	1
Y	Prereq 6	1
Y	Prereq 7	1
Y	Prereq 8	1
Y	Prereq 9	1
Y	Prereq 10	1

Y	Prereq	Points
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
Y	Prereq 4	1
Y	Prereq 5	1
Y	Prereq 6	1
Y	Prereq 7	1
Y	Prereq 8	1
Y	Prereq 9	1
Y	Prereq 10	1

Y	Prereq	Points
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
Y	Prereq 4	1
Y	Prereq 5	1
Y	Prereq 6	1

Y	Prereq	Points
Y	Prereq 1	1
Y	Prereq 2	1
Y	Prereq 3	1
Y	Prereq 4	1
Y	Prereq 5	1
Y	Prereq 6	1



STATEMENT OF ENERGY PERFORMANCE

Erie High School

Building ID: 3015081
 For 12-month Period Ending: November 30, 2011¹
 Date SEP becomes ineligible: March 29, 2012

Date SEP Generated: February 13, 2012

Facility Erie High School 1400 North Main PO Box 139 Erie, KS 66733	Facility Owner CUSD 101 205 South Main PO Box 137 Erie, KS 66733 620-244-3264	Primary Contact for this Facility John Wyrick 205 South Main PO Box 137 Erie, KS 66733 620-244-3264 jwyrick@usd101.com
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Year Built: 2010
 Gross Floor Area (ft²): 107,802

Energy Performance Rating² (1-100) 94

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	2,525,212
Natural Gas (kBtu) ⁴	659,298
Total Energy (kBtu)	3,184,510

Energy Intensity⁴

Site (kBtu/ft ² /yr)	29
Source (kBtu/ft ² /yr)	84

Emissions (based on site energy use)

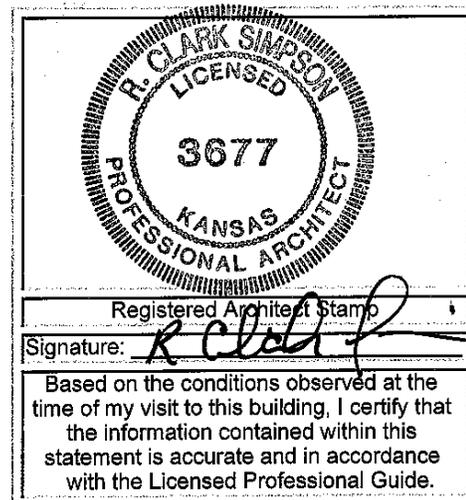
Greenhouse Gas Emissions (MtCO ₂ e/year)	640
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Electric Distribution Utility

Westar Energy Inc

National Median Comparison

National Median Site EUI	53
National Median Source EUI	153
% Difference from National Median Source EUI	-45%
Building Type	K-12 School



Meets Industry Standards⁵ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	Yes
Acceptable Thermal Environmental Conditions	Yes
Adequate Illumination	Yes

Registered Architect

License Number: 3677
 State: KS
 R. Clark Simpson
 1133 East Second Street
 Wichita, KS 67214
 316-262-7400

Notes:

- Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
- The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
- Values represent energy consumption, annualized to a 12-month period.
- Values represent energy intensity, annualized to a 12-month period.
- Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

The government estimates the average time needed to fill out this form is 6 hours (includes the time for entering energy data, Licensed Professional facility inspection, and notarizing the SEP) and welcomes suggestions for reducing this level of effort. Send comments (referencing OMB control number) to the Director, Collection Strategies Division, U.S., EPA (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460.

III.C – Nominating Authority’s Certification Signature

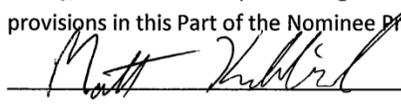
The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school’s eligibility and compliance with the following requirements is true and correct.

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 Kansas State Department of Education

Name of Nominating Authority Matt Krehbiel
(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 3/20/2012

(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 according to the instructions in the Nominee Submission Procedure.