



Elementary School Experience



Exceptional Design Changes Lives.

**Our
designs
make a
difference**



**SHERMAN
CARTER
BARNHART**
ARCHITECTS

K-12 EDUCATION

Sherman Carter Barnhart Architects believes, "Exceptional Design Changes Lives." We change lives by designing schools focused on **learning spaces for generation next**, that **engage and inspire learning in a healthy, safe and sustainable environment while dramatically reducing or eliminating energy costs.**

Recognized as leaders in the planning and design of schools, Sherman Carter Barnhart's team of educational specialist offer an unparalleled level of knowledge in Next Generation Learning, Resilient Design, and Zero-Energy design. Our dedicated team provides innovative design solutions that enhance safety, sustainability, and functional efficiency of each school, while catering to the unique needs of every student. We understand that each school is different, and our approach to every project begins with listening to our clients' goals and values to shape their vision.

As your partner, we assist with facilities assessments, pre-design services, site analysis services, educational programming and design services, pre-bond planning, and coordination & communications/public relations. We develop high-quality drawings for accurate cost estimates and better bids, assisting with bidding and negotiations, and leading contract administration and field observations.

Our team of educational professionals are dedicated to the planning, programming, and design of schools. Our portfolio includes over 700 schools, including:

- + 74 New Elementary Schools & 239 Renovations
- + 23 New Middle Schools & 109 Renovations
- + 21 New High Schools & 261 Renovations
- + 15 New Career & College Readiness Centers & 22 Renovations
- + 2 - Zero Energy Schools
- + 23 - Zero Energy Ready and/or Emerging Schools

Our design process involves collaboration with clients to translate their goals and values into a distinctive, customized solution that meets the needs of their district. We design schools that enrich how students learn, set standards in energy efficiency, and encourage community use and engagement.

At Sherman Carter Barnhart Architects, we are committed to improving lives and leaving a positive impact on the communities we serve through our designs.

Our schools are designed to improve peoples' lives in the community they serve.



SHERMAN
CARTER
BARNHART
ARCHITECTS

EDUCATION SPECIALISTS

UNIQUE CAPABILITIES

A school designed by Sherman Carter Barnhart is planned for today and tomorrow to inspire, support, and promote meaningful learning opportunities for all students.

We recognize the balance among student achievement, curriculum, assessments and standards, school leadership, technology, safety, community building, public support, and how a building can impact learning.

WE ARE PASSIONATE ABOUT LEARNING. Together with the communities we serve, we explore options, generate new ideas, and provide tailored solutions, which result in school facilities programs, plans and designs to transform your educational vision

WE CONTINUALLY EXAMINE WHAT WE HAVE DONE.

We evaluate past projects to build on our successes, to ensure our design solutions provide an educational environment crafted around each of our districts unique educational model. Why? To ensure every student learns to their full potential.

This dedication, puts Sherman Carter Barnhart at the forefront of educational planning and design. We are committed to **CREATING LEARNING SPACES FOR GENERATION NEXT**, by designing schools that **engage and inspire learning in a healthy, safe and sustainable environment while dramatically reducing or eliminating energy costs.**

WE FOCUS ON TWO THINGS:

We design with **LEARNING + ENERGY** in mind.

LEARNING SUPPORTING EVERY STUDENT

We design learning environments for generation next.

When we say generation 'next,' we refer to the current and future students who are growing up in a rapidly changing world, where technology, diversity, and innovation are key drivers of success. We believe that learning spaces should adapt to students evolving needs and provide them with the tools and environments they need to thrive.

We know that students have different learning styles, interests, and goals. That's why we design schools with flexible spaces that can accommodate various teaching and learning modalities, from traditional lectures to collaborative projects, hands-on experiments, and virtual simulations. By providing students with a choice of spaces and technologies, we empower them to take ownership of their learning and tailor it to their individual needs and preferences.

Sherman Carter Barnhart believes school design is not just about creating aesthetically pleasing buildings but also about optimizing the learning experience for all students. We take into account key factors that influence student learning, such as acoustics, lighting, ventilation, accessibility, safety, and sustainability. The integration of these design principles ensures that our buildings enhance the learning environment and support the educational goals of the school.

The typical classroom reflects a "factory" approach to education, known as "cells and bells."(figure 1) All classrooms and desks lined in a row, identical in purpose to promote conformity in a "streamlined" educational model, teaching the basics... the three "R's" - reading, writing, and 'rithmetic".

Research has shown new technologies, global competition, and complex problem-solving skills are in high demand. Therefore, students need to acquire a range of skills that go beyond the traditional 'Three R's' and prepare them for the "next" generation of challenges and opportunities. These skills fall into three categories;

1. **LEARNING SKILLS**- critical and creative thinking coupled with collaborating and communicating (the 4 C's)
2. **LITERACY SKILLS** - information, media, and technology literacy;
3. **LIFE SKILLS** - leadership, productivity, social, and flexibility.

By fostering these skills into the learning environment, we can equip students with the tools and mind-set they need to succeed in their future careers and live

FIGURE 1: TYPICAL CLASSROOM

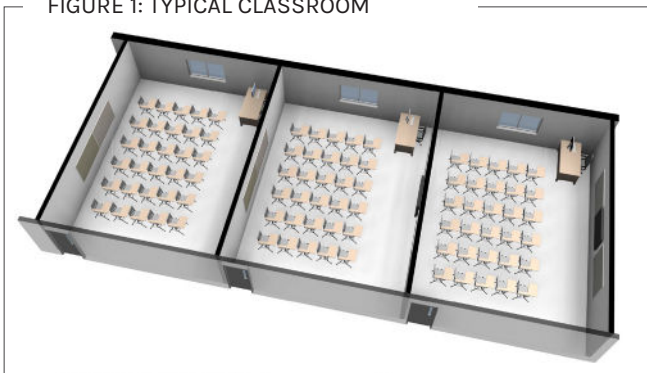


FIGURE 2: LEARNING ENVIRONMENT



Our focus on the design of learning spaces not classrooms, has yielded key objectives essential for successful learning environments.



ALLOW

With recent advances in both digital technology and social media, students and teachers require 24/7 access to learning tools and resources.

Yesterday's library and today's media center are changing to a digital information hub, channeling all learning resources to allow the follow of knowledge "at your fingertips".



ENABLE

Research shows students need different learning environments tailored to their individual pace.

They "connect" to problem solving with a "real- world" context, better enabling each student to reach their full potential.



SUPPORT

Learning techniques are rooted in the support of teachers collaborating, sharing, and integrating.

Classroom clusters and instructional zones can be designed to encourage and support teachers working together for a diverse educational experience for each student.



PROVIDE

Classrooms are designed for maximum flexibility.

From large seminar groups to small focused teams, and even individual study, it is critical to provide teachers the ability to shape their learning environments.



CREATE

The building itself can be designed to inspire learning.

Dynamic spaces are designed to create an atmosphere of "anytime, anywhere" educational experiences, both in and beyond the classroom.



ENCOURAGE

A student's success can be realized when family, teachers, and the community are encouraged to participate in all aspects of a child's education.

The school can become the "heart and soul" of the communities it represents.

WE FOCUS ON TWO THINGS:

We design with **LEARNING + ENERGY** in mind.

DID YOU KNOW?

- Energy is a school districts second highest expenditure.
- A Zero-Energy designed school costs the same as a conventionally built school.
- A Zero- Energy Achievable school can lower a school district's operating costs by up to 75%.
- Energy is an expense schools can reduce without sacrificing educational quality.

ENERGY MONEY FOR STUDENTS NOT ENERGY

As the architect of the first Zero-Energy school in the nation, we design every school to achieve at least a 75% reduction in energy use. Ultimately, with an added alternative energy source (solar energy), we can eliminate energy costs!

Knowing dollars saved in operating/energy costs can be invested directly into your **STUDENTS** needs, is what drives Sherman Carter Barnhart's focus on energy efficient/cost saving school designs.

Understanding Consumption

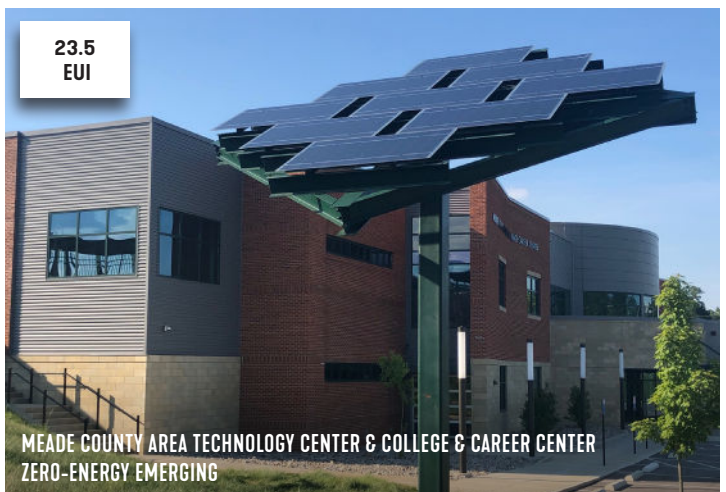
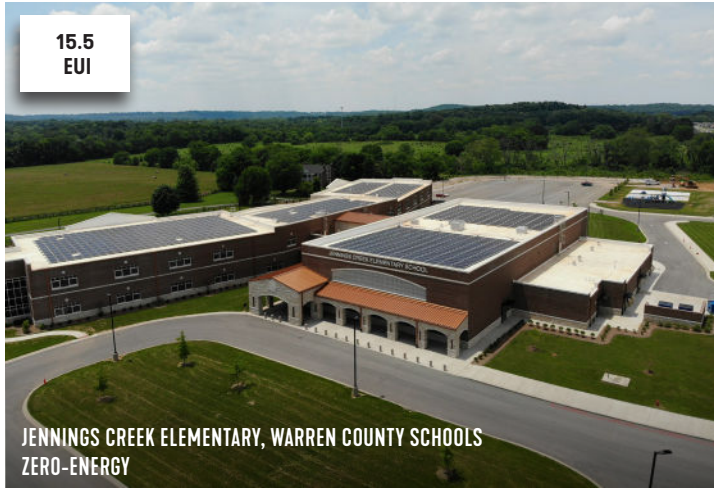
Before attempting to reduce energy consumption in a building, designers must have a comprehensive understanding of what consumes energy. Knowing every design decision will have both a direct and an indirect impact on a schools energy performance, we analyzed where energy is consumed and found leading to the following key strategies:

1. **Site Orientation:** Provide north/south building orientation to maximize daylighting opportunities and to incorporate thermal mass/passive solar strategies.
2. **Building Envelope:** Compact building footprint (perimeter wall and height) with high R-value and high-thermal mass materials such as ICF (insulated concrete forms).

3. **HVAC and Electrical Systems:** Energy-efficient HVAC system (geothermal) with occupant diversity, CO2 array quality sensors, and LED lighting and wireless technology for reduced energy demand.
4. **Kitchen and Operations:** On average, 22% of the energy consumed by a school can be attributed to the kitchen/cafeteria operations. To minimize energy usage we: replace Type 1 hoods with steam and convection cooking only, energy star/performance-based appliances, utilize variable speed hood monitoring for make-up air, evaluate gas-fired versus electric equipment, and develop 24/7 building operation plan.
5. **Technology and Plug Loads:** Eliminate traditional computer lab with wireless technology throughout the school, limit use of classroom appliances.

Creating high performance, energy efficient buildings involves all aspects of the design process. We believe in presenting strategies to our clients, and together we evaluate the factors that impact "first costs" as well as the "life cycle cost" of the design. We have the knowledge, experience, and real world data to assist each client in evaluating all design decisions.

A school designed by Sherman Carter Barnhart enriches how each student best learns, & sets standards in energy efficiency.



2
ZERO ENERGY
schools

9
ZERO ENERGY
EMERGING schools

14
ZERO ENERGY
ACHIEVABLE schools

definitions:

ZERO ENERGY ACHIEVABLE
(energy use (EUI) is at 25 or less and infrastructure is in place. if solar is added it could reach zero energy emerging or full zero energy.)

ZERO ENERGY EMERGING
(some form of solar is installed, to offset energy use, just not enough to power the entire building)





ELEMENTARY SCHOOL EXPERIENCE



Warren County Schools, Bowling Green

- New Richardsville Elementary - *Zero Energy*
- New Jennings Creek Elementary - *Zero Energy*
- New Warren Elementary - *Zero Energy Emerging*
- New Cumberland Trace Elementary - *Zero Energy Emerging*
- New Rich Pond Elementary - *Zero Energy Emerging*
- New Jody Richards Elementary - *Zero Energy Emerging*
- New Bristow Elementary - *Zero Energy Emerging*
- New Alvaton Elementary
- New Plano Elementary
- New Briarwood Elementary
- New Lost River Elementary
- New William H. Natcher Elementary
- Cumberland Trace Addition & Renovation
- Lost River Addition & Renovation
- Natcher Elementary Bleacher Replacement
- Alvaton Elementary Roof Replacement
- Briarwood Elementary Roof Replacement
- Richardsville Elementary Addition
- Jody Richards Elementary Addition
- North Warren Addition & Renovation
- Rich Pond Addition & Renovation
- Rockfield Addition & Renovation
- Warren Addition & Renovation
- Briarwood Addition
- Former Bristow Addition & Renovation
- Delafield Addition & Renovation

Pulaski County Schools, Somerset

- New Burnside Elementary - *Zero Energy Emerging*

Paris Independent Schools

- New Pre School (Gymnasium)
- Security Vestibule Renovation
- Roof Replacement

Taylor County Schools, Campbellsville

- New Primary School

Corbin Independent Schools

- New Corbin Primary
- Corbin Primary Addition
- Old Middle School Into Upper Elementary

Bardstown Independent Schools

- New Bardstown Elementary - *Zero Energy Emerging*

Breckinridge County Schools, Hardinsburg

- New Irvington Elementary
- New Hardinsburg Elementary
- Ben Johnson Elementary Renovation + Reroof

Harlan Independent Schools

- Harlan Elementary Renovation Phase I & II



Glasgow Independent Schools

New Highland Elementary
New South Green Elementary- *Zero Energy Ready*
Existing South Green Elementary Addition

Meade County Schools, Brandenburg

New Flaherty Primary School- *Zero Energy Ready*
Ekron Addition & Renovation
Payneville Addition & Renovation
David T Wilson Renovation

Spencer County Schools, Taylorsville

New Taylorsville Elementary - *Zero Energy Ready*
Early Learning Center Renovation
Taylorsville Addition & Renovation
Spencer County Middle School Into an Elementary Renovation

Hopkins County Schools, Madisonville

New Hanson Elementary - *Zero Energy Ready*
Southside K-8 School Renovation + Addition

Adair County Schools, Columbia

New Adair County Primary Center

Powell County Schools, Stanton

New Stanton Elementary- *Zero Energy Ready*

Laurel County Schools, London

New Wyan Pine Elementary
New Bush Elementary
New Hunter Hills Elementary
London Addition & Renovation
Bush Addition & Renovation
Camp Ground Addition & Renovation
Cold Hill Addition & Renovation
Colony Addition & Renovation
Hazel Green Addition & Renovation
Johnson Addition & Renovation
Keavy Addition & Renovation
Hunter Hills Addition & Renovation
Sublimity Addition & Renovation

Lincoln County Schools, Stanford

New Stanford Elementary
New Stanford PreSchool
Crab Orchard Addition & Renovation
Highland Addition & Renovation
Hustonville Addition & Renovation
Kings Mountain Addition & Renovation
McKinney Addition & Renovation
Waynesburg Addition & Renovation
Stanford Addition & Renovation

Hardin County Schools, Elizabethtown

New Cecilia Valley Elementary - *Zero Energy Ready*
Radcliff Addition & Renovation

LaRue County Schools, Hodgenville

New Abraham Lincoln Elementary
New Hodgenville Elementary
Hodgenville Addition

Carlisle County Schools, Bardwell

New Elementary

Anderson County Schools, Lawrenceburg

New Ezra B Sparrow Early Learning Center - *Zero Energy Ready*
New Emma B. Ward Elementary
New Robert B. Turner Elementary
Saffell Street Addition & Renovation
Former Emma B. Ward Addition & Renovation

Clark County Schools, Winchester

New Willis H. Justice Elementary
New Shearer Elementary
New Strode Station Elementary
Providence Addition & Renovation
Conkwright School Addition & Renovation



ELEMENTARY SCHOOL EXPERIENCE

Montgomery Co. Schools, Mt. Sterling

- New Montgomery Intermediate
- New Mount Sterling Elementary
- Camargo Addition & Renovation
- Mount Sterling Addition & Renovation
- Mapleton Addition & Renovation

Jessamine County Schools, Nicholasville

- New Red Oak Elementary
- New Wilmore Elementary
- New Rosenwald-Dunbar Elementary

Boyd County Schools, Ashland

- Boyd County Early Childhood Academy
- Catlettsburg Elementary ReRoof
- Cannonsburg Elementary Renovation and Addition (Roof Replacement)

Floyd County Schools, Prestonsburg

- New May Valley Elementary
- Betsy Layne Addition & Renovation
- South Floyd Elementary Renovation

McCracken County Schools, Paducah

- Lone Oak Hendron Elementary Reroof

Ashland Independent Schools

- Head Start Renovation
- Poage Elementary Roof Replacement

Graves County Schools, Mayfield

- New Fancy Farm Elementary
- New Central Elementary
- New Sedalia Elementary
- New Symsonia Elementary
- Wingo Addition & Renovation
- Farmington Addition & Renovation

Ohio County Schools, Hartford

- New Beaver Dam Elementary

Bell County Schools, Pineville

- Yellow Creek Elementary HVAC/Lighting/Paving Renovations
- Page Elementary HVAC/Lighting/Paving Renovations

Edmonson Co. School, Brownsville

- New South Edmonson Elementary
- Kyrock Addition & Renovation
- 5th & 6th Grade Center Addition & Renovation

Hart County Schools, Munfordville

- Memorial Kitchen Replacement & Security Improvements
- Cub Run Kitchen Replacement & Security Improvements
- Le Grande Addition/Renovation
- Bonnieville Entry Renovation
- Munfordville Security Improvements

Middlesboro Independent Schools

- Middlesboro Ind. Elementary Phase I & II

Union County Schools, Morganfield

- Sturgis Elementary Reroof
- Morganfield Elementary Reroof

Trigg County Schools, Cadiz

- Primary & Intermediate Renovation

Scott County Schools, Georgetown

- New Lemons Mill Elementary
- New Anne Mason Elementary
- New Stamping Ground Elementary
- Lemons Mill Elementary Addition
- Scott County Pre-School Phase I & II
- Western Elementary Addition

Christian Co. Schools, Hopkinsville

- New South Christian Elementary

Caldwell County Schools, Princeton

- Caldwell County Elementary Renovation

Bullitt County Schools, Shepherdsville

- New Brooks Elementary
- New Shepherdsville Elementary
- New Freedom Elementary
- Cedar Grove Addition & Renovation
- Lebanon Junction Addition & Renovation
- Maryville Addition & Renovation
- Pleasant Grove Addition & Renovation
- Mt. Washington Addition & Renovation
- Nichols Addition & Renovation
- Old Mill Addition & Renovation

Jefferson County Schools, Louisville

- New Isaac Shelby Elementary
- Coleridge Taylor Addition & Renovation
- Jeffersontown Addition & Renovation
- Shacklette Addition & Renovation
- Wellington Addition & Renovation

Kenton County Schools, Independence

- New River Ridge Elementary

Casey County Schools, Liberty

- Liberty Elementary Renovation
- Walnut Hill Elementary HVAC Renovation





ELEMENTARY SCHOOL EXPERIENCE

Marion County Schools, Lebanon

New West Marion Elementary
 West Marion Addition & Renovation
 Calvary Addition & Renovation
 Glasscock Addition & Renovation
 Lebanon Addition & Renovation
 St. Charles Addition & Renovation

Russell County Schools, Jamestown

Russell Springs Elementary Security Vestibule

Clinton County Schools, Albany

Albany Elementary Roof Replacement

Nelson County Schools, Bardstown

New Cox's Creek Elementary
 Foster Heights Addition & Renovation
 New Haven Addition & Renovation
 Champlin Addition & Renovation

Morgan County Schools, West Liberty

New East Valley Elementary

Grayson County Schools, Leitchfield

New Caneyville Elementary

Carter County Schools, Olive Hill

New Olive Hill Elementary

Garrard County Schools, Lancaster

Lancaster Elementary Security Vestibule Renovation

Franklin County Schools, Frankfort

New Hearn Elementary
 New Bridgeport Elementary
 New West Ridge Elementary
 New Peaks Mill Elementary

Fayette County Schools, Lexington

Garden Springs Addition & Renovation
 Yates Addition & Renovation

Williamsburg Independent

P-12 Addition & Renovation

Elliott County Schools, Sandy Hook

Isonville Addition & Renovation
 Lakeside Addition & Renovation
 Sandy Hook Addition & Renovation

Pendleton County Schools, Falmouth

Northern Addition & Renovation
Southern Addition & Renovation

Frankfort Independent Schools

Second Street Addition & Renovation

Elizabethtown Independent

Valley View Addition & Renovation

Carroll County Schools, Carrollton

Kathryn Winn Addition & Renovation

Russell Independent Schools

McDowell Addition & Renovation

Letcher County Schools, Whitesburg

West Whitesburg Elementary Flood Damage
Renovation

Martha Jane Potter Elementary Flood Damage
Renovation

Wayne County Schools, Monticello

Bell Addition & Renovation
Wayne County Preschool Addition & Renovation

Mercer County Schools, Harrodsburg

Harlow Addition & Renovation
Mercer Addition & Renovation

Greenup County Schools, Greenup

Argillite Addition & Renovation
Lynn Addition & Renovation
McKell Addition & Renovation
Grays Branch Addition & Renovation
Warnock Addition & Renovation

Grant County Schools, Dry Ridge

Crittenden-Mt.Zion Addition & Renovation
Dry Ridge Addition & Renovation

Christian Academy of Louisville, Louisville

New Elementary
Elementary Cafeteria & Kitchen Renovation

Estill County Schools, Irvine

New Estill Springs Upper Elementary

Mary Queen of the Holy Rosary, Lexington

New Life Education Center K-8th Grade



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