### HIGH PLAINS SCHOOL 4255 BUFFALO MOUNTAIN DRIVE



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#### **Executive Summary**

Describe the overall goals and outcomes of the project.

In March 2013, the architectural team was selected by Thompson School District to design a vibrant PK-8 school that would accommodate 600 students. The completed school would embody a list of "firsts" for the Thompson School District—the first STEAM program built from the ground up, the first districtrun school that encompassed preschool through eighth-grade classes, and the first sustainably designed facility in the district.

After more than a decade of planning and a year of construction, High Plains School opened its doors to students to overwhelming excitement from the Loveland community in August 2016. The design solution for the 63,500-square-foot PK-8 facility was a drastic change in direction for the traditionalminded school district. The school was designed to support STEAM curriculum and incorporate high performance design solutions—resulting in LEED Gold certification that was awarded in March of this year. The design incorporates two academic wings, common areas on both the main and second floors, and integrates visual design details representing mathematical concepts throughout the building.

The architectural style merges simple forms with a bold primary color palette to create a rich, aesthetic interest both inside the building and out. A green roof and garden provide opportunities for environmental learning and bike/walking paths physically enhance the connection to the surrounding neighborhoods. Flexible spaces allow for future change while providing the opportunity for various forms of educational collaboration within the school.

The community's response to the new High Plains PK-8 has been astounding. Around 395 students were enrolled in classes for the first year (significantly higher than the District's projections) and is expected to be at capacity within the first few years of its opening. The design team used an engaging and inclusive design process to develop clear design goals, gather input from a range of stakeholders, develop three distinct design concepts, and then garner consensus towards a final design solution, all while being responsible stewards of the community's finances and schedule.

#### Scope of Work and Budget

The facility, designed from the ground up on a green field site, was funded through Tax Increment Financing, district funds and an intergovernmental agreement to provide a shared park area with the City of Loveland.

#### Costs

Final Construction Cost: FF&E Costs: Site Costs: \$16,166,000 \$1,180,000 \$1,822,000

#### Scope of Work

Programming, Architectural Design, Interior Design, FF&E Design

#### **Unique Project Aspect: Programming**

The educational programming and planning process went above and beyond a typical design charrette positively resulting in developing a thorough vision for the curriculum before the the Design Advisory Group began developing a vision for the school.

#### Unique Project Aspect: FF&E

The architectural team was responsible for the FF&E scope of work. It was the first time the school district had used an architect to provide FF&E services. The process included the architect leading an eye opening tour of other schools and furniture vendor offices with the principal of the school, facilities personnel, buyers and the school's office

manager. The benefit of the tours were to help those attending to see the vast array of options, assist them in creatively thinking outside the box, allow them to understand how the furnishings actually worked and to help realize their potential for using new types of furnishings in the design. The selected furniture at High Plains is usually one of the first items mentioned when asking the school what they like most about the project. The furnishings are very unique compared to what has typically been used in the district and end users feel it contributes heavily to the vibrancy and effectiveness of learning spaces.



#### School & Community Engagement

Describe the Community Identify stakeholders Name challenges Describe available assets Describe value of process and project to community at large

#### **Accommodating Growth**

This particular part of the school district was experience significant growth with new housing numbers growing over the last decade. A majority of the kids in this area found themselves actually living closer to schools in a neighboring school district and through School of Choice were attending those schools outside Thompson School District. The new High Plains would fill the need to accommodate this growth and bring District kids the ability to more easily attend a school closer to home.

#### **Available Assets**

The project was funded through Tax Increment Financing and the site was given to the District by a local developer. Community partnerships allowed for shared spaces to be utilized in partnership with the City of Loveland. Passionate community members volunteered countless hours to become advocates for innovative design and then continued to be involved throughout construction. Visionary leadership within Thompson School District helped motivate the community and school stakeholders to embrace a new way of thinking about educational design. Collaboration with the nearby High Plains Environmental Center also took place.

#### **The Design Advisory Group Process**

Design for the two-round early childhood through 8<sup>th</sup> grade school began with significant inclusion of a Design Advisory Group (DAG), which included roughly 25 members involving District staff, administrators, educators, facilities personnel, parents, designers, and community members who

helped set the vision and direction of the new school. The DAG discussed curriculum options, how the facility might serve that curriculum, as well as unknown changes that would certainly occur in educational delivery over the next 50 years. The group formulated goals for the school and explored concepts for site and building layouts.



High Plains PK-8 School, Loveland, Colorado

Three distinct design concepts were developed (*Concept A, B, C, at right*) during the charrette process and the design team took the best ideas from each scheme and merged them into one solution— that became the basis for the building's design.

After the charrette, the DAG was reduced in size but continued to give input throughout design. During construction, this group transitioned into the Construction Review Committee and provided decision making and guidance until opening day.

One challenge within the project was that, due to the duration of the project and the associated changes in leadership, the Design Advisory Group composition also changed throughout the project. A unique component, however, is that the DAG became even more involved during construction and served as a community advisory group to help share information about the project and garner community support. The term, "Construction Review Committee" was coined as the DAG's responsibilities included attending monthly meetings to discuss how the project was progressing and then they also became integral in making decisions about the identity of the building (such as mascots, logos, and various coordination of the PTO.) This approach was a stark contrast to the traditional Design Advisory Group process where the DAG typically has minimal (if any) involvement during construction.



#### Educational Environment

Explain the educational vision and goals of the school. Describe & illustrate how the environment supports the curriculum Describe & illustrate how the environment supports a variety of learning & teaching styles Describe & illustrate how the environment is adaptable and flexible

The District leadership came into the project with the desire to create a new kind of school that used different kinds of spaces to achieve their educational vision. When the Design Advisory Group first met, six key goals were articulated.

#### Goals for the Building

#### 1. Integrated/ STEAM Curriculum

Students are supported by a mixed grade, integrated learning environment which allows flexibility of learning time, subject, and style.

#### 2. Flexible Learning Environment

Students and teachers are provided an environment that is conducive to teaching and learning. Centering on the needs of the occupants, the learning environment addresses the needs of occupant comfort, safety and psychological wellbeing. (Attributes: open, flexible, warm/inviting, visibility)

#### 3. Personalized, Differentiated

Learning centers on the needs and interests of each learner in terms of learning style, diversity, inclusiveness, learning settings.

#### 4. Student Centered Learning

Learners are presented a curriculum and learning environment that integrates technology and is engaging, relevant, flexible and up-to-date.

#### 5. Ubiquitous Technology

Technology is integrated and meaningful, ready and accessible. The infrastructure is robust and flexible.

#### 6. Community/ Environmental Connection

Design to consider the needs and identity of the community; utilize the High Plains Environmental Center as a resource in STEAM delivered curricula.





High Plains PK-8 School, Loveland, Colorado



#### **Outdoor Learning**

High Plains integrates a strong approach to outdoor learning. The unique direction of the curriculum has in turn led to a new, cutting edge approach to the facility's architectural design. The building takes advantage of the majestic views of the Front Range and attempts to create a constant connection to the outdoors.



#### **Organization and Layout**

The facility is organized into two wings which are connected by a glass-lined corridor which doubles as a gallery for student work. These two wings provide separation between the quiet, study areas and the more active areas of the building.

#### STEAM curriculum

The building's emphasis is on STEAM curriculum— Science, Technology, Engineering, Art and Math. The north wing houses administrative offices, the Pre-K and Kindergarten suites, a gymnasium, and cafeteria while the south wing is geared towards grades 1-8 learning. The south wing is divided into four study pods, two on the first floor and two on the second. Each pod contains four traditional classrooms (grouped by grade), restrooms, a small group space and a larger, shared STEAM room.

#### Supporting Various Learning/Teaching Styles

All regularly occupied spaces have generous amounts of natural light and views to the outdoors. The configuration and size of these spaces is altered somewhat as the students move from first through eighth grade. The younger students are located on the first floor and share a centralized reader's nook and covered outdoor learning space. A learning garden is located directly south of the reader's nook and is another opportunity for students to have direct access to outdoor learning.

On the second level, the 5th through 8th graders have additional small group break-out spaces located adjacent to the classrooms as well as STEAM labs focused on art and science with small outdoor roof patios adjacent to each. Additional shared spaces include a centralized media center and cyber café for both independent and group study and an accessible green roof for students located atop the student gallery.



#### **Common Areas**

A decentralized media center, spread over two floors, flows into circulation spaces and gives library services the casual feel of a bookstore or coffee shop. The media center combines a variety of spaces for learning including traditional reading/ study, breakout spaces, a cyber café, and reader's nook.

An upscale cafeteria plan utilizes large expanses of windows and multiple seating options, ranging from traditional, round cafeteria tables, to small restaurant-style 4-tops, as well as raised counter seating. The design also includes a large outdoor dining area directly south of the cafeteria and has an unobstructed view of the Rocky Mountains.



# 4. Educational Environment

#### Technology

The technology encourages teamwork and collaboration. Instead of the traditional projector screen at the front of the room, multiple television screens and smart boards have been placed in different sections of the classrooms. Teachers and students can tie those into learning and easily transition from small groups to entire class learning without the traditional set up of rows of desks.



#### Flexibility for Change

The layout of the building includes rooms of varying sizes and levels of openness in order to provide many options for different learning environments. Some rooms have specializations incorporated such as science lab equipment or appliances for family and consumer sciences classes while others are more generic in their layouts and offerings. All rooms were designed so that as curriculum changes occur, the functionality of the spaces endures. The technology was also wired to handle more devices than it is currently equipped with for growth.



#### **Physical Environment**

Describe & illustrate the physical attributes of the environment Describe & illustrate how the facility fits within the larger context of the community Describe & illustrate how the project inspires and motivates

#### **Design Theme**

The aesthetic of High Plains is a modern interpretation of a traditional hillside village. This school acts in many ways like a village to its students. There are countless functions happening throughout the facility that the students will make use of over the 10 years they study here. The cohesive aesthetic enhances clarity and efficiency in the design. The facades of the building are divided into two main themes: the first theme emerges as gray brick and is used for the more traditional spaces within the building such as classrooms and administrative areas. The second theme of vibrant colors is used at shared and community spaces such as the media center and "STEAM" labs (Science-Technology-Engineering-Art-Math). Rectangular forms both inside and out merge the building's simplicity with a rich aesthetic interest using the mosaic of these two themes across the building.



## DAYLIT LEARNING

#### **Sustainability**

Generous amounts of north and south facing windows provide optimal daylighting conditions throughout the building to enhance creative and intellectual pursuits.

The backbone of the heating and cooling system is a ground-source heat pump system. This system, coupled with 100% LEDs for lighting, allow for major reductions in energy consumption, saving the district thousands of dollars a year in operating costs.



The school's 870 SF green roof—situated over the gallery—boasts over 200 SF of inhabitable space. The green roof, along with the ground-mounted planters to the south of the school, offer gardening experiences to students and a unique outdoor learning space where various topics, including plant biology, are taught.







#### **Designed to Inspire**

The school physically embeds S.T.E.A.M. concepts within the building, encouraging students to seek out learning in the world that surrounds them. The geometric design of the cafeteria floor is in set dimensions of feet in one direction and meters in the other, while various angles are etched into classroom floors and both binary and morse code murals are used to label the elevator on different levels.

Other learning elements integrated into the design include various native species animal prints in concrete, exposed and labeled pipes and cables to show building systems and special lighting fixtures that form a collage of the school's bison mascot when put together. All of these features add to the concept that the school not only houses learning, but encourages exploration and discovery as well.



#### Safety, Security, and Building Access

Of primary importance in any facility that houses children are safety and security. Both were taken into consideration at High Plains and the design (and integrated technology) reflect this priority. The school has advanced systems of cameras, access controls and intrusion detection that are integrated into the design. In addition, the entry sequence is designed with safety and security in mind. The primary entry area is located on the east side of the building. It includes a drop off plaza and bike parking. This area includes an assembly lawn as well as a slab stone outcrop for aesthetics as well as possible seating, and is the entry used by all visitors during the day. The secondary entry is located on the west side of the building and is open when buses are droppingoff/picking-up children in the mornings and afternoons. This entry is closed when not in use for bus arrivals/departures so visitor entry to the school can be controlled at a single entry point.

The office staff has clear views of anyone approaching the building from either main entrance and will have the ability to lock down the doors if a threat is detected. All visitors must enter from the east and enter the Reception area before being granted access to the building.

The two main courtyards were also designed to use the "eyes on the street" concept to increase safety. All visitors must enter through these courtyards that have the natural feeling of casual surveillance by the building's occupants.



#### Results of the Process & Project

Explain how the project achieves educational goals and objectives Explain how the project achieves school district goals Explain how the project achieves community goals Explain any unintended results and achievements of the process & project

#### **Achieving Educational Goals and Objectives**

The building responds to the six goals developed for the new school:

Integrated/ STEAM Curriculum - The south wing is divided into four study pods, two on the first floor and two on the second. Each pod contains four traditional classrooms grouped by grade complimented with a small group space as well as a larger, shared STEAM room. The STEAM room utilizes flexible furnishings and durable finishes to support hands-on projects. Two of the STEAM rooms open out onto an exterior patio to allow classes to work through projects outdoors.

Flexible Learning Environment – Learning spaces range from small to large, and rooms are detailed from generic (general classroom) to more complex (such as science labs). All rooms were designed so that as curriculum changes occur, the functionality of the spaces can respond appropriately.

Personalized, Differentiated – Different scales of spaces are designed throughout the building to accommodate learning styles ranging from traditional, to small group, and peer-to-peer learning.

Student Centered Learning – the facility is vibrant, flexible and engaging. The environment promotes energy and innovation, both visually as well as through curriculum. Ubiquitous Technology – two smart board screens are located in each classroom that the teachers and students are able to plug into. IT and wireless infrastructure is designed to accommodate more devices than the building is currently in the building. Technology is accessible and integrated into the learning environment, from classroom to cyber café.

Community/ Environmental Connection – (See "Supporting Community Goals" later in this section.)

#### **Response to District's Goals**

The school was designed to accommodate students in a growing part of town that were typically attending closer schools in a neighboring school district. One goal of opening High Plains was to bring students back to their home district by adding a new, innovative school closer to their home. This goal was achieved: High Plains will likely be at capacity within its second year of being open.

The District also desired that High Plains integrate high performance design and sought to achieve LEED Certification. The school achieved LEED Gold Certification notice from the USGBC in March 2017.

#### **Supporting Community Goals**

Pedestrian connections are made to the surrounding neighborhood sidewalk system which is located on all sides of the school site. A trail connection on the northeast side of the site provides access to the High Plains Environmental Center. The multipurpose and softball field are shared spaces with the city parks so they are better utilized all year long. The learning garden engages the community by giving community members partial responsibility in tending to the plantings during the summer.

#### **Surprising Achievements**

The community's response to the new High Plains PK-8 has been astounding. Around 395 students were enrolled in classes for the first year (higher than the District's projections) and is expected to be at capacity during the second year of operation.

The project continues to receive a high amount of attention. Many groups – from other school districts to architectural design teams – have requested tours of the innovative facility.



## HIGH PLAINS PreK-8 SCHOOL

Loveland, Colorado

