

Fremont High School

Executive Summary

The traditional Midwestern, small town community of Fremont, Michigan wanted to replace their original 1920's high school building. Everything about the building and what it had to offer was dated. The community was looking to incorporate 21st Century technology with the old-town feel and preserve their culture; it was imperative that the new school look and feel like it was meant to be there.

With community involvement and support, including the "Future of Fremont" committee, it was determined that the new high school needed to satisfy the following principles:

- flexibility
- maximize educational opportunities
- maximize safety and security
- accessibility to all students
- support/enhance connections to the community and its heritage.

Working with staff and students, a design committee helped facilitate the comprehensive planning process in order to discuss and define individual spaces and needs. The design committee then made recommendations to the School Board. The high school is the center of the community, so there was an immense amount of involvement and commitment.

The project successfully concluded with a new high school that not only met the guiding principles, supported the curriculum, and fit within the larger context of the community, but the new high school provides an educational environment that holds purpose and distinction within the community.



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Scope of Work

The scope of work for the new Fremont High School involved everything from initial site selection studies to furniture to final completion. Details are as follows:

Treasury Application

- Campaign to pass 2009 bond

Site Development

- Driveway, parking lots, pedestrian bike pathways, and stormwater detention
- Bridge and connector drive to the Middle School
- Wetlands protection permit and minor environmental remediation

Building

- New 9-12 grade high school for 710 students
- 169,000 +/- square feet and two-stories
- Energy-efficient heating/cooling system utilizes a water-to-water geothermal system (that works with the radiant floor system)
- Designed to LEED standards

Budget

The budget for Fremont High School is broken down as follows:

Gross Area of Building	192,962 sq. ft.
Volume of Building	1,727,366.93 ft ³
Space per Student	205.1 sq. ft./student
Cost per Student	\$32,306/student
Square Foot Cost	\$157.54/sq. ft.
Cost of Construction	\$30.4 million
Total Project Cost (including land, building, landscaping fees, furniture, and equipment)	\$39.45 million

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Community Engagement Process

Identify Stakeholders.

The stakeholders were: students, community members, administration members, and teachers. Everyone was included in the design process.



Name challenges.

The site is beautiful, but extensive wetlands were a challenge to work around. The site is situated back from the main access road, which required a fairly long entry drive. It ended up as an advantage as it winds back to the high school, creating a sense of arrival and a very pleasant path to the building.

Describe available assets.

The available assets in the community included families and local businesses and their employees. The high school is the center of the community, so there was an immense amount of involvement and commitment. People weren't shy to make a huge time investment. The "Future of Fremont" committee was formed to help work on and pass the bond issue and offer necessary support along the way.

Describe value of process and project to community at large.

The comprehensive planning process involved staff and students over a period of one week to discuss individual spaces and needs. A 20-25 person design committee, comprised of community members, administration members, and teachers, conducted the following techniques to help facilitate the process: charrettes, brainstorming sessions, 3-D images, sketching, and tours of other schools. The design committee then made recommendations to the School Board.

Fremont High School

Educational Environment

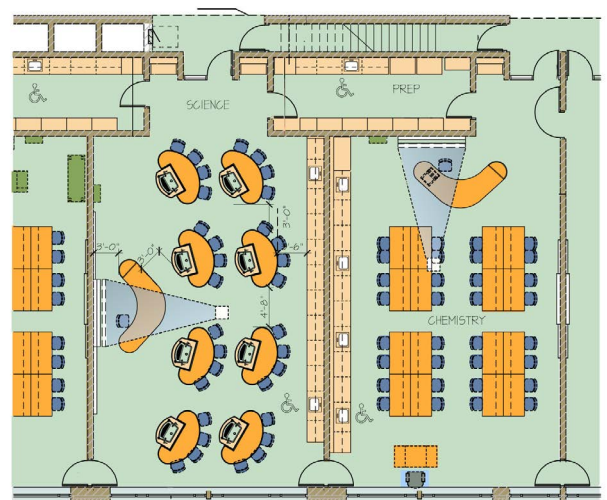
Describe and illustrate how the environment supports the curriculum.

The environment isn't your typical educational space, and that's exactly what Fremont was looking for in order to support their curriculum. The school feels more like a work or learning centered space, because it must support a variety of learning and teaching styles. No two students are alike, which means everyone learns differently. Thus, flexible space and furniture was imperative in and outside the classroom.



Classrooms feature flexible, ergonomic furniture—including an ADA accessible Chemistry room—that's easy to move and tailor to specific needs. Large, open spaces with inviting furniture, located throughout the building, are perfect for group collaboration or individual study time. Offering students additional spaces to learn (besides in class at their desk) are vital to supporting the curriculum.

Bringing 21st Century technology to each student is another way the environment supports the curriculum. Fremont is a fairly rural area, so having technology readily available to every student is a great way to connect to the rest of the world and prepare for the future.



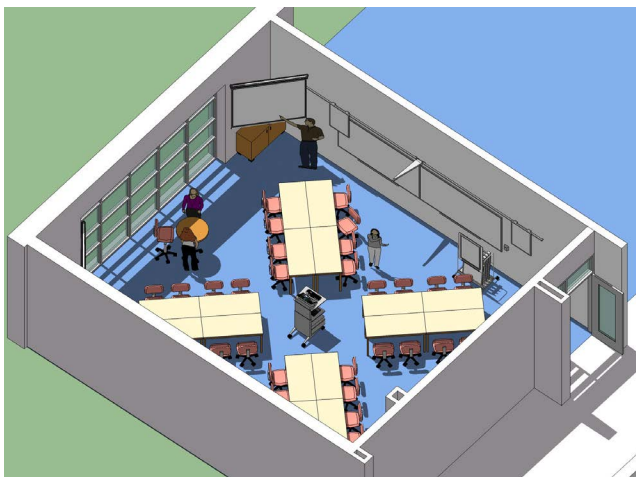
Fremont High School

Educational Environment, cont.

Describe and illustrate how the environment supports a variety of teaching and learning styles.

The environment supports a variety of teaching and learning styles by being fundamentally flexible. Flexible spaces and furniture, from the gymnasium to each classroom, support a learning environment that's best for every lesson and student. There's no longer a "back row" in the classroom for concepts or students to get left behind.

Fremont High School is the first technology-rich interactive learning environment to replace traditional classrooms in a K-12 Michigan school. The new classroom types support collaborative activities by incorporating technology and being student-centered. Up to five groups are supported with integrated technology and furniture that boost collaboration. Every wall becomes a teaching wall with mobile technology panels to support team co-creation, and teachers become facilitators as students connect to the world around them. Students use a one-touch puck to switch from one projected resource to another. The configuration and technology allows students to access and share information quickly and seamlessly. All tables and chairs are easily moved, allowing flexibility to meet current teaching and learning styles.



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Educational Environment, cont.

Describe and illustrate how the environment supports a variety of teaching and learning styles, cont.

The Chemistry room uses multi-functional, multi-level table workstations which allow a seamless flow from lecture to laboratory work to demonstrations. The room creates an energizing and stimulating yet comfortable learning environment that's flexible for various teaching and learning styles. Each workstation supports a group of four or more, is hydraulically raised/lowered, and is ADA accessible. The furniture is moveable and can be easily reconfigured to support a variety of activities.

Overall, Fremont High School reflects an atypical institutional environment which supports and encourages different teaching and learning styles. The school feels more like a work or learning centered space. Interaction is also encouraged outside the classroom with open spaces complete with comfortable furniture with warm, playful colors. And smaller spaces throughout are perfect for group projects and studying. These spaces are an important aspect of the environment because students can learn a lot from each other in an informal setting. The interior is highly stylized throughout with wood, brick, stone, glass, terrazzo, and carpet to offer inspiration for every student.



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Physical Environment

Describe and illustrate the physical attributes of the environment.

The footprint makes the most of the setting by positioning the building on a hillside and offering two levels with walk-out access. The front entry is on the north, upper side of the hill, and the public spaces, such as the cafeteria and gymnasium, face south toward the pond. Expansive views contribute to a sense of openness inside the building.

Designed to LEED standards, an energy-efficient heating/cooling system utilizes a water-to-water geothermal system that works with the radiant floor system. It is very low maintenance and saves energy use and costs. Compressors and refrigerants are centralized and all air-handling units have heat recovery units. The water-to-water geothermal system's hot water is limited to at least 50° lower than a conventional system yet works well with the in-floor radiant system to create a comfortable, consistent learning environment.



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Physical Environment, cont.

Describe and illustrate the physical attributes of the environment, cont.

The high school was designed on two floors with at-grade access at each floor to take advantage of the steeply sloping site. The existing grade changes on the site were perfect for orienting the occupied spaces in either a north or south direction, both of which are ideal for maximizing daylighting strategies. The north/south orientation also allowed us to take advantage of the beautiful views to the existing pond and natural setting.

The site contains former farmland, which is perfect for the rural community and agricultural science program. The program has enormous community support. The county fairgrounds and animal barns are neighbors, too. The art and science programs have extensive natural areas to explore, including wetlands, forested areas, and open fields, which all support the curriculum.

Connections to the outdoors occur not only through the large windows but also to outdoor spaces incorporated into the design and directly accessible from the information center, dining areas, art rooms, and the agricultural science area. Site amenities include physical education play fields, agricultural science growing fields, and many natural areas.



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Physical Environment, cont.

Describe and illustrate how the facility fits within the larger context of the community.

The home of Gerber Baby Food, this is a fairly traditional Midwestern, small town community that was looking to incorporate the latest technology with the old-town feel. The rural setting is a perfect backdrop for Fremont High School because the community wanted it to feel like part of the town.

The exterior and interior of the high school has detailing with stone and traditional red brick that reflect many of the downtown storefronts and the original 1920's high school building. Hidden behind the traditional feel of the walls and ceilings is plenty of infrastructure to support the latest in educational technology.

The next two pages contain photos of homes and businesses in Fremont and photos of the old and new Fremont High School. This is a visual representation of how the historical significance was preserved and how well the school fits within the larger context of the community.

Downtown Fremont, MI



Fremont High School

Physical Environment, cont.



Homes and businesses
in Fremont, MI



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Physical Environment, cont.

Photo of the old, 1920's Fremont High School



Photos of the new Fremont High School



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Physical Environment, cont.

Describe and illustrate how the project inspires and motivates.

Natural light has been proven to have a positive impact on learning. Most classrooms are oriented north to south, and every room has tall windows and sloping ceilings, as well as occupancy sensors and daylight harvesting system. Other materials, such as wood, brick, stone, terrazzo, and carpet, set the tone throughout the building so the learning environment supports connectivity and flexibility. Students connect with the outside world, each other, and teachers for a more enhanced learning experience.

The project also provides students with a sense of pride and ownership – something they can be proud of – and that’s inspiring in itself. From the bold FHS branding and school spirit in the gymnasium to the various styles of learning in the classrooms, the students have an understanding that every inch of the school was built to motivate and help them succeed. Plus there’s no mistaking the care that was taken to preserve and incorporate as much of the natural, rural setting as possible, which reinforces the roots and desires of the community.



Fremont High School

Results of the Process & Project

Explain how the project achieves educational goals and objectives.

One educational goal was access to technology. Fremont is a fairly remote, rural area, so the ability to bring 21st Century technology to each student was a big deal. Plus it's a great way to connect students to the rest of the world, especially when most haven't traveled too far. This goal was accomplished by the multi-functional, multi-level table workstations and interactive collaboration labs—the first use in a K-12 Michigan school.



Student engagement was another objective. This was accomplished through the flexible and interactive technology, ergonomic furniture throughout the building, and warm teaching spaces flooded with natural light and inspiring views.

It's also worth noting that the local community college is using the science wing as a guide in designing their new science spaces.

Explain how the project achieves school district goals.

The guiding principles for the design of the new high school were:

- flexibility
- maximize educational opportunities
- maximize safety and security
- accessibility to all students
- support/enhance connections to the community and its heritage.



Flexibility: You can find flexible spaces and furniture throughout the high school. The new classroom types support collaborative activities by incorporating technology and being student-centered. Up to five groups are supported with integrated technology and furniture that boost collaboration. Every wall becomes a teaching wall with mobile technology panels to support team co-creation, and teachers become facilitators as students connect to the world around them. The configuration and technology allows students to access and share information quickly and seamlessly. All tables and chairs are easily moved, allowing flexibility to meet current teaching and learning styles.

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Results of the Process & Project, cont.

Explain how the project achieves school district goals, cont.

Maximize educational opportunities:

Although Fremont is a fairly remote, rural area, it was a goal to bring 21st Century technology to each student. Connecting students to the rest of the world was imperative to prepare them for the next stages in their life. This goal was accomplished by the following:



- Multi-functional, multi-level table workstations and interactive collaboration labs—the first use in a K-12 Michigan school
- High tech TV studio
- Media-scape business classes
- Very hands-on craftsman classes, including woodworking and metalworking

Maximize safety and security:

The secured entry space allows visitors access to the main community contacts: Administrators, Athletic Director, Guidance Counselors, and the school store. Access to these spaces occurs without the need to enter typical student occupied spaces. Supervision of all corridors, with the exception of the lower level locker room hallways, can happen from one location on each floor at the center of the building. The main corridors are also extra wide for easy passage, which decreases the opportunity for an incident due to congestion.



Accessibility to all students:

The high school is accessible to all students in the following ways:



- All areas of the building are barrier free
- Corridors are extra wide with large vision panels into every classroom
- An open classroom design with flexible furniture
- Specialized seating and presentation equipment in the Information Center
- Multiple floor levels and seating options in the cafeteria provide area for impromptu or planned small and large group collaboration
- *Side note:* the community is welcome in the building for a variety of functions. For example, many community members consider Fremont High School the “best restaurant in town,” so they often come for lunch.

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Results of the Process & Project, cont.

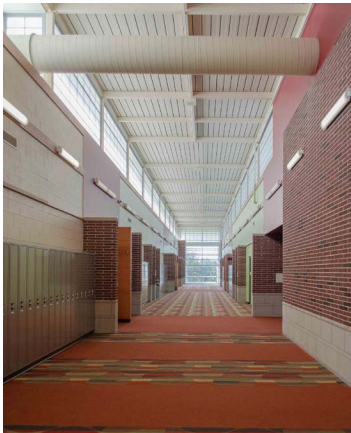
Explain how the project achieves school district goals, cont.

Support/enhance connections to the community and its heritage:

It was extremely important to the community that the new high school felt like it had always been there. In order to achieve this goal, the community only saw one way: use red clay brick on the exterior and interior of the new school. This would provide continuity between the school and the downtown, plus pay homage to the original 1920's building.

The use of clay brick as a primary element was also a way to translate the 1920's building into a more modern structure, making it more relatable to students of this generation and sustainable for future generations.

In keeping with the community's main goal, they also wished to mimic the scale of the 1920's building. This meant keeping the ceilings as high as possible and retaining the shape of the windows. Plus using larger size brick (3.625" w x 2.25" h x 15.625" l) with stone gave the school a more traditional proportion, which was perfect in keeping with the community's wishes.



Explain how the project achieves community goals.

The traditional Midwestern, small town community wanted the high school to feel like part of the town, which meant incorporating the latest technology with the old-town feel. The rural setting is a perfect backdrop for Fremont High School because the site amenities include agricultural science growing fields, many natural areas, and physical education play fields. The high school strikes a balance of offering students a 21st Century education while preserving and connecting students to the rural setting, which is what the community wanted.