

A4LE LEsolutions

**Sunnyvale Intermediate
School: Library**

New Learning Environment

New Learning Environment – Innovative interior learning environments that address and support teaching and learning.

Project: Sunnyvale Intermediate School Library, located in Sunnyvale, Texas, part of Sunnyvale Intermediate School District.

Key Firms and Individuals:

Lighting Designer – Estes McClure and Associates.

Lighting Design Team Members – Matt Hensley, Sherry Wunschel

Architect - WRA

Architect Team Members – Weston Emmert

Tubular Daylighting Devices – Solatube International

Executive Summary:

Sunnyvale ISD has embarked on an educational transformation that requires more of their school buildings than a series of conventional classrooms can provide. Their first new build designed specifically to support the way that students and teachers interact in Sunnyvale is a new intermediate school, currently under construction.

Designed to hold up to 600 students in grades 3, 4, and 5, the school is subdivided into three small learning communities, or houses. Each house includes nine classrooms on two floors along with breakout spaces and small group rooms and will include equal numbers of students from each of the three grades. These students will stay together in the same house for their full three years in this building. The small learning communities all overlook a large central space that serves as a shared commons and media center for the entire school. Dedicated spaces for art, science, music, and special education also open onto the commons.

Covered outdoor spaces on both the ground floor and second floor will provide additional settings for learning. The absence of corridors along with ample walls of glass allow virtually every corner of this space to be easily overseen and, as a result, to serve as effective areas for learning. Students from a wide range of learning styles will find their favorite spot among the many different spaces to be found here.

The public side of the campus includes administration offices, a light-filled cafeteria, and a gymnasium that is also designed to serve as a storm shelter. The school opened in the fall of 2019.

A key area for the school is the state-of-the art library, which is the focal point of this award entry.

Sunnyvale Intermediate School is sub-divided into three learning communities or houses with each two-story house containing nine classrooms. In order to facilitate interaction and collaboration, breakout spaces and small group rooms are interspersed amongst the classrooms. The use of abundant walls of glass and an absence of corridors creates an open, transparent design that contributes to effective areas for learning. Not all of the learning areas are indoors, however. Covered outdoor spaces on both the ground and second floor help to contribute to the unique and refreshing classroom setting.

All three communities overlook a large, shared commons area and media center to further support interaction between all students. In addition, dedicated spaces for art, science, music, and special education also open onto the commons.

The overall building can accommodate 600 students in grades 3-5. These students will stay together in the same house for three years of schooling with an equal number of students from each of the three grades in each house.

Administration offices, a gymnasium (also designed to serve as a storm shelter), a light-filled cafeteria and library are located on the public side of the campus.

The state-of-the-art library is a focal point for the school, which is the focus of this award entry. During the design phase, there were several challenges. The largest one was finding a way to bring daylight into the space with a unique, design aesthetic as lighting was to be one of the key elements in the overall design of the library. The architect reached out to a tubular daylighting device manufacturer known for its industry-leading daylighting performance.

The two worked closely together to create a striking and high-performing solution which entailed dropping the tubular daylighting devices into the space and terminating them at different lengths. Custom cast, acrylic tubes were then hoisted up over the bottom of the tubes to create a one-of-a-kind chandelier effect where the broad-spectrum daylight would perfectly illuminate the space and create a beautiful, even glow to the acrylic tubes. This dynamic design resulted in an extraordinary space that inspires students to read, study and learn. Additionally, the students and faculty benefit from the

positive effects of daylight which have been shown in studies to improve student performance, help increase test scores and reduce the number of absentee days.

The lighting solution created by the architect and tubular daylighting device manufacturer provided an innovative and unique approach to daylighting in a modern and high-performing educational environment.

Scope of Work and Budget

School & Community Engagement

The Sunnyvale Independent School District is the school district in Sunnyvale, Texas. The Superintendent is Doug Williams. The district is fairly small and has about 1,200 students.

The district was established on February 26, 1953, after the mergers of the schools of Hattersville, Long Creek, New Hope, and Tripp.

Prior to fall 2007, Sunnyvale did not operate a high school; Sunnyvale's students were zoned to Mesquite ISD, attending North Mesquite High School.

Although the entire district was located in one building, construction began on a new high school for students in grades 5-8. Construction had been completed for the 2006–2007 school year.

The residents of SISD approved a bond to build a high school. Sunnyvale High School was housed at the middle school campus prior to its campus's opening in the fall of 2009. As of August 24, 2009, the Sunnyvale High School opened its doors to students.

In 2009, the school district was rated "exemplary" by the Texas Education Agency.

In 2011, the town of Sunnyvale approved a \$16.8 million bond election for the construction of a new elementary school to replace their current 50-year-old one. The bond election raised taxes on evaluations 7¢ per \$100. The bond was approved, and the school was completed in time for the 2012–2013 school year.

Identify stakeholders

Students, faculty, and overall community.

Name challenges

Designing a campus that can accommodate advancements in education and technology and create a facility that will house emerging instructional strategies and technological innovations to help educate the leaders of tomorrow.

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Describe available assets

Sunnyvale Intermediate School is different from traditional public schools. In the U.S. education system, magnet schools are public schools with specialized courses or curricula. "Magnet" refers to how the schools draw students from across the normal boundaries defined by authorities (usually school boards) as school zones that feed into certain schools. Attending them is voluntary. Having this laser-focused approach for Sunnyvale was a valuable asset toward the designing and building of Sunnyvale.

Describe value of process and project to community at large

The Sunnyvale Intermediate School building design acknowledges and celebrates its historic neighbors through the use of all wood-framed construction, parabolic roof assembly features three-point hinged glued-laminated beams, parabolic trellis assembly features structural round tube steel, longitudinal panelized skylights, and parabolic curtainwalls.

Educational Environment

Explain the educational vision and goals of the school

The design celebrates the multiple use of one space, capable of accommodating individual, small group, and large groups instruction both indoors and outdoors.

Describe & illustrate how the environment supports the curriculum

The Sunnyvale Library integrates small group study rooms for individualized study. Extensive use of natural light elevates student performance and lowers absenteeism (Heshong Mahone study, 1999, <https://h-m-g.com/downloads/Daylighting/schoolc.pdf>).

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

The use of abundant walls of glass and an absence of corridors creates an open, transparent design that contributes to effective areas for learning. Not all of the learning areas are indoors, however. Covered outdoor spaces on both the ground and second floor help to contribute to the unique and refreshing classroom setting.

Describe & illustrate how the environment is adaptable and flexible

T.I.D.E classroom and student amphitheater offers flexible capacity for C.T.E. instructional space, keynote speakers, academic competitions, large group instruction and student rallies.

Physical Environment

Describe & illustrate the physical attributes of the environment

The space provides students with refuge to study, collaborate, and recreate. Seamless integration of outdoor learning labs to indoor study spaces that create unconfined classrooms. Elevated pedestrian walkway connects all buildings. All wood framed construction, parabolic roof assembly features three-point hinged glued-laminated beams, parabolic trellis assembly features structural round tube steel, parabolic curtainwalls, and longitudinal panelized skylights. The exterior panelized cladding was influenced by the iconic hangar bay doors panel cladding. The parabolic roof gives the appearance of a seamless transition between building envelope and rooftop equipment scenes.

Describe & illustrate how the facility fits within the larger context of the community

Since Sunnyvale is the only district in Sunnyvale, Texas, it serves as the core learning environment for the community.

Describe & illustrate how the project inspires and motivates

Since the space provides students with a refuge to study, collaborate and recreate, they will be inspired to produce their best work in a comfortable, healthy, and relaxed environment.

Describe & demonstrate the role of high performance/sustainability in the planning and design of the project and the metrics used

Both energy and water management for the campus was at the forefront of design. Wood framed wall construction easily exceeds Title 24 building envelope requirements. All non-playfield landscaping utilizes drought tolerant species with sub-terrain drip irrigation systems. Playfields and parking lots double as water collection and filtration areas.

Results of the Process & Project

Explain how the project achieves educational goals and objectives

Since the space provides students with a refuge to study, collaborate and recreate, they will be inspired to produce their best work in a comfortable, healthy, and relaxed environment.

Explain how the project achieves school district goals

Sunnyvale Independent School District was driven to create a new type of school design due to a shift in the way they were educating their students. The Intermediate school was their first new build under this change and was designed to align the built environment with the educational platform thus supporting the new style of interaction between the students and teachers.

Explain how the project achieves community goals

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Explain any unintended results and achievements of the process & project

Energy reduction for the school was at the forefront of design. For example, the use of tubular daylighting devices in the library floods the interior spaces with natural light, which has been proven to be conducive to elevated performance and lower absenteeism among students and faculty. The daylighting addressed the lighting requirements in the library, reducing daytime electrical lighting loads.

Sustainability and Wellness

Describe & illustrate the energy-efficiency within the solution

The daylighting addressed the lighting requirements in the library, reducing daytime electrical lighting loads.

Visuals

Photos (on the following pages)













