Local Agricultural, Healthy Community

Place-making, through the thoughtful integration of building, landscape, program, and history, brings focus to nature and wellness, creating an idyllic educational space that is truly transformational for community.

This was the ambitious goal of our client. By building a new K-12 campus in the Central Valley, they hoped to support and encourage a once vibrant area and create a brighter future. Some of the key areas of focus included:

- Drawing inspiration from the natural surroundings and connecting students with nature
- Addressing wellness and health concerns
- Increasing college attendance
- Creating a workforce with agricultural career tech specialization
- Attracting new people to the region and encouraging the students of today to build a future in this area by embracing modern agriculture.

Many of these goals are already being met. The Academy has created both college prep and career pathways for students. Early results show 88% of the class of 2018 attending four-year universities. An even more remarkable number when contrasted with the San Joaquin Valley-wide rate of 18%. Larger goals to impact the regions health and wellness standards are harder to measure though all indications point to a shift in thinking and living that students are taking home to their families. Our submission will outline the role that design has played in supporting the goals of Wonderful College Prep Academy in providing a campus where the next generation of citizens will thrive.
Can buildings and landscape work in harmony to define and create a sense of place?

Can schools and their educational goals further a process of renewal?

The above questions lie at the heart of this school project located in the Central Valley of California.

Wonderful College Prep Academy is a 200,000 sf, K-12 public charter on a 15-acre campus that provides an innovative curriculum that includes STEM and Health and Wellness Education while emphasizing both career and college prep courses. The overall project is part of a larger re-investment initiative of the Owner, The Wonderful Company to revitalize the once vibrant Central Valley institutions, infrastructure, and most importantly, the quality of education.

The school's site is configured into three main academic 'villages' with courtyards – high school, middle and elementary (currently under construction) that act as the communal center around which classrooms are organized. The center of the campus “opens up” along its north-south promenade to allow connections between various ‘villages’ and has become the communal hub for student life.

The local agricultural and environmental ecology inspired the buildings and landscape. Roof forms and overhangs, which mimic the undulating ridge-line of the Sierra Nevada in the distance, create natural cooling and shade. Roof overhangs also mediate spatial flow between the inside and the outside and create flexibility and transparency between the classrooms and the outdoors. Through this daylight and natural ventilation are encouraged to allow the students to connect to the natural environment.
Additional key site elements include:

- The field of ‘gabion’ walls that border the campus relate to the ‘furrows and grooves’ created by surrounding agriculture.
- The application of desert flora and mature olive orchards reference regional climate and traditions in cultivating almonds.
- Learning Gardens allow students to study how to grow and harvest fruits and vegetables.
- A Teaching Kitchen provides an opportunity for students to learn to prepare their harvest.

The above is part of the place-making process and marks the beginning of renewal towards enhancing and strengthening the bond between the community and the places they live, work, and learn in this agricultural region.

Working with a private client, we did not face the traditional budget challenges we face in the work we do for public school districts. However, with the lofty goals of this project came a great responsibility. We encountered a familiar challenge of ensuring we were doing the most we could for every dollar spent. Our client’s mission stretched beyond the K-12 students that would be attending classes to the broader community, staff, and other employees of their companies. We needed to keep in mind the possibility of multiple uses for each space, requiring that flexibility be a key factor. The Client was an active participant in the design and execution of this new K-12 campus with far-reaching impact on the community.
Delano is a small farming community located in the agricultural heartlands of the Central Valley of California. In areas in and around Delano, there are abundant farms and orchards dedicated to growing oranges, grapes, almonds and pistachios, which have historically been the main stays of local production. The Wonderful Company is the biggest agricultural employer in the area and the many residents who live in Delano are either directly or indirectly associated with the company as its workforce. There is a real commitment on the part of the employer to be responsible stewards of the land, the community, and the education of its children to be active partners in its sustainable future.

The project stakeholders are part of a broad education initiative founded by The Wonderful Company as well as the existing charter school community in Delano. As a result, a diverse array of educators, researchers, and community leaders have come together to raise the bar towards designing for integration and wellness. During the design process, there were many collaborative meetings and discussions between the architects, educators, designers, contractors, and various vendors and manufacturers to aim for as much efficiency, flexibility and diversity in learning spaces as possible. An example of this collaborative design process involved the research and development of the campus dining facilities.

The design team began with research of the Google campus and their dining facilities to question how our foods, consumption, and wellness affects not only education but also the ability to be productive and engaging citizens. The design of the kitchen, the back-of-house prep areas, and the learning kitchen with edible gardens stems from engaging current leaders to optimize for setting new standards in the importance of food in today’s education.

One of the big challenges of the project was landscape design. Due to the on-going drought and general warming climate trends in the Central Valley, it became necessary to rethink the availability and minimize the utilization of water in planting design and irrigation. Challenges during the design process had to do with project schedules and trying to accommodate for the students in as little a time as possible. The construction duration was very aggressive, and there were numerous challenges working with a city agency with limited resources scheduling inspections and obtaining permits.

The valuable assets in the project is the community, the land and its history. The project is a product of long-standing agricultural ecology of the Central Valley and its symbiotic relationship with its landform and water, and in turn, the shared meaning behind its social customs, culture and the built environment. The success of the project is an outcome of the endless richness and complexity that is embedded in the local community and the landscape that surround it.

One of the central tenets of the Academy is ‘health and wellness.’ This region, like many others, has high levels of chronic diseases such as obesity and diabetes. Starting young children out with proper information on nutrition and exercise is a great way to guard against the growth of these trends. The school’s focus on health and nutrition aims for a ground-up, holistic idea of sustainability of the community toward its future longevity and success.
The various facets of the wellness concept as a design strategy are rooted in the importance attributed to transparency, flexibility, and interactivity in the layout. Below are several examples of how the design supports the mission of the school and influences the wider community:

- The school’s dining facilities foster an experiential and interactive relationship with food by emphasizing ‘Seed to Table’ concepts and nutrition awareness. Harvest Hall serves fresh and nutritious options designed in such a way as to allow students to observe chefs preparing fresh food daily.

- A learning kitchen was designed as an interactive classroom adjacent to the main prep kitchen with access to both the main dining hall as well as the edible garden and the outdoors.

- An active lifestyle is encouraged by the accessible track and gym facilities, as well as the 24 different sports teams on campus that include the following sports: soccer, basketball, volleyball, softball, baseball, track, and flag football.

- Signage and graphics are another means to transmit information and knowledge to all students and faculty.

The learning and education of the food cycle from planting to harvest to table and the pitfalls and repercussions of mass consumption and waste is critical to the prosperity of not only each student but also the community as a whole. The students’ experience at the Academy fosters an appreciation for making healthy choices for the rest of their lives.
Seed to Table

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A New Educational Vision

The organization of the school campus mirrors the integrated fabric of a city and encompass everything from academic learning to courtyards, dining, kitchen, fitness, play areas, outdoor spaces, avenues, and gardens and groves.

The campus is organized around three main academic villages and its courtyards that serve as a central hub of student life. Each set of classroom buildings are conceived as unitized 'blocks' that allow for a progression of massing and scale to serve different student age groups.
Campus Circulation
Floor Plan: High School Level 1

Floor Plan: High School Level 2
Floor Plan: Multi-purpose Room
Organization and Progression of Building Blocks

The progression of the building blocks creates a relationship between the building scale and the outdoor spaces. The design provides for smaller, intimate spaces for the youngest students, while the buildings and landscape anticipate larger social groupings in the older student areas.
High School Axonometric

Breakout classroom spaces connect between classrooms to provide additional classroom teaching areas.
Spatial Anatomy of STEM Curriculum

21st Century-learning illustrates Opportunities for Different Modalities of Learning. Educators do not have a fixed mode of teaching class. The classroom extends to the exterior breakout spaces in which learning becomes incredibly dynamic.
EDUCATIONAL ENVIRONMENT
Agricultural education: from the garden to the lab, and the kitchen

The school project embraces diversity in learning and acknowledges that learning happens in various ways, and one size does not fit all.

The design of the classrooms provides a framework for creating breakout spaces, outdoor pods, and learning gardens that allow both social and emotional learning as well as reflective and independent study. *No, you do not have to sit at a desk.*
Blending Seamlessly into the Natural Environment

**Design for Landscape**

The campus design draws on the explicit regional landscape of the Central Valley in its agricultural context. For example, the field of ‘gabion’ walls that border the campus relate to the ‘furrows and grooves’ of local agrarian fields and groves of trees mirror traditional farming of almonds and olives.

Building roof forms and overhangs are inspired by local agricultural ecology of vernacular structures, natural resources, and landforms.

The project utilizes clear-span glulam beams that allow for large cantilevers and overhangs to create a roofscape that mirrors the nearby Sierra Nevada Mountains. The efficiency of glulam structure helps to minimize thickness and heaviness of beams and columns and help buildings to integrate seamlessly with the landscape.

**Design for Water**

The choice of building color, materials, and landscape palette was directly influenced by the transforming desert ecology of the Central Valley and the on-going concern for lack of water. All plants used on the campus such as native grasses, local species of cacti, Palo Verde, and mature olive trees are selected for their drought-tolerant properties.

Campus storm-water is captured and piped to an on-site retention pond landscaped with native grasses and local crushed cobblestones.
Design to Shade and Cool

One of the major challenges of the Central Valley is the hot weather – temperature fluctuation between sun and shade is 20 degrees! Our integration of overhangs and canopies provides a flexible outdoor space for group learning and activities without being exposed to the heat and keeps their classrooms cool.
21st Century Learning

The local agricultural and environmental ecology inspired the buildings and landscape. Roof forms and overhangs, which mimic the undulating ridge-line of the Sierra Nevada in the distance, create natural cooling and shade. In the process, daylight and natural ventilation are encouraged to allow the students to connect to the natural environment.

The field of ‘gabion’ walls that border the campus relate to the ‘furrows and grooves’ created by surrounding agriculture. Learning Gardens were incorporated, allowing students to study how to grow and harvest fruits and vegetables, and a Teaching Kitchen provides an opportunity for students to learn to prepare their harvest.
Technology is changing the agricultural world, but students in the Central Valley were graduating without the proper specialized skills to make a difference. They went straight into the workforce as high school graduates providing the workforce but not the innovation required. With the integration of a STEM curriculum that fosters 21st Century Learning, the students receive an education that prepares them for the high-skilled STEM-based agriculture jobs of today and the future. There is a college focus to encourage them to get a higher education to later infuse back into the community upon their return. Instilling a healthy lifestyle is also integral to the curriculum, the Central Valley has a high population of persons that have diabetes, are obese, or both. The school is redefining school nutrition on campus and is a model for future programs.

Transforming Community