

# 2015 Exhibition of School Planning and Architecture

## **DEL LAGO ACADEMY: CAMPUS OF APPLIED SCIENCE**

**Category: New Construction**

Escondido Union High School District  
Escondido, California



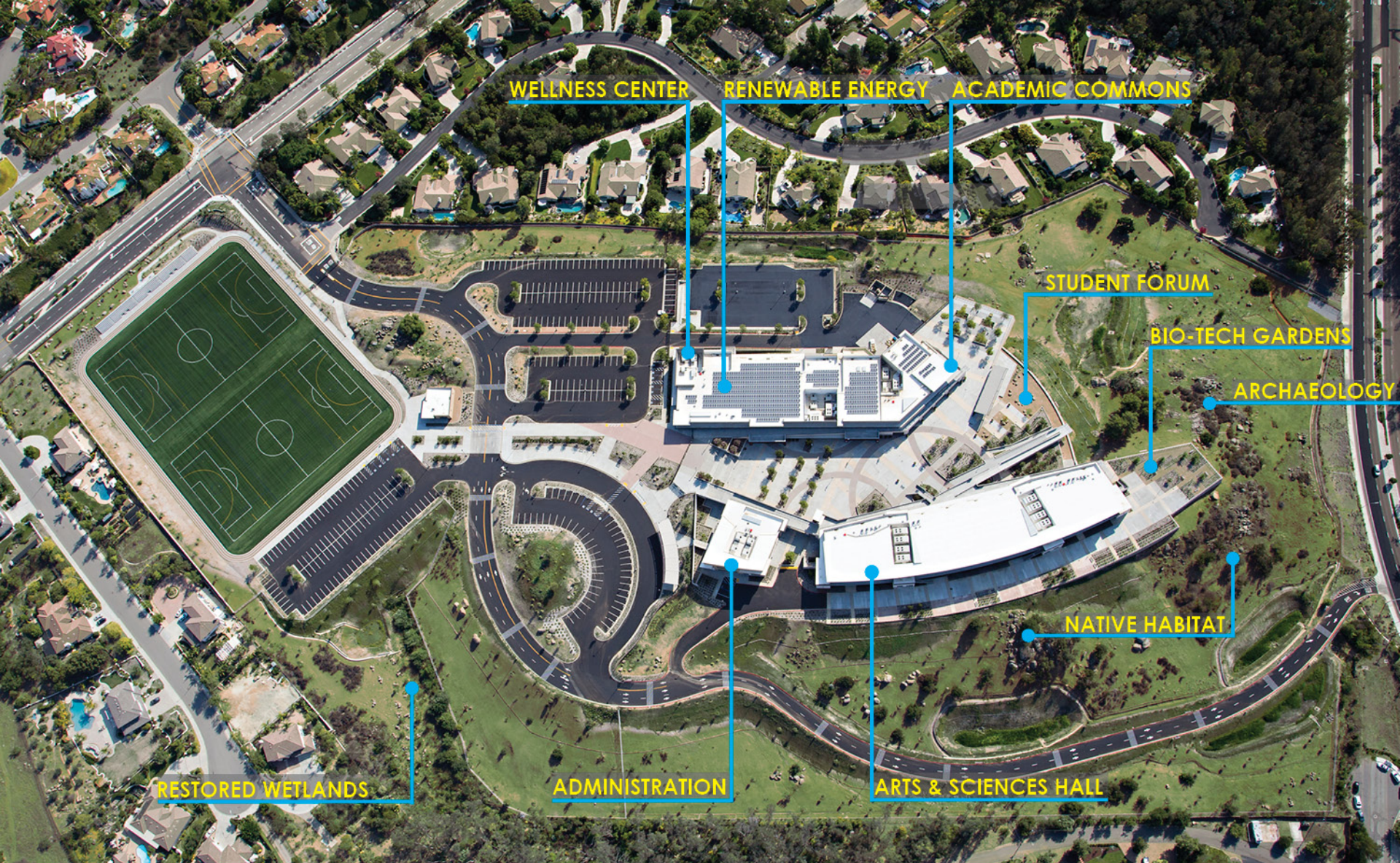
A Thematic Education Experience exploring BioTechnology,  
Medical Science, and Wellness.



DEL LAGO ACADEMY  
Campus of Applied Science

ESCONDIDO UNION HIGH SCHOOL DISTRICT





WELLNESS CENTER

RENEWABLE ENERGY

ACADEMIC COMMONS

STUDENT FORUM

BIO-TECH GARDENS

ARCHAEOLOGY

NATIVE HABITAT

ARTS & SCIENCES HALL

ADMINISTRATION

RESTORED WETLANDS

THE DESIGN OF THE CAMPUS REFLECTS THE DISTRICTS COMMITMENT TO SUSTAINABILITY THROUGH PRESERVATION, RESTORATION AND REDUCED ENERGY USE.





CREATE: **RENEWABLE ENERGY**



PRESERVE: **NATIVE AMERICAN ARTIFACTS**



PROTECT: **SENSITIVE HABITAT**



PREPARE: **APPLIED LEARNING**



- STUDENTS WORK SIDE-BY-SIDE WITH INDUSTRY PROFESSIONALS TO APPLY ACADEMIC AND TECHNICAL SKILLS IN THE WORKPLACE.
- SENSITIVE LAND-USE: GOOD NEIGHBORS
- CURRICULUM DERIVED FROM LOCAL COMMUNITY AND ECONOMY
- 40% OF SITE UNDEVELOPED, PRESERVING NATIVE HABITAT

EDUCATION PARTNER: **PALOMAR POMERADO HOSPITAL**





## ARCHITECTURAL VOCABULARY DRAWS CONNECTIONS TO BUSINESS COMMUNITY AND LOCAL CULTURE



The Collaborative Design process involved input from many of the surrounding residents whose concerns are addressed in the design solution. Distance from Buildings to property boundaries, lines of sight, traffic ingress & egress, storm runoff, noise and light spillage were among the design criteria that were resolved in the design. The orientation and positioning of the campus buildings were carefully considered to minimally impact the neighbors' views.



BioTechnology

Medical Science

Omni Room - Lecture

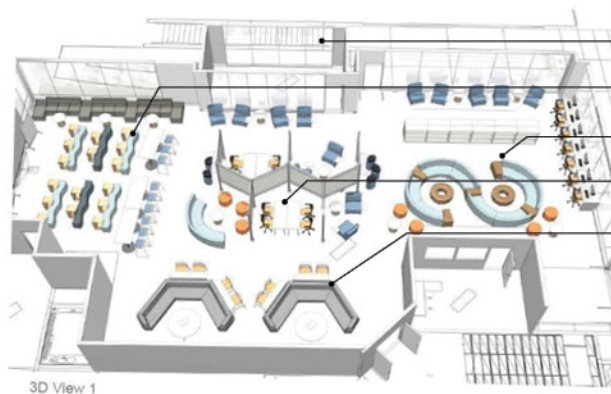
Direct Instruction

Applied Lab



“BY PROVIDING OUR YOUTH WITH REAL PROBLEMS, BLURRING THE LINE BETWEEN THE CLASSROOM AND THE PATIENT ROOM, WE INSTILL A LEVEL OF CRITICAL THINKING” Brenda Turner, Palomar Pomerado Health.





- Enhanced Discussion
- Individual Study
- Discussion Forum
- Small Group
- Project Based Learning





**CURRICULUM** PERSONALIZATION  
**DESIGN** AUTHENTIC LEARNING EXPERIENCES  
**PRINCIPLES** ETHIC OF EXCELLENCE  
SKILLED PROFESSIONAL TEACHERS



**DEL LAGO ACADEMY**  
Campus of Applied Science

**GALLERIA: EDUCATION HAPPENS EVERYWHERE**





**DEL LAGO ACADEMY**  
Campus of Applied Science

**MEDICAL SCIENCE CRITICAL THINKING**



**“The Del Lago Academy will serve as a literal beacon of sustainability and innovation for the community.”**

SDG&E President and Chief Operating Officer, Mike Niggli



#### COOL ROOF

One of the primary generators of internal building heat gain is through the roof. Using cool roof technology, the energy costs for the building can be reduced by up to 15% through high solar reflectance and thermal emittance. Cool Roofs also reduce heat island effects by not allowing sunlight to be converted to heat where it will be trapped by greenhouse gases.



#### PHOTOVOLTAICS

Over 20,000 SF of photovoltaic arrays are to be installed onto buildings roofs and shade structures. Through SDG&E's Savings By Design program, the School District is able to offset their electrical needs through on-site generation while improving building performance and lessening the environmental impacts.



#### PORCELAIN RAIN & HEAT SCREEN

Exterior weather facing surfaces are held away from the wall structure. Rain screens create a gap that allows air to circulate across the vapor barrier. This removes condensation from the vapor barrier avoiding leaks and mold growth. The air gap also serves to reduce heat gain internal to the building by allowing air to circulate behind the tile before heat can be transferred from the tile to interior of the building.



#### LAND USE

Care was taken to preserve the landform and topography to preserve the natural beauty and historical significance of the property. Maintaining the landform also preserves the historical runoff patterns thereby lessening the environmental impact on surrounding properties. Storm water is treated on site before release into the municipal storm water system.



## ENVIRONMENTAL

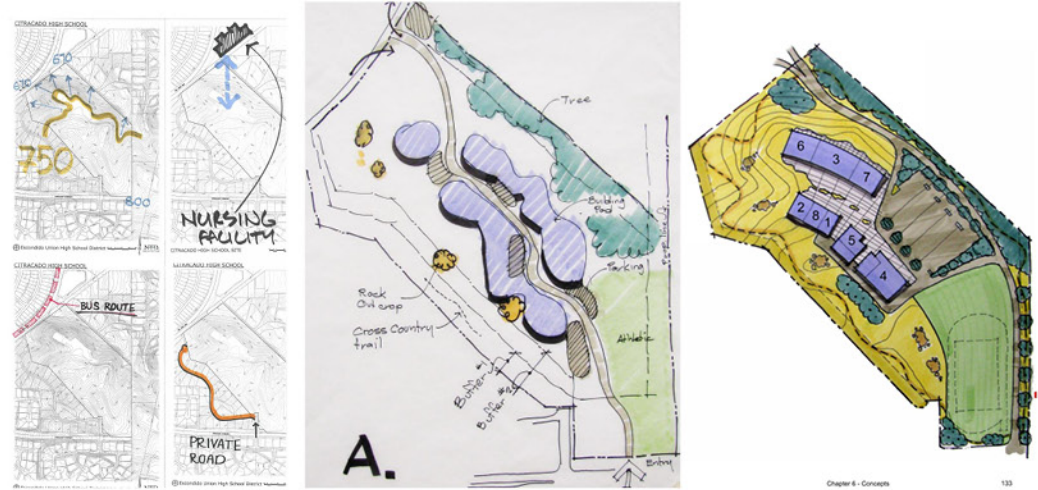
The 36 acre site was unoccupied and overgrown with non-native plant species. Over half of the 120 species found on site were non-native. The design team approached the site with the goal of preserving as much of the native species as possible. All areas of the site were cleared of most non-native species and many native species were preserved. Coastal Sage and Live Oak were cared for throughout construction and remain in place and encouraged to grow throughout the site. Gnatcatchers, Reptiles and other species listed on the Multi-Species Habitat Conservation Plan.



## ARCHAEOLOGY

In addition to being home to OVER 100 species of native flora and fauna, the site is significant due to the prevalence of native American artifacts found in abundance on site. Rock out-croppings throughout the site evidence centuries of use by native American tribes. Grinding Mortars are visible in several locations. These areas were carefully identified and protected during the design process, preserving the legacy of human habitation in the region.





## COMMUNITY BASED PLANNING SYMPOSIUM

- STUDENTS
- FACULTY
- BIOTECH AND MED SCIENCE BUSINESS PARTNERS
- COMMUNITY MEMBERS
- PALOMAR POMERADO HEALTH SYSTEM
- CSU SAN MARCOS
- PALOMAR COMMUNITY COLLEGE

## OUTCOMES

- SITE 'HI-TECH CAMPUS' CONCEPT
- APPLIED SCIENCE EDUCATIONAL PHILOSOPHY
- EDUCATIONAL SPECIFICATIONS
- COMMUNITY SUPPORT





# COLLABORATIVE DESIGN SYMPOSIUM

Site Feasibility Studies were conducted on 5 potential project sites. The site chosen was already owned by the District but was too small for a comprehensive high school.

The District solicited input from the community regarding potential support for a focused curriculum academy. Positive community reaction identified curricular goals that support the prevalent industries of the Escondido area: Medical Science and Biotechnology.

The District conducted a week long Design Symposium prior to bond election to develop the project vision and program, review site characteristics, encourage community support for the bond campaign.

The symposium participants included representatives from local bio-tech and medical science business enterprises, Palomar Community College and Palomar-Pomerado Hospital.

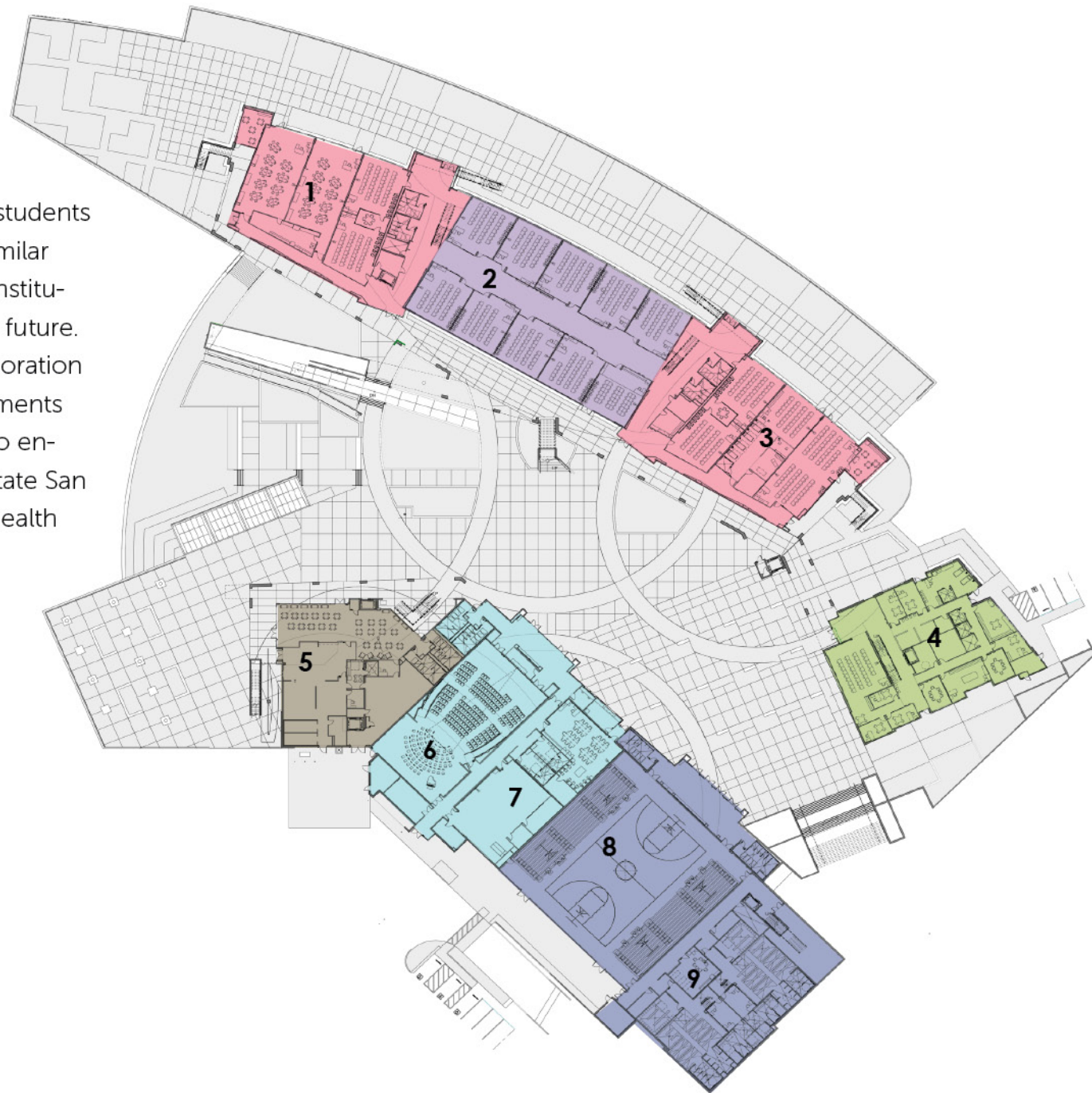




# First Level Plan

The design features encourage students to experience an atmosphere similar to the collegiate and/or career institutions they will be a part of in the future. These include designated collaboration spaces for project-based assignments and larger scale lecture rooms to encourage partnerships with Cal State San Marcos and industry leaders in health care.

1. Science Labs
2. Core Curriculum Classrooms
3. Medical Sciences
4. Career/ Counseling Center
5. Food Service
6. Theater
7. Art Classrooms
8. Gymnasium
9. Locker Rooms





# Second Level Plan

To respond to the medical science and biotechnology industries' rapidly changing technology, lab spaces have been designed to be highly flexible. With more square footage than a traditional lab and no permanent furniture, teachers have the opportunity to change the structure of their lessons as often as needed.

- 10. Bio-Tech Labs
- 11. Omni Room
- 12. Administration
- 13. Academic Commons
- 14. Fitness Center





# 2015 Exhibition of School Planning and Architecture: Project Data

Other Firm	Wiseman & Rohe
Project Role	Structural Engineer
Project Contact	Jim Wiseman
Title	S.E. Principal
Address	9915 Mira Mesa Blvd, Suite 200
City, State or Province	San Diego, CA 92131
Phone	858-536-5166

Other Firm	Epic Engineers
Project Role	Masson & Associates
Project Contact	John Gerritsen
Title	Project Manager
Address	200 East Washington Avenue
City, State or Province	Escondido, CA 92025
Phone	760-741-3570

Other Firm	Johnson Consulting Engineers
Project Role	Electrical Engineer
Project Contact	John Frisbie
Title	Vice President
Address	12875 Brookprinter Pl, #300
City, State or Province	Poway, CA 92064
Phone	858-679-4030

Submitting Firm	BakerNowicki Design Studio
Project Role	Architect
Project Contact	Jon Baker
Title	Partner
Address	624 Broadway, Suite 405
City, State or Province	San Diego, CA 92101
Phone	619-795-2477

Other Firm	MA Engineers
Project Role	Mechanical Engineer
Project Contact	Michael Akavan
Title	Principal, CEO
Address	5160 Carroll Canyon Rd, #200
City, State or Province	San Diego, CA 92121
Phone	858-200-0030

Other Firm	Groundlevel
Project Role	Landscape Architects
Project Contact	Brad Lanahan
Title	CEO
Address	2605 State Street, Suite B
City, State or Province	Irvine, CA 92618
Phone	619-325-1990

Other Firm	Echo Pacific Construction
Project Role	General Contractor
Project Contact	Chris Rowe
Title	President
Address	2066 Aldergrove Ave
City, State or Province	Escondido, CA
Phone	760-737-3003





# 2015 Exhibition of School Planning and Architecture: Project Data

Project Name	Del Lago Academy: Campus of Applied Science
City	Escondido
State	California
District Name	Escondido Union High School District
Supt/President	Steve Boyle
Occupancy Date	September, 2013
Grades Housed	9th through 12th grades
Capacity (Students)	972 students
Site Size (Acres)	34 acres gross, 17 acres net
Gross Area (sq. ft.)	138,680 sf
Per Occupant (pupil)	142 sf per student
Gross/net please indicate	-
Design and Build?	Yes
If Yes, Total Cost:	\$54,000,000
Includes:	36 classrooms, gymnasium, theater, learning center, kitchen and food service







The teaching methods at Del Lago Academy, the facilities, and technology are intentionally designed to bring people together with varied life experiences and viewpoints to define problems and create new insight and solutions.

The education spaces as designed, allows the teachers to utilize different modes of instruction such as lecture, project-based learning, small group discussion, individual research and writing so that every scholar finds a way to engage with the material.







## WELLNESS: LIFELONG FITNESS



A large fitness center takes the place of a typical weight room. The PE Classroom has 54 spin cycles and the weight room overlooks the 1st floor Gymnasium from above.

