



# **DECENNIAL REPORT (2002-2012)**

UNIVERSITY OF CALIFORNIA, MERCED  
PHYSICAL PLANNING, DESIGN AND CONSTRUCTION

[WORKING TO BUILDING THE GREENEST CAMPUS IN AMERICA]

UCMERCED

The mission of UC Merced Physical Planning, Design and Construction is to deliver sustainable, high quality projects that exceed user goals, enhance the campus environment and advance the teaching, research and public service mission of the university.



# ABOUT

## Physical Planning, Design and Construction

From our very first building, PPDC has led UC Merced's foundational commitment to sustainability, by pushing the boundaries of what was imagined possible to exceed goals, add value, conserve resources, and create places and environments that inspire. From building design to long term strategies for planning, PPDC balances proven methodologies with the promise of innovations on every project. Our way of working ensures that students, faculty and staff get the most from each capital investment and the best professional service in the system.

Physical Planning, Design and Construction (PPDC) is the department within the Division of Administration responsible for the planning, design, development and construction of the University of California, Merced's buildings, infrastructure and facilities.

We believe this approach will produce a campus whose architecture, infrastructure and landscape is responsive to our world's environmental challenges and sets a model for sustainable design.

At every stage of development, Physical Planning, Design and Construction has worked to build modern, sustainable facilities.



Social Sciences and Management Building during construction.

# WHAT WE DO

PPDC is a multidisciplinary department boasting a dedicated team of architects, planners and construction professionals. From UC Merced's earliest days, Physical Planning, Design and Construction has worked to build modern, sustainable facilities in a work environment dedicated to excellence and innovation. Working in an environment of limited resources, PPDC's team is among the hardest working in the system.

## **PLANNING AND ENVIRONMENTAL PLANNING**

PPDC's Planning group oversees the campus long range development plan, design guidelines and environmental compliance. Through outreach, meeting facilitation and mapping products, the planning group assists campus stakeholders to make informed planning and design decisions.

## **DESIGN AND PROJECT MANAGEMENT**

From project conception to opening day, PPDC's Project Managers lead the day to day effort to develop and design construction projects to meet the goals, schedule, budget and needs of faculty, students and staff.

## **OPERATIONS AND RECORDS SERVICES**

PPDC's Operations division is responsible for coordinating the hundreds of meetings, documents and contracts that stand behind a typical construction project. Operations is a critical element for contract management, scheduling and the bidding process.

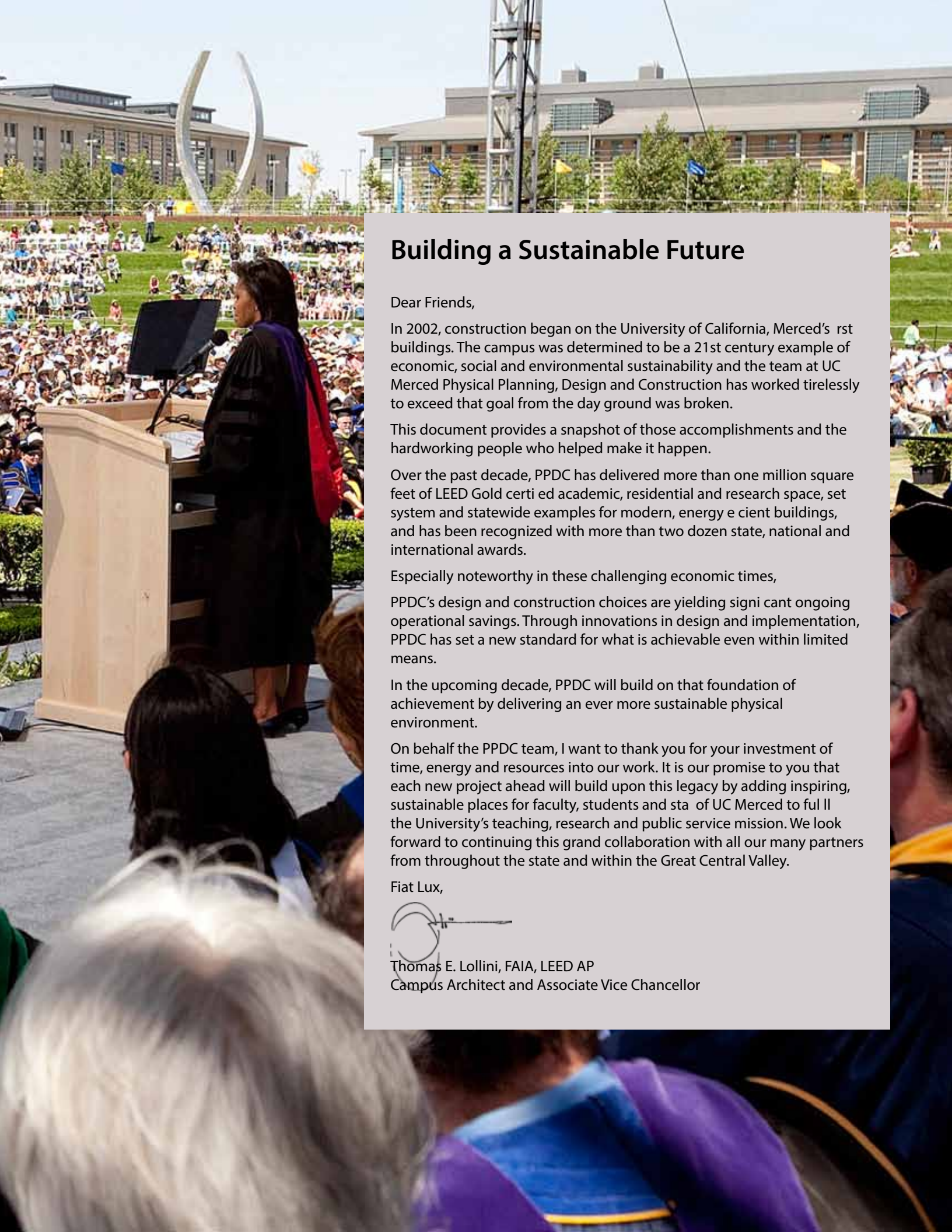
## **CONSTRUCTION AND INSPECTION SERVICES**

PPDC's Construction Managers are tasked with the important responsibility of translating architectural designs and concepts into tangible objects. Our professional construction managers and inspectors work on-site with contractors and design professionals from the moment ground is broken.



"There are few things that are more rewarding than to watch young people realize that they have the power to make their dreams come true."

- First Lady Michelle Obama, Commencement Address to UC Merced's first graduating class, 2009.



## Building a Sustainable Future

Dear Friends,

In 2002, construction began on the University of California, Merced's first buildings. The campus was determined to be a 21st century example of economic, social and environmental sustainability and the team at UC Merced Physical Planning, Design and Construction has worked tirelessly to exceed that goal from the day ground was broken.

This document provides a snapshot of those accomplishments and the hardworking people who helped make it happen.

Over the past decade, PPDC has delivered more than one million square feet of LEED Gold certified academic, residential and research space, set system and statewide examples for modern, energy efficient buildings, and has been recognized with more than two dozen state, national and international awards.

Especially noteworthy in these challenging economic times,

PPDC's design and construction choices are yielding significant ongoing operational savings. Through innovations in design and implementation, PPDC has set a new standard for what is achievable even within limited means.

In the upcoming decade, PPDC will build on that foundation of achievement by delivering an ever more sustainable physical environment.

On behalf the PPDC team, I want to thank you for your investment of time, energy and resources into our work. It is our promise to you that each new project ahead will build upon this legacy by adding inspiring, sustainable places for faculty, students and staff of UC Merced to fulfill the University's teaching, research and public service mission. We look forward to continuing this grand collaboration with all our many partners from throughout the state and within the Great Central Valley.

Fiat Lux,

Thomas E. Lollini, FAIA, LEED AP  
Campus Architect and Associate Vice Chancellor



In 2002, a team of contractors began the hard work of transforming pastureland into a modern 21st century research university.





Preparation of the site was impeded by rain, wind and mud from almost the day construction began.



In 2004, the site withstood 32 consecutive days of rain.



The Central Plant's thermal energy storage tank after being crumpled by gale force winds.



In 1995, the Regents of the University of California selected a site in Merced County as the location for the University of California's tenth campus. Ground was broken for the campus in 2002, and a small team led by Physical Planning, Design and Construction began the complex construction task that continues to this day.

Over the past ten years, UC Merced has delivered more than 1 million gross square feet of sustainable academic, residential and administrative space. Long term efficiency strategies, aggressive energy budgets and rigorous performance modeling are among the tools used on every project.

The result of our commitment to sustainability is that the campus is using 50% less energy and 40% less water than comparable developments and it is the first campus in the nation to achieve 10 LEED base points in the US Green Building Council's Multiple-Building Program. In addition, an on-site solar array routinely produces half of campus electricity when the sun is shining and 1/6 of annual electricity needs. Looking ahead, the campus will be zero net energy by 2020.

At UC Merced, every building is LEED certified, with the majority achieving Gold – including the world's first LEED Gold child care facility built with modular construction. Aesthetically, buildings take subtle design cues from the region's underappreciated agricultural structures.

While these buildings and spaces have won awards and recognition, our ultimate goal is to develop an inspiring, 21st century research university in the heart of California's fastest growing region, the San Joaquin Valley.





A celebratory moment for the opening of the first buildings, 2005.



Leo and Dottie Kolligian Library

Classroom Office Building

Science and Engineering 1

Valley Terraces Housing and Dining

Early Childhood Education Center

Dining Expansion

Sierra Terraces

Joseph E. Gallo Recreation Center

The Summits: Tenaya and Cathedral Hall



Infrastructure and Parking

Central Plant and Telecommunications Complex

Facilities Support Building

Beginnings Sculpture

Social Sciences & Management Building

Student Activities and Athletics Center

Student Services Building

Half Dome Residential

Science & Engineering 2

Classroom Office Building 2



A DECADE OF AWARD  
WINNING, SUSTAINABLE  
PROJECTS.

Wedged between two irrigation canals, the Leo and Dottie Kolligian Library achieved a LEED Gold rating soon after it welcomed UC Merced’s first class of 970 students in September 2005.

The Library serves as the main hub and all-in-one center for student life, a living room-like space where students study, register for classes, buy books, join clubs and relax.

The library building is V-shaped in plan with three- and four-story wings connected by a taller glassy core at its center. The core contains two double-height spaces—an atrium and a reading room—stacked on top of one another. The reading room connects to the

periodicals lounge, another double-height space that cantilevers over the outdoor courtyard and creates a pleasantly shady space that draws students in toward the main entrance.

Orienting the building north-south allowed the architects to take a straightforward approach to shading the interiors. Rows of horizontal glass louvers stripe the south-facing facades while strategically placed oak panels let in generous amounts of diffused northern daylight.

During the construction process, 76% of waste was diverted from landfill.

# LEO AND DOTTIE KOLLIGIAN LIBRARY

*178,468 gross square feet*

*LEED Gold*


## Awards

AMERICAN INSTITUTE OF ARCHITECTS, CALIFORNIA COUNCIL  
UC/CSU/CCC SUSTAINABILITY BEST PRACTICES AWARD  
CHICAGO ATHENAEUM MUSEUM OF ARCHITECTURE AND DESIGN  
AMERICAN INSTITUTE OF ARCHITECTS, SIERRA VALLEY

Award of Merit, Savings by Design (2007)  
Overall Sustainable Design (2008)  
Green Good Design Award (2009)  
Design Excellence Award (2011)

<b>Architect</b>	Skidmore, Owings and Merrill, LLP and Fernau and Hartman Architects
<b>Construction Cost</b>	\$38 million
<b>Completion Date</b>	2005
<b>PPDC Team</b>	Jim Smith, Thomas Lollini, Richard Schwarz, Chris Adams, Mark Maxwell, Gary Knox, Diane Caton, Ric Notini, Christopher Milazzo, Pam Moody, Frances Martin, Sheri Newton, Fran Telechea, David Hobbs, Robin Howard, Bob Olher, Chuck Gardner, Mark McIntire, Hallmark Group, Min Jiang, Rachel Hadley, Gareth Beilby, Denise Garcia
<b>Engineers</b>	ARUP
<b>Contractor</b>	Swinerton Builders, Inc.
<b>LEED Consultant</b>	Lynn Simon & Associates





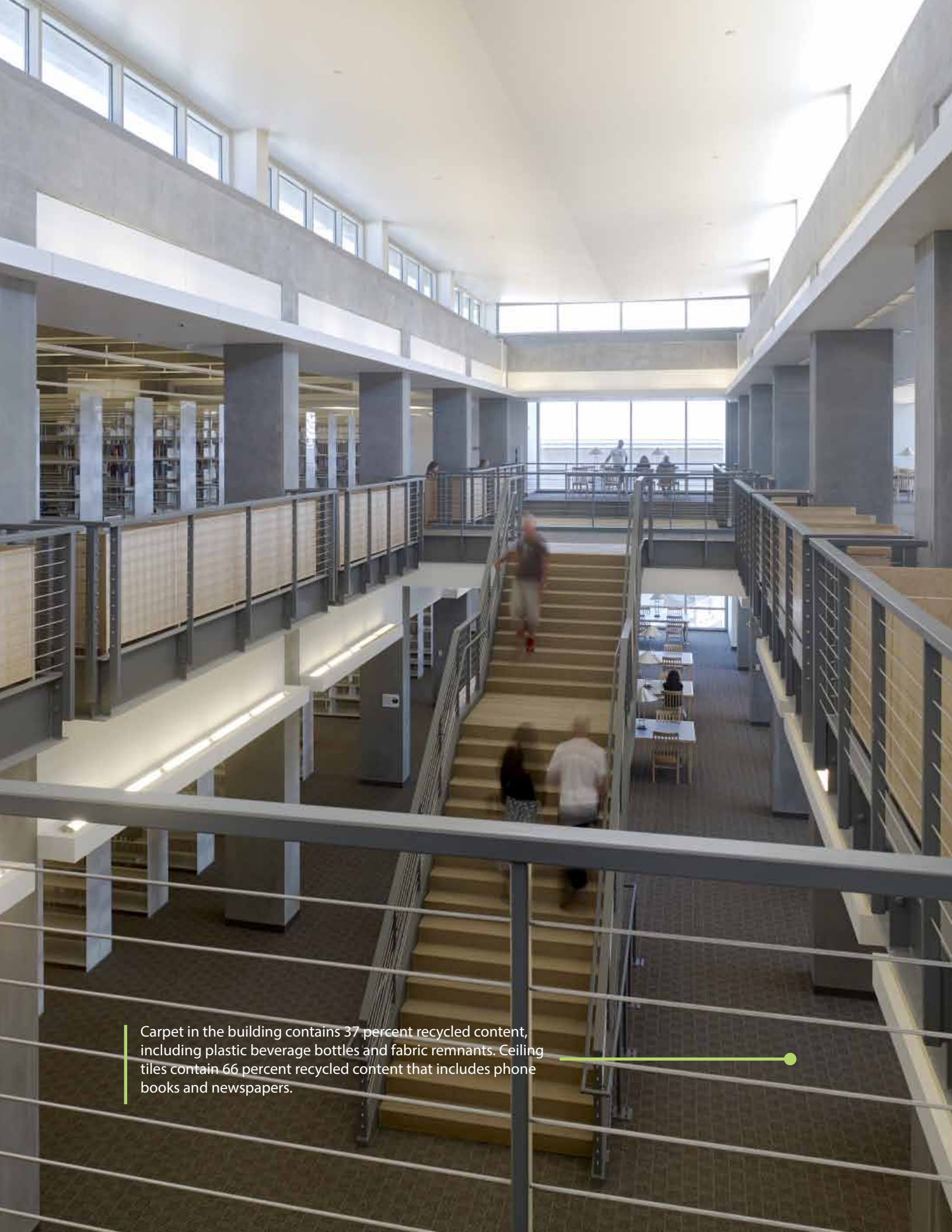
Interior spaces are daylight. This reduces energy demand and creates contemplative spaces for teaching and research.



The ground floor of Kolligian Library is composed of full length glass walls that provide an engaging view of pedestrians on Scholars Lane. The walls can be rolled up for natural ventilation.



The Lantern is a central student gathering space.



Carpet in the building contains 37 percent recycled content, including plastic beverage bottles and fabric remnants. Ceiling tiles contain 66 percent recycled content that includes phone books and newspapers.

Kolligian Library uses 38% less energy than Title 24 mandates. During the day, thick concrete walls absorb heat and slow the rise of indoor temperatures. At night the walls radiate heat back to the outdoors and the building mass cools, ready to absorb heat again the next day.





Due to intensive ventilation requirements and the need for tight climate control in support of sensitive research, a typical laboratory building uses far more energy and water per square foot than a typical office building.

This L-shaped building defines two sides of the Carol Tomlinson-Keasey Quad with a grand, three-story arcade, which welcomes students and visitors while framing views to the campus. Its fritted glass sunshades overlay the structure with a delicate, horizontal filigree and provide an outdoor space where the temperature is 10 to 20 degrees cooler than in the sunlight.

All class labs and teaching spaces are located on the ground floor, supported by a central service corridor but opening directly to the exterior.

The frequent changing of class labs concentrates activity within the arcade. Glass enclosed stairs to the upper level faculty offices and research spaces overlook the arcade and the Quad, fostering casual commingling of researchers and students and cross-disciplinary interaction among the researchers themselves.

Stairs connect the two research floors at several points along its length, allowing for greater connectivity between floors and providing light-filled gathering spaces on each floor.

As operated, studies have found that the building is using 61% of the energy a typical building would use, surpassing its initial target of 80% of typical university buildings.

# SCIENCE AND ENGINEERING 1

186,719 gross square feet

LEED Gold

## Awards

INTERNATIONAL INSTITUTE FOR SUSTAINABLE LABORATORIES  
UC/CSU/CCC SUSTAINABILITY BEST PRACTICES AWARD  
AMERICAN INSTITUTE OF ARCHITECTS, SAN FRANCISCO CHAPTER

Go Beyond Award, New Construction (2008)  
Overall Sustainable Design (2009)  
Merit Award, Excellence in Architecture (2010)

<b>Architect</b>	EHDD Architecture
<b>Construction Cost</b>	\$54.9 million
<b>Completion Date</b>	2006
<b>PPDC Team</b>	Jim Smith, Thomas Lollini, Steve Rabedeaux, Gary Knox, Mark Maxwell, Steve Roach, Sheri Newton, Min Jiang, Diane Caton, David Hobbs, Bob Olher, Robin Howard, Denise Garcia, Hallmark Group
<b>Engineers</b>	Rutherford and Chekene
<b>Contractor</b>	Flintco, Inc.
<b>LEED Consultant</b>	Lynn Simon & Associates
<b>Landscape Design</b>	Peter Walker Partners



Low-emittance glass glazing reduces heat gain inside the building while providing excellent natural light to reduce electricity use.



Building users have connections to external views.



Classroom laboratory.



### STEM CELL INSTRUMENTATION FOUNDRY

This 2011 renovation converted 5,400 ASF of Science and Engineering 1's ground floor into Class 1000 and 100 clean rooms for micro/nano fabrication, facilities for human and mouse stem cell culture and quantitative cell imaging.

**Architect  
Engineers**

GL Planning and Design  
Gayner Engineers  
The Palt Company  
Rutherford and Chekene

**PPDC Team**

Thomas Lollini, Michael  
Chow, Gary Knox

**Construction Cost**

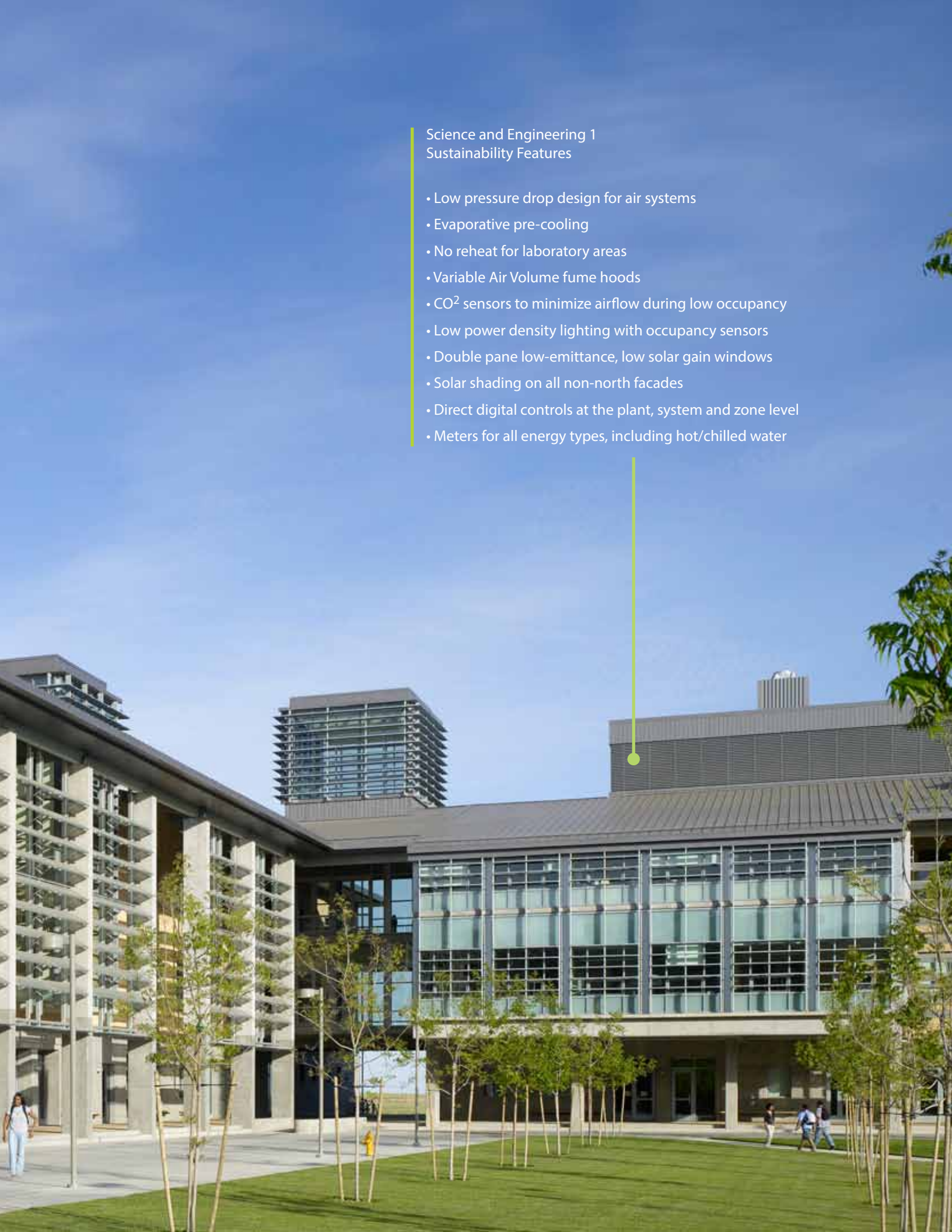
\$ 4.3 million





Modeled on historic precedents found in Barcelona, Spain and Bologna, Italy, perimeter arcades provide a shaded canopy from the intense San Joaquin Valley sun for pedestrians.



A photograph of a modern university building with a courtyard. The building features a mix of concrete and glass facades. In the foreground, there is a green lawn with several young trees planted in rows. A few people are walking on the paved walkways. The sky is clear and blue. A vertical yellow line is positioned on the left side of the image, with a yellow dot at the top of the list of sustainability features.

## Science and Engineering 1 Sustainability Features

- Low pressure drop design for air systems
- Evaporative pre-cooling
- No reheat for laboratory areas
- Variable Air Volume fume hoods
- CO<sup>2</sup> sensors to minimize airflow during low occupancy
- Low power density lighting with occupancy sensors
- Double pane low-emittance, low solar gain windows
- Solar shading on all non-north facades
- Direct digital controls at the plant, system and zone level
- Meters for all energy types, including hot/chilled water

The Classroom and Office Building contains multidisciplinary instructional space for students, and research office space for faculty in the social sciences, humanities, and arts.

From the outset, the building was designed to reduce energy costs and to provide a model for environmental stewardship.

The design includes double pane low-emittance windows, glass trellises, and window overhangs to reduce solar heat gain and glare. Energy efficient lighting, daylighting controls, carbon dioxide sensors that adjust airflow depending on occupancy, and operable windows that disable space conditioning avoid wasted electricity.

A variable-air-volume, dual-fan dual-duct HVAC system with direct digital controls uses chilled water from the adjacent Central Plant to cool the building also reduces energy costs. Low-flow plumbing fixtures are used to conserve water. In addition, the building incorporates a variety of local and sustainable materials.

# CLASSROOM OFFICE BUILDING

*101,644 gross square feet*

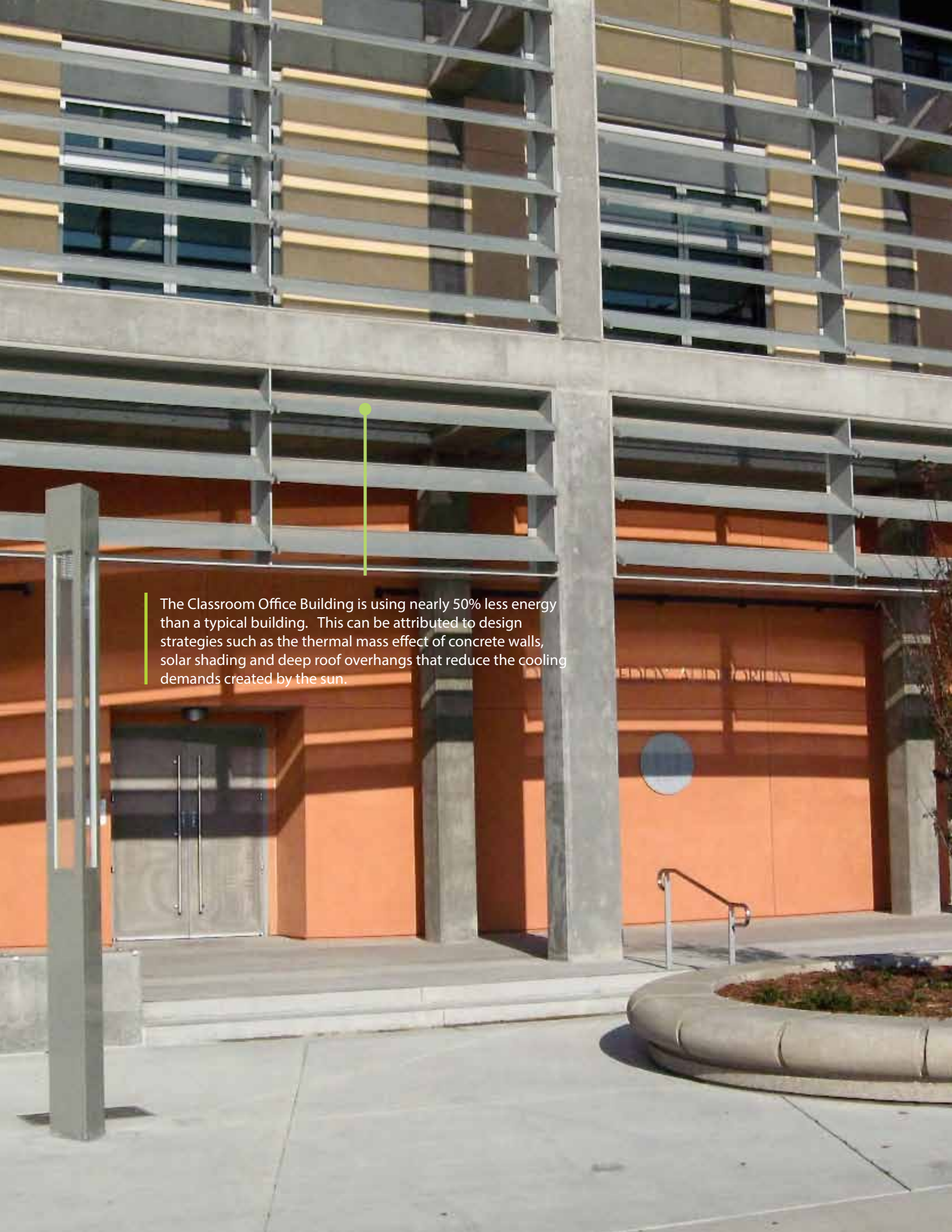
*LEED Gold*

## **Awards**

UC/CSU/CCC SUSTAINABILITY BEST PRACTICES AWARD

Overall Sustainable Design (2007)

<b>Architect</b>	Thomas Hacker Architects
<b>Construction Cost</b>	\$21.6 million
<b>Completion Date</b>	2006
<b>PPDC Team</b>	Jim Smith, Thomas Lollini, Cynthia Hughes, Gary Knox, Mark Maxwell, Gareth Beilby, Min Jiang, Sheri Newton, Bob Olher, David Hobbs, Denise Garcia, Hallmark Group, Chuck Gardner, Mark McIntire
<b>Engineers</b>	Taylor Engineering, LLC, The Engineering Enterprise, Forell/Elsesser Engineers Inc., Capital Engineering
<b>Contractor</b>	Swinerton Builders, Inc.
<b>LEED Consultant</b>	Lynn Simon & Associates
<b>Landscape Architect</b>	Peter Walker Partners



The Classroom Office Building is using nearly 50% less energy than a typical building. This can be attributed to design strategies such as the thermal mass effect of concrete walls, solar shading and deep roof overhangs that reduce the cooling demands created by the sun.

"UC Merced's energy performance achievements at Classroom Office Building (COB) can be credited to the skills of the project team, energy efficient design, measurement and verification, and follow-through by facility staff.

Incorporating energy performance targets into the design specification for COB ensured that energy efficiency was pursued through each phase of development and as a result, UC Merced's energy management goals have a high likelihood for success."

**NEW BUILDINGS INSTITUTE (2008)**







Flexibility is critical for buildings such as the Classroom Office Building.  
By day, a traditional lecture space...





... by night, a space for arts and culture.

Evocative of agricultural silos one might see throughout the San Joaquin Valley, the Central Plant has been designed to meet campus loads through the first phase of build-out.

The complex includes a two-story plant building, an iconic two-million gallon thermal energy storage (TES) tank and a telecommunications building.

Twenty-one percent of the building's materials are made with recycled content, including ceiling tiles made of 77 percent recycled phone books and newspaper, carpet containing 33 percent used soda bottles, insulation made with 30 percent recycled

glass, and rebar, framing members and structural steel containing 90 percent metal diverted from landfill. Additional sustainable materials include low-emitting paints, sealants, flooring and composite wood.

The Central Plant beats California's Title 24 standards for energy efficiency by 24 percent. This is achieved through efficient lighting systems using compact fluorescent lamps with electronic ballasts, low-emittance double glazed windows, and a high-performance HVAC system with variable frequency drives.

# CENTRAL PLANT AND TELECOMMUNICATIONS COMPLEX

*29,000 gross square feet*

*LEED Gold*

## Awards

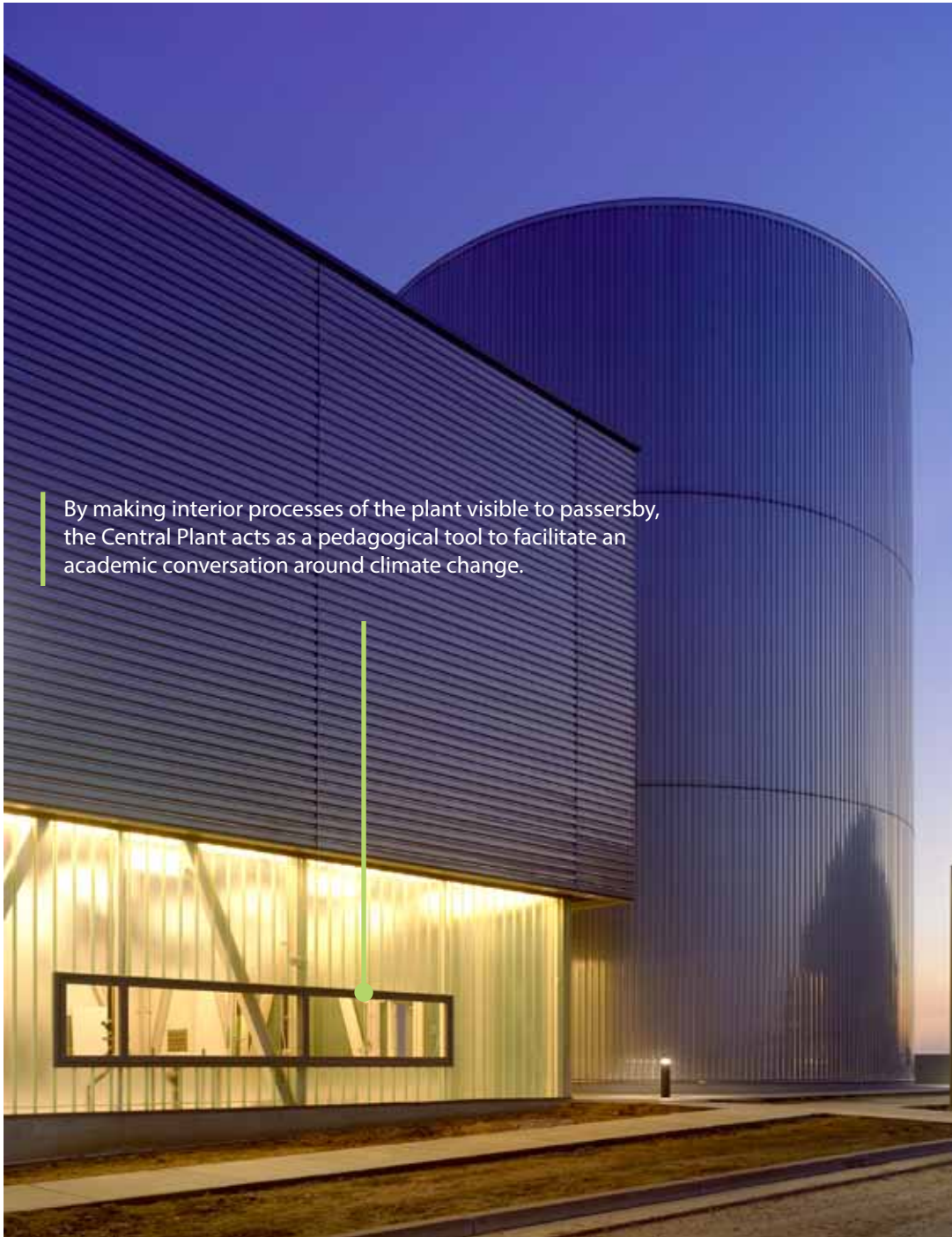
AMERICAN INSTITUTE OF ARCHITECTS, NATIONAL	Honor Award, Excellence in Architecture (2006)
AMERICAN INSTITUTE OF ARCHITECTS, CALIFORNIA COUNCIL	Honor Award, Excellence in Architecture (2006)
AMERICAN INSTITUTE OF ARCHITECTS, SAN FRANCISCO CHAPTER	Honor Award, Excellence in Architecture (2006)
STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA	Award of Merit, Sustainable Design (2007)
SUSTAINABLE BUILDINGS INDUSTRY COUNCIL	Beyond Green Performance Award (2007)
CHICAGO ATHENAEUM MUSEUM OF ARCHITECTURE AND DESIGN	Honor Award (2007)
UC/CSU/CCC SUSTAINABILITY BEST PRACTICES AWARD	Overall Sustainable Design (2007)
AMERICAN INSTITUTE OF ARCHITECTS, SIERRA VALLEY	Design Excellence Award (2011)

<b>Architect</b>	Skidmore, Owings and Merrill, LLP
<b>Construction Cost</b>	\$27 million
<b>Completion Date</b>	2005
<b>PPDC Team</b>	Jim Smith, Thomas Lollini, Steve Rabedeaux, Gary Knox, Mark McIntire, Chuck Gardner, Mark Maxwell, Gareth Beilby, Min Jiang, Sheri Newton, Diane Caton, Denise Garcia, David Hobbs, Bob Olher, Cynthia Hughes, Hallmark Group
<b>Engineer</b>	ARUP
<b>Contractor</b>	Swinerton Builders, Inc.
<b>LEED Consultant</b>	Lynn Simon & Associates
<b>Landscape Design</b>	Peter Walker Partners



The steel and aluminum materials that wrap the complex are a reference to the campus design vocabulary that echoes agrarian buildings in the San Joaquin Valley.

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By making interior processes of the plant visible to passersby, the Central Plant acts as a pedagogical tool to facilitate an academic conversation around climate change.



The Central Plant's northern elevation is perched over the edge of what will eventually be open space.



Inside the Central Plant, state of the art mechanical equipment forms the core of campus energy efficiency.



The Central Plant's Thermal Energy Storage (TES) tank chills water at night to shift the campus electrical cooling load to off-peak hours.

During the day, the water stored in the TES tank overnight is discharged through a chilled water loop to cool buildings without requiring activation of the plant's chillers.

This efficiency strategy lets UC Merced take advantage of lower nighttime electricity rates.



Conceived by noted American sculptor Aris Demetrios, "Beginnings" consists of two gently curving, vertical stainless-steel arms, each about 40 feet high, rising from a large circular base.

The burnished stainless-steel sculpture is located at the open end of the quad, facing the City of Merced.

The artist intended the enfolding arms to be a metaphor for the embrace of a caring university that values its students and its community as well as "the germination of a seed representing the growth and ever-increasing potential of UC Merced."

## "BEGINNINGS"

Aristides Demetrios, Sculptor  
American, b. 1932

Stainless steel, 40 feet tall.

Gift of the artist, Roderic and Cathy Park, Bob and Marie Gallo Family, John Franzia, Joseph Franzia and Fred Franzia.

<b>Artist</b>	Aristides Demetrios
<b>Completion Date</b>	2009
<b>PPDC Team</b>	Thomas Lollini, Gary Knox, Min Jiang, Diane Caton, Robin Howard, Steve Murray, Rachel Hadley, Sheri Newton, Maggie dePfyffer, Steve Roach, Hallmark Group
<b>Structural Engineer</b>	ARUP, Forell/Elsesser Engineers
<b>Manufacturer</b>	Billington Welding and Manufacturing
<b>Landscape Design</b>	Perkins Design Associates





In one of UC Merced's first traditions, each year's graduating class passes through the sculpture during commencement proceedings.



Installation of the 40-foot tall stainless steel components of the "Beginnings" sculpture, 2009.



In 2010, The Summits: Cathedral and Tenaya housing complex welcomed freshmen into double, triple, and quad rooms in two four-story buildings on a prominent site near the west campus entrance.

The two residence halls frame a number of dynamic outdoor community spaces and include facilities for conferences, study and tutorial rooms, lounges, a dance room, and a market with opportunities for shaded pavilion seating.

Composed in stucco, metal, concrete and glass, the building reflects simple forms derived from the region. The building's vibrant colors are meant to evoke the local agricultural landscape. The community spaces, study areas and conference facilities are intentionally oriented to activate the ground floor of the building.

As if created by a farmer's plough, the courtyard's paving pattern evokes the linear agricultural furrows found throughout the Valley.

By providing walkable access to the heart of the campus and creating lively outdoor spaces, the Summits project strengthens the identity of the Lake View Student Residential Neighborhood.

# THE SUMMITS: CATHEDRAL AND TENAYA HALLS

*94,000 gross square feet*

*LEED Gold*

## **Awards**

PACIFIC COAST BUILDERS CONFERENCE  
AMERICAN INSTITUTE OF ARCHITECTS, SIERRA VALLEY

Golden Nugget Award, Student Housing (2011)  
Design Excellence Award (2011)

<b>Architect</b>	Pyatok Architects
<b>Construction Cost</b>	\$30.3 million
<b>Completion Date</b>	2010
<b>PPDC Project Team</b>	Thomas Lollini, Catherine Kniazewycz, Gary Knox, Mark Maxwell, Gareth Beilby, Diane Caton, Robin Howard, Steve Murray, Rachel Hadley, Sheri Newton, Maggie dePfyffer, Fran Telechea, Min Jiang, Steve Roach
<b>Engineer</b>	Belden Consulting Engineers, Kennedy/Jenks Consultants, Peoples Associates, Kleinfelder
<b>Construction Manager</b>	ProWest
<b>Landscape Design</b>	PGA Design



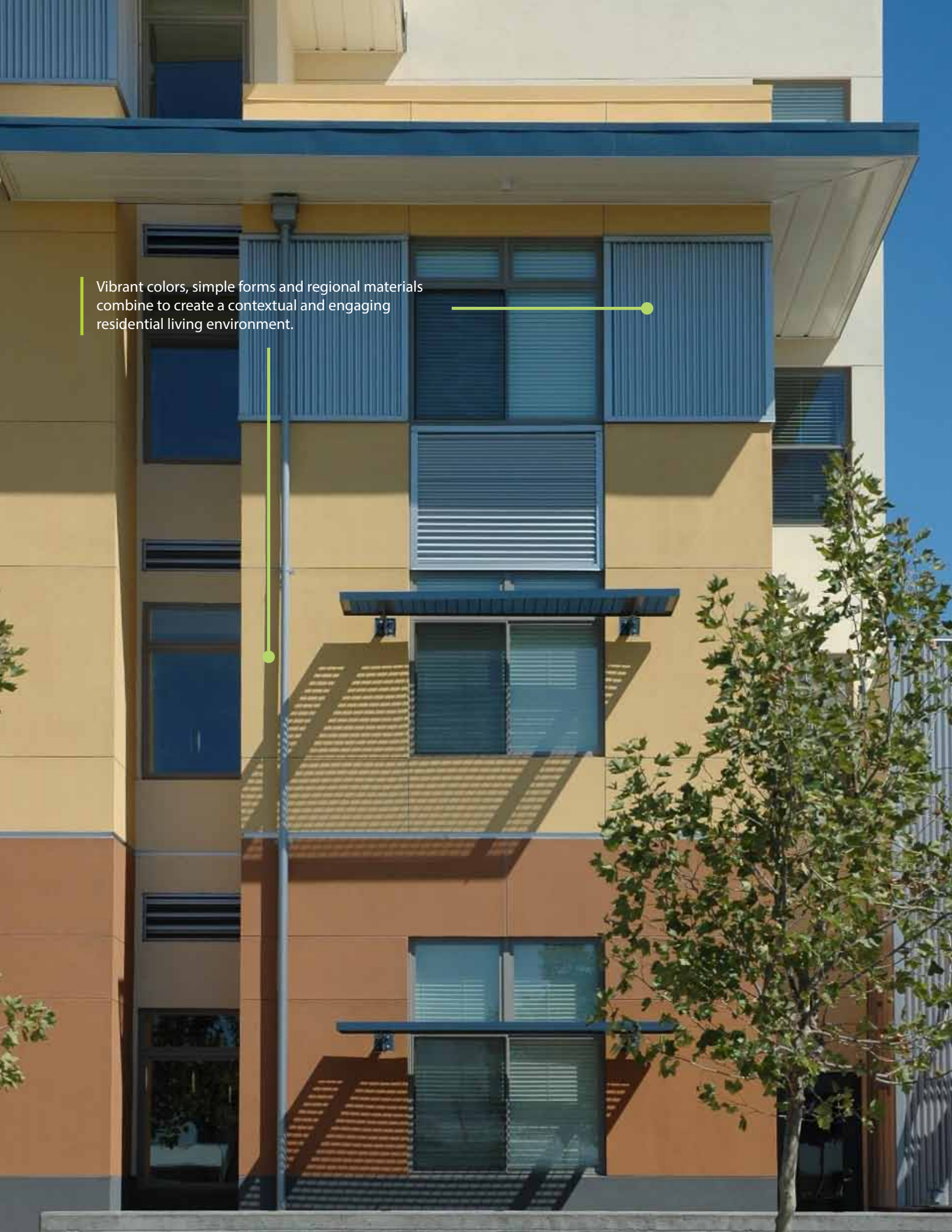
View from Scholars Lane.



Internal courtyard.



Internal Lobby.



Vibrant colors, simple forms and regional materials combine to create a contextual and engaging residential living environment.



The southern elevation of The Summits is adjacent to a geocellular porous parking lot that facilitates stormwater capture and groundwater recharge. Over time, the parking lots will be displaced by future housing of similar scale and density in order to create a lively student residential neighborhood.





Valley Terraces, (formerly called Garden Suites and Lake View Dining) opened for UC Merced's first students in Fall 2005, housing approximately 600 residents in nine two-story buildings.

The buildings feature apartment-style suites. Each suite includes a common living room, double bedrooms and shared restrooms for four to six students.

Reflecting the founding mission of the university to bring research-class education to the region, each of the buildings is named after a county located in the San Joaquin Valley or its vicinity.

The complex also includes the Terrace Center with recreational, meeting and office space, and the Yablokoff-Wallace Dining Center, which seats approximately 540 people.

# VALLEY TERRACES

*149,170 gross square feet*

*LEED Silver*

<b>Architect</b>	The Taylor Group Architects, BAR Architects and Teter Consultants
<b>Construction Cost</b>	\$24 million
<b>Completion Date</b>	2005
<b>PPDC Project Team</b>	Jim Smith, Catherine Kniazewycz, Mark Maxwell, Fran Telechea, Diane Caton, Robin Howard, Min Jiang, Sheri Newton, Dena Traina, Ric Notini, Christopher Milazzo, Denise Garcia, Pam Moody, Fran Telechea, Gareth Beilby, Steve Roach, Bob Olher, David Hobbs, Hallmark Group
<b>Engineers</b>	Taylor Engineering, LLC, The Engineering Enterprise
<b>Contractor</b>	Bernard Brothers
<b>LEED Consultant</b>	CTG Energetics
<b>Landscape Design</b>	KTUA Landscape Architecture and Planning

The pedestrian path promotes student interaction and creatively doubles as a fire lane for emergency equipment.





Strategic building siting and deep overhangs combine to cool building walls while shading windows and sidewalks. On hot days, the temperature differential between shaded and sunny areas can be up to 20 degrees fahrenheit.



More than 300 crops are produced within a 1 hour drive to the campus. The Valley Terrace Dining Facility draws from local farms whenever possible.



The Valley Terraces residences are composed of nine two-story buildings. Drought-tolerant bioswales have been integrated into the set of buildings in order to manage stormwater on-site



Little Lake is a remnant of the former golf course that Valley Terraces replaced. It has been repurposed as a holding reservoir for stormwater and as a campus amenity.



The Joseph S. Gallo Recreation and Wellness Center occupies a key transitional site on campus, establishing it as the architectural and social link between the academic core and the Lake View Residential Neighborhood.

Inside the gymnasium, wood wall and ceiling panels warm the space visually, while the pre-engineered frame is openly expressed. The result is a building that costs considerably less than conventional construction without the sacrifice of design quality.

A series of simple shed, gable and hip roofs were utilized to create an informal composition. Light monitors crown the hip roofs, presenting diffused daylight to the rooms below and acting as “lanterns” at night.

Administrative offices and a conference room occupy the ground level of the wellness center wing. Above the administrative offices is the wellness center, the location of which complements the personal and private nature of health care.

Similar to hay barns of the region, the roof and cheek walls appear to almost float over the landscape, and the generous use of glass at the ground level blurs the transitions between inside and out. The cardio and weight training areas are organized around a core of support services, allowing spaces to flow together.

# JOSEPH E. GALLO RECREATION AND WELLNESS CENTER

*35,400 gross square feet*

*LEED Gold*

<b>Architect</b>	Sasaki Associates
<b>Construction Cost</b>	\$9 million
<b>Completion Date</b>	2006
<b>PPDC Project Team</b>	James Smith, Gary Knox, Michael Chow, Thomas Lollini, Mark Maxwell, Gareth Beilby, Steve Roach, Min Jiang, Diane Caton, Robin Howard, Rachel Hadley, Sheri Newton, Fran Telechea, Maggie dePfyffer, David Hobbs
<b>Engineers</b>	Taylor Engineering, LLC, The Engineering Enterprise, KPFF, Sandis
<b>Contractor</b>	Howard S. Wright Construction Company
<b>Landscape Design</b>	Sasaki Associates





Gallo  
Recreation & Wellness Center



The recreation facility as seen from Scholars Lane.



The main gymnasium.

This building achieves water savings 44% over a comparable building through the use of automated low-flow faucets, low-flow showerheads, low-flow toilets and waterless urinals, and drought-tolerant native landscaping.



The Logistical Support/Safety Facility (LSSF), now known as “Facilities Support Building” houses campus Facilities Management and safety personnel. It includes a shop, a warehouse, office space and a corporation yard for campus vehicles and equipment.

The structures consist of two metal clad buildings joined by a truck loading dock and a premanufactured storage building. The entire complex accommodates offices, mail services and material management.

Design-wise, the buildings feature metal siding, factory finished aluminum windows and energy efficient dual pane low-emittance glazing.

The palette of materials complements the utilitarian nature of the nearby Central Plant and Telecommunications complex.

# FACILITIES SUPPORT BUILDING

*29,357 gross square feet*

*LEED Gold*

<b>Architect</b>	ARUP and SmithGroup
<b>Construction Cost</b>	\$10 million
<b>Completion Date</b>	2008
<b>PPDC Project Team</b>	Thomas Lollini, Michael Chow, Gary Knox, Min Jiang, Diane Caton, Robin Howard, Sheri Newton, Rachel Hadley, Steve Roach, Maggie dePfyffer
<b>Engineers</b>	ARUP, Sandis, Kennedy/Jenks, Parrish Hansen, Taylor Engineering
<b>Contractor</b>	Acme Construction



The material choices for the Facilities Services Building complement the Central Plant.

UC Merced's Early Childhood Education Center is the first LEED Gold (pending) modular childcare facility in the nation.

The facility accommodates children drawn from UC faculty, students, staff and the community.

The single story modular building provides indoor and outdoor programming for infants and pre-school students. Indoor space includes classrooms, a parent-child reading room, instructional and office space.

With the opening of the facility, UC Merced is better able to fulfill its goal of providing better ways to help children learn, increasing access to high-quality early-learning programs and meet the demand for quality child care in Merced.

Following the 2009 visit of First Lady Michelle Obama to campus, the facility's garden was dedicated as "Michelle Obama's Garden for Young Children." The garden will include fruits, vegetables, herbs and flowers that the children will plant and harvest themselves.

## EARLY CHILDHOOD EDUCATION CENTER

*7,380 gross square feet*

*LEED Gold*

<b>Architect</b>	Indigo/Hammond & Playle Architects
<b>Construction Cost</b>	\$4.9 million
<b>Completion Date</b>	2009
<b>PPDC Project Team</b>	Thomas Lollini, Michael Chow, Gary Knox, Gareth Beilby, Min Jiang, Diane Caton, Robin Howard, Sheri Newton, Fran Telechea, Rachel Hadley, Maggie dePfyffer, Hallmark Group
<b>Engineers</b>	Sandis; ARUP
<b>Contractor</b>	Meelais Modular Buildings
<b>Landscape Design</b>	Perkins Design Associates



The Early Childhood Education Center will be the first LEED Gold modular childcare facility in the nation.



Small windows along the facade provide outside views for children.



Slate boulders sourced from the nearby Sierra Nevada accent the entrance to the Early Childhood Education Center.





Sierra Terraces was UC Merced's second campus housing project, comprising Tuolumne and Mariposa Halls, dormitory buildings that together house 400 students, primarily freshmen.

Dormitory rooms can accommodate up to three students if necessary, making the capacity of the building up to 600 beds. The buildings include lounges, meeting rooms, study spaces, and a kitchen in each building for student use.

Early design work included a series of design charrettes and integrated design team meetings focused on meeting campus low energy goals.

The design team looked at different building heights, site orientations and number of buildings before settling on a final configuration of two long, narrow two-story buildings at right angles to one another with a high attic space to house state of the art heating, ventilation and air conditioning systems.

Based on modeled energy efficiency, the final design enables the buildings to perform 41.6% better than the California Title 24 energy code baseline building.

# SIERRA TERRACES

*84,464 gross square feet*

*LEED Gold*

## **Awards**

AMERICAN SOCIETY OF HEATING, REFRIGERATING,  
AND AIR-CONDITIONING ENGINEERS

Technology Award, Energy Saving Dorms (2010)

<b>Architect</b>	Fisher Friedman Associates
<b>Construction Cost</b>	\$24 million
<b>Completion Date</b>	2007
<b>PPDC Project Team</b>	Thomas Lollini, Jim Smith, Catherine Kniazewycz, Gary Knox, Mark Maxwell, Gareth Beilby, Fran Telechea, Sheri Newton, Min Jiang, Diane Caton, Maggie dePfyffer
<b>Engineer</b>	Taylor Engineering, LLC, The Engineering Enterprise
<b>Contractor</b>	The Hallmark Group, ProWest Constructors
<b>Landscape Design</b>	OMG Landscape Architecture

A photograph of a two-story building with a light-colored facade and a dark roof. The building has several windows and a covered walkway on the ground floor. Two tall, thin trees are in the foreground, one on the left and one on the right. A green line with a dot at the end points from the text above to the roofline of the building.

The high attic space on Sierra Terraces houses an award-winning, state of the art heating, ventilation and air conditioning system.

The Dining Expansion Project added 4,400 square feet to the Valley Terraces dining facility.

The expansion develops a sequence of increasingly private, indoor/outdoor dining spaces off of Scholars Lane. An entrance terrace adjacent to Scholars Lane forms a vibrant student gathering place while a quiet herb garden extends the private dining room.

Simply and elegantly detailed, the lightweight structure provides balanced light and natural ventilation, while moderating the volume of lively student conversation.

The quality and variety of spaces created by the project have made it a popular space on campus. Programming-wise, the expanded kitchen provides additional space for dish-washing, food preparation, and trash storage areas.

## DINING EXPANSION

*9,649 gross square feet*

*LEED Platinum*

<b>Architect</b>	EHDD
<b>Construction Cost</b>	\$5.5 million
<b>Completion Date</b>	2009
<b>PPDC Project Team</b>	Thomas Lollini, Michael Chow, Gary Knox, Gareth Beilby, Min Jiang, Mark Maxwell, Fran Telechea, Diane Caton, Robin Howard, Tammy Petree, Min Jiang, Gene Barrera, Sheri Newton, Maggie dePfyffer, Rachel Hadley
<b>Construction Management</b>	The Hallmark Group
<b>Engineers</b>	Taylor Engineering, GFDS Engineers, Sandis, The Engineering Enterprise
<b>Landscape Design</b>	Stephen Wheeler Landscape Architects



The terrace at the entry to the expansion is designed to function as a sidewalk café. Partially enclosed by a low wall, the space offers casual seating for students and frames a Valley Oak tree that will grow to provide seasonal shade.





**Fruit packing shed, Kern County, (1922)**

The interior of the Dining Expansion echoes historic forms derived from San Joaquin Valley agricultural buildings.

The Social Sciences and Management building stands adjacent to Science and Engineering 1 near the current eastern boundary of the campus. Groundbreaking for the three story, cast-in-place, 101,900-square-foot building took place in 2008 and the building opened in 2011. The new building has allowed the School of Social Sciences, Humanities and Arts to nearly double in size.

A multi-angled interactive space in the atrium known as “The Rock” forms the social heart of the building, providing a space for meetings, events and intellectual exchange.

The northeastern edge of the building overlooks campus acreage that will not be slated for development until many decades away.

Like all of UC Merced’s buildings, the Social Sciences and Management facility meets high environmental standards, including water-efficient landscaping and recycled materials.

The building is constructed to allow natural light for art studios and easy access for visitors and students. It also contains room for laboratories where faculty members can work on research projects.

# SOCIAL SCIENCES AND MANAGEMENT

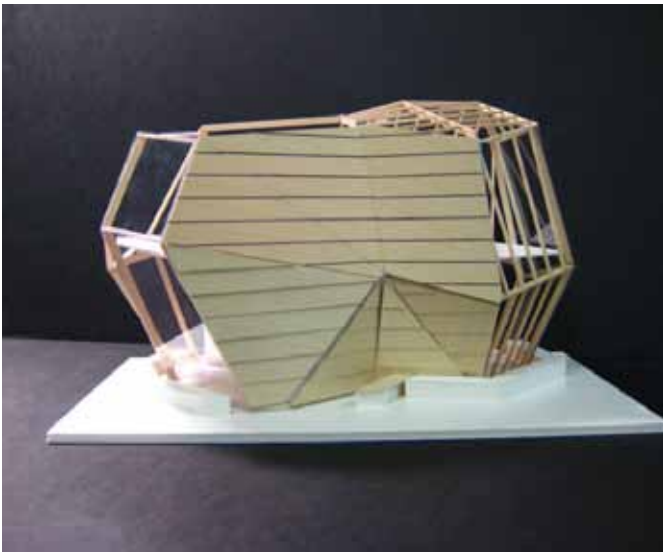
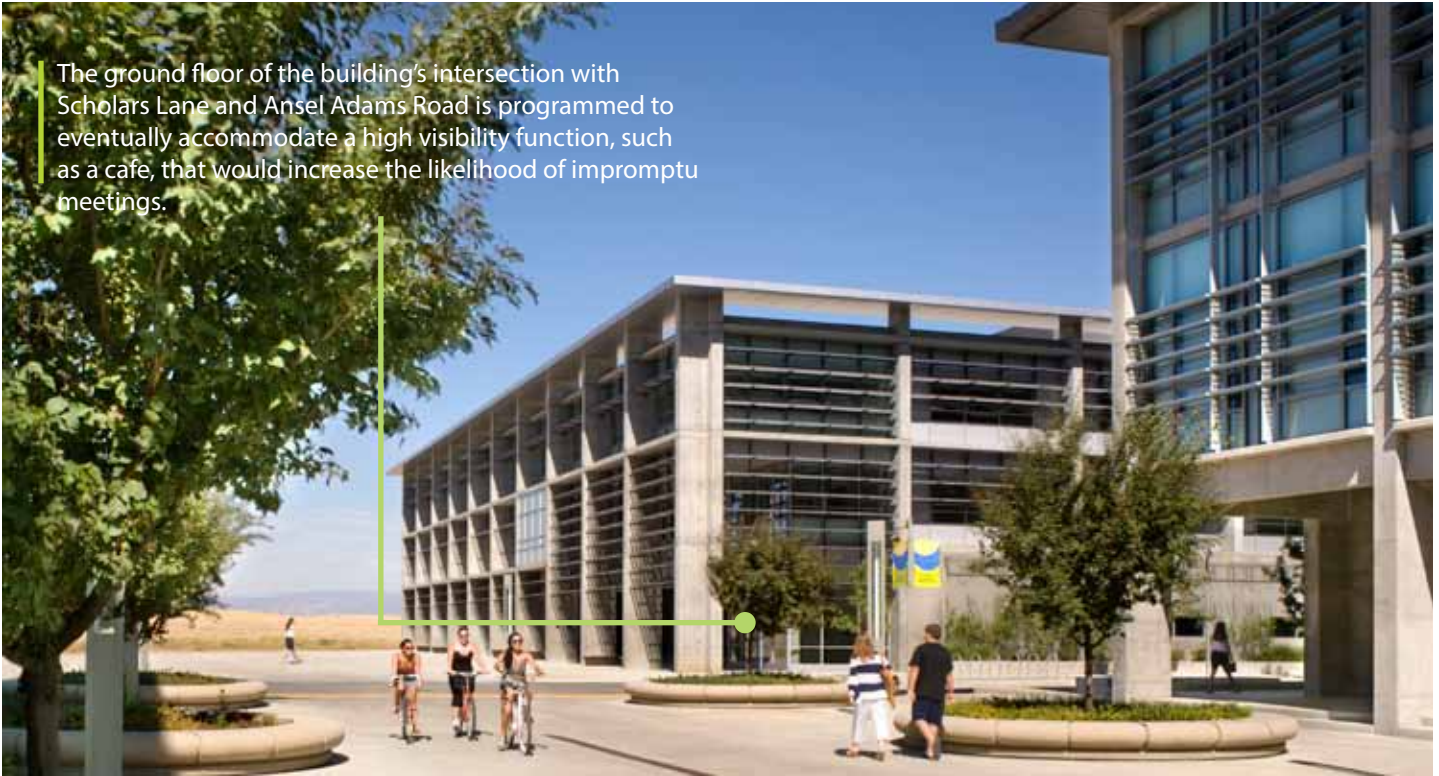
*101,900 gross square feet*

*LEED Platinum*

<b>Architect</b>	Studios Architecture
<b>Construction Cost</b>	\$47.6 million
<b>Completion Date</b>	2011
<b>PPDC Project Team</b>	Thomas Lollini, Catherine Kniazewycz, Gary Knox, Steve Roach, Mark Maxwell Steve Murray, Diane Caton, Robin Howard, Tammy Petree, Min Jiang, Gene Barrera, Sheri Newton, Maggie dePfyffer, Rachel Hadley
<b>Engineers</b>	Sandis; Taylor Engineering, Holmes Culley,
<b>Construction Management</b>	Sundt Construction
<b>Landscape Design</b>	Perkins Design Associates and Integrated Design Studio



The ground floor of the building's intersection with Scholars Lane and Ansel Adams Road is programmed to eventually accommodate a high visibility function, such as a cafe, that would increase the likelihood of impromptu meetings.



The interior of the building features a free standing double height space, dubbed “The Rock”, for interdisciplinary scholarly activities.



**Familiar, simple forms**

The northeast elevation expresses forms and shapes found throughout the campus.





"The Rock" encloses the Half Dome and El Capitan conference rooms, referencing nearby Yosemite Valley.



The outdoor courtyard provides a shaded space for social engagements.



Internal spaces feature views of the Sierra Nevada and outdoor access for the performing arts lab.

From identifying a building to controlling vehicular traffic, clear, readable signs and graphics are vital to the function of the campus and its identity.

The PPDC team in conjunction with Facilities Management, building users and architects, is responsible for the design and the ideal placement of campus signs.

The three primary typefaces used in UC Merced's Signage Program were deliberately selected to emphasize clarity.

The serif typeface, Minion — originally developed in 1990 — was inspired by late Renaissance- era type. It was chosen for the sign program due to its clean look and readability. An example of the typeface in use can be seen on the free standing "monument signs" in front of major buildings.

The second campus typeface, Fruitiger, was developed by Adrian Fruitiger in 1968 for the directional system at Charles DeGaulle International Airport in Paris, France. It was designed to be read from a moving vehicle or walking. UC Merced's street name signs are an example of this typeface in use.

Within campus buildings, the typeface Univers, is used to identify rooms and offices.

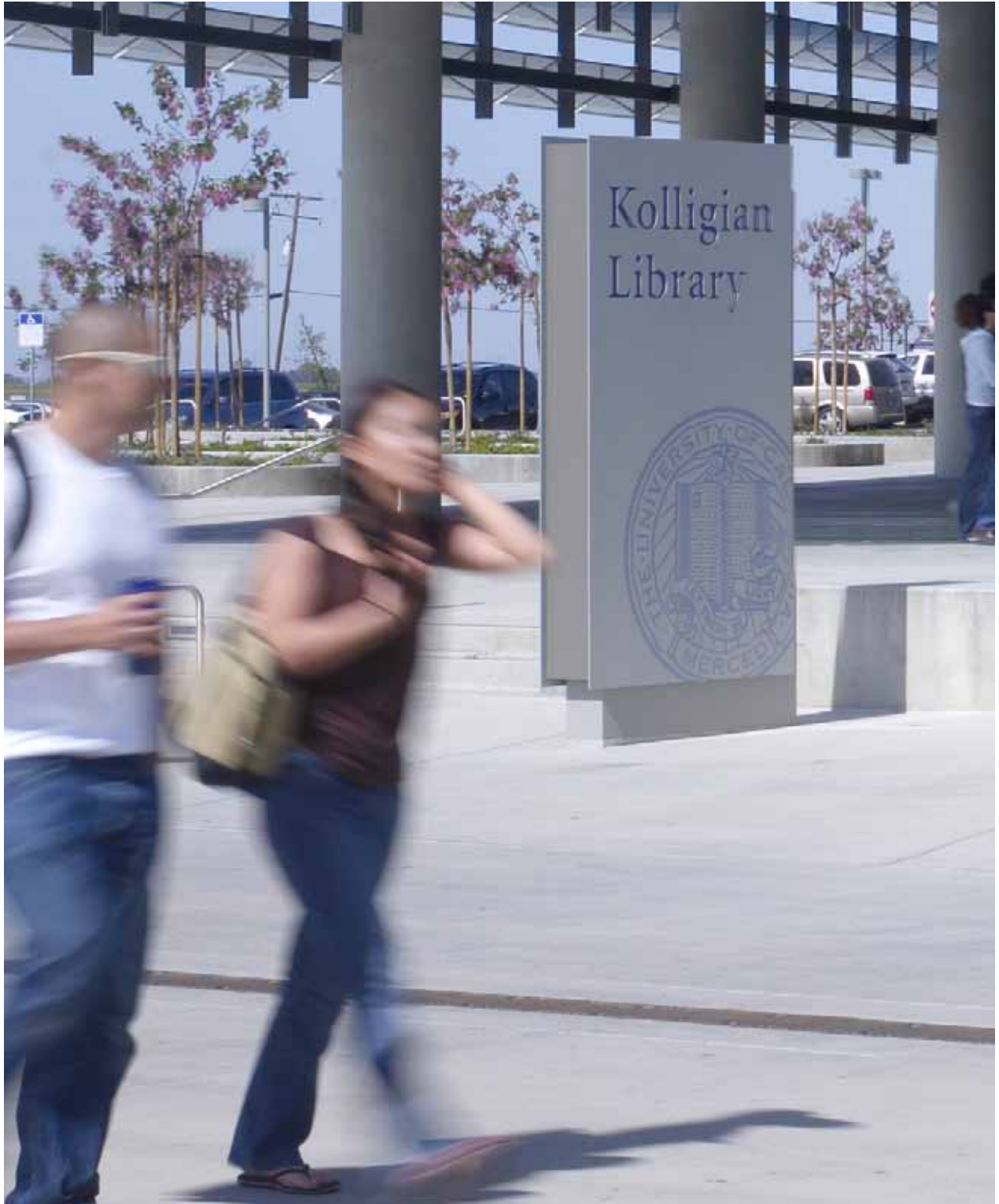
## CAMPUS SIGNAGE AND WAYFINDING

### **Signage Designer**

Square Peg Design

### **PPDC Project Team**

James Smith, Thomas Lollini, Catherine Kniazewycz, Min Jiang, Gary Knox, Richard Cummings, Mark Maxwell, Rachel Hadley



Free-standing monument signs are used for major buildings. These signs illuminate at night to aid pedestrians.

UNIVERSITY OF CALIFORNIA  
UCMERCED

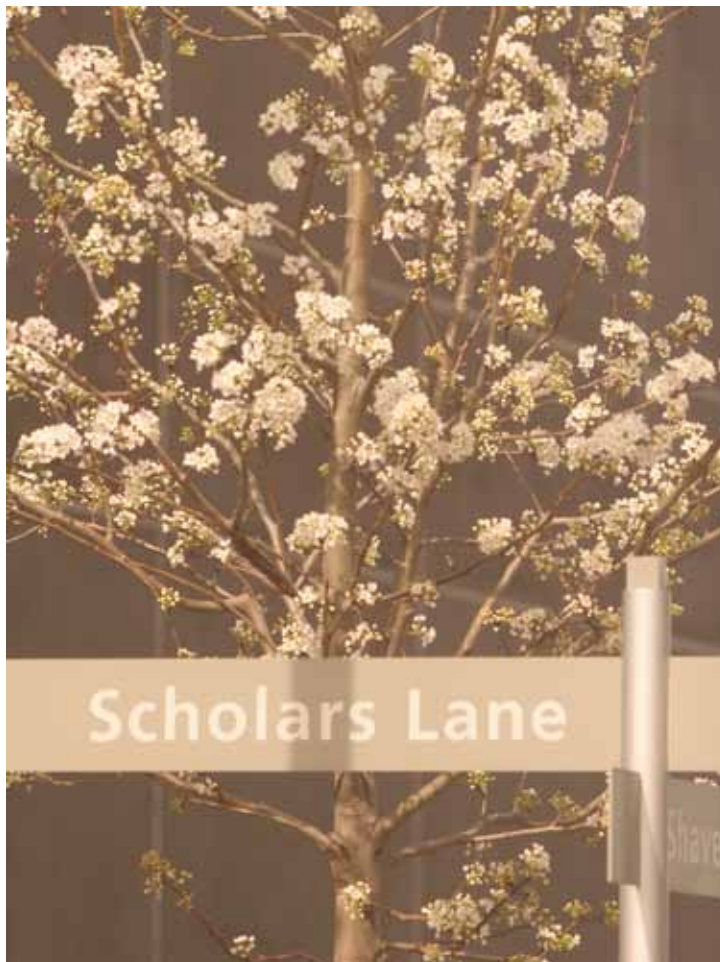


Campus entry sign.





The Univers typeface is the secondary and internal room identifier.



The typeface used on UC Merced street signs was originally commissioned for the directional system at Charles DeGaulle International Airport in Paris, France. It was designed to be read from a moving vehicle or while walking.

The campus landscape is a placemaking feature that reflects its unique location, reduces the need for irrigation and adds value to the campus environment.

The landscapes provide the campus with a variety of memorable places for rest, recreation, tradition building and contemplation.

The landscape framework of the campus is comprised of four complementary “typologies”: riparian-inspired plantings along the irrigation canals and naturally drained corridors; natural and native landscapes along the edges of campus development to buffer adjacent grasslands; tree-shaded courtyards arranged in canopies evocative of the San Joaquin Valley’s agricultural landscape heritage; and urban streetscape plantings that complement the geometry of the campus’ orthogonal grid through placement and seasonal color.

## CAMPUS LANDSCAPE

### **PPDC Project Team**

Jim Smith , Thomas Lollini, Catherine Kniazewycz., Michael Chow, Min Jiang, Gary Knox, Steve Roach, Gareth Beilby, Jessica Duffy, Diane Caton, Sara Zimmermann, Tammy Petree, Rachel Hadley, Steve Murray, Fran Telechea, Sheri Newton, Gene Barrera, Mark Maxwell, Hallmark Group, Brad Verma, Richard Cummings, Leon Waller, Wenbo Yuan, Phillip Woods

### **Landscape Designers**

Peter Walker and Partners, Cliff Lowe Associates, Sasaki Associates, Perkins Design Associates, OMG Studio, Stephen Wheeler Landscape Architects, Integrated Design Studio, KTUA Landscape Architecture, PGA Design, SWA Landscape Architecture



Low water plant selections are part of the campus planting palette.



Carol Tomlinson-Keasey Quadrangle



Planting placements evoke agricultural orchard patterns.



This example of a campus bioswale filters stormwater.



Strategic use of trees and ornamental plantings provide opportunities for seasonal color, variety and form.

Science and Engineering 2 is a 102,000-square-foot facility that provides research and instructional labs and core facilities.

Architectural features include several significant outdoor spaces, such as a pedestrian plaza; a solar-panel shaded promontory perched above the canal that can serve as an event venue; and a porch adjacent to the engineering labs for outdoor learning opportunities.

In addition to offices and labs on the upper levels, breakout rooms with adjacent balconies provide collaboration space featuring sweeping vistas of the undeveloped landscape and future campus expansion.

The building was designed with LEED Platinum as a target.

## SCIENCE AND ENGINEERING 2

*102,000 gross square feet*

*LEED Platinum*

**Architect** SmithGroupJJR

**PPDC Team** Thomas Lollini, Michael Chow, Brad Verma, Gary Knox, Richard Cummings, Mark Maxwell, Gareth Beilby, Steve Roach, Min Jiang, Diane Caton, Sara Zimmermann, Tammy Petree, Rachel Hadley, Steve Murray, Fran Telechea, Sheri Newton, Gene Barrera

**Landscape** Stephen Wheeler Landscape Architecture



Located to the north of Cathedral and Tenaya Halls, Half Dome acts as a front door to Ranchers Road and provides unobstructed views of Lake Yosemite and the Sierra Nevada. The residence hall stands five stories tall and encloses the edges of a housing courtyard.

Similar to The Summits: Cathedral and Tenaya Halls, an average of five bedrooms are nestled near a common bathroom.

Study rooms, lounge spaces, computer terminals, laundry, and a kitchen are available within the hall for residents to use. Ground floor public spaces have been programmed to energize the breezeways connected to the pedestrian circulation corridors.

## HALF DOME RESIDENCES

*112,000 gross square feet*

*LEED Platinum*

**Architect** EHDD Architecture

**PPDC Team** Thomas Lollini, Michael Chow, Brad Verma, Gary Knox, Mark Maxwell, Gareth Beilby, Steve Roach, Min Jiang, Diane Caton, Sara Zimmermann, Tammy Petree, Rachel Hadley, Steve Murray, Fran Telechea, Sheri Newton, Gene Barrera

**Landscape** Stephen Wheeler Landscape Architecture





The Student Services and Athletics Center is sited adjacent to the Joseph E. Gallo Recreation Center.

Located on a small site along Ranchers Road, the building adds approximately 19,000 gross square feet of activity space and offices.

Located on a transitional site between the Lake View Residential Neighborhood and the existing academic campus, the building strengthens a critical hub of student life and activity.

In design, full height glass walls connect the ground floor recreation space to an open plaza, thus creating an inviting indoor-outdoor connection.

The use of plaster, concrete and metal complements the existing Gallo Recreation Center, and the shed-like form of the building evokes simple agricultural buildings seen throughout the Valley.

# STUDENT ACTIVITIES AND ATHLETICS CENTER

*19,000 gross square feet*

*LEED Platinum*

## **Design/Build Team**

McCarthy/WNRS Studio

## **UC Merced Team**

Thomas Lollini, Neil Edwards, Michael Chow, Gary Knox, Jessica Duffy, Gareth Beilby, Steve Roach, Diane Caton, Sara Zimmermann, Tammy Petree, Rachel Hadley, Steve Murray, Fran Telechea, Sheri Newton, Gene Barrera, Mark Maxwell, Min Jiang, Richard Cummings

## **Landscape**

Cliff Lowe Associates



The Student Services Building is a two building project consisting of a one story pavilion lecture hall and a three story steel frame structure.

The project was located on a small triangular parcel northeast of the Social Sciences and Management Building at the intersection of Ansel Adams Road and Scholars Lane.

The one story pavilion was completed in Fall 2013 and the three story building was completed in January 2014.

The building is certified as LEED Platinum.

## STUDENT SERVICES BUILDING

*30,000 gross square feet*

*LEED Platinum*

**Architect**

CO Architects

**UC Merced Team**

Thomas Lollini, Michael Chow, Leon Waller, Gary Knox, Steve Roach, Mark Maxwell, Mark Maxwell, Min Jiang, Diane Caton, Sara Zimmermann, Richard Cummings, Rachel Hadley, Tammy Petree, Steve Murray, Fran Telechea, Sheri Newton, Phillip Woods, Gene Barrera

**Landscape**

Cliff Lowe Associates



Located north of Kolligian Library, Classroom Office Building provides approximately 77,000 square feet of flexible classroom, academic support, research and office space.

The three-story building opened in 2016 and provides large format general assignment lecture halls, tutorial classrooms, and supporting administrative and academic office space.

The building is designed to support UC Merced's curriculum with technologically progressive environments such as Technology Enhanced Active Learning (TEAL) classrooms, which allow groups of students to work collaboratively and engage in hands-on experiments, visualizations, electronic polling, and lectures within a single class session.

The Digital Humanities Lab introduces students to multimedia through the Media Wall, which provides an interactive digital presentation environment; while the Cave Automatic Virtual Environment (CAVE) provides an opportunity to learn through virtual reality with a room-sized, high-resolution 3D audio-visual environment.

## CLASSROOM OFFICE BUILDING 2

*77,000 gross square feet*

*LEED Platinum*

**Architect**

SCB Architecture

**UC Merced Team**

Thomas Lollini, Michael Chow, Leon Waller, Gary Knox, Steve Roach, Mark Maxwell, Mark Maxwell, Min Jiang, Diane Caton, Sara Zimmermann, Richard Cummings, Rachel Hadley, Tammy Petree, Steve Murray, Fran Telechea, Sheri Newton, Phillip Woods, Gene Barrera

**Landscape**

SWA Landscape Architecture

**Construction Manager** Sundt









UC Merced's Long Range Development Plan boldly incorporates sustainable planning and urban design concepts to integrate land use, circulation and open space systems in the heart of California's rapidly growing San Joaquin Valley.

Through the aggressive deployment of solar, energy efficient buildings and a strategic land use plan, the campus aims to be zero net energy, zero waste and zero net emissions by 2020. The unique plan is oriented around a dense, interdisciplinary academic core designed for bicycles, transit and pedestrians.

Edged by 30,000 acres of permanently preserved vernal pool grasslands, the 815-acre high density plan accommodates 25,000 students, housing for 12,500 and 6.25 million square feet of research and administrative space.

Two mixed use 'Main Street' corridors penetrate the Academic Core, integrating it with an adjacent University Community that provides housing, services and 5,000 jobs within a 10 minute walk to campus.

# 2009 LONG RANGE DEVELOPMENT PLAN

*Approved by the University of California Board of Regents, March 2009.*

## **Awards**

GOVERNOR'S ECONOMIC AND ENVIRONMENTAL LEADERSHIP AWARD  
AMERICAN INSTITUTE OF ARCHITECTS, CALIFORNIA COUNCIL  
ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS  
SOCIETY OF COLLEGE AND UNIVERSITY PLANNING  
WORLD ARCHITECTURE NEWS  
NATIONAL RENEWABLE ENERGY LAB  
  
AMERICAN INSTITUTE OF ARCHITECTS

Comprehensive Land Use Planning Award (2009)  
Award of Merit, Urban Design (2010)  
Outstanding Planning Document Award (2009)  
Honor Award, Plan for an Existing Campus (2011)  
Education Awards, Long List (2011)  
Best Practices Case Study  
for Comprehensive Land Use Planning (2009)  
Committee on the Environment (COTE)  
Top Ten Award (2012)

**Completion Date** 2009

**PPDC Project Team** Thomas Lollini, Richard Cummings, Brad Samuelson, Suzanne Kallmann, Gene Barrera, Catherine Kniazewycz, Min Jiang, Diane Caton, Robin Howard, Steve Murray, Rachel Hadley, Sheri Newton

**Consultants** RACESTUDIO, A. Plescia & Co., Cliff Lowe Associates, Douglas Jamieson, Inc., Business Place Strategies, Impact Sciences, STANTEC, Fehr & Peers, Cox, Castle & Nicholson.



UC Merced landscape concept at full development.

# 2009 LONG RANGE DEVELOPMENT PLAN

- Phases 1 and 2
- Phase 3
- Phase 4

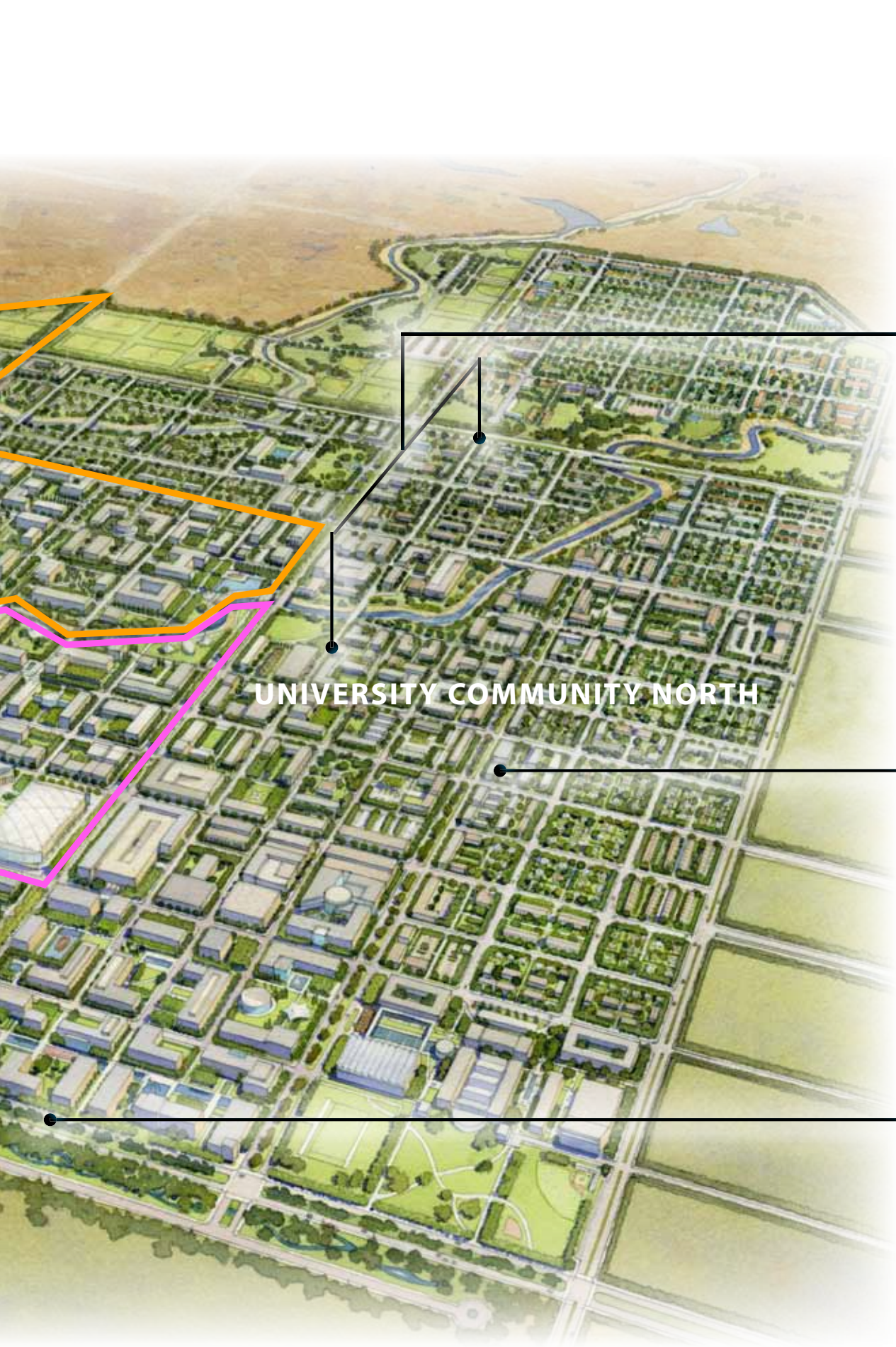
Natural topographic depressions, known as the "North" and "South" bowls, manage 1,600 acre feet of winter stormwater and provide open space and recreational venues.

KOLLIGIAN LIBRARY

A multimodal transit center is located at the campus gateway, linking it to downtown Merced, Amtrak and California's future high speed rail system.

The Gateway District provides a venue for public/private joint research and development ventures and regional employment





## UNIVERSITY COMMUNITY NORTH

The orthogonal street grid is laid out on approximately 300' sized blocks designed to maximize the potential for roof top solar collection, promote efficient land use and facilitate bicycle and pedestrian circulation.

University Community North provides housing for 15,000 people and 5,000 jobs within a 10 minute walking distance to the campus Academic Core.

The Campus Parkway provides access to the regional transit network, State Highway 99 and high speed rail.

## 2009 LONG RANGE DEVELOPMENT PLAN: A RESEARCH UNIVERSITY FOR THE 21ST CENTURY



Main Street 2.0 is the heart of the mixed-use Academic Core.



The Gateway District is UC Merced's research and development park.



The South Bowl demonstrates how recreation and open space interact.



The Campus Loop Road features wind turbines to meet the plan's zero net energy goals.

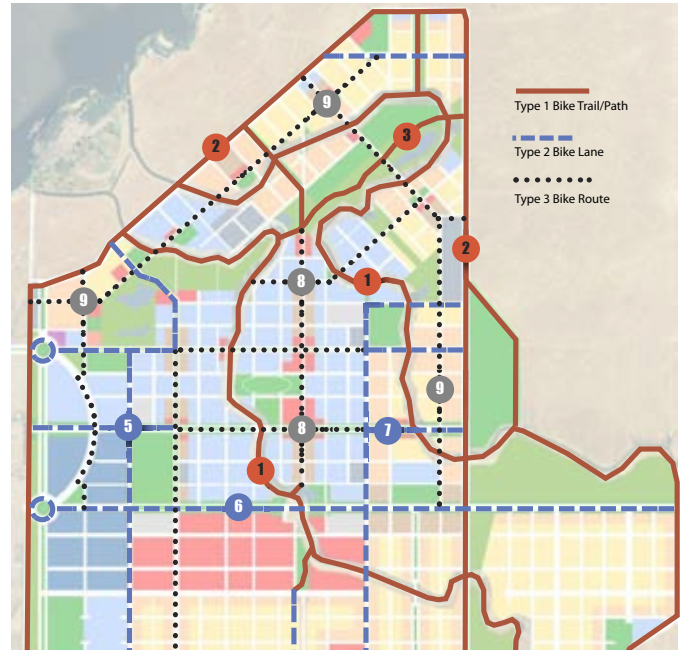
## INTERCONNECTED SYSTEMS FOR MOBILITY AND CARBON NEUTRALITY

The 2009 Long Range Development Plan includes interconnected visual overviews of systems for transit, bicycle, infrastructure, and vehicles. The systems are designed to preference carbon neutral access to and within the campus and community. The plan includes more than 200 discrete policies related to mobility, sustainability, infrastructure, land use, and community design.



### A Pedestrian-oriented campus

The pedestrian network connects student neighborhoods and nodes of activity to the academic core and community.



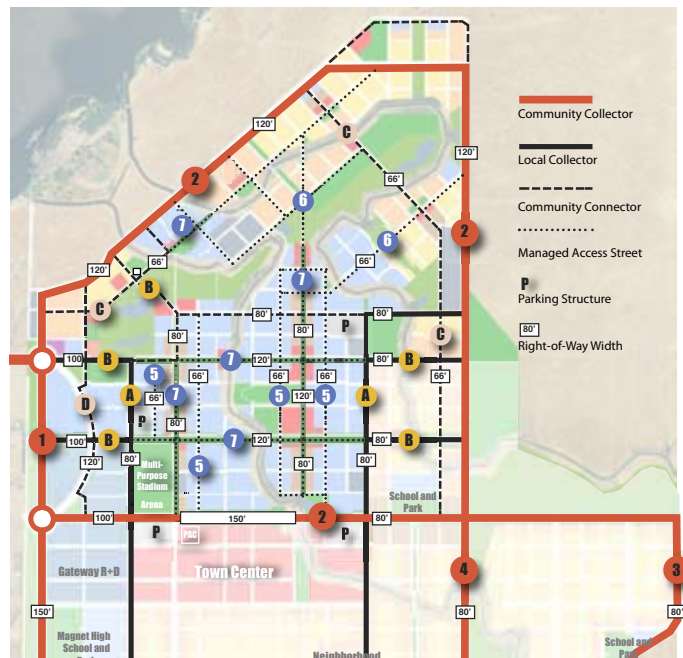
### An Integrated Bicycle Network

The bike system provides links along major corridors and scenic paths along the historic irrigation canals.



### Multiple Connections for Transit

The transit system locates a multimodal regional transit center that serves the Gateway District Research and Development Park as well as the campus core.



### A Car Free Academic Core

As a campus designed for pedestrians, car circulation within the plan is restricted to the edges of the Academic Core.

UC Merced's Physical Design Framework is a planning document that captures environmental, community and planning principles for the design of the campus' physical environment.

The Framework is a companion document to the 2009 Long Range Development Plan and is designed to provide guidance to the campus community and design professionals on how to develop a coherent yet distinctive character for each part of our young campus, while nurturing a culture of sustainability and pedestrian-oriented mobility.

As required by the Delegated Approval Process established by the Regents, the Physical Design Framework applies to existing and future campus capital investment projects that meet certain project size thresholds. The goal of the process is to streamline the systems and administrative processes that will lead to cost-effective development.

# PHYSICAL DESIGN FRAMEWORK

*Approved by the University of California Board of Regents, March 2010.*

<b>Completion Date</b>	2010
<b>PPDC Project Team</b>	Thomas Lollini, Richard Cummings, Brad Samuelson, Suzanne Kallmann, Gene Barrera, Catherine Kniazewycz, Michael Chow.
<b>Consultants</b>	RACESTUDIO, Cliff Lowe Associates, Douglas Jamieson, Inc.



## How to use the Physical Design Framework

The Physical Design Framework states the broad design objectives for each area of campus.

Images and maps support the broad design objectives.

Illustratives identify some of the strategies that can be used on new construction projects.

UC MERCED PHYSICAL DESIGN FRAMEWORK

### STUDENT NEIGHBORHOODS

Develop a pedestrian culture to create vitality and activity that makes on-campus living desirable. Four student residential neighborhoods surround the Academic Core and two penetrate the Academic Core along Main Streets 2.0 and 4.0. All neighborhoods are specifically sited to allow easy access to the core campus and will be well served by bicycle paths and transit.


**Design Implications: Promoting Pedestrianism**

To energize the neighborhoods with pedestrian activity, dining services and recreation facilities will be clustered within neighborhood centers to provide a central hub of vitality at the ground level. Other design components (e.g. sidewalks, small plazas, and common use spaces) must also encourage pedestrian activity through their programming.

Along the two Main Streets, ground floors shall incorporate the building's most public and active spaces in order to activate the street.

**Implementation Opportunities through 2020**

- Housing 4 within Lake View Neighborhood
- Housing 5 on Main Street 2.0
- Housing 6 within Lake View Neighborhood
- Student Aquatics Center
- Recreation and Wellness Expansion



The student neighborhoods edge the campus perimeter and penetrate the heart of the academic core along two north-south Main Streets. The intent is to house 50% of the student body on campus.

The narrative provides background describing the intent of the neighborhood objective.

Near term opportunities to implement the design framework goals are listed.


**Building Illustrative**

Courtyards shaded with tree canopy

Building massing takes advantage of views

Student services provide center of activity

Lawns only used where passive activity is contemplated



**PLANNING PATTERNS**

- Residence hall housing clustered around interior courtyards to create a baseline of activity and interaction.
- At least 50% of the building frontage should form the streetwall.
- Building forms that shape the street and engage the public realm with entry porches, arcades and common facilities at the ground level are strongly encouraged.
- Corner and mid-block entrances from the street grid activate the street and encourage through-block short cuts.
- Clear unshaded roof area for solar energy collectors should comprise at least 50% of roof area.
- Pathways and sidewalks designed for heavy use.
- Emergency vehicle access off of the main streets shall be incorporated into the landscape design concept at the earliest stages of planning.

**LANDSCAPE PATTERNS**

- The use of lawn for setbacks and unprogrammed outdoor areas is prohibited.
- Combination of landscape and selective use of passive lawns in the courtyards.
- Courtyards should be heavily shaded with canopy trees to provide outdoor comfort in warm months and reduce heat island effect of landscapes.
- Landscapes should be designed for low water and long-term low-maintenance, with plantings selected for drought tolerance, durability and hard use.
- Plantings should not create visibility or safety issues.
- Adjacent courtyards programmed for use.
- Outdoor seating and tables.

**BUILDING PATTERNS**

- Arcades on perimeter along main pedestrian routes to shade and protect pedestrians from weather.
- Secure bike racks and weather-protected bike storage facilities.
- Public or common rooms should be located along ground floor.
- Upper level common areas should be located to optimize casual and incidental use, and take advantage of featured views or distant vistas.
- Balconies or rooms take advantage of perimeter views.
- Multiple points of secure entry.
- Infrastructure and building services, such as trash collection and delivery areas, or backflow preventers shall be designed as integral elements of the overall design and visually screened to minimize visual impacts or circulation conflicts for residents and pedestrians.

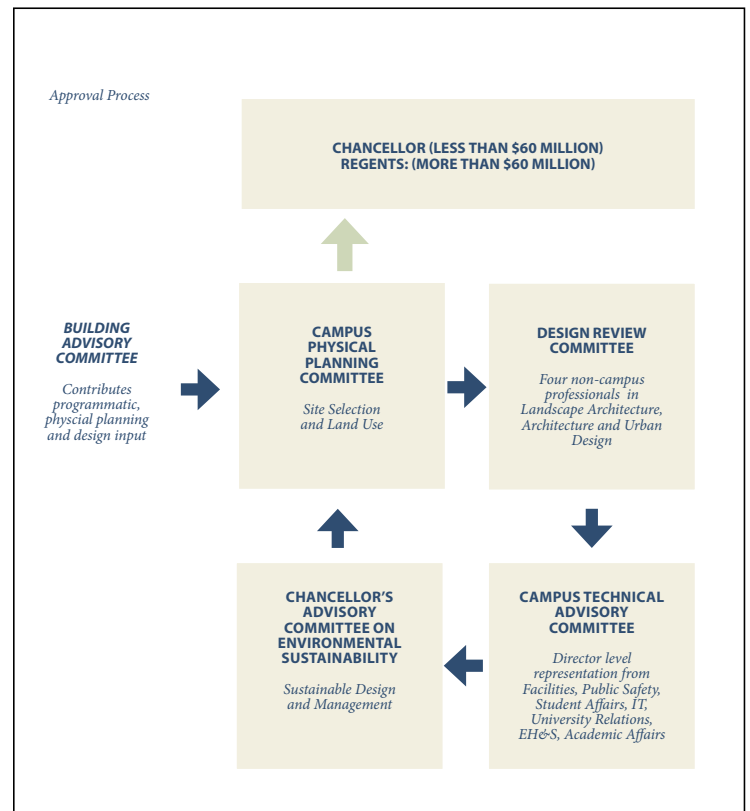
Written details provide possible solutions for planning, landscape and building patterns.

## The Delegated Approval Process

The Physical Design Framework outlines the four standing committees that advise administrative leadership on building design and site development issues.

Their role is to review, comment and make recommendations consistent with the 2009 Long Range Development Plan and the Physical Design Framework.

Their membership brings multiple perspectives to the physical and environmental development process.



# AWARDS

## **AMERICAN INSTITUTE OF ARCHITECTS, NATIONAL**

**Honor Award, Excellence in Architecture (2006)**

Central Plant and Telecommunications Complex

## **AMERICAN INSTITUTE OF ARCHITECTS, CALIFORNIA COUNCIL**

**Honor Award, Excellence in Architecture (2006)**

Central Plant

**Award of Merit, Savings by Design (2007)**

Leo and Dottie Kolligian Library

**Award of Merit for Urban Design (2010)**

2009 Long Range Development Plan

## **AMERICAN INSTITUTE OF ARCHITECTS, SAN FRANCISCO CHAPTER**

**Honor Award, Excellence in Architecture (2006)**

Central Plant and Telecommunications Complex

**Merit Award, Excellence in Architecture (2010)**

Science and Engineering 1

## **AMERICAN INSTITUTE OF ARCHITECTS, SIERRA VALLEY CHAPTER**

**Design Excellence Award (2011)**

The Summits: Cathedral and Tenaya Hall

**Design Excellence Award (2011)**

Leo and Dottie Kolligian Library

**Design Excellence Award (2011)**

Central Plant and Telecommunications Complex

## **AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS**

**Technology Awards, Energy Saving Dorms (2010)**

Sierra Terraces

## **ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS**

**Outstanding Planning Document Award (2009)**

2009 Long Range Development Plan

## **SOCIETY OF COLLEGE AND UNIVERSITY PLANNING**

**Special Citation, Planning for a New Campus (2006)**

2002 Long Range Development Plan

**Honor Award, Planning for an Existing Campus (2011)**

2009 Long Range Development Plan

## **STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA**

**Award of Merit, Sustainable Design (2007)**

Central Plant

## **SUSTAINABLE BUILDINGS INDUSTRY COUNCIL**

**Beyond Green High Performance Building Award (2007)**

Central Plant

## **THE CHICAGO ATHENAEUM MUSEUM OF ARCHITECTURE AND DESIGN**

**Honor Award (2007)**

Central Plant

**Green Good Design Award (2009)**

Leo and Dottie Kolligian Library and Central Plant



**GOVERNOR'S AWARD FOR ECONOMIC AND ENVIRONMENTAL LEADERSHIP**

**Comprehensive Land Use Planning Award (2009)**  
2009 Long Range Development Plan

**INTERNATIONAL INSTITUTE FOR SUSTAINABLE LABORATORIES**

**Go Beyond Award, New Construction (2008)**  
Science and Engineering 1

**INTERNATIONAL GREEN INDUSTRY HALL OF FAME**

**Excellence in Sustainable Practices (2009)**  
Campuswide

**NATIONAL RENEWABLE ENERGY LABORATORY**

**Leading Example: Climate Neutral Research Campuses**  
2009 Long Range Development Plan

**PACIFIC COAST BUILDERS CONFERENCE AWARD**

**Gold Nugget Award (2011)**  
The Summits: Tenaya and Cathedral Halls

**WORLD ARCHITECTURE NEWS**

**Long List Finalist, Education (2011)**  
2009 Long Range Development Plan

**UC/CSU/CCC SUSTAINABILITY BEST PRACTICES AWARD**

**Overall Sustainable Design (2007)**  
Central Plant

**Outstanding Sustainable Design (2007)**  
Classroom Office Building

**Overall Sustainable Design (2008)**  
Leo and Dottie Kolligian Library

**Outstanding Sustainable Design (2009)**  
Science and Engineering 1

**UNITED STATES GREEN BUILDING COUNCIL**

**Leadership in Energy and Environmental Design (LEED)**

**Certified**

Leo and Dottie Kolligian Library, LEED Gold  
Classroom Office Building, LEED Gold  
Science and Engineering 1, LEED Gold  
Sierra Terraces, LEED Gold  
Valley Terraces, LEED Silver  
Joseph Gallo Recreation and Wellness Center, LEED Gold  
Central Plant, LEED Gold  
Social Sciences and Management, LEED Platinum  
Dining Expansion, LEED Platinum  
Facilities Support Building, LEED Gold  
The Summits: Tenaya and Cathedral Hall, LEED Gold  
Early Childhood Education Center, LEED Gold  
The Summits: Housing 4, LEED Platinum  
Student Services Building, LEED Platinum  
Student Activities and Athletics Center, LEED Platinum  
Science and Engineering 2, LEED Platinum  
Classroom Office Building 2, LEED Platinum

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111

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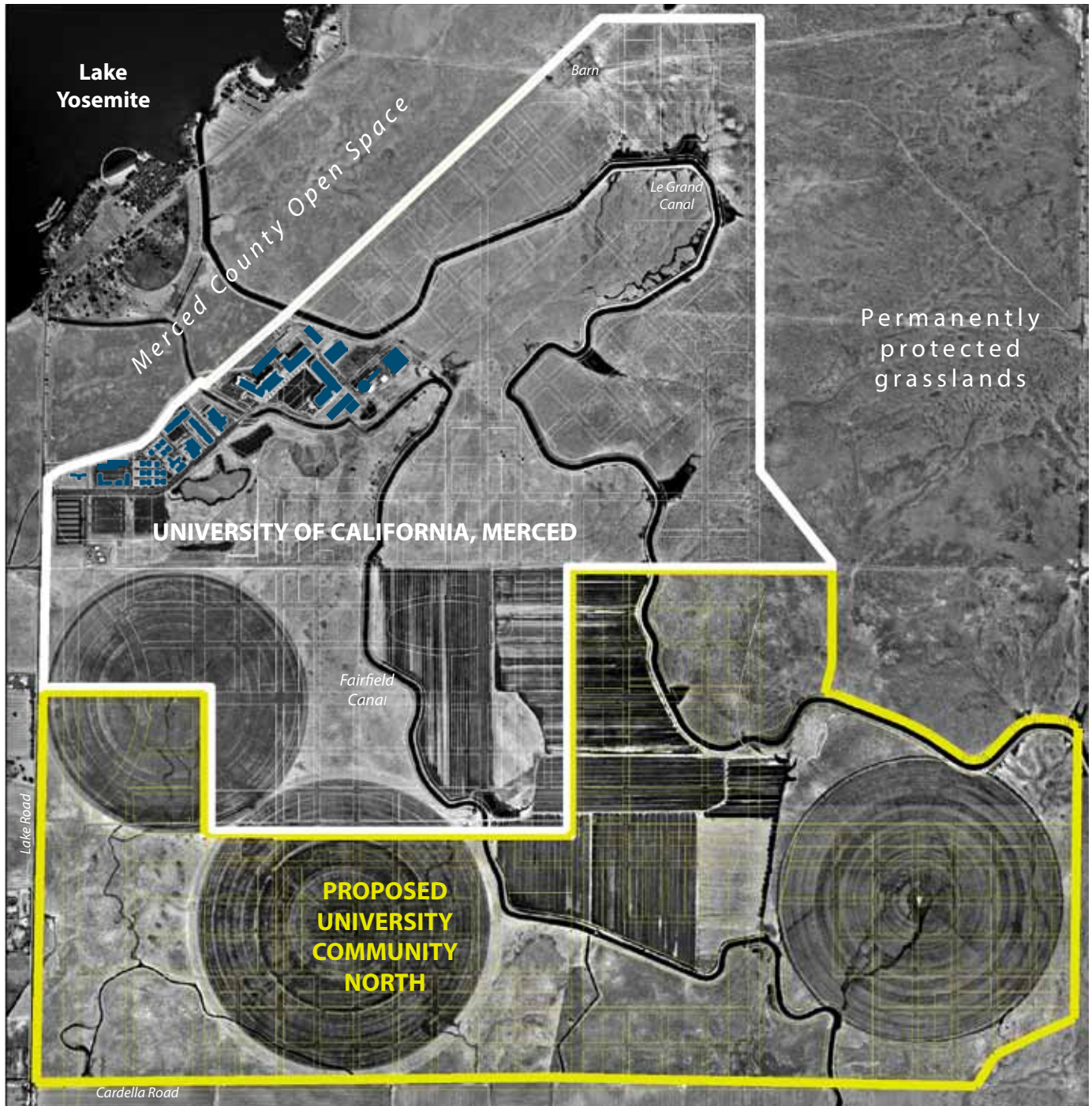
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### South Bowl

Natural topographic depressions on the campus site provide direct view corridors of the Sierra Nevada. Portions of these areas are used for stormwater management.



**AERIAL VIEW OF CAMPUS AND BUILDING FOOTPRINTS AS OF 2016**



At full development, UC Merced will encompass 815 acres of land and accommodate 25,000 students. Immediately south of the campus, an 839 acre proposed development project known as "University Community North" will provide housing, a research and development park, services, recreation and open space to complement the University.

## Major Campus Capital Investment Summary for the University of California, Merced (2002-2016)

Project	Size	Completion Date	Funding Source	Design & Construction Cost
<b>Academic</b>				
Castle Facility Improvements (Offsite)	17,714 OGSF (13,530 ASF)	March 2004	State Funded	\$4.6 million
Kolligian Library	178,468 OGSF (97,824 ASF)	August 2005	State Funded	\$59.2 million
Classroom Office Building	92,601 OGSF (60,000 ASF)	December 2005	State Funded	\$32.9 million
Science & Engineering 1	234,769 OGSF (110,076 ASF)	June 2006	State Funded	\$79.7 million
Academic Office Annex (Trailers)	16,500 OGSF (10,375 ASF)	August 2008	Campus Funds	\$2.9 million
Social Sciences & Management Building	101,569 OGSF (61,890 ASF)	August 2011	State Funded	\$47.7 million
Student Services Building	33,400 OGSF (20,650 ASF)	Opens 2013-14	State Funded	\$19.8 million
Science & Engineering 2	101,900 OGSF (57,300 ASF)	Opens Fall 2014	State Funded	\$88.8 million
Classroom Office Building 2	77,348 OGSF (50,869 ASF)	Opens Fall 2016	State Funded	\$54 million
<i>Academic Size Subtotal</i>	<i>854,269 OGSF (482,514 ASF)</i>		<i>Academic Cost Subtotal</i>	<i>\$389.6 million</i>
<b>Infrastructure and Support</b>				
Infrastructure Phases 1, 2, 3/Central Plant	43,918 OGSF (30,961 ASF)	August 2005	State Funded	\$76.8 million
Logistical Support/Service Facilities	30,294 OGSF (20,600 ASF)	December 2008	State Funded	\$10.1 million
Infrastructure Phase 6	Campuswide	2012	State Funded	\$2 million
Infrastructure Phase 4	Ranchers Road	2013	State Funded	\$4.4 million
<i>Infrastructure Size Subtotal</i>	<i>74,212 OGSF (51,291 ASF)</i>		<i>Infrastructure Cost Subtotal</i>	<i>\$93.3 million</i>
<b>Environmental Mitigation</b>				
Property Acquisition	Campuswide	2002	David and Lucile Packard Foundation William and Flora Hewlett Foundation	\$12 million
Planning and Permitting	Campuswide	2002-Present	Calif. Dept. of Fish & Game; UC Regents	\$18.5 million
Conservation Easements/Endowments	Campuswide	2002-Present	California Wildlife Conservation Board William and Flora Hewlett Foundation	\$20 million
			<i>Environmental Mitigation Subtotal</i>	<i>\$50.5 million</i>
<b>Parking</b>				
Parking Lots (A, B, C)	600 spaces	July 2005	Non-State Funded: External Financing	\$1.5 million
Parking Lots (E, F)	430 spaces	June 2008	Non-State Funded: External Financing	\$1.6 million
Parking Lots (G, H)	430 spaces	October 2009	Non-State Funded: External Financing	\$1.3 million
North Bowl Parking Lot	350 spaces	October 2012	Non-State Funded: External Financing	\$1.8 million
<i>Parking Space Subtotal</i>	<i>2240 spaces</i>		<i>Parking Cost Subtotal</i>	<i>\$6.2 million</i>
<b>Student Housing</b>				
Valley Terraces (586 built beds, 300 dining seats, 340 parking spaces, 5 acre site)	150,526 OGSF (122,509 ASF)	September 2005	Non-State Funded: UCHS	\$28.2 million
Sierra Terraces (396 built beds or 582 beds if maxed, 2.55 acre site)	89,516 OGSF (60,421 ASF)	January 2008	Non-State Funded: UCHS	\$31.4 million
Student Housing 3 (305 built beds or 376 beds if maxed, 1.42 acre site)	94,000 OGSF (64,860 ASF)	Fall 2010	Non-State Funded: UC Regents	\$42 million
Student Housing 4 (364 built beds or 535 beds if maxed, 1.04 acre site)	111,883 OGSF (66,656 ASF)	August 2013	Non-State Funded: UC Regents	\$54.2 million
<i>Housing Size Subtotal</i>	<i>445,925 OGSF (314,446 ASF)</i> <i>1651 built or 2079 max beds</i>		<i>Housing Cost Subtotal</i>	<i>\$155.8 million</i>
<b>Student Services and Recreation</b>				
Gallo Recreation and Wellness Center	35,690 OGSF (24,985 ASF)	June 2006	Non-State Funded : Gifts, UC Regents	\$11.2 million
Dining Expansion	10,847 OGSF (8,244 ASF)	January 2008	Non-State Funded: UC Regents	\$9.7 million
Early Childhood Education Center	8,407 OGSF (6,113 ASF)	June 2009	Non-State Funded: Gifts, First 5, UC Regents, Campus	\$4.9 million
Student Activities and Athletics Center	20,850 OGSF (13,970 ASF)	Fall 2012	Non-State Funded: UC Regents	\$10.2 million
<i>Student Services Space Subtotal</i>	<i>75,794 OGSF (53,312 ASF)</i>		<i>Student Services Cost Subtotal</i>	<i>\$36 million</i>
<b>GRAND TOTAL</b>	<b>1,450,200 OGSF (901,563 ASF)</b>			<b>\$731.4 MILLION</b>

Sources: Capital Finance and Space Management," Building\_Profiles\_07-19-13.pdf" and PPDC

Dollars are in year of expenditure.



Sierra Nevada and campus property.



**UNIVERSITY OF CALIFORNIA, MERCED**

**PHASE 1**