

Food Garden 9



Weather Station 10



Arbor Grill 13



Matador Bicycle Compound 15

Produced in Partnership With:

Recycling center:

Associated Students, Inc.
www.csunas.org/recycle/index.php
(818) 677-4262

Valley Performing Arts Center:

Facilities Planning, Design and Construction
University Hall, room 325
www.campaign.valleyperformingartscenter.org/
(818) 677-2561

Food garden:

Institute for Sustainability
Santa Susana Hall, room 324
www.csun.edu/sustainability
(818) 677-7715

Matador bicycle compound:

Parking and Transportation Services
Parking Services Building
www-admn.csun.edu/parking/
(818) 677-2157

Botanic garden, central plant, Chaparral Hall, fuel cell, orange grove, photovoltaic cells, rainforest, waterless urinals and weather station:

Physical Plant Management (PPM)
www-admn.csun.edu/ppm/
(818) 677-2222

Arbor Grill:

University Corporation
www.csun.edu/tuc/arbortgrill.html
(818) 677-3552

Student Recreation Center:

University Student Union
<http://usu.csun.edu/rec/index.php>
(818) 677-5652



Photovoltaic Panels 16

SUSTAINABILITY



California State University
Northridge



Valley Performing Arts Center 1



Orange Grove 2

Self-Guided
Tour

www.csun.edu/sustainability



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Chaparral Hall 3



Botanic Garden 4



Fuel Cell 5



Rainforest 6

1 VALLEY PERFORMING ARTS CENTER - The 160,000 square foot state-of-the-art performing arts center will feature an acoustically tunable 1700-seat main performance hall and will support a full-spectrum of professional performing arts programming, including symphonic orchestra, dance, opera, theater, and musical theater, as well as film, lectures and KCSN 88.5 FM. The VPAC is scheduled to open in January 2011. Maintaining and improving the environment has been a primary consideration in the site design for VPAC. The building was specifically sited to retain the large oak trees along Orange Grove Walk. The addition of 150 trees, combined with reflective roof surfaces, will provide natural shading and reduce the heat island effect, thereby reducing energy costs and making outdoor areas more usable during warmer months. Drought tolerant grasses and ground coverings will be incorporated to reduce water consumption across the site. The VPAC includes other sustainable elements such as energy saving lights, a state-of-the-art HVAC system, tinted glass windows, “cool roof” and water conservation system. The VPAC has applied for LEED Silver Accreditation.

2 ORANGE GROVE - The grove's more than 400 orange trees serve as one of the last remnants of the San Fernando Valley's agricultural past. The grove was recently transformed into a welcoming retreat that features a beautiful walkway, a 270-foot meandering stream, a natural spring well, dozens of red-eared slider turtles, koi and goldfish and a variety of colorful flowers including water lilies and water hyacinths. The five acre site is modeled after a California seasonal wetland to be enjoyed by both the campus community and the public.

3 CHAPARRAL HALL - Built in 2009, Chaparral Hall is named after the most dominant vegetation habitat in Southern California, and is home to the College of Science and Mathematics. It is one of the most advanced designed and energy-efficient buildings on campus. A few of its many “green” features are energy-efficient light sensors, energy-saving heating and air-conditioning, and ventilation systems.

4 BOTANIC GARDEN - Planted in 1959, the botanic garden started off with only Californian native plants, but has grown to over 1,200 species of plants representing different climates and regions from around the world. In addition to exotic plants, it contains many species of butterflies, birds and insects. Students from a variety of disciplines visit this garden each semester as part of their classes, including biology, ecology, entomology, art, design, photography and film. The Garden is open to the public.

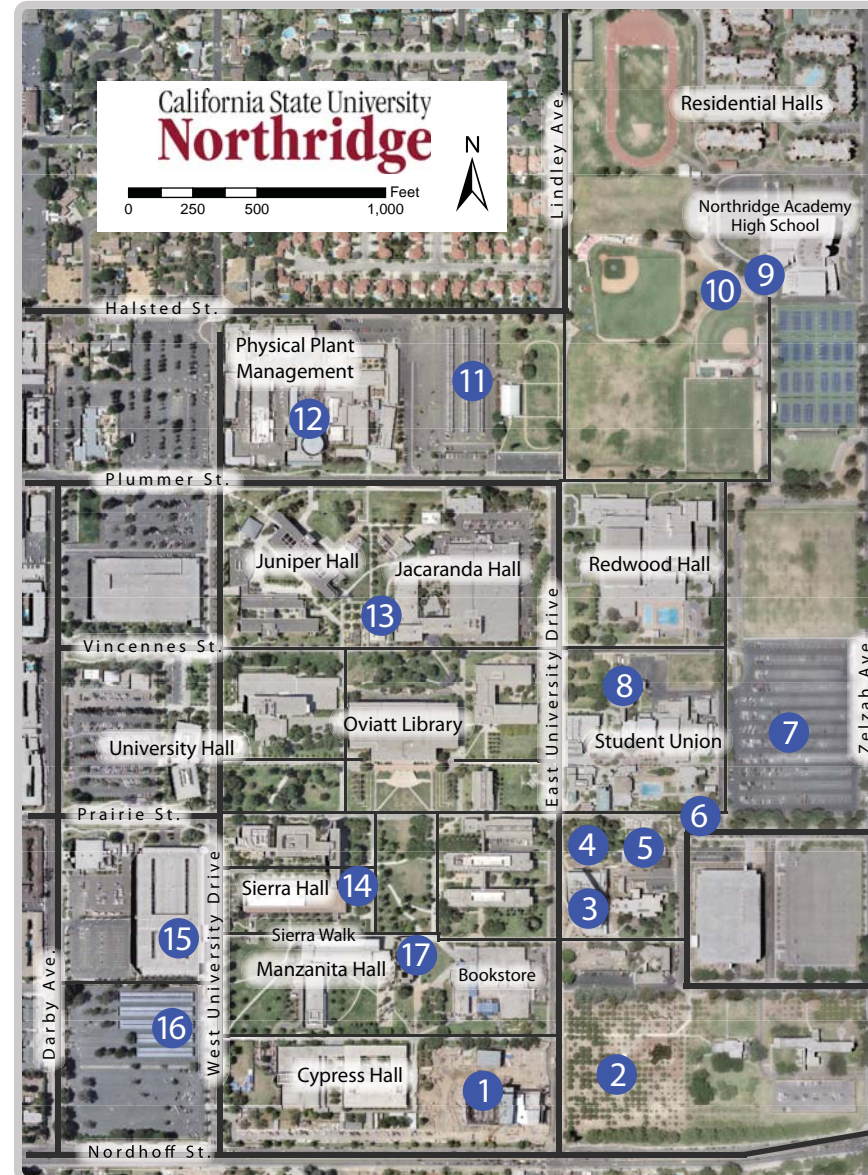
5 FUEL CELL - CSUN is the first institution in the world to have a grid connected fuel cell plant. The plant has a 1 megawatt capacity and eliminates more than 6,400 tons of CO₂ a year that otherwise would be released to the atmosphere. The plant generates more than 8.3 million kWh per year of electricity from the chemical conversion, rather than the combustion, of natural gas. Waste heat (22 billion BTU's a year) from the plant is captured to heat buildings and the USU pool, and to generate domestic hot water. The plant operates at an efficiency of over 80% - more than twice the efficiency of power generated by the utility company.

6 RAINFOREST PROJECT - CSUN is the only educational facility in the world to have an outdoor subtropical rain forest fully sustained from conventional industrial waste byproducts including excess water and CO₂. The 9,000+ gallon per/day of waste water from the fuel cell plant is collected in a 12,000 gallon storage tank and used to irrigate the rain forest through a gravity flow system. The Rainforest utilizes nearly all of the waste stream from the fuel cell and satellite chiller plant and was designed and built as a cooperative effort between Physical Plant Management and the faculty and students from the College of Engineering and Computer Science.

7 STUDENT RECREATION CENTER - This over 100,000 sq. ft. Student Recreation Center, scheduled to open in Spring 2012, will provide state-of-the-art technology in the areas of health and fitness. Some of the sustainable building features include a “cool roof,” optimized energy performance, water efficient landscaping, use of natural lighting and views to the exterior, and use of recycled content and locally produced materials. The SRC is applying for LEED Gold certification.

8 ASSOCIATED STUDENTS RECYCLING OPERATIONS - The recycling program at CSUN was established in 1991 as a collaborative effort between Associated Students and the University to divert recyclable materials from the University's waste stream and to promote the benefits of recycling. Today, A.S. Campus Recycling Services continues to support the campus community by collecting paper, cardboard, pallets, laser toner and ink jet cartridges, cell phones, tin cans, and beverage containers. In all, over 200 locations are served throughout the campus. Through its

collection services and outreach, AS-CRS provides students with organizational and leadership roles through work experience and is an example of environmental stewardship for future generations. Look for future developments as we move forward into our next phase of designing and building the A.S. Recycling and Recovery Center!



9 FOOD GARDEN - Located in the northeast part of campus near the Northridge Academy High School, groundbreaking for the campus food garden by student volunteers, staff and faculty took place in Spring 2010. The food garden will be used to educate students about organic and community gardening, nutritious food, and healthy eating.

10 WEATHER STATION - In an effort to reduce water use, sixty-two controllers for a computerized weather-based irrigation system have been installed on campus. Connected through Ethernet to a weather station installed specifically for this purpose, the system determines how much water is needed in each sprinkler system based on measurements of rain, temperature and humidity, and thereby avoids unnecessary watering.

11 PHOTOVOLTAIC PROJECT I (Parking Lot E6) - One of the largest solar electric installations at a public university in

California, the \$1.8 million photovoltaic project was developed through a partnership between the university's Physical Plant Management, the Los Angeles Department of Water and Power (LADWP), Southern California Gas Company and Shell Solar Industries. The installation in 2003 of more than 3,000 solar panels can produce up to 225 kW of power and save the university more than \$50,000 annually in energy costs.

12 CENTRAL PLANT THERMAL STORAGE - These giant water tanks provide chilled water for air conditioning throughout the campus. Water is chilled to 39°F (4°C) during off-peak night-time hours when electrical rates are low and stored in a 2.3 million gallon storage tank. During peak daytime hours, the cold water flows around campus providing air conditioning. This allows the chillers to be shut down during the part of the day when peak electric load is reached, and when rates are higher. When the tank was originally installed, a single cold-water filling met cooling needs for several days, but due to the explosive growth of the campus that same tank is now usually depleted during four peak hours each day.

13 ARBOR GRILL - This food service location, which opened in 2006, embodies many energy efficient features. Amongst them, a cooking hood with a variable speed drive utilizes a light beam to detect when there is smoke, and a shady outdoor dining area with misters for evaporative cooling in the summer, which saves on cost and energy use.

14 WATERLESS URINALS - With the help of Metropolitan Water District incentive funds, PPM has installed 265 waterless urinals around campus. These urinals can be found in the USU, Sierra Hall and many other buildings on campus. The urinals are estimated to save 40,000 gallons per unit per year, which adds up to over 10 million gallons per year campus wide use. Based on the current domestic water rate, the campus will save approximately \$77,500 per year.

15 MATADOR BICYCLE COMPOUND - Commuting by bicycle is a more sustainable method of transportation than driving. To encourage bicycle commuters, the CSUN police department built a fully-enclosed locking bicycle compound to ensure that bicycles are secure on campus. The compound is located in B3 parking structure near the corner of W. University Dr. and Sierra Walk. Access is provided to registered users through the campus public safety office with a one-time \$7 fee.

16 PHOTOVOLTAIC PROJECT II (Parking Lot B2) - The second solar photovoltaic installation at CSUN was completed in 2005 and includes 2,832 solar panels. At peak capacity these can generate 467 kW of power and save the campus \$100,000 annually in energy costs.

17 THE INSTITUTE FOR SUSTAINABILITY - “Meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Report, 1987). Founded by the Office of the Provost in 2008, the Institute promotes, facilitates, and develops educational, research, university and community programs related to sustainability. The Institute serves as an umbrella organization across all the colleges of the university on issues related to sustainability and is committed to increasing interdisciplinary and cross-functional communication, education, and research among the colleges with respect to sustainability. There are three primary functional arms of the Institute—curriculum, campus operations, and research.