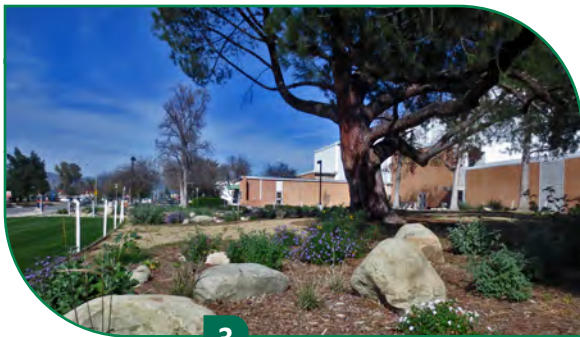




21 Food Garden



5 Transit Station



3 Drought Tolerant Landscaping



1 Photovoltaic Project

Produced by the Institute for Sustainability
in Partnership with:

Campus Recycling Services and Zipcar:
Associated Students, Inc.
www.csun.edu/as/sustainability
(818) 677-2477

Valley Performing Arts Center, transit station, drought tolerant landscaping, LED lighting and bike path:
Facilities Planning, Design and Construction
www.csun.edu/facilities
www.valleyperformingartscenter.org
(818) 677-2561

Institute for Sustainability, food garden, and composting:
www.csun.edu/sustainability
(818) 677-7710

Sustainability minor advisement:
Liberal Studies Department
www.csun.edu/humanities/liberal-studies
(818) 677-3300

Matador bicycle compounds and transit center:
Parking and Transportation Services
www.csun.edu/parking
(818) 677-3946

Central plant, fuel cell, orange grove, photovoltaic cells, rainforest, and weather station:
Physical Plant Management (PPM)
www.csun.edu/facilities/ppm-services
(818) 677-2222

Fuel cell, photovoltaic cells, and rainforest:
College of Engineering and Computer Science
www.csun.edu/engineering-computer-science
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Student Housing:
www.csun.edu/housing
(818) 677-2160

The University Corporation:
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University Student Union and Student Recreation Center:
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Sustainability

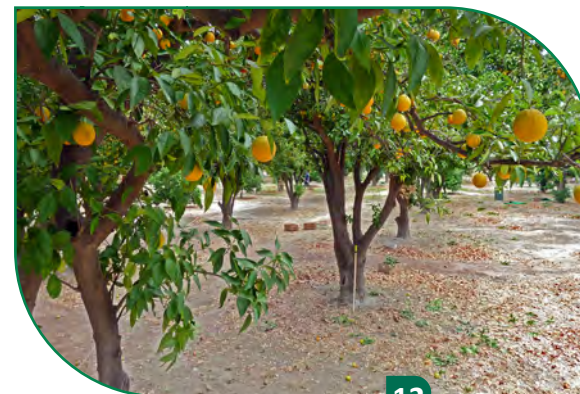


CSUN

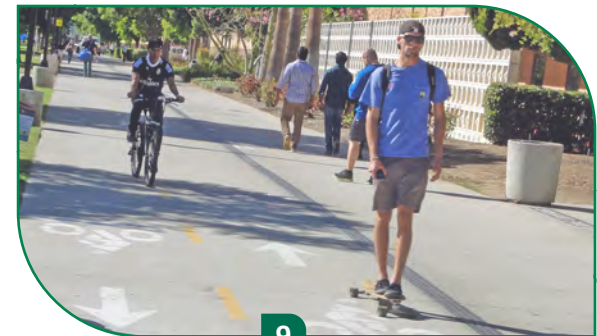
CALIFORNIA
STATE UNIVERSITY
NORTHRIDGE



11 Valley Performing Arts Center



12 Orange Grove



9 Jacaranda Walk Bike Path



14 Fuel Cell



15 Rainforest



17 Student Recreation Center

Self-Guided Tour



www.csun.edu/sustainability

1 Photovoltaic Project II

This solar photovoltaic installation was completed in 2005 and includes 2,832 solar panels with a capacity of 467 kW. They generate about 600,000 kWh of electricity each year, saving the campus roughly \$90,000 in utility costs.

2 Matador Bicycle Compounds

To encourage bicycle commuters, the CSUN police department built fully-enclosed, locking bicycle compounds to ensure that bicycles are secure on campus. Compounds are located in the B3, B5, and G3 parking structures. Access is provided through the Public Safety office at no cost.

3 Drought Tolerant Landscaping

Turf has been removed and replaced with native and drought tolerant plants in locations throughout the campus including Plummer Street, Etiwanda Street, Matador Drive, north of Redwood Hall, and north of Arbor Court. The plants and trees selected for these locations, such as Cleveland Sage, California Buckwheat, St Catherine's Lace, and Western Red Bud, require significantly less water. Trees in parking lots B1, B2, and B4 have been replaced with drought tolerant Chitalpa trees that require no irrigation once established.

4 The University Corporation

The TUC has implemented biodegradable or compostable plates, utensils, and cups for all take-out food and is utilizing reusable dinnerware at Geronimo's and the Orange Grove Bistro.

5 Transit Station

The transit station, built in 2012, provides a convenient location for students, faculty and staff to access mass transit commuting options, including buses and MetroLink shuttles. The campus is working with L.A. Metro to expand services.

6 Central Plant Thermal Storage

A 2.3 million gallon tank stores chilled water on campus. Water is cooled to 39°F (4°C) during off-peak night-time hours when electric rates are low; during peak hours, the cold water flows around campus providing air conditioning. This allows the chillers to be shut down during the peak electric load time of the day when rates are higher. When the tank was originally installed, a single cold-water filling met campus cooling needs for several days, but due to CSUN's rapid growth that same tank is now usually depleted during four peak hours each day.

7 Photovoltaic Project I

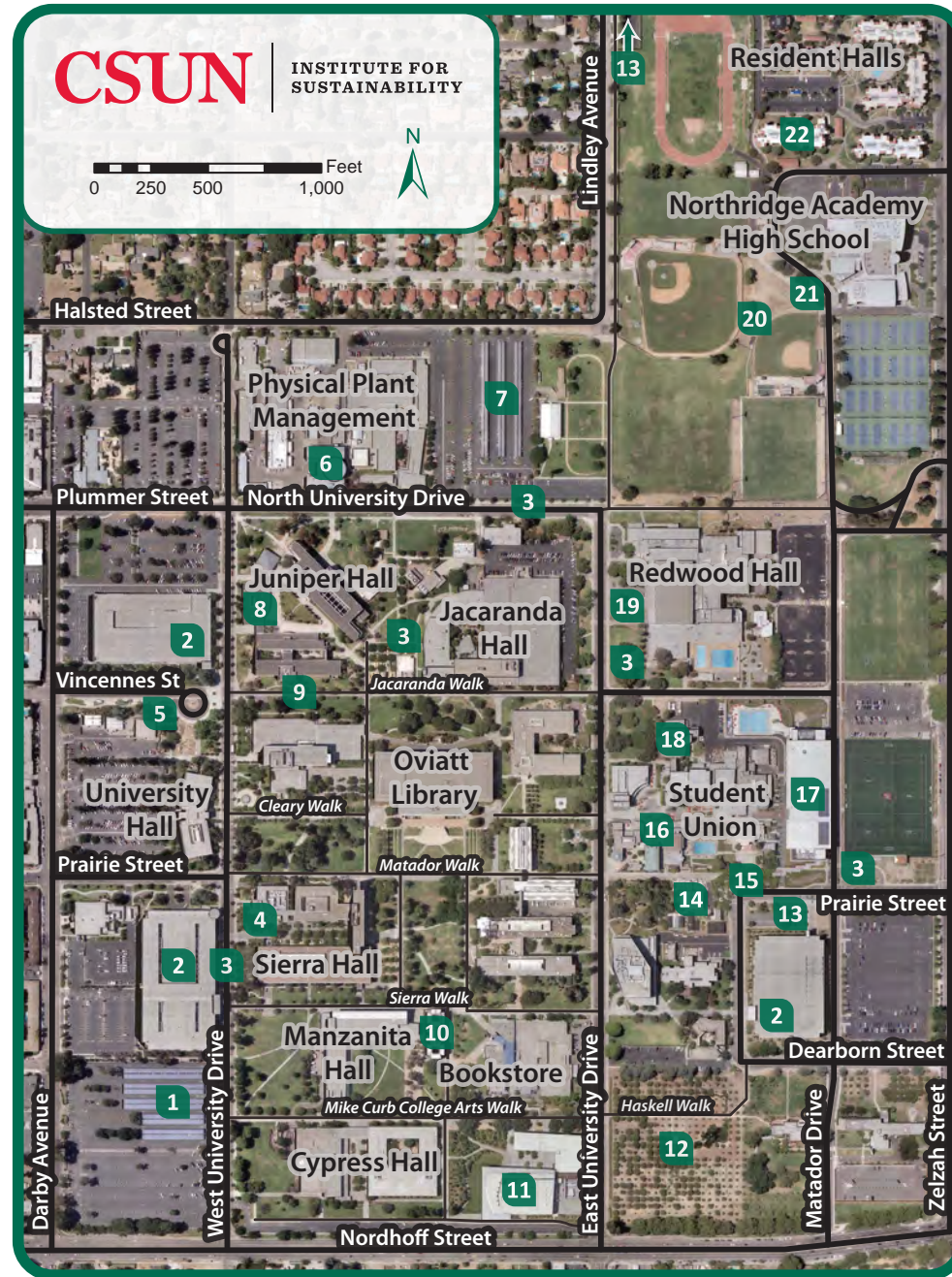
When originally installed in 2003, this was one of the largest solar electric installations at a public university in California. The \$1.9 million photovoltaic project was developed through a partnership between the university's Physical Plant Management, the Los Angeles Department of Water and Power (LADWP), Southern California Gas Company and Shell Solar Industries. More than 3,000 solar panels produce up to 225 kW of power, 270,000 kWh of electricity and save the university more than \$40,000 annually.

8 Sustainability Minor Advisement Office

The interdisciplinary minor in Sustainability offers a broad education in sustainability for many disciplines. Core courses educate students in sustainability issues and practices, and teach students about the economic, environmental and social factors considered in making decisions. Elective courses are chosen from an individual's field of interest where the emphasis is on issues relating to sustainability.

9 Jacaranda Walk Bicycle Path

A bicycle path was established to connect transit station users to the campus, allow for easier cross campus treks, and reduce bicycle/pedestrian accidents. The path is a step toward making CSUN a more bicycle friendly campus.



10 The Institute for Sustainability

Founded in 2008, the Institute promotes, facilitates and develops programs related to sustainability. It serves as an umbrella organization across the university on issues related to sustainability and is committed to increasing interdisciplinary and cross-functional communication, education, and research. There are three primary functional arms of the Institute—curriculum, campus operations, and research.

11 Valley Performing Arts Center

The 166,000 square foot performing arts center opened January 2011. The addition of 180 trees provides natural shading and reduces the heat island effect, reducing energy costs and making outdoor areas attractive even during the warmest months. The VPAC includes other sustainable elements such as energy saving lights, a state-of-the-art HVAC system, tinted glass windows, cool (reflective) roof, and water conservation system. The VPAC is LEED Gold Certified.

12 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 features a walkway, stream, natural spring well, red-eared slider turtles, ducks, koi and goldfish, and a variety of flowers including water lilies and water hyacinths. The five acre site is modeled after a California seasonal wetland to be enjoyed by the campus community and the public. Oranges are harvested annually and donated to local food banks.

13 Zipcar Locations

Zipcars are available for students, employees, and the community to rent at hourly rates. This reduces the need for students and others to drive to campus, thus reducing the demand for on-campus parking and alleviating congestion. In addition, the Associated Students offers more than \$100,000 per year to subsidize students' use of public transportation.

14 Fuel Cell

CSUN was 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 into the atmosphere. The plant generates up to 8.3 million kWh per year of electricity from the chemical conversion, rather than the combustion, of natural gas. Waste heat (approx. 22 billion BTUs a year) from the plant is captured to heat buildings, the USU pool, and domestic hot water. The plant operates at a combined (heat and electricity) efficiency of over 80%.

15 Rainforest Project

CSUN's outdoor subtropical rainforest is fully sustained from the power generation byproducts including excess water and CO₂. The 9,000+ gallons per/day of waste water from the fuel cell plant is collected in a 12,000 gallon storage tank and used to irrigate the rainforest through a gravity flow system. The rainforest utilizes nearly all the waste from the fuel cell and satellite chiller plant.

16 University Student Union

The USU installed 40 waterless urinals, which save roughly 330,240 gallons of water annually; electric hand dryers save 1,900 feet of paper per year. The USU facilities utilize natural lighting, LED and CFL light fixtures, motion sensors and advanced technology to manage and reduce energy consumption.

17 Student Recreation Center

The SRC is a 138,000 square foot LEED Gold certified facility featuring 90 kW of solar PV panels, water-efficient landscaping, waterless urinals, and recycled materials throughout. About 75% of the building is day-lit by Solatubes and windows. SRC members help power the building with each workout on ReRev™ Precor Elliptical machines.

18 Associated Students Campus Recycling Services

The CSUN recycling program was established in 1991 as a collaborative effort between Associated Students and the University. The program collects paper, cans, bottles, cardboard, pallets, e-waste, and printer cartridges. There are over 200 pickup locations throughout campus. AS Recycling offers student employment opportunities, which provide organizational and leadership roles through collection services, outreach, and the Sustainable Office Program. The site is home to the future Sustainability Center opening in 2017!

19 LED Walkway Lights

CSUN is switching outdoor lighting to LEDs, which reduces their energy use by 60%. Lights have been replaced at Redwood Hall, Jacaranda Walk, Cleary Walk, Matador Walk, Sierra Center South, Sierra Walk, and Mike Curb College of Arts Walk.

20 Weather Station

To reduce water use, a computerized weather-based irrigation system has been installed on campus. Sixty-two controllers are connected to a weather station, which supplies the data for determining how much water is needed in each sprinkler based on rain, temperature and humidity. This advanced control system avoids unnecessary watering.

21 Food Garden and Compost Site

Ground-breaking for the campus food garden by student volunteers, staff and faculty took place in Spring 2010. The food garden is used to educate students about organic and community gardening, nutritious food, and healthy eating. Kitchen waste and coffee grounds are collected from campus dining locations and processed on-site. The nutrient rich compost is then used in the garden. Join us for a garden work day!

22 Student Housing

Kitchen and bathroom aerators, showerheads, and toilets have all been replaced with low flow models; Energy Star refrigerators installed, together with LED lighting, cool roofs, and tankless water heaters. The Matasphere sustainability Themed Living Community (TLC), started Fall 2014, brings together like-minded students to plan and implement efforts to reduce waste and consumption in Student Housing, and model responsible behaviors and practices.