



Lighting Control for  
Energy Efficiency



## CASE STUDY

### California State University Northridge, Parking Structure B3

#### PROJECT OVERVIEW

The CSUN B3 Parking Structure is a 750,000 sq. ft. six-story structure that supplies 2,231 parking spaces for students of California State University, Northridge. Its lighting consists of the following elements:

- 87,000 Watts total lighting power
- 952 single bulb T8 fluorescent light fixtures
- 504 double bulb T8 fluorescent light fixtures
- 48 HID light fixtures

California State University, Northridge has always been a leader in energy conservation techniques. When first approached about installing a GreenWorx Lighting Control System into the B3 Parking Structure their answer was that they already implemented day light harvesting techniques on that structure. Upon further investigation, PCS engineers discovered that the existing day light harvesting consisted only of a simple time clock that turned a portion of the lights off for 10 sun-lit hours of the day. PCS told CSUN that there were still plenty of energy savings opportunities that GreenWorx could employ on that structure. CSUN looked at the PCS proposal and were very impressed at what the GreenWorx Lighting Control System could do. They became one of the early buyers of GreenWorx.



California State University  
**Northridge**

#### CHALLENGE

At the outset CSUN Physical Plant Management, working with PCS engineers set four clear objectives for the project:

- To reduce energy consumption by 50%
- Maintain illumination levels consistent with IES standards and customer requirements
- To give Campus Police and Energy Management Staff a way to remotely override the system in emergencies
- To yield a payback period from energy savings to less than three years

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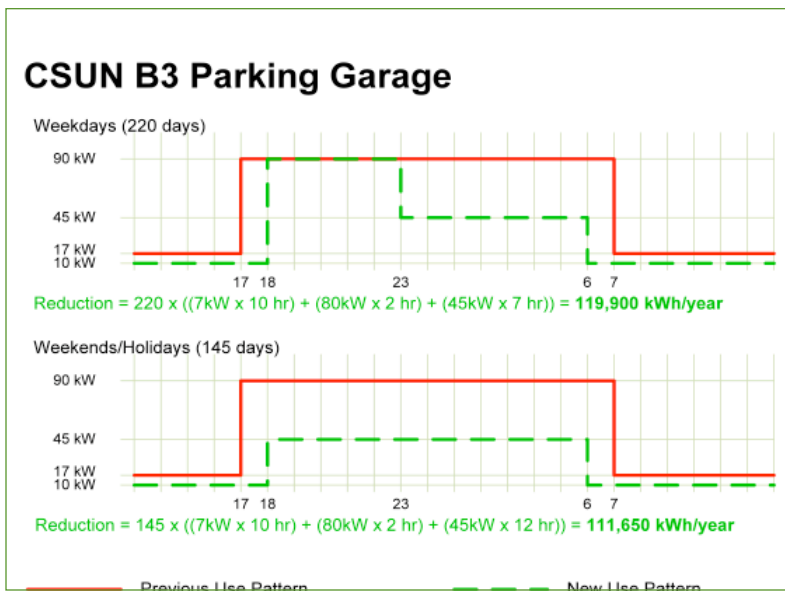


## Design Approach

Although day light harvesting was already employed on this structure PCS engineers found that GreenWorx could do a much better job of it. They included many perimeter fixtures that couldn't previously be shut off in the day-lit hours into a new "day-light harvesting" scene reducing the energy consumed from 17kW down to 10kW. GreenWorx was also able to increase the "day-light harvesting" period from 10 hours per day up to 12 hours per day.

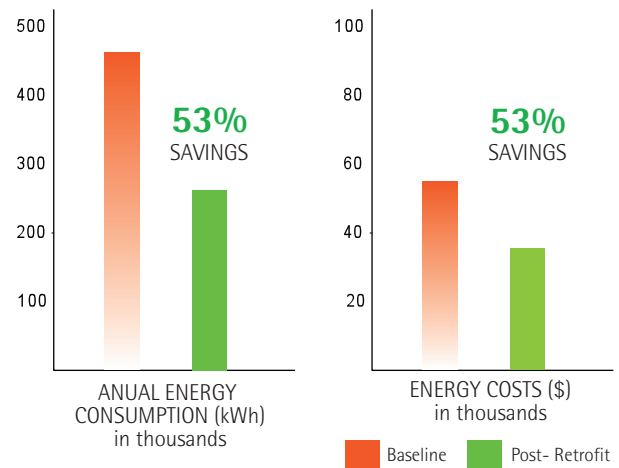
In addition to day light harvesting, PCS engineers were able to use the GreenWorx scheduler to reduce the lighting from 90kW down to 45kW during low usage times. These times included weekends, holidays, and after 11 o'clock at night.

Keypads were installed to allow CSUN staff to override the preset controls. A Linear RF remote control system was added to a simple contact closure input to the system to allow Campus Police to override the system.



## Results Delivered

GreenWorx delivered energy savings exceeding customer expectations through the deployment of precision day light harvesting techniques and time-of-use scheduling. Costs were kept low due to the fact that GreenWorx does not require new wires to be run to the fixtures and it is simple to install. The local utility provided CSUN with a \$21,350 energy efficiency rebate which kept the payback period at a remarkable 2.4 years. Campus Police was supplied with an RF remote control with a range of 1,000 feet that can turn the system on with a single touch of a button from their squad cars.



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