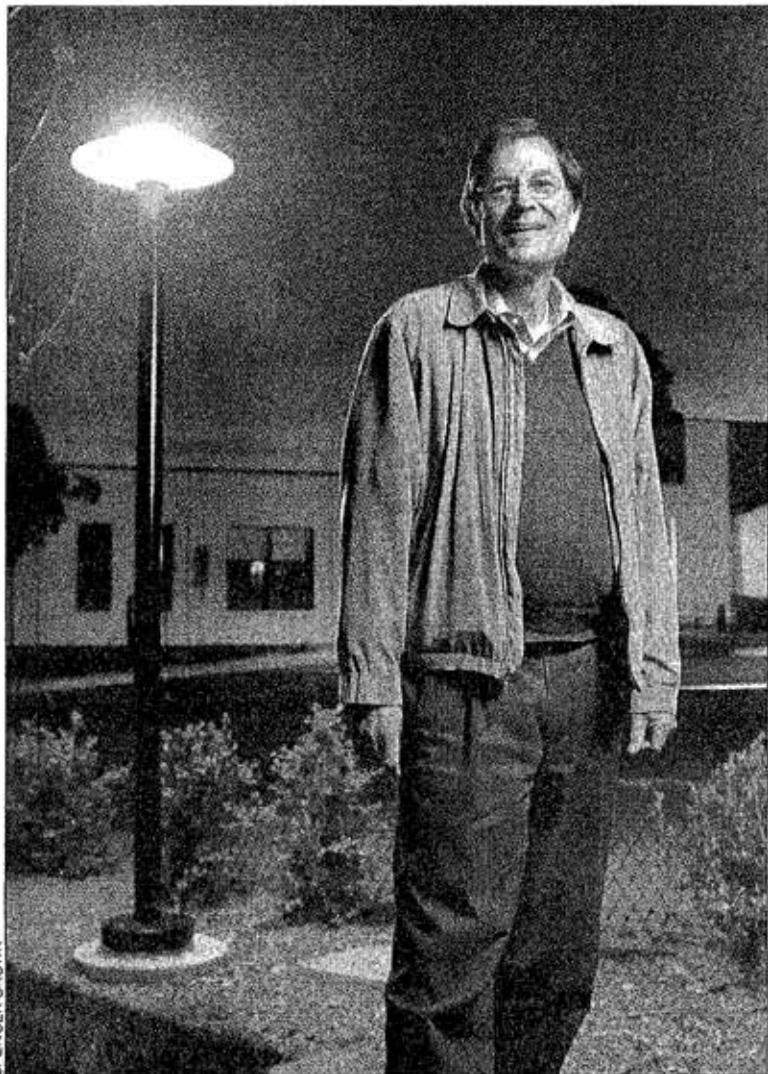


# Presidio pioneers use of new low-impact lighting



SPENCER BROWN

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**W**hen the trust that manages San Francisco's Presidio set out to install sustainable pathway lighting in newly developed areas of the national park, it considered more than just the sustainability of the materials used and their efficiency.

The trust also wanted to control light pollution. So it employed local companies Bridgelux and Borden Lighting to design a light fixture that preserved the natural environment, provided critical lighting and suited the historic buildings in the Presidio while also conserving energy.

So far, the Presidio has installed 35 of San Leandro-based Borden specially designed streetlights, which incorporate Livermore-based Bridgelux's low-energy, super bright LED (or light emitting diodes), and focuses light downward, not up.

And now the Presidio Trust is developing a lighting master plan that could see these types of lights installed throughout the former military base-turned national park and residential neighborhood.

"The Presidio had never really done an organized lighting master plan for the whole park," said David Malman, president of Architectural Lighting Design, and the lighting designer on the Presidio project. "It seemed this would be an opportunity to really kind of push the Presidio to do a very dark-sky, low-low light design appropriate for a national park."

So-called "dark sky lighting" minimizes light pollution.

"We're interested in not spilling light upwards into the sky, which has impacts on humans in terms of being able to enjoy the night sky and see

stars," Malman said. "But there's also a growing body of scientific research that indicates that light that spills into the sky may have effects on wildlife of a variety of sorts."

To keep in line with the Presidio Trust's mission to preserve the natural environment inside the park, Malman kept lights only to crucial areas.

"We didn't light continuously along the sidewalks or pathways and not continuously along the streets," he said.

The light emitting diode technology developed by Bridgelux makes it possible for a low-energy-consuming light source, to shine brightly enough to light a pathway from the top of a light pole.

"What's remarkable is with only 18 watts of energy — it's an 18-watt LED array — you can actually see your way down that path," said Randy Borden, whose firm Borden Lighting designed the dark-sky fixture.

Borden originally developed the Presidio lighting fixtures for Yosemite National Park, which hasn't yet signed a contract to buy them. But there's a movement afoot among the lighting community, Borden said, to minimize light and use more efficient light sources whenever possible.

"All of our outdoor projects are now available with LEDs," Borden said. "We're finally starting to see people come around to it."

The Presidio Trust is on the forefront of a movement, too, as more municipalities are considering lighting retrofits for public areas.

"I think a lot of municipalities are in the process of converting over (to LEDs) because the ROI (return on investment) is so easy to comprehend," said Brian Fisher, director of corporate marketing at Bridgelux. "There's a dramatic reduction in energy as well as maintenance."

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Click here to view the Borden Lighting website.