

# Sustainability Success Story

## Relamp & Reballast Reduces Resource Requirements

### The Challenge

Exterior lighting in many commercial and institutional environments is a requirement, and can't just be turned off. At Kwantlen's Langley campus just 40 parking lot fixtures represented almost 5% of our total electrical consumption (all exterior lighting uses almost 17% of our total electrical consumption). The ballasts were over 12 years old and were approaching the end of their useful life. There would be significant costs associated with their replacement in the next 3 years.



### Our Solution

We measured parking lot lighting levels and found a range from 8 to 28 LUX the highest. This is well over average recommended levels for this type of application. Calculations showed reducing the lamps to 250 Watts (from existing 400 Watt) would not reduce lighting levels below recommended levels. This would not be a practical conservation project on energy savings alone since the ballast has to be replaced if the lamp size is changed. This also gave an opportunity to fine tune the actual location of each fixture, and we found two fixtures over a natural pond that should be off at night, and one over a grassy median with no car or foot traffic. 'Removing' these meant a reduction of almost 10% of the fixtures.

### Project Cost, Annual Savings and Other Benefits

<i>Project Cost</i>	\$10,000
<i>Project Savings</i>	\$1,200 per year (Electrical costs)
<i>Simple Payback (years) / Return on Investment (ROI)</i>	On a strict energy conservation basis this project would pay for itself in just under 7 years. When we consider conversion costs would be covered under the maintenance budget over the next 3 years, the project savings of about \$1,200 per year are considered to begin immediately.
<i>Reduced Maintenance Costs</i>	The lamps and ballasts were under a spot relamping program (relamping and reballasting on burn out). The project cost of \$10,000, was lower than the expected cost of replacing all lamps and ballasts on a spot basis (\$15,000) over the next 3 years. Group relamping eliminates partial days for lift charges, and saves other travel and setup costs.