**Live Green Loan Fund – Project Proposal**

**Live Green Loan Fund – Project Profile**

**College of Engineering**

**Town Engineering Lighting**

**Project Background:**

Town Engineering was constructed in 1971 and contains classrooms, labs and office space. It currently houses the department of Civil, Construction and Environmental Engineering.

Included in the laboratories of Town Engineering are two “high-bay” laboratories used heavily for structures research and teaching. Large concrete and steel structures are built and tested in these labs. Current lighting for these “high-bay” labs consist of a combination of mercury vapor and incandescent lighting. In addition, current lighting in areas where power tools are utilized for supporting procedures and tasks is all florescence lighting.

Improvements with lighting to reduce overall energy consumption as well as and safety related to reduction in eye strain, through providing a more effective and relevant lighting source while completing project testing, are of specific focus for this project.

This project will specifically focus on two main task areas:

1. Replacing current lighting in “high-bay” laboratories and power tool areas with LED lighting (rooms 130, 162 and 164).
2. Adding a graph of building energy usage to current building LCD displays to inform and engage students, faculty and staff as well as building visitors in the real time impact of energy reduction efforts.

**Project Description: Project # LG0023 ISU Foundation:**

This project focuses on the replacement of all lighting in two “high-bay” laboratories (rooms 162 and 164) and space utilized for power tool processes (room 130), including mercury vapor, fluorescent and incandescent, with LED lighting.

Specific project deliverables include:

* Reduced energy consumption;
* Reduced labor cost related to bulb replacement in high and hard to reach fixtures;
* Reduced cost related to replacement bulbs and waste bulb disposal;
* Improved and enhanced lighting quality for teaching and research spaces; and
* Improved safety and working conditions.

Project completion is targeted for Fall 2016.

**Project Contact:** Terry Wipf, [tjwipf@iastate.edu](mailto:tjwipf@iastate.edu) , 515-294-6979

Professor and Department Chair, Civil, Construction and Environmental Engineering

**Project Return on Investment:**

Total project costs are estimated at $67,000. Funds of $14,000 are being provided by the Civil, Construction and Environmental Engineering Department, resulting in a final cost of $53,000. A $53,000 loan is requested. Expected annual savings equals $10,600/year, with a payback period of 5 years.

**Project Outcomes:**

In addition to cost savings to Iowa State University and Iowa taxpayers and a reduction in carbon footprint for the Town Engineering Building, a real-time learning environment will be created as students will be able to see the actual effect of various fixtures on the lighting environment. Working and safety conditions will also be improved as new lighting will reduce noise from ballasts, improve light levels (increasing levels from 20-30 foot-candles to 45-55 foot-candles) and improve color rendering.

**Applicant**

Name/Contact Info: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Name/Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Confirmation of Due Diligence:**

Technical and financial viability is considered satisfactory for the scope of this project.

Required signatures for project administrative approval have been received (see attached application signature page).

**Funding Recommendation by Live Green Loan Fund Committee:**

$53,000

**Approved Action by Live Green Loan Fund Committee:**

Project approval by Director of Sustainability and signature of attached Funding Agreement.

**On Behalf of the Live Green Loan Fund Committee**

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Director of Sustainability Date