

GUIDANCE ON SALIX FUNDED LED LIGHTING RETROFIT PROJECTS WITHIN SCHOOLS

Forward

With the SCC carbon reduction budget (CRC) not being available for school, alternative means of funding have been considered that would allow school to reduce their annual energy usage and expenditure whilst continuing to assist the Council's energy and carbon reduction targets. Salix is a Government funded scheme that provides initial capital expenditure for such projects including the provision of new light fittings or retrofitting of existing T8 lighting for LED technology. Salix apply rigorous criteria to ensure that all schemes undertaken are viable and compliant. The loan is interest free and requires schools to repay the loan over the period of the loan which is usually 8 years. Repayments will be made from savings that are expected to be delivered by a Salix compliant scheme.

To comply with current procurement rules, schools will obtain three competitive tenders and subsequently apply for Salix funding. The Council have explored ways in which schools may take advantage of Salix funding whilst not wishing to add further workload to already busy Heads/Bursars/Business Managers. SCC have produced a document that provides essential information to ensure comparative tenders are received and three named lighting companies with experience of Salix will each submit fixed price tenders to undertake the lighting improvement project. Additionally, the successful contractor will assist the school by completing the loan application and fully explain the whole Salix process. Finally, the school has the option to approve continuation of the scheme after which the application will be submitted to Salix.

To further assist schools with this process, SCC will provide officers who may assist schools with the initial involvement to produce a tender document.

The Sustainability Team have produced the document 'Identifying and funding energy saving projects in maintained schools' which covers in detail all requirements associated with a Salix loan. It is essential that their document is read in conjunction with this guide.

It is advised that the school obtain tenders from the following three lighting contractors with Salix experience:

- 1 The Green Light Company
 Contact – James Moore
 Tel – 01342 459067 or Mob 07818 707609
 Address - Unit 14B, Riverview Business Park, Station Road, Forest Row. RH18 5DW

- 2 NG Energy Ltd
 Contact – Angus Rose
 Tel – 01707 802 700 or Mob. 07557 351749
 Address – 3 Woodfield Road, Welwyn Garden City, Hertfordshire, AL7 1JQ

3 Energy Saving Lighting

Contact – Ian Davis

Tel – 01344 320508 or Mob. 07802 483693

Address – Atrium Court, The Ring, Bracknell, West Berkshire. RG12 1BW

SCC Contacts available to assist schools:

Energy Team

Ian Sharpe – Senior Energy Engineer, ian.sharpe@surreycc.gov.uk, 07805 845452

Nigel Lee – Energy Engineer, nigel.lee@surreycc.gov.uk, 07972 732499

Sustainability Team

Jo Stanworth – Environmental Policy Officer, jo.stanworth@surreycc.gov.uk, 0208 541 7305

SALIX FUNDED LED LIGHTING RETROFITTING WORKS WITHIN SCHOOLS

TECHNICAL REQUIREMENTS OF WORK

School Address

Contact..... Contact No.

1 Site Visit

Each contractor shall undertake a survey of the whole school and produce a schedule of existing fittings including external lighting. Details taken of each fitting shall include lamp type, lamp length, single or multiple lamp, switch start or high frequency, condition and approximate age of fitting, condition of diffuser, method of switching and access.

2 Asbestos

During the survey each contractor shall inspect the school's asbestos register and note where asbestos containing material may be located. Additionally, each contractor shall visually note any ceilings where asbestos may be present but not identified in the register. Should this be the case with any ceilings, each contractor must notify the school of any such observations. Subsequently, the school will notify the Council's property team who will arrange for any suspect material to be tested.

3 Health and Safety

All proposed lighting works must be undertaken strictly in accordance with Construction (Design and Management) Regulations 2015. The contractor must inspect the sites asbestos register before commencing any works and immediately notify the school should there be doubt about any materials that would be disturbed during the works. Should materials be identified for concern, the School or Surrey County Council will arrange for the material to be inspected and removed if deemed necessary.

The Contractor must provide a Construction Phase Plan in sufficient time to be checked prior to works commencing on site. The Construction Phase Plan should be proportionate to the scale of the work and associated risks and must include risk assessments and method of working for all tasks and activities to be carried out.

4 Contractor's Proposals

Following completion of the survey, each contractor shall submit to the school their proposals which shall include:

- list of all existing fittings as described above
- list of proposed replacement fittings or retrofit lamps
- method of control for each fitting
- fixed price tender sum to carry out all works described in the proposal
- calculated project payback period
- calculation showing how project payback was calculated including annual operating hours, tariff rate etc. (refer to relevant section of these requirements for actual hours and rates that must be applied)

5 Salix Criteria

When determining the project payback period, each contractor shall ensure that the proposal complies with the Salix criteria i.e. payback period not exceeding 8 years. Each contractor shall consider options to replace, retrofit and install additional controls as appropriate to suit existing fittings whilst ensuring Salix compliance. The following clause does not have to be strictly followed, but provides guidance on when fittings for example should be replaced rather than retrofitted.

6 Guidance for replacing fittings

The following guidance has been provided for consideration when a contractor formulates his proposal, it is not a strict requirement.

- carry out replacement of fittings where the Salix criterion is met
- replace fittings which are deemed to be 15 years or older and where diffusers are discoloured.
- provide additional control such as movement detection (PIR) or daylight control (photocell) where the Salix criterion is met.
- replace T8 quad fittings for 600 x 600 or 600 x 1200 LED panels
- replace PL fittings for LED equivalent
- replace GLS lamps for LED circular or bulkhead as appropriate

7 LED Retrofit Lamps

a) Replacing T8 lamps operating with electromagnetic control gear

Lamp Length (mm)	Consumption (w)	Light Colour	Colour temperature (k)	Nominal Luminous Flux (lm)
600	11	Cool white	4000	1200
1200	22	Cool white	4000	2500
1500	28	Cool white	4000	3400

b) Replacing T8 lamps operating with high frequency control gear

Lamp Length (mm)	Consumption (w)	Light Colour	Colour temperature (k)	Nominal Luminous Flux (lm)
600	8.9	Cool white	4000	1100
1200	18.4	Cool white	4000	2300
1500	27	Cool white	4000	3400

Above data is based on Osman SubstiTUBE Advanced range of LED tubes. LED tubes installed must be of equal or greater performance to above data and must have a minimum warranty period of 5 years.

8 LED Replacement Fittings

All replacement fittings must achieve the following performance:

- 4000k colour temperature
- 80 plus, Colour rendering index
- 85%, driver efficiency
- 0.9, LED driver power factor
- 116 plus, lumens per circuit watt (includes all optical and gear losses)

Above data is based on the Thorlux Kanby LED Controller range of fittings. Light fittings must be of equal or greater performance to above data and associated lamps must have a minimum warranty period of 5 years.

9 Lux Levels

Prior to undertaking any works the contractor shall record typical lux levels achieved within all areas from existing luminaires either during hours of darkness or with blinds fully closed.

Within areas where existing fittings are being retained with lamp retrofit only, post works lux levels shall be recorded under the same conditions as required above. These light level readings may be used to demonstrate any changes that occur to light levels as a result of the retrofit works.

Within areas where new light fittings are proposed, the appointed contractor shall select appropriate quantity of luminaries to ensure that lux values recommended for specific areas in CIBSE Lighting Guide 5 – Lighting for Education and BS EN 12464 – 1, are achieved.

10 Annual Operating hours

When undertaking calculations to determine viability of a project and its payback period, the annual burn hours of a schools lighting will be provided by the School/Property. This value must be used for calculation purposes without exception.

Guidance for typical burn hours are:

Infants	1750 hours
Primary	1950 hours

Secondary 2400 hours

Annual burn hours

11 Sites Electrical Tariff

As with annual burn hours above, the electrical tariff will be provided by the school/Property. This value must be used for calculation purposes without exception.

Electrical tariff

12 Emergency lighting

Where the existing T8 luminaires incorporate emergency lighting, the contractor shall provide one of the following options:

- replace with new LED luminaires incorporating emergency lighting facility
- install standalone LED emergency lights within suspended ceiling and appropriate LED exit signs over designated fire exist doors.

All emergency lighting works undertaken must conform to the requirements contained within BS 5266 – 1: 2005

13 Electrical Wiring

All alterations, modifications and extension to existing electrical systems must be carried out in accordance with BS 7671:2008 incorporating amendment 2 'Requirements for Electrical Installations'.

14 Fixed price

The submitted tender will be FIXED PRICE and may include a contingency sum of £1,000 which shall only be expended in whole or part by prior approval by Property's Project Manager

15 Defects Period

The defects period covering all aspects of the new installation shall be 12 months from date of Practical Completion. This shall cover all labour and material costs to repair any failures or faults occurring within this period.

Additionally, all new LED fittings and lamps shall have a warranty period of 5 years from date of Practical Completion.