

Report title: Installation of LED Street Lighting Phase 3	
Report to: Cabinet	
Report author: Andrew Cook, Director, Highways and Transportation	
Date: 23 May 2017	For: Decision
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County Divisions affected: All Essex	

1. Purpose of Report

- 1.1. Cabinet is asked to agree a proposal to convert 23,284 High Wattage part night street lights to LED technology. This proposal, building on from Phase 2 of LED street light conversions, will save the council an additional £21.7m in energy, maintenance and carbon taxes over a 20 year period.
- 1.2. Cabinet is asked to agree that the work can be directly awarded to Ringway Jacobs Limited (RJ) to continue LED installations, and combine some installations in Phase 2, with the early installations from Phase 3. This will realise cost savings to ECC.

2. Recommendations

- 2.1. Agree that up to £9.1m a new entry to the published Capital Programme for the third phase of LED Streetlight implementation can be spent on the installation of LED lighting units on the basis of the savings projections contained in this report.
- 2.2. Agree to commission the work directly from Ringway Jacobs Limited in accordance with the long term highways partnership agreement.
- 2.3. Delegate to the Director, Highways and Transportation authority to:
 - agree the technical specification; and
 - issue an order to RJ to complete installation.

3. Summary of issue

- 3.1. The Council undertook a pilot in 2015/2016 to evaluate the use of LED street light technology as a replacement for the existing lanterns to achieve energy savings. This successful pilot led to Phase 2 of the project, currently in progress, to convert all those 19,292 lights which are currently lit all night.
- 3.2. Phase 2 delivered 9,500 LED conversions by end of March 2017. These changes will deliver year on year savings. In year savings for 2016-17 were impacted as the programme started later than was originally anticipated and the supplier was unable to supply the LED lights in line with the timescales of the project. The supplier issues have now been resolved. RJ were able to

catch up with the conversions and met their target of 9,500 conversions by the end of March 2017.

- 3.3. Phase 3 of the project is focussed on the high wattage lights which are subject to part night lighting. These lights typically located on major road routes, or leading up to (but not at) major road junctions.
- 3.4. We have captured lessons learnt from Phase 2 and RJ has used this information to inform and improve the proposal for Phase 3 of the project.
- 3.5. The Council has a long term contract with RJ. Under this contract the Council is able to award the work directly to RJ, although it is not required to do so. It is proposed that the Council should award the work to RJ because:
 - a. RJ is currently carrying out Phase 2 of the conversions. They have stated that they will be able to combine some of the Phase 3 conversions with Phase 2 conversions thereby reducing the cost to the Council
 - b. Analysis for Phase 2 shows that the price RJ charges compares favourably with our market research thereby providing good value for money for the Council.
 - c. RJ is responsible for street light maintenance under the current contract, therefore if a light fails there can be no argument about who is responsible for the defect.
 - d. RJ has been able to negotiate with Philips the supply of a smart digital LED lantern, instead of the standard LED lantern, at the same unit price. This smart digital LED lantern will help ECC trial some of the smart technologies and applications now available.
- 3.6. The intention is to commence installation work in September 2017 and complete work by January 2019.
- 3.7. The non-financial benefits of this project include a reduction in carbon emissions which benefits the environment. LED lighting is a proven technology, supplying clear white light, contains no toxic materials and are 100% recyclable which helps the people of Essex experience a high quality and a sustainable environment.

4. Options

- 4.1. It is recommended that the ECC agree with the proposed implementation of Phase 3 of the installation of LED lights. It is anticipated that after a 20 year period the total gross savings made from this project are £21.7m, with net savings being £10.1m after capital costs and the cost of borrowing. The project break even payback period is just over 10 years.
- 4.2. At the end of this project we will have over 30% of our street lights converted to LED, reducing our electricity consumption by over 60% from the two phases of LED projects.

- 4.3. The Do Nothing option does not achieve savings for council tax payers in Essex, and with the cost of energy prices forecast to increase year on year this will put increased pressure on the ECC revenue budget.

5. Issues for consideration

5.1 Financial implications

- 5.1.1 The total capital cost of this project is £9.1m, and includes a risk contingency of £411,000 within that. This will result in an estimated gross revenue saving of £21.7m in energy, maintenance costs and carbon tax reduction over 20 years, with net savings being £10.1m after costs of the capital investment. Based upon a best estimate of energy price inflation of 3.1%, the payback period is just over 10 years, this is a low estimate as the energy market is very volatile at this time which makes prices difficult to predict. However, the savings will be higher and payback quicker should there be an increase in the energy price.
- 5.1.2 The project will be delivered over a 2 year period from September 2017 through January 2019. An overview of the investment required and the savings achieved by implementing this project can be seen in the Project Financial Statement in 5.1.4.
- 5.1.3 An interest free loan is available from Salix to of £3.9m (via Central Government). The Salix loan will be paid back over a 5 year period.
- 5.1.4 The average borrowing costs and split of the funding source for this project can be seen in the Project Financial Statement on page 4:

Project Financial Statement

	£m
	Total
Total Project Costs Inc Contingency	9.091
Funded by:	
0% SALIX Loan	3.990
ECC Funding	5.101
Total Funding	9.091
	Savings
	over 20 years
	£m
Impact of Investment	
Energy Savings	16.040
M'tce savings	4.578
Carbon Reduction	1.071
Total Savings	21.689
Cost of Capital	-11.608
Total - (cost)/saving	10.081

5.1.5 The revenue savings below are additional and will be added to the future years Medium Term Resource Strategy (MTRS).

	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
	2017/18	2018/19	2019/20	2020/21	2021/22			
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10	Year 11-20	Total
Energy Savings	116	569	650	670	691	3,789	9,555	16,040
M'tce savings	0	181	186	192	198	1,085	2,737	4,578
Carbon Reduction	11	38	43	45	46	252	636	1,071
Total Revenue Budget Reductions	127	787	879	907	935	5,126	12,928	21,688

5.2 Legal implications:

5.2.1 ECC is not required to provide street lighting in most circumstances but in practice it provides a large number of lights.

5.2.2 The proposal to award the work to RJ is in accordance with the contract and procurement law but the Council should only take these steps if it is satisfied that this is likely to be the best value for money.

6. Equality and Diversity implications

- 6.1. The Public Sector Equality Duty applies to the Council when it makes decisions. The duty requires us to have regard to the need to:
- (a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act makes Discrimination etc. on the grounds of a protected characteristic unlawful
 - (b) Advance equality of opportunity between people who share a protected characteristic and those who do not.
 - (c) Foster good relations between people who share a protected characteristic and those who do not including tackling prejudice and promoting understanding.
- 6.2 The protected characteristics are age, disability, gender reassignment, Pregnancy and maternity, marriage and civil partnership, race, religion or belief, gender, and sexual orientation. The Act states that 'marriage and civil partnership' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).
- 6.3 The equality impact assessment indicates that the proposals in this report will not have a disproportionately adverse impact on any people with a particular characteristic.

7. List of appendices

Equality Impact Assessment

8. List of Background papers

Phase 2 – Lessons Learnt Report