Local Highways Maintenance Challenge Fund

Application Form

The level of information provided should be proportionate to the size and complexity of the scheme proposed. As a guide, for a small scheme we would suggest around 10 to 15 pages including annexes would be appropriate and for a larger scheme, 15 to 30 pages.

A separate application form should be completed for each scheme up to a maximum or one large bid and one small bid for each local highway authority.

**Applicant Information**

Local authority name(s)*: Gloucestershire County Council

*If the bid is a joint proposal, please enter the names of all participating local authorities and specify the lead authority.

Bid Manager Name and position: Scott Tompkins, Lead Commissioner Highways

Name and position of officer with day to day responsibility for delivering the proposed scheme.

Contact telephone number: 01452 328525 Email address: scott.tompkins@glooucestershire.gov.uk

Postal address: Commissioning Shire Hall Westgate Street Gloucester GL1 2TH

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When authorities submit a bid for funding to the Department, as part of the Government’s commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, they must also publish a version excluding any commercially sensitive information on their own website within two working days of submitting the final bid to the Department. The Department reserves the right to deem the business case as non-compliant if this is not adhered to.

Please specify the weblink where this bid will be published: www.gloucestershire.gov.uk/bids
SECTION A - Scheme description and funding profile

A1. Scheme name: Gloucestershire County Council - LED Streetlighting

A2. Headline description:

With 34% council contribution this scheme will support the council’s £20m LED invest-to-save project, converting all streetlighting to LED utilising a Central Management System (CMS) by March 2019, to maximise energy saving, CO2 reduction and maintenance savings. This includes replacing 6,135 aluminium/ concrete life-expired columns, which are only inspected visually.

(50 words)

A3. Geographical area:

Please provide a short description of area covered by the bid (in no more than 50 words)
All public highways within the county of Gloucestershire

OS Grid Reference:

The OS Grid Reference for the centre of the project is 389563, 216283 and the range of OSGRs are:
353349, 194345
381926, 187416
415760, 244716
425125, 222327

Postcodes:
GL1 - GL56
HR8 & HR9
NP16 & NP25
OX7
WR11 & WR12

Please append a map showing the location (and route) of the proposed scheme, existing transport infrastructure and other points of particular interest to the bid e.g. development sites, areas of existing employment, constraints etc.

Please see attached Annex 1 ‘Map of Column replacement & CMS locations’

A4. Type of bid (please tick relevant box):

Small project bids (requiring DfT funding of between £5m and £20m)

Major maintenance, strengthening or renewal of bridges, tunnels, retaining walls or other structures

Major maintenance or renewal of carriageways (roads)
Major maintenance or renewal of footways or cycleways
Major maintenance or renewal of drainage assets
Upgrade of Streetlighting

Large project bids (requiring DfT funding of between £20m plus)

Major maintenance, strengthening or renewal of bridges, tunnels, retaining walls or other structures
Major maintenance or renewal of carriageways (roads)
Major maintenance or renewal of footways or cycleways
Major maintenance or renewal of drainage assets
Upgrade of Streetlighting

A5. Equality Analysis

Has any Equality Analysis been undertaken in line with the Equality Duty?  

Gloucestershire County Council ‘Due Regard Statement’ attached as Annex 2

SECTION B – The Business Case

B1. The Scheme – Summary/History (Maximum 200 words)

With 34% council contribution this scheme will support the council’s £20m LED invest-to-save project, converting all streetlighting to LED utilising a Central Management System (CMS) by March 2019, to maximise energy saving, CO2 reduction and maintenance savings. This includes replacing 6,135 aluminium/ concrete life-expired columns, which are only inspected visually.

The Council has approved c£20m to convert all streetlighting in Gloucestershire to LED, with a procurement underway and contract award expected in April 2015. This is to provide efficient streetlighting services that deliver financial and carbon savings in line with the Council’s Medium Term Financial Strategy, Carbon Management Plan and Transport Asset Management Plan.

The council has an existing asset of c60,000 streetlights that are predominantly a mixture of low and high pressure sodium with a conventional photo-electric cell control system.

The council’s new procurement will ensure that this scheme is implemented by March 2019, including effective mechanisms to manage performance and risk.
This procurement also includes for the maintenance of the streetlighting asset, including column replacement. However funding is only available to replace high priority structurally failed columns. LED lanterns are heavier than conventional lighting and are not considered suitable for concrete and aluminium columns.

(196 words)

**B2. The Strategic Case** (Maximum 650 words)

The Council has c60,000 streetlights, predominantly low and high-pressure sodium with conventional photo-electric controls. Information in the Inventory Management System (IMS) is used for this bid; ≥97% accurate, audited by the Meter Administrator, updated daily from operational visits.

Columns are steel galvanised, aluminium sprayed steel, wood pole, aluminium and concrete, with a 52% replacement backlog. This includes 6,135 aluminium/concrete life-expired columns (photo Annex 3 ‘Examples of current asset condition’). Columns are structurally assessed in line with the draft Transport Asset Management Plan:
- visual inspection during annual maintenance of galvanised steel, aluminium, concrete columns and council-owned brackets and fixings on wood pole.
- rolling programme of non-destructive structural testing for aluminium-sprayed steel.

Streetlighting consumes 20.5GWh of electricity annually, 53% of estate CO₂ emissions, costing £2m – 57% of service spend, requiring annual revenue growth bids (£307k 2013/14).

The Council’s Carbon Reduction Target, 60% by 2020/21 against 2006/07, cannot be achieved without significant reductions from streetlighting. Energy efficiency projects already funded are dimming on traffic routes, rural part-night 70% of parishes, small-scale LED.

LEDs have reached sufficient maturity in reliability, performance, energy saving and cost. The council has approved c£20m invest-to-save funding to convert all conventional streetlighting to LED by 31.03.19, including pre-programmed dimming controls, which will take us close to achieving this target. This will be delivered through the Streetlighting LED Investment and Term Maintenance contract, to be awarded April 2015. Whilst pre-programmed dimming enables additional energy savings, further savings require revisiting the asset at a cost and so is limited in future-proofing the asset. The council cannot afford CMS and has a policy of reducing debt, precluding borrowing except on a clear invest-to-save basis.

LED luminaires are heavier than conventional lighting and unsuitable for life-expired concrete/aluminium columns. The council has funding to replace c211 per annum, taking c30 years to replace all these; ‘Do nothing/minimum’. Non-destructing testing enables other failed columns to be identified and programmed for replacement.

**The project proposal** addresses these problems by replacing all concrete/aluminium columns, and rolling-out CMS across all streetlighting using the current and new streetlighting contracts.

Implementation now would:
- minimise disruption on the network, minimising installation and maintenance visits;
- minimise procurement and installation costs;
- enable LED on all columns;
- improve lighting reliability and longevity;
- maximise energy savings;
- minimise CO₂ emissions, associated costs and almost deliver the council’s target;
- enable all remaining columns to be structurally tested;
- reduce routine maintenance, including eliminating lamp changes and annual visual inspections;
- enable a flexible asset, where CMS could enable additional energy savings and administrative efficiencies.

The project is county-wide, benefiting its residents, employees and visitors. Gloucestershire’s demographic profile is set out in Annex 2, ‘Due Regard Statement’, where the major issue relates to ensuring sufficient streetlight to deter crime and mitigate the fear of crime that can lead to increased isolation and anxiety. CMS gives the flexibility to address local issues as they arise and meet the changing needs of communities promptly at minimal cost.

The council’s bid to Gloucestershire’s Local Transport Board for LED streetlighting with CMS for Gloucester and Cheltenham came within the top 10 schemes prioritised for funding (Annex 4); government’s funding allocation meant this was unaffordable.

The project has no significant adverse ecological impacts. LED lighting does not emit UV light associated with conventional streetlighting, and so does not attract most insects; therefore bats (which can be blinded by UV) and their source of food are less likely to be in opposing habitats. LED lighting can also be directed to where it is needed and unobtrusive avoided and so not be directed at bat roosts or flight paths⁴.

If funding for the scheme is not secured, the ‘Do minimum’ approach would be taken, delaying implementation and associated benefits and would need to be funded from other service areas.

(632 words)

### B3. The Financial Case – Project Costs

The project costs are shown in Table A. All DfT-funded works will be completed by March 2018. The LA contribution of 34% extends into year 4, when the CMS implementation will be completed. Supporting calculations are shown in Annex 5: ‘Supporting calculations for Table A’.

#### Table A: Funding profile (Nominal terms)

<table>
<thead>
<tr>
<th>£000s</th>
<th>2015-16</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>DfT Funding Sought</td>
<td>£1,764</td>
<td>£1,620</td>
<td>£1,620</td>
<td>£0</td>
<td>£5,004</td>
</tr>
<tr>
<td>Column replacement, inc electrical service costs (1,770 concrete columns; 277 aluminium columns)*</td>
<td>£1,020</td>
<td>£1,020</td>
<td>£1,020</td>
<td>£0</td>
<td></td>
</tr>
<tr>
<td>CMS nodes (13,637 units)**</td>
<td>£600</td>
<td>£600</td>
<td>£600</td>
<td>£0</td>
<td></td>
</tr>
<tr>
<td>CMS infrastructure (31 base stations)**</td>
<td>£144</td>
<td>£0</td>
<td>£0</td>
<td>£0</td>
<td></td>
</tr>
<tr>
<td>LA Contribution</td>
<td>£684</td>
<td>£645</td>
<td>£645</td>
<td>£600</td>
<td>£2,574 (34%)</td>
</tr>
<tr>
<td>LED luminaires (2,045 units)**</td>
<td>£476</td>
<td>£476</td>
<td>£476</td>
<td>£0</td>
<td></td>
</tr>
<tr>
<td>Installation cost to retrofit luminare***</td>
<td>£39</td>
<td>£0</td>
<td>£0</td>
<td>£0</td>
<td></td>
</tr>
<tr>
<td>Column replacement, inc electrical service costs (211 high priority concrete or aluminium columns)</td>
<td>£169</td>
<td>£169</td>
<td>£169</td>
<td>£0</td>
<td></td>
</tr>
<tr>
<td>CMS nodes (13,637 units)</td>
<td>£0</td>
<td>£0</td>
<td>£0</td>
<td>£600</td>
<td></td>
</tr>
<tr>
<td>Other Third Party Funding</td>
<td>£0</td>
<td>£0</td>
<td>£0</td>
<td>£0</td>
<td>£0</td>
</tr>
</tbody>
</table>

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** column replacement costs are based on existing contract rates.
** luminare and remote monitoring costs are based on soft market testing, obtained in the development of the procurement of the new streetlighting contract.
*** installation costs to retrofit luminaires with CMS has been included for year 1, as column replacement in 2015/16 remains a function of the current maintenance contractor. The new contract starting August 2015 will be responsible for installing luminare and CMS, with maintenance operations including column replacement from 1st April 2016.

### B4. The Financial Case - Local Contribution / Third Party Funding

Please provide information on the following points (where applicable):

a) The non-DfT contribution may include funding from organisations other than the scheme promoter. Please provide details of all non-DfT funding contributions to the scheme costs. This should include evidence to show how any third party contributions are being secured, the level of commitment and when they will become available.

- £1,467k has been secured from council reserves as part of the overall project funding for LED streetlighting, which has been approved as part of the council budget 2014/15 and Medium Term Financial Strategy 2015/16-16/17. This funding does not include for column replacement or CMS.
- £507k for the high priority column replacement programme will be allocated from the annual capital settlement from government.

b) Where the contribution is from external sources, please provide a letter confirming the body’s commitment to contribute to the cost of the scheme. The Department is unlikely to fund any scheme where significant financial contributions from other sources have not been secured or appear to be at risk.

Have you appended a letter(s) to support this case?  

- [ ] Yes  
- [X] No  
- [ ] N/A

c) Please list any other funding applications you have made for this scheme or variants thereof and the outcome of these applications, including any reasons for rejection.

In 2012 a funding bid was made to the Gloucestershire Local Transport Board (GLTB) for £11m to fund LED with CMS for Gloucester and Cheltenham (c50% of the asset). This was shortlisted for funding but the overall government allocation meant that this could not be funded. The Prioritised list of schemes is attached as Annex 4.

### B5. The Financial Case – Affordability and Financial Risk (maximum 300 words)

This section should provide a narrative setting out how you will mitigate any financial risks associated with the scheme (you should refer to the Risk Register – see Section B10).

The council's new streetlighting contract, to be awarded in April 2015, has clauses and conditions to protect the council's financial position with respect to the delivery of this project. Annex 8 'Risk Register' details risks and mitigation measures.

For example:
- liquidated damages for failure to deliver to programme, ie guarantee mechanisms to ensure energy savings are achieved
10% has been included for project risk, in line with the approved financial model for the new LED streetlighting procurement.

Project costs will be managed through effective procurement and contract management. The council will underwrite any project cost overrun.

The main risks to project delivery timescales are set out in Annex 8 and shown below:

Table B: Risks to project delivery

<table>
<thead>
<tr>
<th>New Ref</th>
<th>Risk Description</th>
<th>IR Likelihood</th>
<th>IR Impact</th>
<th>IR Risk Score</th>
<th>Current controls in place</th>
<th>RR Likelihood</th>
<th>RR Impact</th>
<th>RR Risk Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED CF1</td>
<td>Financial - project costs proves higher than expected</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>10% risk allowance provided in bid Procurement ensures value for money Effective contract and performance management and governance S151 officer agreement to underwrite any funding shortfall</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>LED CF2</td>
<td>Failure to award the new streetlighting contract</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>EU-compliant procurement process, 5 bids received each of which could be awarded the contract</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>LED CF3</td>
<td>Failure to meet delivery timescales</td>
<td>3</td>
<td>4</td>
<td>12</td>
<td>Market engagement agreed realistic delivery timescale Effective contract and performance management and governance</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>LED CF4</td>
<td>Failure to secure LED resources from manufacturing industry due to high demand</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>New contract tenders due back 09.02.15 with contract award April 2015</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>LED CF5</td>
<td>New contractor fails to perform leading to contract termination and retender</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>Clauses to recover costs through failure of contract Employer ability to step in to contract and manage delivery, with mechanism for recovering associated additional costs</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

B6. The Economic Case – Value for Money

As shown in Table C, the project Benefit Cost Ratio (BCR) is 1.02.

Table C: Benefit Cost Ratio (BCR)

<table>
<thead>
<tr>
<th>Project costs</th>
<th>£000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column replacement, inc electrical service costs (1,770 concrete columns; 277 aluminium columns)*</td>
<td>3,567</td>
</tr>
<tr>
<td>CMS nodes (13,637 units)**</td>
<td>2,400</td>
</tr>
<tr>
<td>CMS infrastructure (31 base stations)**</td>
<td>144</td>
</tr>
<tr>
<td>LED luminares (2,045 units)**</td>
<td>1,428</td>
</tr>
<tr>
<td>Installation cost to retrofit luminaire (year 1 only)**</td>
<td>39</td>
</tr>
<tr>
<td><strong>Total project costs</strong></td>
<td>7,578</td>
</tr>
<tr>
<td><strong>Project savings (60 years)</strong></td>
<td>£000</td>
</tr>
<tr>
<td>Energy cost</td>
<td>1,503</td>
</tr>
<tr>
<td>CRC Energy Efficiency Scheme allowances cost</td>
<td>78</td>
</tr>
<tr>
<td><strong>Lifetime reactive maintenance saving</strong></td>
<td>4,947</td>
</tr>
</tbody>
</table>
**Procurement & installation of CMS**

<table>
<thead>
<tr>
<th>Benefit Cost Ratio (BCR)</th>
<th>1.02</th>
</tr>
</thead>
</table>

- *column replacement costs are based on existing contract rates.*
- **luminare and remote monitoring costs are based on soft market testing, obtained in the development of the procurement of the new streetlighting contract.*
- **installation costs to retrofit luminaires with CMS has been included for year 1, as column replacement in 2015/16 remains a function of the current maintenance contractor. The new contract starting August 2015 will be responsible for installing luminare and CMS, with maintenance operations including column replacement from 1st April 2016.*

Whilst this BCR is greater than 1, the cost of column replacement distorts the overall project payback, as it does not itself have associated energy or CO2 savings, and maintenance savings are small in comparison. However, if columns are not replaced, the significant benefits of LED with CMS cannot be realised for the 6,135 aluminium/ concrete life-expired columns.

Not funding this project would mean that life-expired columns would take c30 years to replace, meaning that LED with CMS can only be implemented retrospectively on 6,135 columns as they are replaced (c211 per year), meaning that:
- reduced energy savings;
- reduced CO2 emissions reduction;
- failure to meet the council’s Carbon Reduction Target;
- increased procurement and installation costs of a Central Management System (CMS);
- increased reactive maintenance costs due to age of equipment
- increased reactive maintenance due to unknown structural condition of columns;
- increased risk and liability to the council of having high priority life-expired columns on the network;
- increased safety risk to road users from road traffic accidents re concrete versus steel columns;
- increased routine maintenance due to requirement for annual inspection;
- lost opportunity to reduce back office costs and increase work allocation efficiency from CMS through to the linkage to the Management Inventory System
- increased disruption on the network due to age, reliability and condition of the asset
- ongoing biodiversity impact of UV light from conventional obtrusive lighting on bats and their prey/ habitats
- ongoing obtrusive light
- lost opportunity to reduce fear of crime and night time accidents with ongoing conventional lighting quality and provision

This illustrates that value for money would not be obtained from the ‘Do nothing’ approach as this fails to address the underlying problem, requiring increased funding, with increasing annual maintenance work and increased disruption to the highway network, affecting the long-term efficient functioning of the asset and overall sustainability of the service.

A comparison of project savings with the ‘Do nothing’ scenario is shown in Table D.

### Table D: Savings from LED with CMS on replaced columns

<table>
<thead>
<tr>
<th>‘Do Nothing’</th>
<th>Project Proposal</th>
<th>Total Saving 60 years**</th>
<th>Annex for calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual energy consumption, kWh</td>
<td>'Do Nothing'</td>
<td>LED</td>
<td>CMS*</td>
</tr>
<tr>
<td>Annual energy cost, £000</td>
<td>171</td>
<td>76</td>
<td>56</td>
</tr>
<tr>
<td>Annual CO2e emissions,</td>
<td>730</td>
<td>323</td>
<td>239</td>
</tr>
<tr>
<td>Description</td>
<td>2015</td>
<td>2016</td>
<td>2017</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Annual CRC Energy Efficiency Scheme allowances cost,</strong> £000 @ £16 per</td>
<td>12</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>tonne of CO2e****</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>‘Shadow’ price of carbon, £000 per tonne of CO2e</strong>****</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Lifetime reactive maintenance cost,</strong> £000 (60 years)******</td>
<td>5,183</td>
<td>508</td>
<td>236</td>
</tr>
<tr>
<td><strong>Lifetime routine maintenance cost,</strong> £000 (60 years)******</td>
<td>1,156</td>
<td>732</td>
<td>0</td>
</tr>
<tr>
<td><strong>Procurement &amp; installation of CMS £000</strong></td>
<td>3,604</td>
<td>N/A</td>
<td>2,400</td>
</tr>
</tbody>
</table>

* CMS dimming traffic routes by 50% 22:00 to 05:30 GMT; residential by 70% 00:00 to 05:30 GMT
** Takes account of ‘Do Nothing’ approach where high priority replacement only of concrete and aluminium columns over 30 years, 6,000 columns replaced at 211 per annum with LED (no CMS)
*** CO2 conversion factor for ‘electricity generated’ 0.470 0.49426 kgCO2e/kWh, DECC 2014
**** CRC costs do not start until 2020/21 as the authority did not qualify for Phase 2, but will for Phase 3. The cost per tonne has been kept constant throughout.
***** Shadow Cost of Carbon £4.56 per tonne of CO2 2015, 2% increase per annum rising to £69.87 in 2035, then fixed to 2075
****** Reactive maintenance cost saving from reduced reactive repairs from improved equipment reliability using LED, plus CMS will result in reduced administration costs, with fewer calls to the call centre and faults being automatically entered into the Inventory Management System
******* Routine maintenance cost saving from LED – inspection visit regime extended from annual to 3-yearly and no requirement for bulk lamp change of conventional lighting (3 or 4 yearly).
******** CMS procured over a phased 6-year programme to be installed as part of the 6-year electrical maintenance visit.
********* The installation of CMS across all streetlights, when installed at the same time as the replacement LED luminaires through the council’s new contract, gives a procurement saving of £1.2m compared the ‘Do nothing’ scenario where CMS would be installed as part of the 6-year electrical maintenance visit.

The overall business case, financial assessment and benefits have all been scrutinised by the council’s Strategic Finance team. The Full Business Case has been approved by the Corporate Management Team and as part of the budget by Full Council, with Cabinet approving the procurement of the new Street Lighting LED investment and Term Maintenance contract.

**a) Please provide the following data which may form a key part of our assessment:**
Note this material should be provided even if a BCR estimate has been supplied (unless already covered in a VfM Annex).

- **A description of the do-minimum situation (i.e. what would happen without Challenge Fund investment).**
  - LED replacement only on steel columns (90% of the stock)
  - No CMS
  - Column replacement only for failures or high priority from visual inspections

- **Details of significant monetised and non-monetised costs and benefits of the scheme (quantified where possible).**
  - Energy, CRC and maintenance savings from LED on concrete and aluminium
  - Procurement savings
  - Maintenance savings from replaced columns
- Maintenance savings from CMS
- Biodiversity
- Light pollution
- Climate change
- Non-obtrusive light
- Improved colour rendition

<table>
<thead>
<tr>
<th>Length of scheme (km)</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of vehicles on affected section (AADT in vehicles and if possible split by vehicle type) – to include details of data (age etc.) supporting this estimate.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

b) Other VfM information where relevant - depending on type of scheme bid:

<table>
<thead>
<tr>
<th>Details of required restrictions/closures if funding not provided (e.g. type of restrictions; timing/duration of restrictions; etc.)</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of any diversion route, if closure is required (over and above existing route) (km)</td>
<td>N/A</td>
</tr>
<tr>
<td>Regularity/duration of closures due to flooding: (e.g. number of closures per year; average length of closure (hrs); etc.)</td>
<td>N/A</td>
</tr>
<tr>
<td>Number and severity of accidents: both for the do minimum and the forecast impact of the scheme (e.g. existing number of accidents and/or accident rate; forecast number of accidents and or accident rate with and without the scheme)</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Number of existing cyclists; forecasts of cycling usage with and without the scheme (and if available length of journey)</td>
<td>Not assessed</td>
</tr>
</tbody>
</table>

**B7. The Commercial Case (maximum 300 words)**

The current contract from Street Lighting Term Maintenance runs to 31.03.15 as has provision for column replacement, with requisite contract management mechanisms that will ensure column replacement delivery as set out in this bid by March 2016.

Bids were received on the 09.02.15 for the new Street Lighting LED Investment and Term Maintenance contract, which is due to be awarded in April 2015 and delivery to start in August 2015. This new contract, based on HMEP and NEC3, has the financial scope and ability to deliver all of the remaining requirements of this bid. It provides a robust mechanism for the procurement and installation of LED luminaires, implementation of CMS and delivery of column replacement (from April 2016) to the timescales detailed within this bid. It will also ensure that the required material and labour resources are available at competitive costs.

(141 words)

**B8. Management Case - Delivery (maximum 300 words – for b)**

Deliverability is one of the essential criteria for this Fund and as such any bid should set out any necessary statutory procedures that are needed before it can be constructed.
a) An outline project plan (typically in Gantt chart form) with milestones should be included as an annex, covering the period from submission of the bid to scheme completion. The definition of the key milestones should be clear and explained. The critical path should be identifiable and any contingency periods, key dependencies (internal or external) should be explained.

Has a project plan been appended to your bid? ☒ Yes ☐ No

Gantt Chart attached as Annex 9.

b) Please summarise any lessons your authority has learned from the experience of delivering other DfT funded programmes (such as pinch point schemes, local majors, Local Sustainable Transport Fund, and Better Bus Areas) and what would be different on this project as a result.

We have successfully delivered a Highways pinch point scheme and a Local Sustainable Transport Fund project recently, both of which have been undertaken to time and to budget. We would utilise similar performance and contract management strategies in this case in order to deliver the project to the timescale set out in this bid.

The council has extensive experience of delivering projects and contracts under NEC3, on which the new streetlighting contract is based.

B9. Management Case – Governance (maximum 300 words)

Scott Tompkins – Lead Commissioner (Highways) will have overall responsibility for the project, however management will be delivered through the new streetlighting contract under HMEP and NEC3, that will be awarded in April 2015. This will be managed by the Highways Commissioning Team under the leadership of Mark Darlow-Joy (Contracts Manager) and Ken Pitt (Street Lighting Manager – Service Manager).

B10. Management Case - Risk Management

A risk register covering the top 5 (maximum) specific risks to this scheme should be attached as an annex including, if relevant and in the top 5, financial, delivery, commercial and stakeholder issues.

Please ensure that in the risk register cost that you have not included any risks associated with ongoing operational costs and have used the P50 value.

Has a risk register been appended to your bid? ☒ Yes ☐ No

See Annex 8 ‘Risk register’

SECTION C – Monitoring, Evaluation and Benefits Realisation

C1. Benefits Realisation (maximum 250 words)

Benefits will be realised as soon as individual units are installed and the Management Inventory System has been updated with the new equipment. The benefits to the council, Gloucestershire residents, businesses, visitors and the wider environment will be associated with:
- reduced energy usage;
- reduced CO₂ emissions;
- meeting the council's Carbon Reduction Target;
- reduced procurement and installation costs of a Central Management System (CMS);
- reduced reactive maintenance due to increased reliability of LED technology
- reduced reactive maintenance due to known structural condition of columns;
- reduced risk and liability to the council of having high priority life-expired columns on the network;
- reduced safety risk to road users from road traffic accidents re concrete versus steel columns;
- reduced routine maintenance by increasing visits from yearly to three yearly;
- reduced back office costs and more efficient work allocation from CMS through to the linkage to the Management Inventory System;
- reduced impact on bats using focussed non-UV emitting LED lighting, which does not attract their prey, blind their senses and can be directed away from roots and flight paths;
- more focussed non-obtrusive light;
- improved lighting quality with associated fear of crime and road safety benefits;

(203 words)

C2. Monitoring and Evaluation (maximum 250 words)

Benefits and savings will be actively monitored and evaluated through the Management Inventory System, realised through the energy and streetlighting contract costs to the council. The delivery of this project is managed through the contract, which is monitored (and incentivised) through the use of KPIs and liquidated damages, shown in Table E.

Table E: Streetlighting contract KPIs

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPI 1</td>
<td>Reduction in Energy Consumption</td>
</tr>
<tr>
<td>KPI 2</td>
<td>Concrete Column Replacement Programme</td>
</tr>
<tr>
<td>KPI 3</td>
<td>Customer Information</td>
</tr>
<tr>
<td>KPI 4a</td>
<td>Lighting units working as planned (Luminares)</td>
</tr>
<tr>
<td>KPI 4b</td>
<td>Lighting units working as planned (Lit Signs)</td>
</tr>
<tr>
<td>KPI 4c</td>
<td>Lighting units working as planned (Bollards)</td>
</tr>
<tr>
<td>KPI 5</td>
<td>Time taken for fault repairs (100% in 4 days)</td>
</tr>
<tr>
<td>KPI 6</td>
<td>Time for fault repairs (Ill signs &amp; bollards) (97%)</td>
</tr>
<tr>
<td>KPI 7a</td>
<td>Attendance at Emergency Call-out (working hrs)</td>
</tr>
<tr>
<td>KPI 7b</td>
<td>Attendance at Emergency Call-out (out of hours)</td>
</tr>
<tr>
<td>KPI 8</td>
<td>Time to Permanently Repair Damaged Columns</td>
</tr>
<tr>
<td>KPI 9</td>
<td>Overdue works</td>
</tr>
<tr>
<td>KPI 10</td>
<td>Number of Repeat Faults</td>
</tr>
<tr>
<td>KPI 11a</td>
<td>Health &amp; Safety – Incidents reported to GCC</td>
</tr>
<tr>
<td>KPI 11b</td>
<td>Health &amp; Safety - RIDDOR</td>
</tr>
<tr>
<td>KPI 12</td>
<td>Reporting</td>
</tr>
<tr>
<td>KPI 13</td>
<td>Contract Management &amp; Customer Interface</td>
</tr>
<tr>
<td>KPI 14</td>
<td>Routine Maintenance</td>
</tr>
<tr>
<td>KPI 15a</td>
<td>Accuracy of MIS Primary fields</td>
</tr>
<tr>
<td>KPI 15b</td>
<td>Time to update MIS – Reactive and Routine Maintenance</td>
</tr>
<tr>
<td>KPI 15c</td>
<td>Time to update MIS – works excluding Capital Investment Programme</td>
</tr>
<tr>
<td>KPI 16</td>
<td>Cost per fault</td>
</tr>
<tr>
<td>KPI 17a</td>
<td>Accuracy of updates to MIS Primary Fields</td>
</tr>
<tr>
<td>KPI 17b</td>
<td>Time to update MIS</td>
</tr>
</tbody>
</table>

(234 words)
SECTION D: Declarations

D1. Senior Responsible Owner Declaration
As Senior Responsible Owner for Gloucestershire County Council I hereby submit this request for approval to DfT on behalf of Gloucestershire County Council and confirm that I have the necessary authority to do so.

I confirm that Gloucestershire County Council will have all the necessary powers in place to ensure the planned timescales in the application can be realised.

Name: Scott Tompkins  Signed:  
Position: Lead Commissioner Highways

D2. Section 151 Officer Declaration
As Section 151 Officer for Gloucestershire County Council I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that Gloucestershire County Council

- has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution  
- will allocate sufficient staff and other necessary resources to deliver this scheme on time and on budget  
- accepts responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties  
- accepts responsibility for meeting any ongoing revenue requirements in relation to the scheme  
- accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested  
- has the necessary governance / assurance arrangements in place  
- has identified a procurement strategy that is legally compliant and is likely to achieve the best value for money outcome  
- will ensure that a robust and effective stakeholder and communications plan is put in place

Name: Jo Walker, Director: Strategic Finance  Signed:  

Submission of bids:
The deadline for bid submission is 5pm, 9 February 2015
An electronic copy only of the bid including any supporting material should be submitted to:
roadmaintenance@dft.gsi.gov.uk copying in steve.berry@dft.gsi.gov.uk