Brent	**Cabinet** 20 January 2016 **Report from the Strategic Director, Regeneration & Environment**
For Action	Wards Affected: ALL

Authority to award contracts for the supply of Street Lighting LED lanterns and Central Management System

Appendix 1, is not for publication, in accordance with Schedule 12(A) (3) of the Local Government Act 1972, as they contain: Information relating to the financial or business affairs of any particular person (including the authority holding that information).

1.0 Summary

1.1 This report requests authority to award contracts as required by Contract Standing Order no. 88. The report summarises the process undertaken in tendering these contracts and, following the completion of tender evaluation, recommends to whom the contracts should be awarded.

1.2 The report also measures the success of the tendering exercise against the business case for investment set out in the Cabinet Report *Street Lighting: Energy and Carbon Savings Proposals - authority to tender*, 14 April 2014.

2 Recommendations

That Cabinet:

2.1 Notes the procurement process followed by the council to secure value for money from the supply of LED luminaires and an associated Central Management System;

2.2 Awards the contract for the supply of LED (Lot 1 Light Emitting Diode) Street lighting luminaires to Bouygues E&S Infrastructure UK Limited, on the basis that the tender was the Most Economically Advantageous

Tender, and surpassed the business case recommendations outlined to Cabinet in April 2015;

2.3 Awards a contract for the supply of a CMS (Lot 2 Central Management System) to DW Windsor Limited, on the basis that the tender was the Most Economically Advantageous Tender, and surpassed the business case reported to Cabinet in April 2015;

2.4 Authorises the installation of procured equipment by the council's Private Finance Initiative (PFI) sub-contractor, Bouygues E&S Infrastructure UK Limited, within a programme expected to last approximately 14 months, commencing in April 2016;

2.5 Delegates authority to the Operational Director (Community Services), in consultation with the Lead Member for Environment and relevant ward Members, to make appropriate adjustments to lighting levels using CMS at a localised level in response to traffic and pedestrian needs, subject to budget provision;

2.6 Authorises the Chief Finance Officer to secure the capital required to deliver this project, noting the financial implications set out in paragraphs 4.1 to 4.13; and

2.7 Authorises the development of a draft Lighting Plan, for recommendation to Cabinet in 2016/17, which will set out options for how the council could achieve further savings of at least 10% from energy costs and carbon emissions, and addressing:

- road safety objectives;
- community safety perceptions; and
- residents' and visitors' travel choices

3 Background

3.1 At its meeting on 14th April 2015, Cabinet endorsed a business case which proposed investment in Light Emitting Diode LED) lanterns and a Central Management System (CMS) for street lighting on the basis that:

3.1.1 The business case supported immediate investment in a programme to replace existing street lighting lanterns with LED luminaires at the earliest opportunity, in order to bring forward estimated savings of £750,000 p.a. from electricity expenditure and to reduce carbon emissions.

3.1.2 The business case supported the installation of CMS technology, in tandem with the luminaire replacement programme, in order to realise

additional savings and provide the Council with long-term flexible control over street lighting output at a highly localised level.

3.1.3 The business case demonstrated that the proposed investment is financially viable, with payback estimated to be between 10 and 12 years depending on the level of investment, the funding route and the prevailing rate of interest on borrowing. Any funding, whether borrowed from external sources or funded from Council balances and reserves, would be repaid over time by the savings from energy and carbon costs.

3.1.4 There was clearly scope for substantial reductions in electricity costs through a switch to LED technology for the Council's street lighting. This reduction in electricity use would also provide significant reductions in carbon emissions but would first require investment.

3.1.5 It was considered that the outline business case, based on prudent assumptions, was sufficiently promising to support a formal approach to the market to obtain definitive and accurate costs, and long-term savings commitments. Only a formal market test would give the required clarity and definition to support a final decision

3.1.6 Aside from the reduction in electricity expenditure, a reduction in future carbon emissions also forms a key part of the business case, both financially (from carbon tax savings), and environmentally. The LED street lighting project forms part of a wider programme (the Carbon Management Programme) which specifically aims to reduce carbon emissions by at least 15% (from a 2013/2014 baseline of 14,189 tonnes of CO_2 [tCO_2]).

The tender process

3.2 The Contract(s) shall be let for an initial two (2) year term, with supplied goods being subject to a warranty lasting ten (10) years.

3.3 Advertisements were placed [in the Official Journal of the European Union (OJEU), the London Tenders Portal, on 31st July 2015 to seek initial expressions of interest. This elicited 58 initial enquires. Contractors were provided with an outline specification and details of the tender approach and were invited to complete shortlisting questionnaires using the Council's Electronic Tendering Facility. 21 contractors subsequently completed the questionnaire.

3.4 Shortlisting was carried out on the basis of the contractors' financial viability, technical ability, and relevant experience. Eight contractors were subsequently invited to tender. Tenderers were invited to bid against three lots:

1) For the supply of LED equipment;

2) For the supply of CMS equipment and software; and
3) A combined bid for both LED and CMS equipment.

It was understood from the results of soft market testing that suppliers tend to specialise in either LED or CMS, but rarely both, and the council did not want to unnecessarily exclude potential bidders. Lot 3, the combined bid, was included as an option as some manufacturers do supply both products. Some electronic wholesalers were expected to be interested in bidding, and several major lighting contractors have their own supply chain which could attract better rates through economies of scale.

3.5 The tendering instructions stated that the contract would be awarded on the basis of the most economically advantageous offer to the Council; and that in evaluating tenders, the Council would have regard to technical merits (the product's performance against the council's technical specification), warranties (that the product performance will not prematurely cease), and the Supply Chain (the capacity of the manufacturers' production line is of a sufficient capacity to meet the council's implementation timescales).

3.6 Tenderers were required to submit additional information providing details of their proposed arrangements for delivering the contract, including (but not limited to) the following:

<u>LED</u>

- Technical Specification and Performance of LED
- Risk transfer and management
- Replacement and fault resolution management
- Product optimisation according to road geometry and existing column spacing

<u>CMS</u>

- Connectivity, to achieve 100% coverage
- Risk mitigation (to the installation contractor) in respect of any lack of connectivity
- Conformity to the technical specification
- Future-proofing (including the ability to monitor other highway assets)
- Data security
- Staff knowledge and training
- Assurance that the product will perform to specification for the life of the agreement.

Evaluation process

3.7 The tender evaluation was carried out by officers supported by the Council's technical lighting consultant, Designs for Lighting (DfL).

3.8 All tenders had to be submitted electronically no later than 23rd October 2015. Tenders were opened on 23rd October 2015, and eight valid tenders were received. Each member of the evaluation panel assessed how well each of the award criteria was addressed. The results were then consolidated by panel members to provide an overall score.

3.9 Notably, the bid from Contractor C, Lot 3, was the Most Economically Advantageous Tender at this stage. Following evaluation, the panel confirmed that all bidders had met the minimum threshold required by the council's specification. Some differences were noted in the quality of the luminaires and systems included in the tenderers' method statements. All 8 tendering suppliers were advised that they would be going through to the next stage in the process; negotiation and BAFO. The panel met with all tendering companies to improve the panel's understanding of the various method statements, and draw out any potential for amending the Specification advantageously ahead of seeking Best and Final Offers.

3.10 All eight companies were invited to submit a Best and Final Offer (BAFO), revisiting their initial prices and answering further questions for the purpose of re-evaluating quality. At the BAFO stage, bids were weighted in favour of price over quality, in the ratio 55:45. Quality was assessed against:

<u>LED</u>

- Return on investment. Evidence that the offer represents the best return on investment for Brent Council based upon energy savings provided over a ten year period.
- How the product will be optimised for individual roads, given the variety of road geometry and existing column spacing within Brent.
- How the luminaires will be supplied on a call-off basis to optimise the lighting to the relevant BS5489-1 lighting class, whilst minimising energy consumption; and how the installer will identify the different luminaires required for streets with different photometric distributions.
- Updated evidence of performance against the supplied geometries.
- How social value could be enhanced.

<u>CMS</u>

- Evidence to demonstrate that the connectivity would achieve 100% coverage throughout Brent and that the offer guarantees the 100% coverage.

- How the supplier will mitigate against the risks to the installation contractor, relating to return visits or remedial work due to lack of connectivity.

- How the system is 'future-proofed' and could be used to monitor current and other Brent highway assets.

- Any issues or problems encountered with a wide-scale System similar to Brent and how those issues were overcome successfully.

3.11 The panel met on 8th December and each submission was marked by the whole panel against the award criteria.

3.12 The names of the tenderers are contained in Appendix 1. The scores awarded to the tenderers are included in Appendix 2 (BAFO returns).

3.13 Bouygues E&S Infrastructure UK Limited had the highest scoring tenders for Lot 1; and DW Windsor Limited had the highest scoring tender for Lot 2. The combined bid (Lot 3), was assessed against the merits of combining Lot 1 and Lot 2 tenders. A combination of Lot 1 and Lot 2 is considered to be the most economically advantageous tender, and therefore the award of the contracts to Bouygues E&S Infrastructure UK Limited and DW Windsor Limited is recommended.

3.14 Should Members be minded to approve the recommendations in this report then the proposed contracts are anticipated to commence on 1st February 2016, subject to the Council's observation of the requirements of the mandatory stand-still period noted in paragraph 5.5 below.

4.0 Financial Implications

4.1 The Council's Contract Standing Orders state that contracts for supplies and services exceeding £250k or works contracts exceeding £500k shall be referred to the Cabinet for approval of the recommendation to award the contract.

4.2 The estimated value of this contract, for the supply of LED and CMS, is £4.4m. It should be noted that the price tendered is based on the supply of standard luminaires. However tenderers were also instructed to submit a price list for a wider product range, in order that the council could cater for specific design needs of individual wards. There are a small number of lighting columns in the borough which are of heritage style. It may not be appropriate to replace these with standard LED

fittings, and therefore the contract makes provision for equivalent LED products. Purely to assume total capital requirements for the project the lowest tendered price was rounded up to the nearest £100k. Exact prices were used for the purpose of tender evaluation.

4.3 Whilst not included in the tendered price, further potential savings may arise from this project should other aspects of inventory be included. The lighting assets located on housing estates (where electricity is locally metered and paid for by the Brent Housing Partnership) may also benefit from similar energy savings through retro-fitting LED luminaires. At the Best and Final Offer stage, officers indicated to suppliers that up to an additional 4,000 columns may be called-off within the scope of the Contract. A more comprehensive LED portfolio could include illuminated street furniture (traffic signs) and Belisha Beacons located at pedestrian crossings.

4.4 The programme to fit new street lighting columns, using the Council's PFI sub-contractor, will cost £1.9m. These costs allow for the labour costs involved with installing the fittings, as well as necessary lighting design work. The luminaires were specified by the Council to be capable of providing a consistent level of light at street level. In order to ensure that the Council achieves this, a street by street design is required to ensure that the luminaire is manufactured in accordance with Brent's specific street design. Without design work to facilitate swapping luminaires on a one-for-one basis, there could be large areas of unlit patches at street level. The installation cost also makes an assumption that there will be a risk associated with the installer and the PFI contractor being instructed to use products not directly selected by them; this risk has been partially mitigated by the outcome that Bouygues E&S Infrastructure UK Limited, the winner of Lot 1, will also be the installer. To allow for contingency and risk throughout installation, a small provision (£250k) is made for contingency which brings capital assumptions up to 6.5m.

4.5 The business case for investing in LED and CMS estimated that the Council would need to make provision for £7.725m of capital funding. This estimate was inclusive of the supply of equipment and installation costs, with responsibility for installation falling to the council's PFI sub-contractor, Bouygues.

4.6 Estimated capital costs were based upon the results of soft market testing undertaken in 2013; the Council anticipated lower capital costs resulting from the competitive tender exercise as well as from advances in technology.

4.7 The tendered rates from LED suppliers, and confirmation received from the council's PFI sub-contractor regarding installation costs, confirm that business case assumptions have been surpassed. The project will

be completed at a capital cost of £6.5m (a betterment of £1.225m in comparison to the business case). This includes provision for a small contingency fund which will allow for flexibility in lighting designs. The designs will be intended to last for at least 20 years, and it is therefore imperative that at each stage of the installation there is an opportunity to consider further refinements which could enhance long-term efficiency savings.

Energy and Carbon Savings

4.8 The case for investment rests upon the council's ability to repay capital outlay using revenue savings achieved from a reduction in the revenue expenditure on electricity and carbon tax. The business case originally made an assumption that a 59% reduction in electricity costs would be achievable.

4.9 The council's expenditure on powering luminaires included in the tender (2015/2016) is £1,373,500, providing a baseline for calculating savings. An assumption has been made that electricity prices will rise at a rate of 2.5% per annum. As has been highlighted throughout the development of the project, the savings are sensitive to changes in energy prices. The last two years have seen sharp reductions in crude oil prices in responses to global and geo-political factors, which in time feeds into the wholesale (and retail) cost of electricity. It is still considered reasonable to plan on the basis of long-term increases in modelled electricity costs, but the longer the current low prices (a barrel of Brent crude oil is now cheaper than the 2003 level, for example) are sustained, the greater risk that this assumption will turn out to be incorrect. If prices do remain low, the council will of course benefit from this, but as the payback on the capital investment is partly predicated on an assumption of rising prices then the payback period may be extended as a consequence. The proposed investment in the CMS technology also acts as a means of mitigating and managing this risk. The estimated revenue savings by fiscal year, based upon luminaire energy performance, are set out below.

4.9.1 An analysis of the winning bids has demonstrated that a 70% reduction in electricity consumption can be safely assumed:

70% Energy Reduction	Energy Cost (£)	Cumulative Energy Saving (vs baseline) (£)	Repayment (£)	net revenue saving (£)
2016/2017	871,281	502,218	218,500	283,718
2017/2018	416,639	956,860	437,000	416,639

4.9.2 The winning Lot 1 bidder has indicated that their tender would bring

about electricity savings of just over 80% when LED is fully operational, if the council implements a borough-wide Lighting Plan facilitated by the flexibility offered by the Central Management System. On this basis, the council could achieve a payback period of 7.6 years. With an 80% reduction in electricity consumption the council would benefit from net revenue savings of £650k per annum from 2017/2018:

80% Energy Reduction	Energy Cost (£)	Cumulative Energy Saving (vs baseline) (£)	Repayment (£)	net revenue saving (£)
2016/2017	799,536	573,963	218,500	355,463
2017/2018	279,945	1,093,554	437,000	656,554

4.9.3 It is possible that a higher level of saving might be achievable, depending on how radical an approach is taken within the council's Lighting Plan. If an 85% reduction in electricity consumption is achieved:

85% Energy Reduction	Energy Cost (£)	Cumulative Energy Saving (vs baseline) (£)	Repayment (£)	net revenue saving (£)
2016/2017	763,663	609,836	218,500	391,336
2017/2018	211,597	1,161,902	437,000	724,902

4.10 Officers have also included a £85k saving in carbon tax as part of the payback assumptions. The street lighting project will provide a 9.9m reduction in kilowatt hour (kWh) against current annual consumption of 12.5m kWh; this equates to 5,350 tonnes of CO_2 - a 37% reduction in the council's carbon emissions (measured against the 2013/2014 Carbon Management Programme baseline).

Funding

4.11 It is anticipated that the cost of the proposed contracts will be funded from prudential borrowing. This was envisaged in the business case, and for consistency the same approach is adopted here. Discussions are at an advanced stage with a variety of potential funding sources which may be able to offer capital funding at a lower rate of interest. However, the terms of the loan on offer from cheaper borrowing sources present an issue. Whilst interest-free arrangements may offer better value overall, they are usually offered on a short term basis; usually stipulating that the principal needs to be repaid over a five year term. Should the council choose to borrow using this method, the £4.4m capital required for the supply of equipment would lead to

repayments of £880k p.a. Even with a radical lighting strategy, the council would be unlikely to generate enough revenue savings to cover the principal annual repayment. The council faces immediate pressures on its finances, and in order to deliver the best potential immediate revenue saving; savings are instead calculated on the basis of a 20 year term.

4.12 The business case indicated that capital requirements (supply and installation) would total £7,752k, attracting interest charges of £3.5m based upon an interest rate of 3.8% over the term of the loan. The new, lower, capital requirement of £6.5m would instead attract interest of £2.3m over the term of the loan, based upon up-to-date assumptions of 3% interest. These assumptions are based upon Public Works Loan Board (PWLB) current rates; the rate of 3% would appear to be the most appropriate for modelling, taking into account potential movements in the interest rate before the loan would be undertaken.

4.13 On the basis of the 20 year borrowing assumption, the applicable annual repayment would be £437k. This would provide the council with a significant revenue saving on energy expenditure from the first year of the project, with the saving reaching its peak in the 2018/2019 fiscal year. This is on the basis that installation commences in April 2016 and is completed within 14 months.

Borrowing Term	Loan Amount	Annuity Rate	Annual Repayment	Total Repayment	Interest Payment
20 Years	**£6,500,000**	**3%**	**£436,902**	**£8,800,000**	**2,300,000**

5 Legal Implications

5.1 The value of the proposed contracts over their lifetime would be higher than the EU threshold for services/supplies and as such, the award of the contracts are governed by the Public Procurement Regulations 2015 (the “EU Regulations”). In addition, the awards are subject to the Council’s own Standing Orders in respect of High Value Contracts and Financial Regulations.

5.2 The Highways Act 1980 (as amended) empowers the Council as Highway Authority to provide street lighting. The Council has a duty of care to the highway users and must ensure it can demonstrate it has systems and programmes in place to ensure the safety of all highway lighting equipment.

5.3 As the LED replacement programme will be undertaken during the existing contract period of the PFI Contract, the PFI Contractor would be required to maintain such lighting under the PFI Contract for the duration. Maintenance savings from this project will be subject to the council agreeing a contract variation with PFI Lighting Limited (PFIL).

Discussions have already been held with PFIL, who were included in scoping the tender process authorised by Cabinet in April 2015.

5.4 Under the existing terms of the PFI Street Lighting Contract there are provisions which allow the Council to instruct "Service Adjustments" to the Contractor as and when required. Such Service Adjustments may include, in particular: 'the implementing of new street lighting or illuminated signs (including new or revised highways schemes or the adoption by the Council of new standards of lighting or the lighting of previously unlit places)'. Therefore, as Officers have identified and are recommending contractors to manufacture and supply the LED Luminaires and CMS, they are entitled to instruct the PFI Contractor under the existing Street Lighting PFI contract to install and maintain the LED consumables. This would be considered additional work, attracting an increase in the Annual Unitary Payments which, officers are seeking Members approval in this report.

5.5 Officers undertook a Competitive Procedure with Negotiation - a process which permits negotiations with bidders to take place in successive stages and for them to submit their final tenders for evaluation by the council. Officers have determined as part of the evaluation that an award of 2 contracts to each of the highest scoring bidders for Lots 1 and 2 respectively represents the most economical and advantageous tenders and as such, are seeking Members approval for the awards.

5.6 The Council must observe the mandatory standstill period under the EU Regulations before the proposed contracts can be awarded. Therefore once Members have determined which tenderer should be awarded the contracts, all candidates and/or tenderers will be issued with written notification of the Council's contract award decision. A minimum 10 calendar day standstill period will then be observed before the contracts are concluded – this period will begin the day after all tenderers/candidates are sent notification of the award decision – and any additional debrief information will be provided to unsuccessful tenderers/candidates in accordance with the EU Regulations. As soon as possible after the standstill period ends, the successful tenderers will be issued with a letter of acceptance and the contract can commence.

6 Diversity Implications

6.1 An overview of anticipated diversity implications was included in section 18 of the technical business case (included as Appendix 2, pp 41-43, to the Cabinet Report in April 2015). This concluded that there would be positive impacts for all groups in a move to LED white light, which would improve visual performance, colour rendering and facial recognition across the outdoor environment. The underlying assumption is that light levels and quality would continue to fully meet

the standards set out in BS 5489-1: 2013, whether or not dimming at certain hours is introduced.

6.2 There would be some diversity implications should consideration be given to adjusting lighting levels further. Officers would examine these closely as part of a specific Equality Analysis; applying Brent's demographic to the assumptions in the business case. In particular, young adults are more likely to be active outside the home between the hours of midnight and 6 am; and adults working or travelling to work during these hours might also be impacted. Street lighting contributes to road safety, and reducing the fear of crime, and lighting levels need to be set with these objectives in mind.

6.3 As set out, CMS allows for adjustment of lighting levels with the main objective of reducing energy costs and carbon emissions. The objective would be to continue to set "the correct lighting class to meet specific road parameters at a particular time". CMS enables lighting to be set at a highly localised level, so it would improve the capability to provide a higher standard of lighting at specific times and locations to meet the needs of the night-time economy, or those travelling to work at night. It would also provide for higher standards of lighting, for example, to ensure safer travelling conditions near to Wembley Stadium on event days.

6.4 The capacity provided by CMS to adjust lighting levels at a micro-level would support the Council's localisation objectives.

7 Staffing Implications

7.1 The council employs two officers dedicated to the technical appraisal and ongoing monitoring of the Street Lighting PFI. Duties range from ensuring that capital programmes are executed properly, to reactive problems for which the PFI contractor are obliged to repair within 48 hours, and monitoring the various maintenance programmes associated with the contract.

7.2 Whilst the technical aspect of work will still be required, the pattern of reactive and monitoring work will change, and some maintenance programmes will be reduced. The council envisages less reactive work being generated with LED technology, and CMS equipment will identify immediately where there are problems with columns. However, there will be an increased demand for the council to respond to lighting demand in a dynamic way to get best value from the CMS technology. Changes will be made to the affected employee's job description to reflect the modernised role, in accordance with the Council's Human Resources policies and procedures.

8 Public Services (Social Value) Act 2012

8.1 Bidders were instructed to set out their proposals for making a contribution towards the local community as part of their offering to the council. Many of the 8 short-listed bidders are manufacturers of Street Lighting Equipment, and are therefore based outside of London, but all bidders responded to this request.

8.2 Bouygues E&S Infrastructure UK Limited has referred to a number of things the company does which add social value to local communities. Their Method Statement cites examples of apprenticeships, school career talks, graduate training schemes and work placement schemes. Officers will specifically discuss how these initiatives may benefit Brent residents when the Contract commences.

9 Background Papers

Cabinet Report *Street Lighting: Energy and Carbon Savings Proposals - authority to tender*, 14 April 2014.

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APPENDIX 2

LED Street Lighting and CMS Systems Contract

BAFO EVALUATION GRID

	Lot 1 LED			Lot 2 CMS			Lot 3 Combined		
Tenderer	**Price**	**Quality**	**Score**	**Price**	**Quality**	**Score**	**Quality**	**Price**	**Score**
Contractor A	41.70%	22.50%	64.20%	n/a	n/a	0.00%	n/a	n/a	0.00%
Contractor B	43.97%	32.50%	76.47%	28.37%	36.25%	64.62%	34.38%	41.78%	76.16%
Contractor C	55.00%	27.50%	82.50%	52.55%	31.25%	83.80%	29.38%	55.00%	84.38%
Contractor D	45.35%	35.00%	80.35%	54.00%	33.75%	87.75%	34.38%	46.30%	80.68%
Contractor E	28.36%	17.50%	45.86%	36.49%	12.50%	48.99%	15.00%	28.98%	43.98%
Contractor F	n/a	n/a	0.00%	55.00%	31.25%	86.25%	n/a	n/a	0.00%
Contractor G	n/a	n/a	0.00%	50.34%	30.00%	80.34%	n/a	n/a	0.00%
Contractor H	41.97%	37.50%	79.47%	n/a	n/a	0.00%	n/a	n/a	0.00%

Contractor C for Lot 1 and Contractor D for Lot 2							30.63%	55%	**85.63%**

The winning tenders for Lot 1 and Lot 2 were consolidated, in terms of price (whole life cost) and quality, to establish whether or not the Most Economically Advantageous outcome would be a separate awards of Lots 1 & 2, or instead an award for Lot 3. On the basis of the evaluation criteria, awarding a contract to Contractor C for Lot 1 and a contract to Contractor D for Lot 2 would provide a more economically advantageous tender.