APPENDIX 3 – Hammersmith & Fulham Lighting Background

1.1. The Street Lighting Department currently operates four separate budgets. capital column replacement, planned maintenance, general lighting works; and energy costs. The street lighting budgets are used to maintain and operate approximately 8,750 lamp columns, 110 wall and subway lights, 950 illuminated bollards, 1,110 illuminated signs, 300 flashing beacons, and 18,900 non-illuminated signs. Budgets for the last three years as agreed in the Street Lighting Report, Section 4.5 are shown in Table 1 below.

Table 1: Budgets from Section 4.5 of Street Lighting Report April 14

Activity	Budget 2013/14	Budget 2014/15	Budget 2015/16
Capital column replacement	£516,000	£369,000	£369,000
Lighting Roads - Planned Including defects to; • Street lights • Illuminated signs • Non-illuminated signs • Illuminated/Solar powered bollards • Flashing/centre island beacons • Damage caused from Road Traffic Accidents	£477,300	£319,000	£311,100
Lighting Roads - General	£136,900	£127,100*	£15,700
Public Lighting Energy	£675,000	£551,800	£524,000

* reduced to £16,000 following council approval due to budget reductions.

1.2. Between the 2013/14 and 2014/15 financial years the Street Lighting Department's budget was reduced by £400k. This was due to a need to reduce Council spending and historic underspending of budgets. This came from decreased energy costs due to new modern white lighting from 2007 onwards having more efficient lamps and decreased energy, lower maintenance costs due to redundant illuminated assets being removed as part of decluttering works; and a reduction in the scope of routine maintenance works due to the need to reduce Council spending.

1.3. In 2007 the type of lamps used in new lighting were switched from high pressure sodium "yellow" light lamps (Photographs 1 & 2 below) to Cosmopolis "white" light lamps (Photographs 3 & 4 below). This reduced energy usage and carbon emissions because Cosmopolis lamps can produce an equivalent amount of useful light (compared to high pressure sodium lamps) using lower wattage lamps. The switch to Cosmopolis lamps also improved visibility at night. This is because white light provides better colour rendition than yellow light, as can be seen by comparing Photographs 2 and 4 below. LEDs also produce white light but are more energy efficient than Cosmopolis lamps and sold as requiring like or no routine work over the life of the lantern.

Photographs 1 & 2 – High Pressure Sodium Lamps

Photographs 3 & 4 – Cosmopolis Lamps

1.4. In 2007 the type of photocell used on new lanterns, and to replace broken photocells on existing lanterns was changed from a 70/35 lux photocell to a

35/18 lux photocell. The photocell tells the lantern when to switch on and off based on measured light levels. Using the 35/18 lux photocell reduces energy usage because the lights switch on approximately 10min later and off approximately 10min earlier than if a 70/35 lux photocell was used.

1.5. Historically the inventory of lighting assets owned by the Council was poorly maintained leading to uncertainty over the age, condition, types and quantities of these. Substantial work has been done in the past couple of years to bring the electronic asset inventory up to date. This has included physical inspection of assets and structural testing of lamp columns.

1.6. Having an accurate inventory allows possible savings from switching to more energy efficient lighting technology to be evaluated easily and accurately.

1.7. The amount of power used by individual streetlights and other illuminated assets is not measured. Instead the amount of power used by these is calculated by the energy supplier based on the asset inventory the Council provides, called an unmetered supply. Improving the accuracy of the asset inventory has reduced electricity bills over the last couple of years, even with increases to the unit price of power.

1.8. Having an accurate asset inventory has also allowed the budget for replacing worn out street lighting to be used more efficiently, as the inventory now provides reliable information on the age and structural condition of the assets. The results of the structural testing can be used to determine which lamp columns need to be replaced based on their structural condition rather than replacing columns in bulk based solely on their age. And the locations that have the least energy efficient lighting can be identified easily and prioritised for replacement.