

streetlighting

What you can expect

Balfour Beatty



Cambridgeshire
County Council

The project



- The 25 year Street Lighting PFI partnership between Balfour Beatty and Cambridgeshire County Council will cover approximately 56,000 units
- The project is essential for the Council to address an ageing lighting stock and to minimise risk from spiralling energy costs
- 5 year investment period of installing new street lights
- 25 year asset management period
- Column removals are an integral part of the project

Benefits

- Reduction in energy consumption of approximately 8.5m kWhrs per annum
- 4,500 tonnes of CO2 saved per annum
- Annual cost savings of £900,000 per annum in energy and CO2 alone, releasing much needed cost savings for Cambridgeshire County Council
- New, safer, steel columns
- Innovative, future-proofed asset
- Lower wattage lamps
- Dimming of lights and trimming of burning hours
- Remote monitoring and control of street lights via a central management system
- Low wattage LED sign lights
- De-illumination of signs
- Solar powered/high reflective bollards



Design

When lighting a road, the designer can face many challenges and must balance many factors.

From the outside, it may appear that a column position has not been carefully considered, however this would never be the case.

For example the siting of a column adjacent to a tree is always avoided where possible, but other factors may mean that this is a necessity.

In many cases columns are moved out of trees as part of the re-design.

Factors for consideration include:

- Underground services
- Trees
- Drives
- Overhead cables
- Lighting design targets



Works on site



The works on site will follow a set process, which is explained in detail in chronological order in this book. The columns are not replaced in one visit, and the work will be completed over a number of weeks.

Disruption will be kept to a minimum; however it is important to remember that you will see barriers on site, and numerous visits whilst the work is undertaken.

If barriers are out on site guarding excavations, yet there are no workmen; this does not mean that the site has been abandoned or forgotten, it means that the next part of the process will be carried out imminently.

All parts of the process require specialist skill sets and this is why numerous visits are required.

Marking out

- Designers visit sites to mark out where the new columns will be positioned
- White marking paint is used to spray on the ground
- New columns are marked with an X surrounded by a circle, with SL below (Street Light)
- Columns marked with 141 will go in exactly the same position
- Columns to be permanently removed and not replaced will be marked with a laminated sign on the column
- These marks are a rough guide as to the position of the new columns, the final position may change due to the presence of underground services.



141

141

Installation of new column

- The column installation team will attend site and set up a safe area with cones, barriers and if required, traffic management
- They will use scanning equipment to check for underground services around the mark
- They will then use specialist equipment to dig a small hole at the site of the marking, frequently checking for services
- The steel column will then be placed into the excavation and secured
- The dig will then move on to the next site and repeat



Lantern install

- Electricians follow the column installation teams with pre-wired lanterns
- After the new column has been installed, the electricians will fit the lanterns to the top of the column
- They will then wire the lanterns to the cable within the column to make it ready for connection
- The lantern must be installed before the electricity supply company will provide the electrical connection



Excavations

- Once the new column is ready, our team will visit the site and excavate a section around the column to expose an electrical supply, known as the joint bay
- Normally, the joint bay will be concentrated around the column. Additional trenching may be required for cable runs if there is no electricity supply near to the new column
- All of the excavations will be fully cordoned off with barriers in accordance with our stringent health and safety procedures
- Although you can see the cables, they are insulated and perfectly safe



Electrical connection work

- After the appropriate cable is exposed the electricity supply company will come and connect the street light to the electricity supply
- There are three forms of electrical connections which may be used:

New connections

(Connecting new column to the main electricity supply via a new joint)

Disconnections

(Making safe an old connection which is no longer in use)

Transfers

(Transfer electrical supply from an old column into the new column)

- There can often be delays attributed with the electrical connection works, such as the discovery of unsafe cabling. This can lead to delays to the completion of works whilst they use the opportunity to undertake improvements to their network



Removal of old column



- Once the new lantern and column are in light, the redundant column can be removed
- Once taken out of the ground, the old street light is fully disassembled and all of the components are sent to be recycled

Reinstatement



- Once the old columns are removed, the excavations will be reinstated
- To do this, our team will return and fill the excavation and top it off with matching surfacing material. The surface will be fully smoothed and left in the same condition as it was prior to the works

Final checks and quality control

- On completion of the works, the installation is inspected and tested to ensure that the installation complies with the appropriate standards, contractual requirements and is in working order.
- Further to the checks above, all streets and installations are made available for checks by the independent certifier. This is an independent body that will inspect the quality of all works.



Potential issues

Balfour Beatty are committed to working with Cambridgeshire County Council to provide the best service we can. The next section highlights potential issues and queries you may face.

The works will cause some disruption and we will work to minimise this.

Sometimes the work we do can look a little daunting, we are upgrading 55,000 lighting units throughout Cambridgeshire, this means a lot of holes will be dug!

We will work as fast as we can but the work does take a number of weeks to complete.

Potential issues

Sometimes, works can be delayed. For example:

- We may be waiting for the electricity company to resolve a problem
- We may be resolving an issue with a resident about a column placement
- We may have encountered a safety issue

We work with road space bookings which are limited in time:

- If the issue is resolved in time we will come and finish the works as soon as we can and leave before the booking ends
- If the issue is unfortunately not sorted, we will come and fill in the excavation and return under a new road space booking to complete the works at a later date.

Whatever the reason, rest assured we are dealing with it and have not forgotten about the works. We aim to minimise disruption so will attempt to resolve all issues as quickly as possible.

Potential issues - excavations



Balfour Beatty
Problems with your Streetlighting?
www.lightingcambridgeshire.com
Freephone: 0800 7838 247

Sometimes things on site do not go according to plan. Delays do happen and the barriers around the excavation and spoil are dislodged and not to the high standard that we expect.

Possible reasons for this are:

- Strong winds
- Vandalism
- Moved by residents

We are committed to Zero Harm and will make the site safe as soon as possible.

Potential issues



This excavation is safely covered by barriers.



This hole is open, and Balfour Beatty should be contacted immediately on the numbers stated on the barriers.



This site is perfectly acceptable, and is simply work in progress.



This site is dangerous, and Balfour Beatty should be contacted immediately.

Column not in light

If it is a new column and...

- It has an old column still in light next to it, we haven't finished work yet.
- It is still having work done to it, the column isn't ready yet
- It came on for a little while during the day and is now off, we were just testing it

 ...then it is ok, we know about it and it doesn't need to be reported.

If it is a new or old column and...

- It was on for a few nights and now isn't working any more
- Has never been on but the rest of the new columns are
- It is on during the day for multiple days

 ...then the column is likely to be faulty, please contact us and we will come and fix it.

Removals

Part of the Council's policy on street lights is to remove 10% of total stock throughout the county.

As traffic routes require specific levels of lighting very few removals can be identified from these. The majority of removals must therefore be taken from residential areas.

Removals are agreed by the Council and Balfour Beatty, after consultation with local Councillors.

To maintain adequate lighting levels only certain columns can be identified for removal.

Removals are assessed on a parish by parish basis to create the best removal options for the area.

Trees

Balfour Beatty work in partnership with tree cutting specialists and Local Council Environmental and Tree Officers to minimise environmental impact

Where possible we try to move new columns positions out of and away from trees, minimising the need for pruning. Unfortunately this is not always possible

We follow strict NJUG Guidelines about protection of trees and upholding Tree Preservation Orders.

If a private tree or plant overhangs the highway, the Council may request it be cut back by the owner.



This picture illustrates where the re-design has taken the lantern out of the tree. The circle indicates the existing position.

We hope you find this booklet useful and it has answered your questions. If you have any further enquiries, please contact us on:

0800 7838 247

enquiries@lightingcambridgeshire.com

www.lightingcambridgeshire.com

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