

APPENDIX ES4.2
LIGHTING SCHEME

Appendix ES4.2**Scheme for external lighting at Cooks Hole Quarry and Thornhaugh Landfill Site****Introduction**

1. This scheme provides details of the fixed and mobile lighting that will be needed and used during the proposed development at Cooks Hole Quarry (Cooks Hole) and Thornhaugh Landfill Site (Thornhaugh). Together Cooks Hole and Thornhaugh are known as the 'sites'. The scheme is based on the scheme that has been previously approved for Thornhaugh under Condition 5 of planning permission reference 17/00726/WCMM and Condition 7 of planning permission reference 20/01680/WCMM.

Scheme

The hours of operation at the Cooks Hole and Thornhaugh will be consistent with the current operational hours for Thornhaugh:

- 0700 – 18:00 Monday to Friday
 - 0700 – 1300 Saturdays
 - No operations on Sundays and Bank Holidays
 - There will be no operations outside these hours except for the maintenance and control equipment including gas, leachate and water management in Thornhaugh and emergency maintenance works.
2. During the winter months the hours of daylight are shorter than the approved operational hours therefore there is a need for lighting to facilitate operations during the darker hours at the beginning and end of the working day. There will be no non-essential lighting used on the sites and the lighting as described in this scheme will not be used outside of the approved operational working hours. On the shortest day of 2023 sunrise was at 08:11 and sunset was at 15:49¹. Lighting will therefore typically be required for up to 2 hours in the morning and up to 3 hours at the end of the day during Monday to Friday during the winter months and for up to 2 hours in the morning on Saturdays in the winter months. The need for lighting is expected to be for around 5.5 months of the year (approximately the end of September to mid March).

¹ BBC Weather (2023) Thornhaugh weather details for 21 December 2023 <https://www.bbc.co.uk/weather/2635983> Accessed December 2023

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3. Consistent with the current operations at Thornhaugh the lighting to be utilised at the sites for the proposed development will be both mobile and fixed. The mobile lighting will be used where required for the landfilling (at Thornhaugh) and restoration operations (for Thornhaugh and Cooks Hole) and will be moved around the sites relative to the area being worked as and when required in order to be able to operate safely. The stationary lighting is that which is required to light the immediate area around the staff facilities and weighbridge to provide safe access.

Stationary Lighting

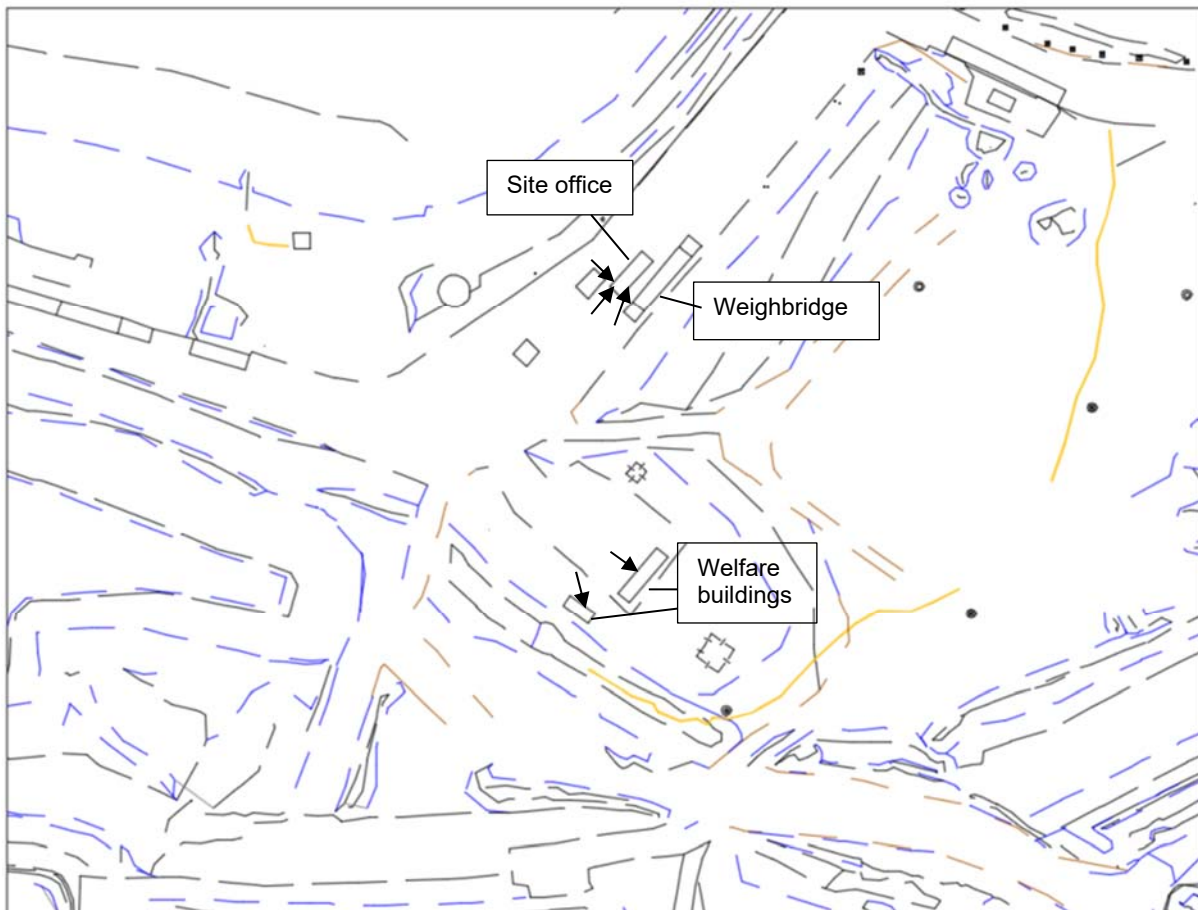
- Staff welfare lighting x5
 - Weighbridge office external lighting x5
4. The lighting utilised for the staff welfare area is mounted onto the portacabin/containers, as shown on the plan below. The lights are directed downwards so as to only light the immediate area where access is required to the canteen and wash/changing facilities and the parking area in front of the two cabins. The lights are shrouded and/or have asymmetric reflectors to minimise light pollution. If the locations of the welfare and reception/office cabins are adjusted to accommodate the phased working pattern, the associated lighting will remain on the cabins as described in this scheme.

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Figure 1

The current location of stationary lighting fitted to the weighbridge and welfare buildings



The arrows show the general locations for lighting fixed to the site office and welfare facilities. A total of 5 lights are fitted to the weighbridge and 5 lights are fitted to the welfare facilities.

The stationary lighting is shown on Photographs 1 to 5.

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Photograph 1. Weighbridge / Site office entrance lighting



Photograph 2. Weighbridge pedestrian walkway safety lighting

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Photograph 3. Weighbridge. Drivers' entrance lighting



Photograph 4. Route to welfare facilities. Pedestrian walkway safety lighting

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Photograph 5. Site welfare area, staff and visitor lighting

Mobile Lighting

5. Augean will utilise 4 x SMC TL90 (Hewden – or similar specification) mobile lighting towers to assist operations around the sites as and when required during non-daylight hours. The mobile lights will not be used outside the approved operating hours of the site.

6. The mast height and the type of lamps used are as follows:
 - Mast Height: 9010mm
 - Lamp specification: 4x 1000W 230v Metal Halide

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The mobile lights will be used in accordance with the guidance provided in 'Guidance Note 01/21. The Reduction of Obtrusive Light' published by the Institution of Lighting Professionals².

7. The positioning of the lighting towers will be relative to the area of the sites where work is being undertaken and where there is a safe and secure position for the lighting tower to be located. It is likely that when this lighting is required one lighting tower will be used to light the haul road and one lighting tower will be used to light the area where material placement work is being undertaken. Wherever possible Augean will endeavour to position the lighting towers so that the lights are orientated to face to the south or south east in Thornhaugh and the north in Cooks Hole, thereby minimising the potential for glare resulting in an impact on the nearest residential receptors. It should also be noted that the areas where the mobile lighting will be utilised are not in close proximity to the nearest residential receptors.
8. The angle of the four lamps on each mast can be altered to minimise the upward spread of light. The Institution of Lighting Engineers guidance advises that glare can be kept to a minimum by ensuring that the main beam angle of all lights directed towards any potential observer is kept below a 70° angle. Higher mounting heights

² Institution of Lighting Professionals (2021) The Reduction of Obtrusive Light Guidance Note 01/21 <https://theilp.org.uk/publication/guidance-note-1-for-the-reduction-of-obtrusive-light-2021/>

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allow lower main beam angles, which can assist in reducing glare. Wherever possible Augean will therefore position the angle and height of the lamps so that only the immediate operational area is lit and the spill of light outside that area is minimised.

9. Because the lighting towers are mobile and can be adjusted to suit the operations being undertaken it is not possible to specify the direction of lights and spread of light in each circumstance as this could alter on a regular basis.
10. The lux is defined as a lumen per square metre and is a unit of illuminance. An equivalent term is luminous flux density. It measures the amount of visible light striking a surface. The SMC TL90 has a luminous flux of 424,000 lumens.

Complaints and Reporting

11. Augean will record any complaints received and will address any complaints regarding on-site lighting by identifying the source of the complaint and the lighting position resulting in the impact. Where this does not limit the operations on site, the lighting arrangements will be adjusted to address the source of concern. Complaints will be recorded and the nature of any complaints and any mitigation measures undertaken as a result of the complaint will be reported to the Environmental Health Officer at Peterborough City Council. There have been no complaints regarding lighting in the last 5 years.

Amendments to Approved Lighting Scheme

12. Any future amendments to this lighting scheme that may be required for operational or health and safety reasons will be submitted to Peterborough City Council for approval in writing prior to implementation.