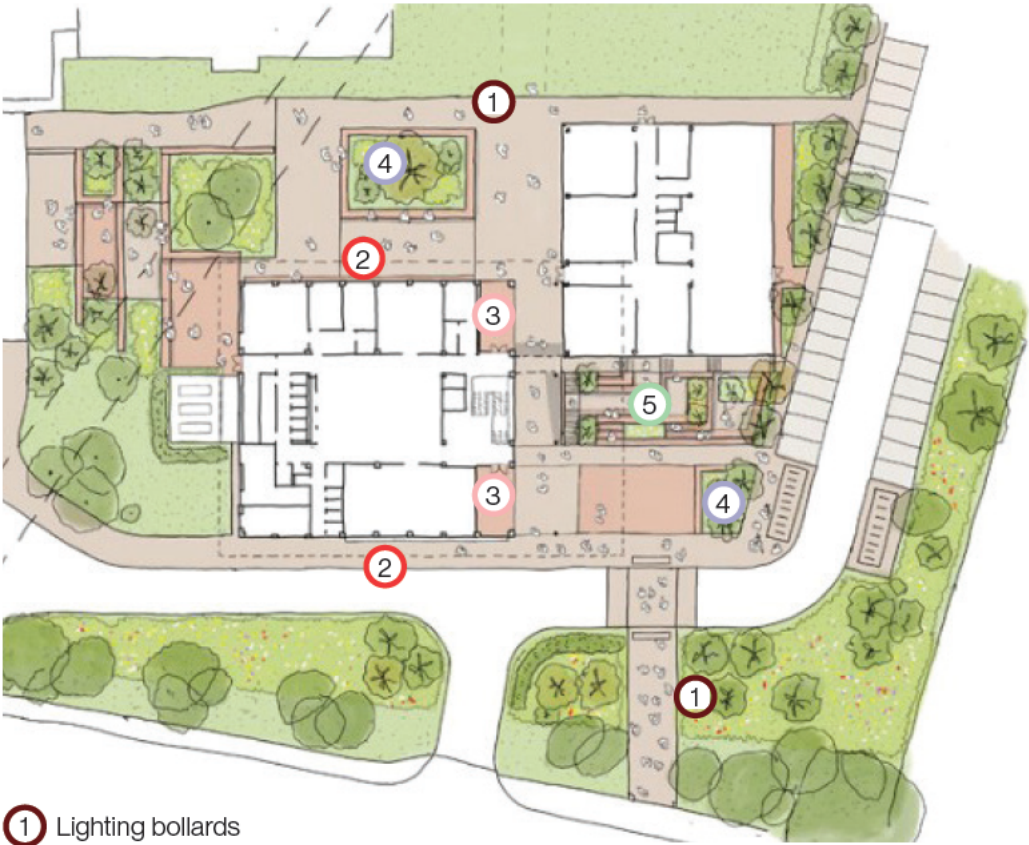


External lighting in Phase 2 will be limited to lighting required for safe access during the early morning and evening hours in the winter months.

The lighting installed in Phase 1 (lighting bollards, wall lighting, soffit downlights and tree uplighting) will be maintained. Preliminary designs for Phase 2 include lighting to the planting of the landscaped steps, discrete lighting to the stairs and bridge link on level 1.



5. Indicative integrated lighting to Phase 2 landscape steps and lighting to greenery.



Phase 2 preliminary landscape sketch

- ① Lighting bollards
- ② Wall lighting
- ③ Downlights to soffit
- ④ Tree uplighting
- ⑤ Lighting to landscaped steps

Phase 2 Indicative Lighting

6.2 Car Park Lighting Study

An options appraisal was undertaken for the proposed car park lighting, considering two potential solutions: low-level bollard lighting and 4-metre-high lighting columns. Initial lighting distribution studies were carried out, alongside a review of relevant precedents, to identify a solution that meets the safety requirements of the college, protects neighbouring residential amenity, and minimises arboricultural impact.

Option 1 4m high columns

Provide adequate illumination and designed to meet relevant British Standard guidance.



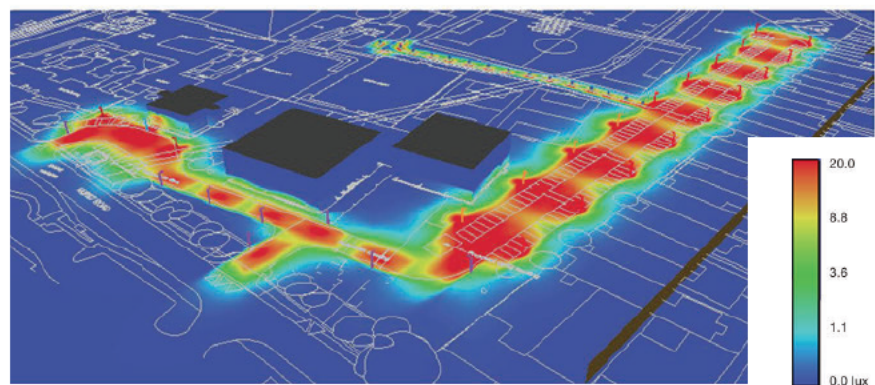
Precedent car park lighting proposals - DSM Innovation Campus, Keiseraugst Basel, Switzerland.

Option 2 Low-level bollards

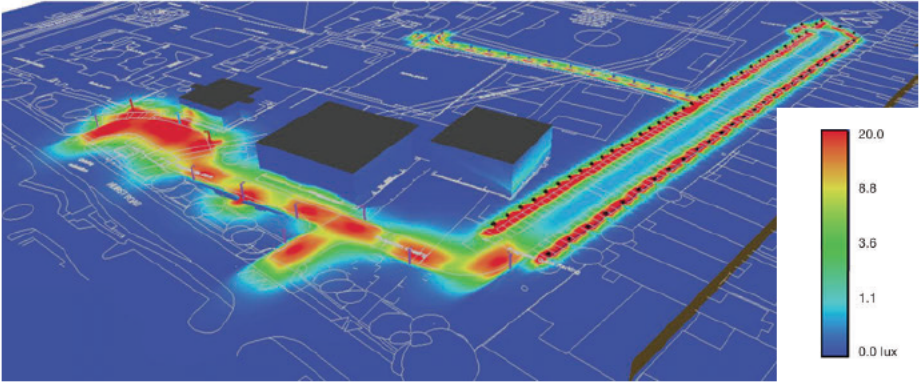
Low-level bollards positioned along the designated pedestrian routes..



Precedent car park lighting proposals - UCDS Jacobs Medical Centre, California, USA



Proposed lighting shown in false colour to illustrate light distribution



Proposed lighting shown in false colour to illustrate light distribution

RAG Rating

The two options were assessed using a RAG (Red-Amber-Green) rating matrix (set out below). This process confirmed that lighting columns are the preferred option for the following reasons:

- Compliance with the relevant British Standard guidance for illumination, which is a requirement for education facilities. This standard is not met by the bollards
- Sufficient light levels for facial recognition (1.5 – 1.7 +FFL), ensuring the safety of users returning to their vehicles in the evening. This standard is not met by the bollards.
- No requirement for excavation within the root protection areas of existing trees, as would be required for installation of the bollards.

Option 1 – 4m high columns

Consideration	RAG Rating	Commentary
Car park safety and lighting standards		As illustrated in Figure 3 and 4 – the columns provide adequate lighting of both the car park pedestrian route and roadway, in compliance with British Standard Lighting Guidance (BS12464-1). Provides sufficient lighting for facial recognition
Neighbouring amenity		As illustrated in Figure 4 – through mitigation via the installation of shields, light spill into neighbouring residents gardens will be limited and below the ILP GN01 Obtrusive Light Guidance limits.
Arboriculture		The columns will not require excavation of existing trees, and will integrate well into the proposed landscape design.

Option 2 – low-level bollards

Consideration	RAG Rating	Commentary
Car park safety and lighting standards		As illustrated in Figures 7 and 8, the proposed low-level bollards provide adequate lighting for the pedestrian route but not the roadway; therefore, the scheme does not comply with BS EN 12464-1 lighting guidance. Does not provide sufficient lighting for facial recognition
Neighbouring amenity		As illustrated in Figure 8 – through mitigation via the installation of shields, light spill into neighbouring residents gardens will be limited and below the ILP GN01 Obtrusive Light Guidance limits.
Arboriculture		The columns will require excavation within existing tree's root protection area.

6.3 Car Park Lighting

As a result of the design optioneering study (above), it is proposed that the lighting to the car park at Richard Collyer is provided by luminaires mounted on 4m columns. The adjacent plan shows the current proposed column locations.

Glare/view mitigation measures

Care has been taken to locate equipment with a balanced view on competing needs between technical performance, tree roots and local residents. In order to minimise view in to the light sources, back shields will be proposed for the row of luminaires closest to the residential properties adjacent to the site boundary.

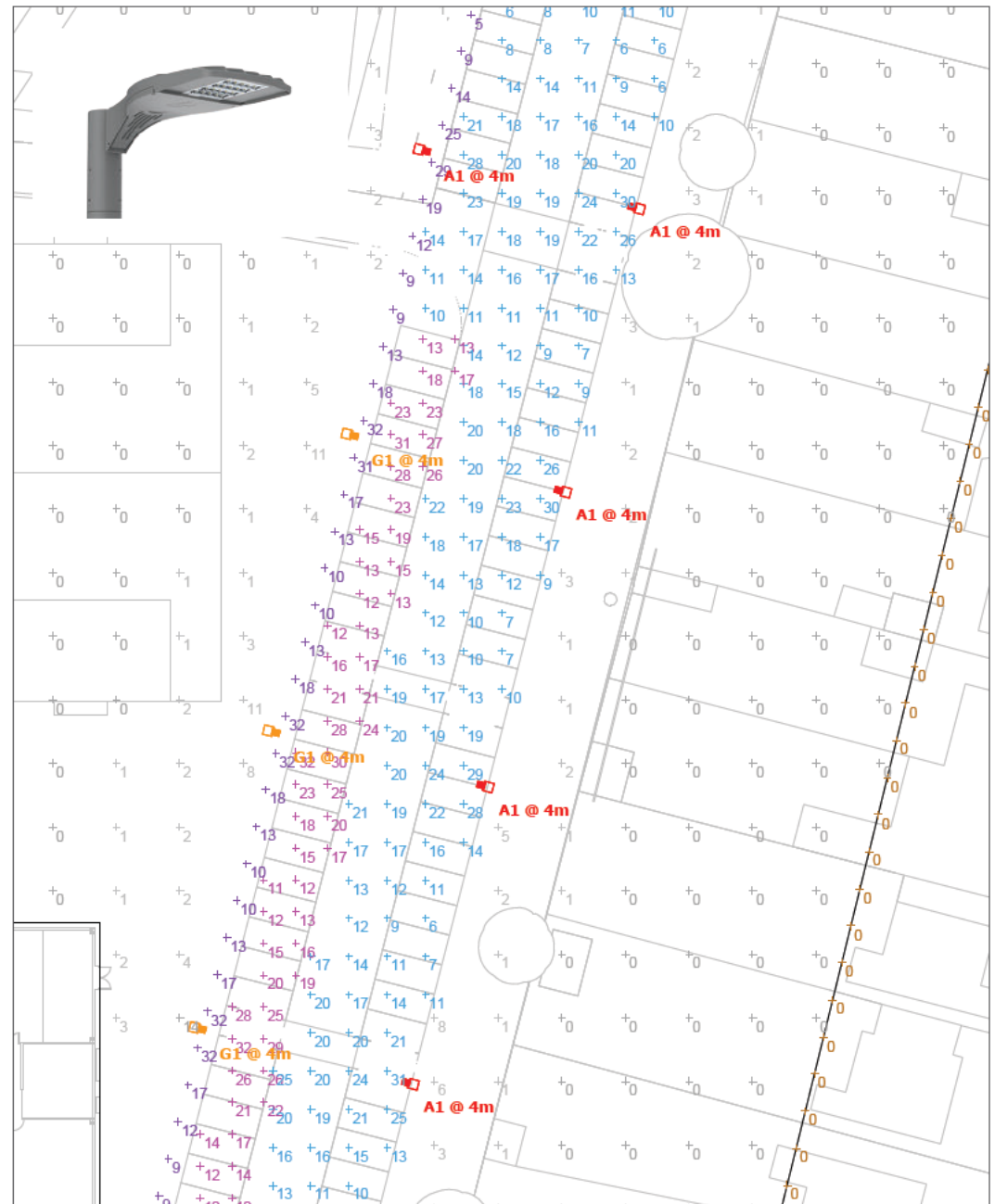
Control

Lighting control will be used to ensure the car park lighting is only on when required.

In line with the current college usage, in the summer term months (May - August), it is unlikely that the lighting will be in use. From September - May, car park lighting will be controlled via an astronomical time clock to energise the luminaires at dusk through to a pre-determined curfew, as set by the school. The use of presence detection shall be explored to facilitate a step down of output when no pedestrian or vehicular activity is detected.

Curfew

To be determined by the college, the latest the lights would be on is 9.45pm Monday to Thursday for lettings and adult education. Friday, lighting will be shut down by 8.45pm.





View of the new car park to be completed in Phase 1 with lighting columns.

Landscape



7.1 Existing Landscape

Features and Opportunities

The landscape strategy seeks to retain key existing features, including mature trees and the site's natural topography, wherever practicable. The proposals respond to existing levels while providing opportunities to enhance biodiversity, introduce new planting, and incorporate sustainable drainage features throughout the site.



For more information on the existing trees and landscape classifications please refer to the Flood Risk Assessment & Surface Water Drainage Strategy; Arboriculture Impact Assessment, Method Statement and Tree Survey; Preliminary Ecological Appraisal inc. Bat Survey

7.2 Tree removal and protection strategy

An Arboriculture Impact Assessment, Method Statement and Tree Survey have been prepared to support the application and should be read alongside this statement. The assessment has been undertaken in accordance with national and local planning policy, recognising the importance of trees in contributing to the character, amenity, and environmental quality of the site. Three Tree Preservation Orders (TPOs) are located adjacent to the site; however, no protected trees are present within the application boundary.

To facilitate the proposed development, 23 trees are proposed for removal, primarily within the existing car parking area. These trees are generally of low quality (Category C) and are located within the proposed building footprints. The extent of tree removal has been minimised through the design process, with the majority of existing trees retained, limiting removal to areas within the development zone of both building and access road. All retained trees will be protected during construction in accordance with BS5837:2012.

Tree Protection Fencing will establish Construction Exclusion Zones around retained trees, while additional measures, including hand excavation where required and the use of minimum planting offsets from existing trees, will ensure that impacts on Root Protection Areas are minimised.

- Existing Tree Diagram Key
- Trees retained
 - Trees removed
 - Tree protective fencing during construction



Existing trees in current car parking zone to be removed to facilitate proposals



Existing and removed trees diagram