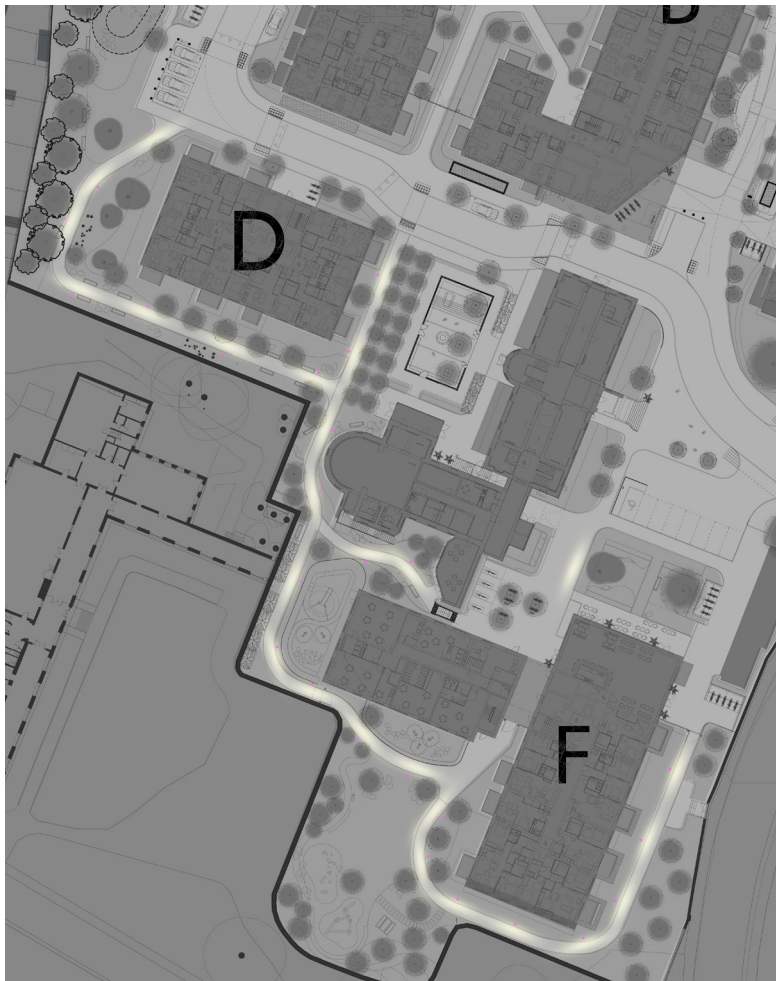


Secondary Pedestrian Routes - Columns - 4 metres - Area 2

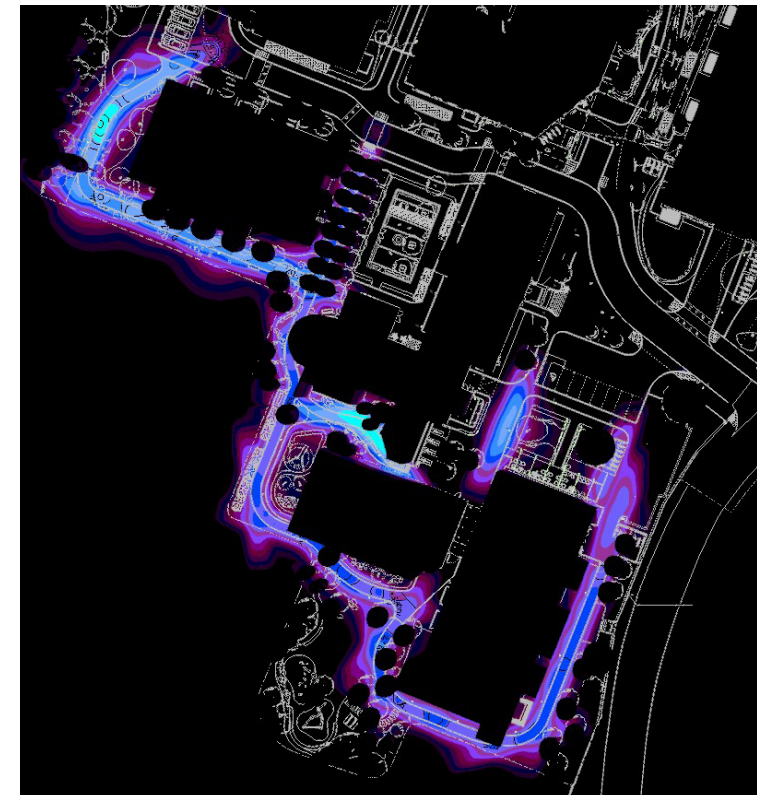


Dialux average lux levels (lx) & Uniformity measures

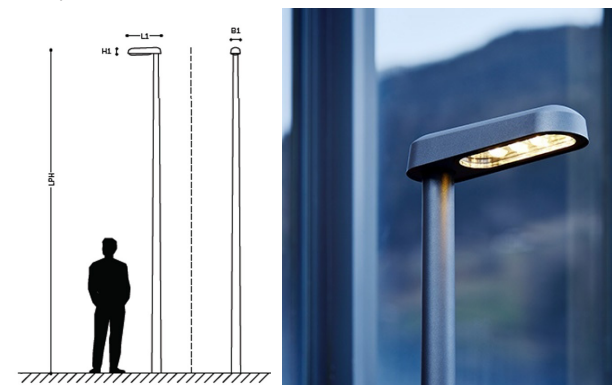
▼		Pedestrian Path S	
▶		8.85 lx	0.61
▼		Pedestrian Path SE	
▶		8.41 lx	0.30
▼		Pedestrian Path SW	
▶		25.2 lx	0.76

Area 2 spans the various paths running around Buildings D and F.

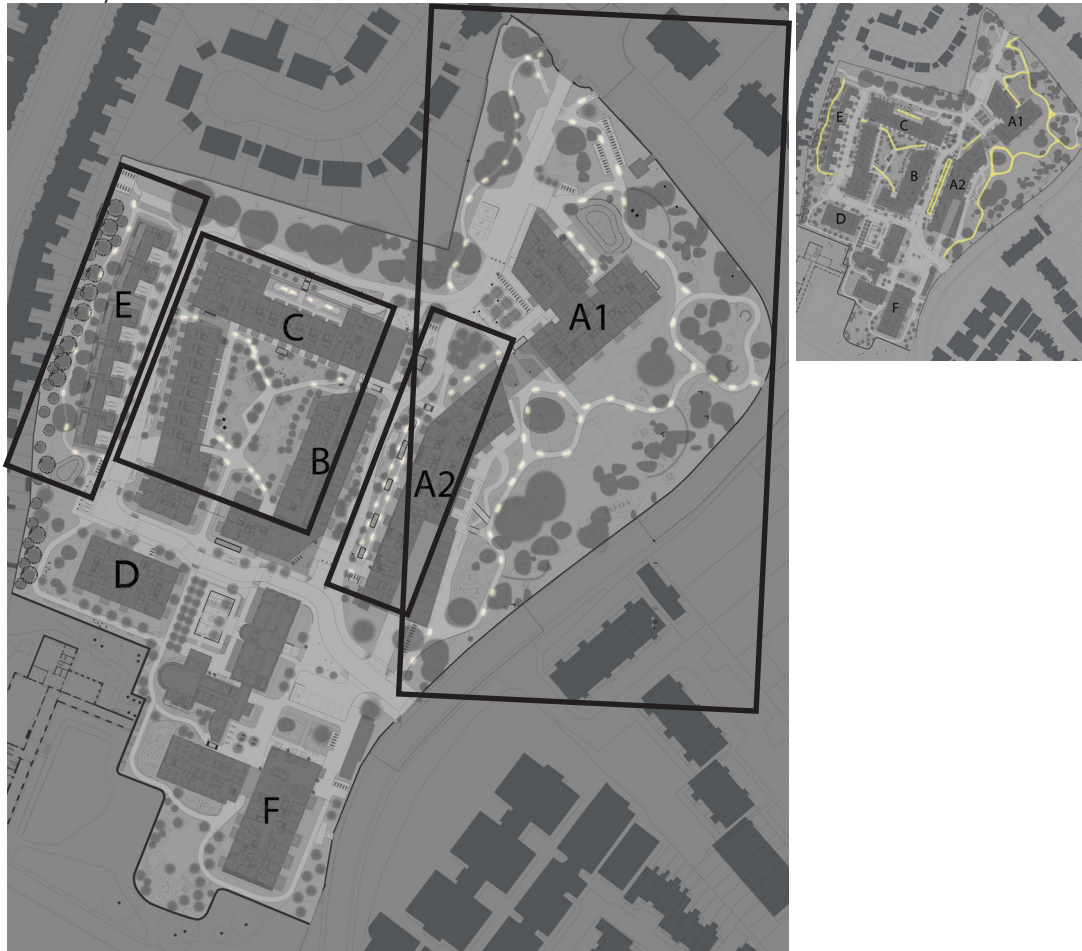
The area to the south behind Building F sits within an ecology buffer zone and lighting will set to average a maintained average of no more than 9 lux (Pedestrian Path SE and S); the adjoining southern zone is brighter with good uniformity in all zones.



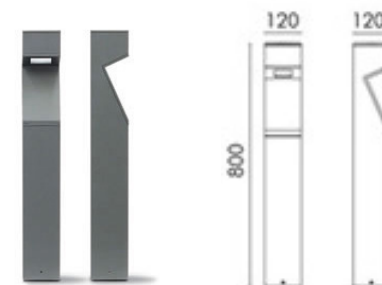
Key to Lux Level Colours



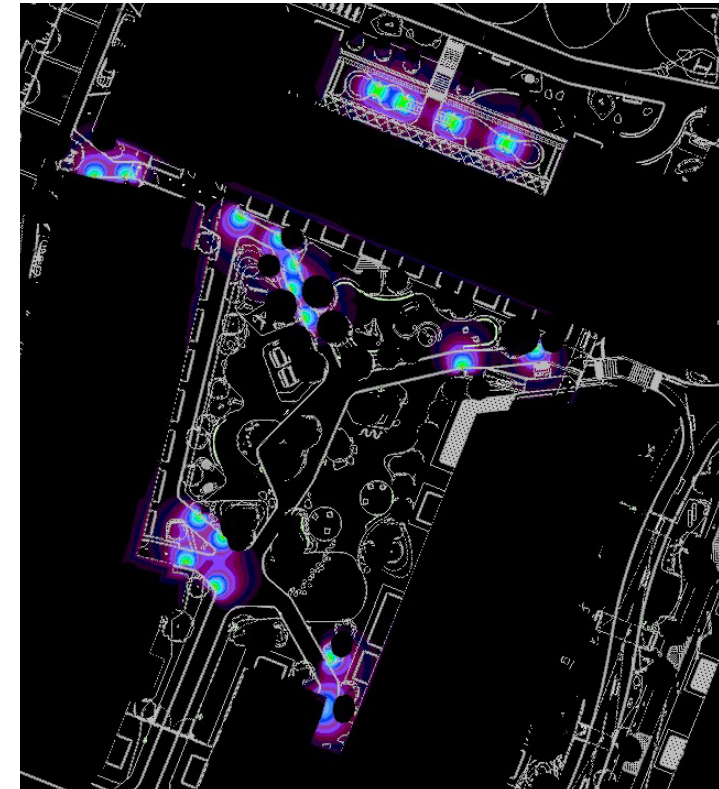
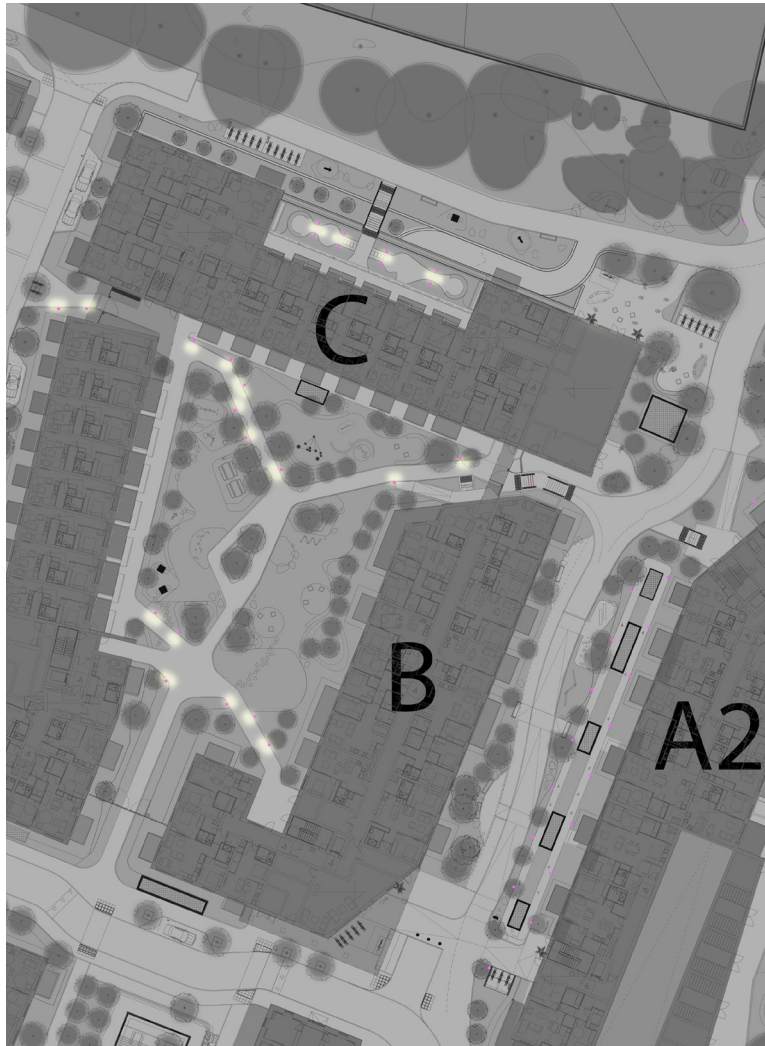
Tertiary Pedestrian Routes - Bollards



Bollards are used where supplemental light is available from other nearby lights or where pathways are more informal. They define 'stepping-stones' in the visual landscape: seat locations, building entrances are points along the quieter pathways. The bollard suggested is 800mm height and a mid style form with an LED source that is low glare and designed to light directly down to avoid any upward light spill. In areas where these paths cross ecology buffer zones to the east the luminaires will be restricted in their output by dimming or by the use of down-rated drivers to limit light output in line with the levels required by the Biodiversity EIAR Chapter. Lights have been broken down into the four areas shown above.



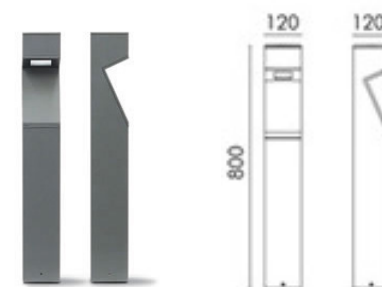
Tertiary Pedestrian Routes - Bollards - Area 1



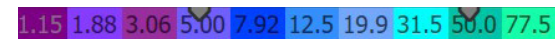
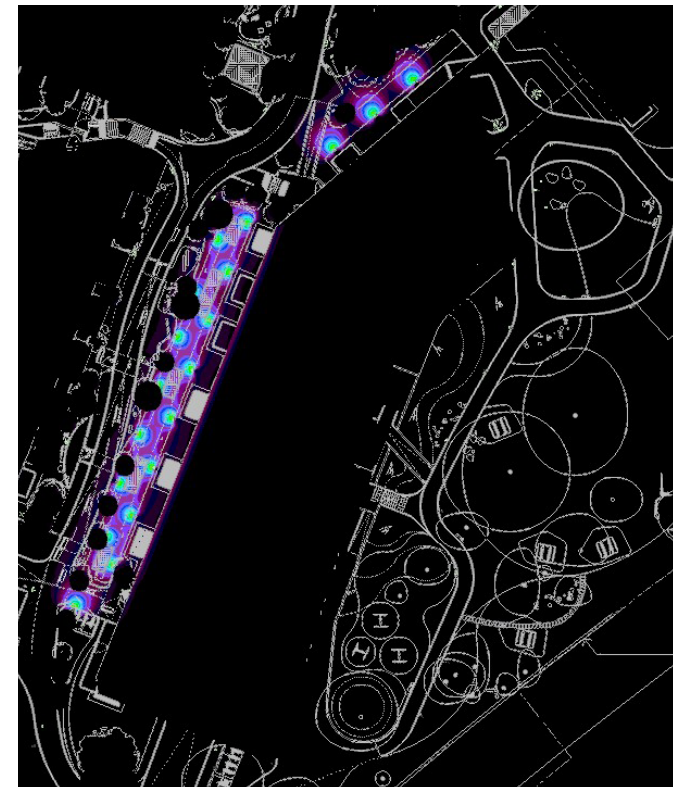
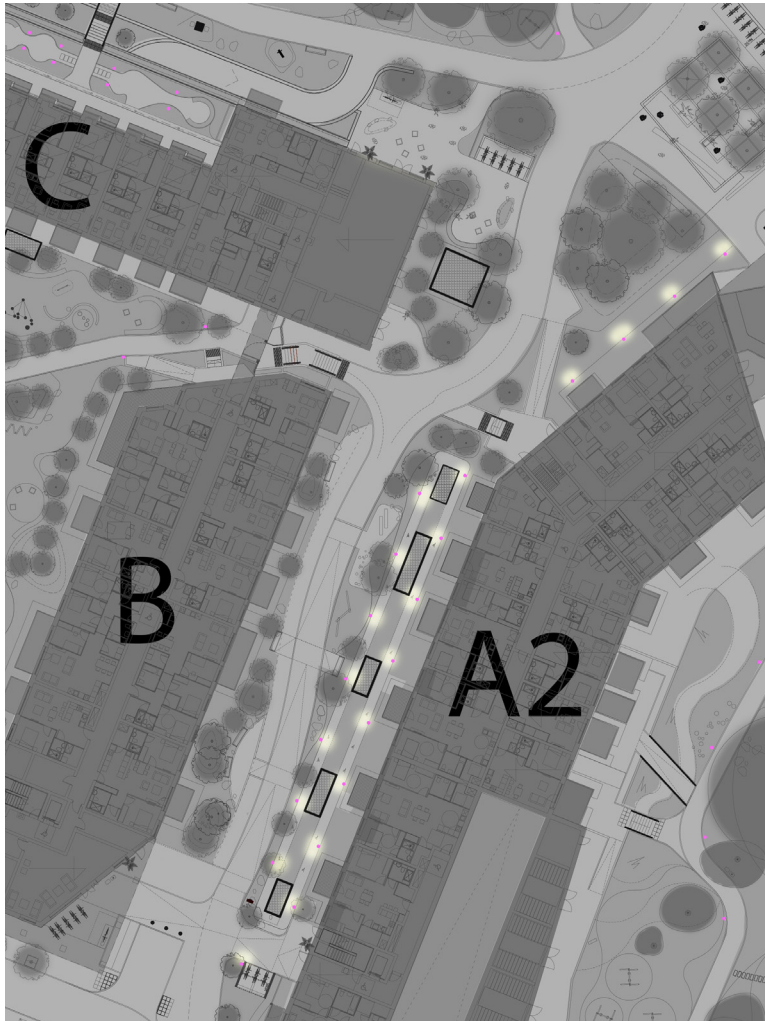
1.15 1.88 3.06 5.00 7.92 12.5 19.9 31.5 50.0 77.5

Key to Lux Level Colours

Area 1 - courtyard between Buildings B & C. 6 metre height columns are used in the centre of this area but bollards lead us into the centre from the three access paths and also identify certain bench areas. Along the north side of Building C in the raised garden area, bollards define the two edges of the pathway. Plot levels are not shown in these results as final light level or uniformity is not relevant to bollards. The light from these sources is used to indicate route. Sources are dimmed to 50% as standard.



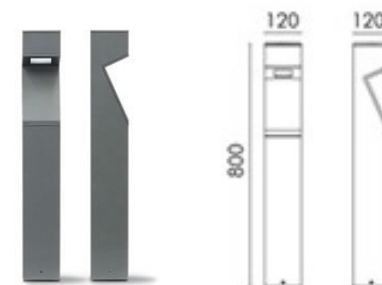
Tertiary Pedestrian Routes - Bollards - Area 2



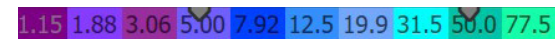
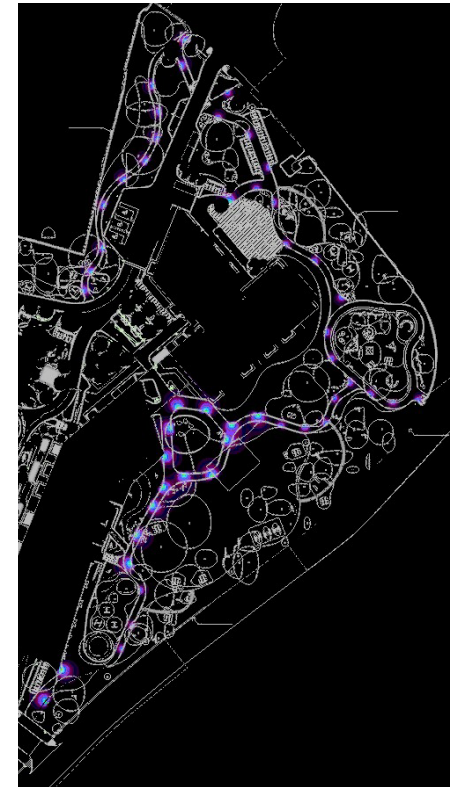
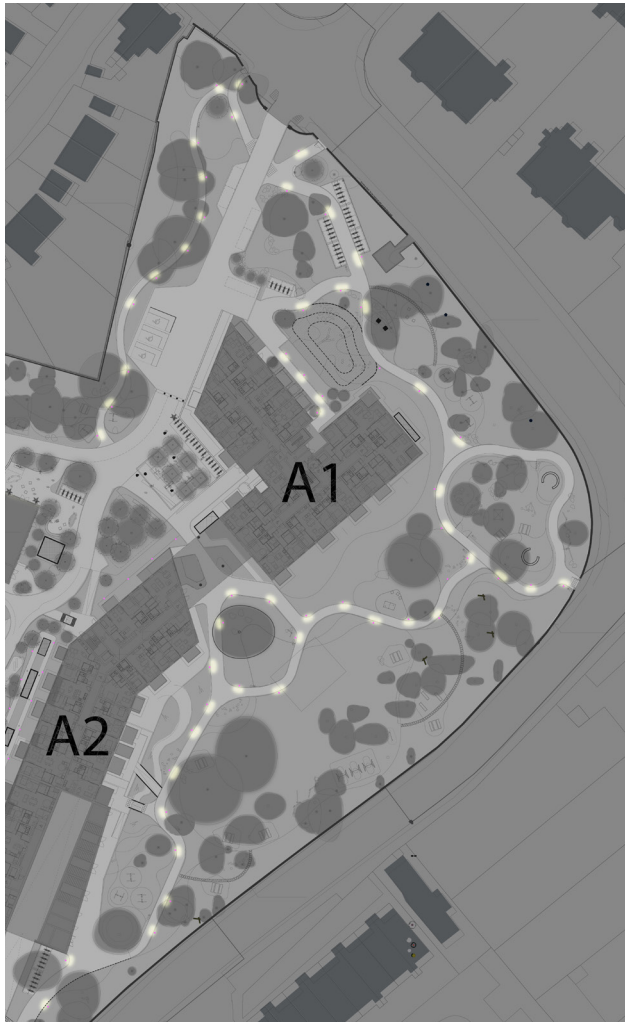
Key to Lux Level Colours

Area 2 - Building A Paths - Bollards work as markers to lead pedestrians up to the building entrances. Plot levels are not shown in these results as final light level or uniformity is not relevant to bollards. The light from these sources is used to indicate route. Sources are dimmed to 50% as standard.

Plot levels are not shown in these results as final light level or uniformity is not relevant to bollards. The light from these sources is used to indicate route. Sources are dimmed to 50% as standard.

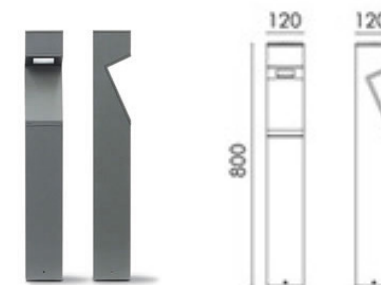


Tertiary Pedestrian Routes - Bollards - Area 3

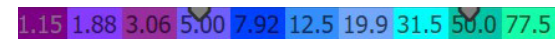
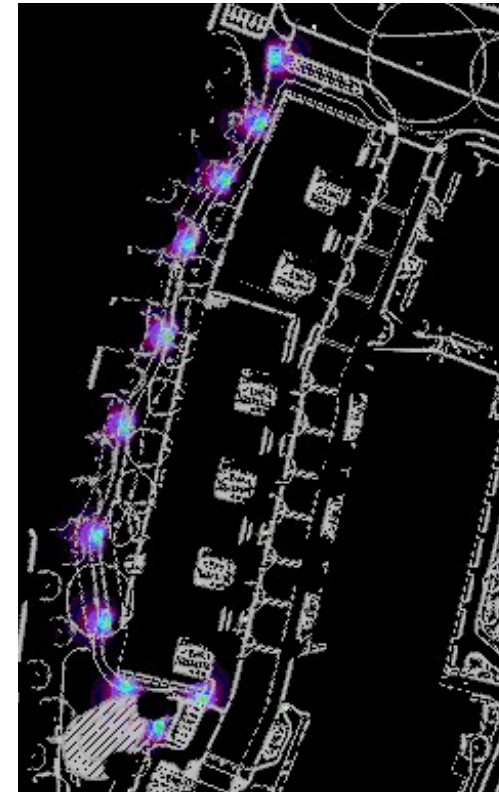
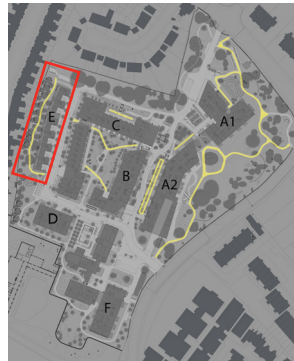
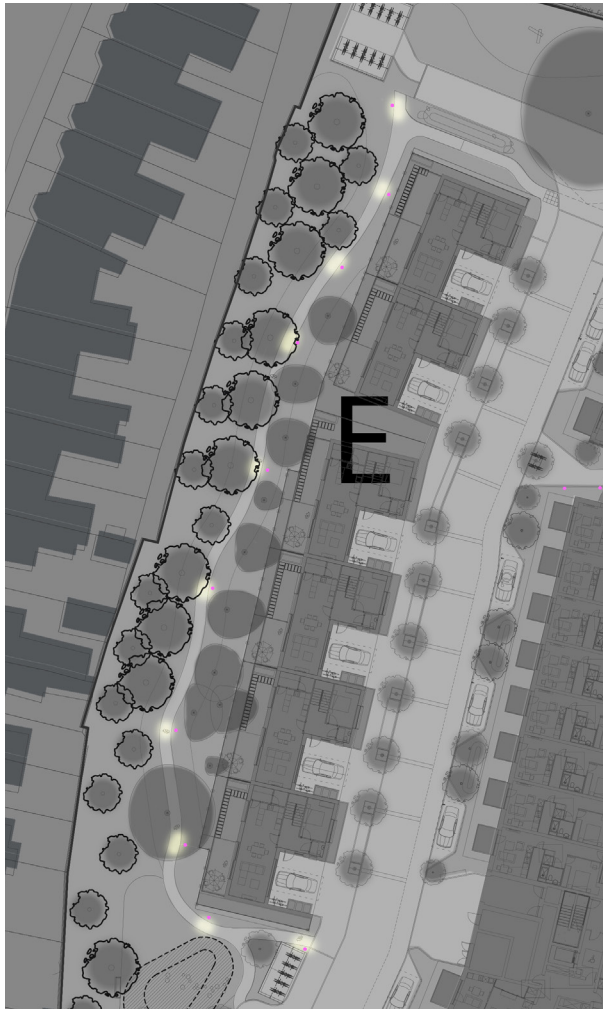


Key to Lux Level Colours

Area 3 - Parkland to the south, east and north of Building A - bollards define the route but are much wider spacing for informality and to keep this area of the parkland visually quieter after dark. Bollards are nominally spaced at 9-13 metres apart. Light output in bollards that sit within the ecology buffer zone will be set to a down-rated driver to ensure a lower lux level. Plot levels are not shown in these results as final light level or uniformity is not relevant to bollards. The light from these sources is used to indicate route. Sources are dimmed to 50% as standard.



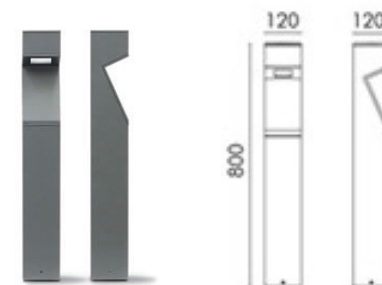
Tertiary Pedestrian Routes - Bollards - Area 4



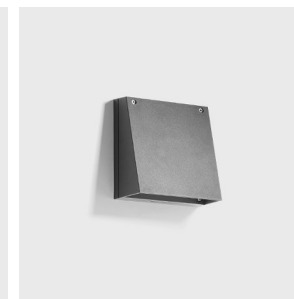
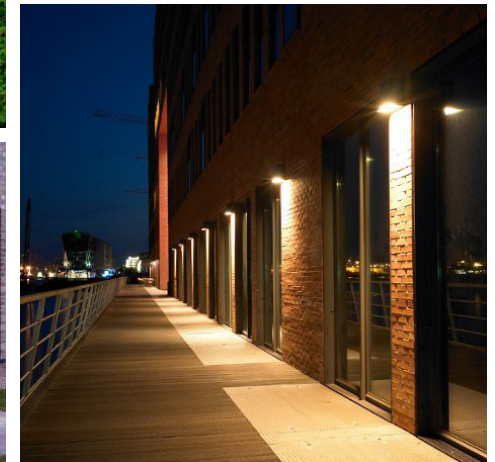
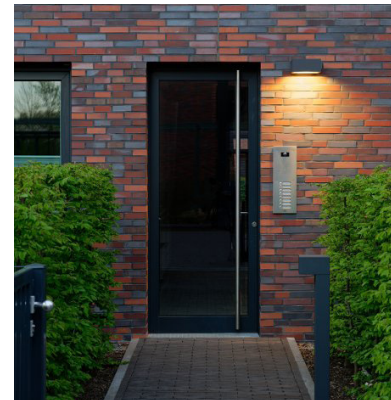
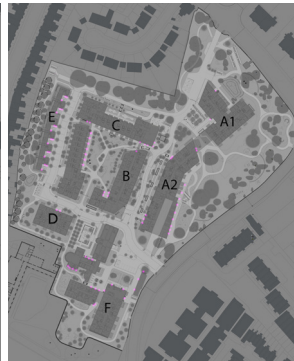
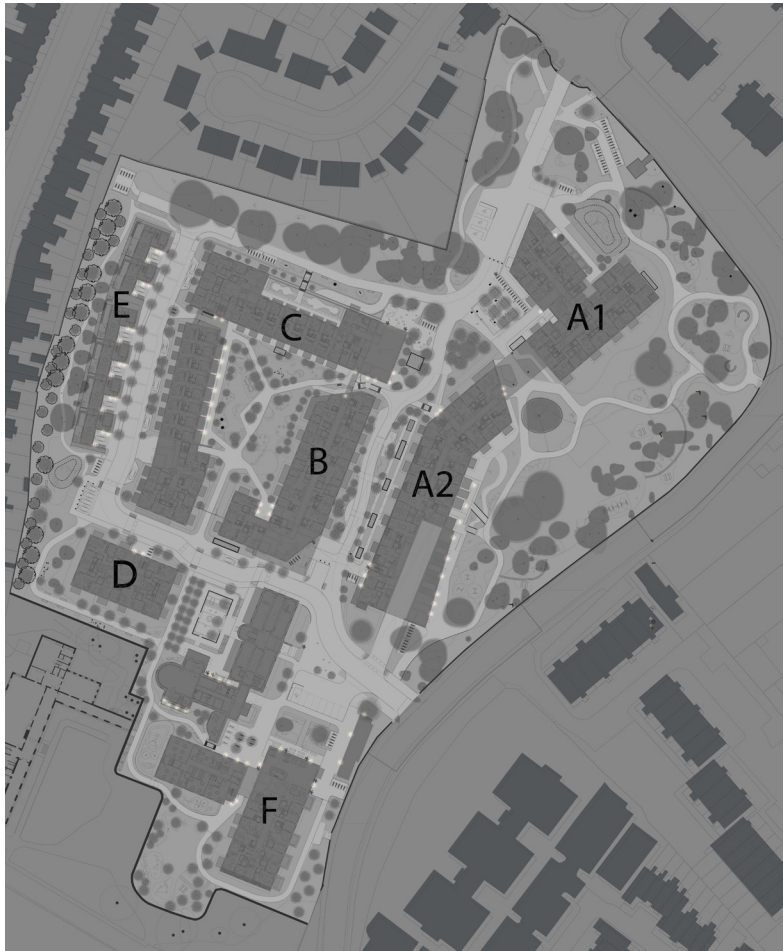
Key to Lux Level Colours

Area 4 - Parkland zone behind the residential units of Block E. Bollards are set out along the path in a 9-10 metre spacing always on the residential side of the path.

Plot levels are not shown in these results as final light level or uniformity is not relevant to bollards. The light from these sources is used to indicate route. Sources are dimmed to 50% as standard.



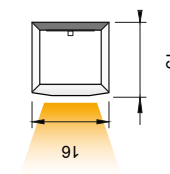
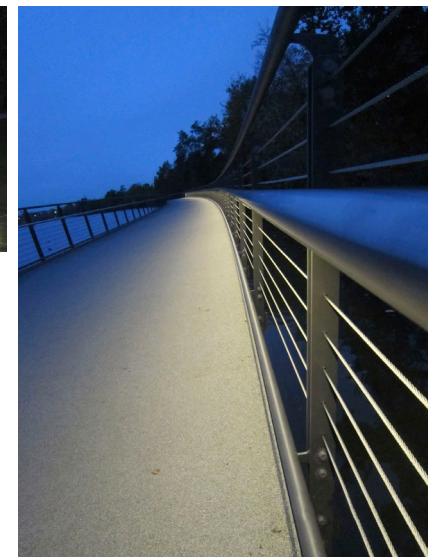
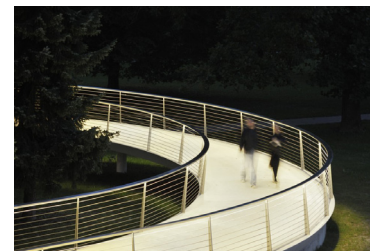
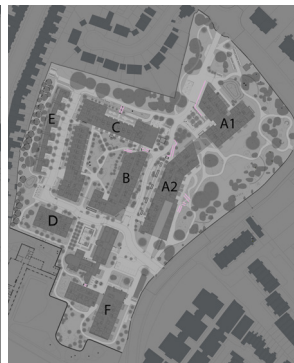
Residential Entrances - Private and Communal



Communal entrances are to have a light outside to highlight entry points but also to illuminate final points of exit light from buildings in emergency conditions.

The private entrances to individual units, such as on Buildings A, C and E will use a luminaire from the same family of fitting as used on the commercial buildings but on a smaller scale and without the need for emergency lighting. Refuse stores and cycle entrances will also have a dedicated light outside of them. These lights will run as the light starts to fade an hour before dusk till two hours after dawn.

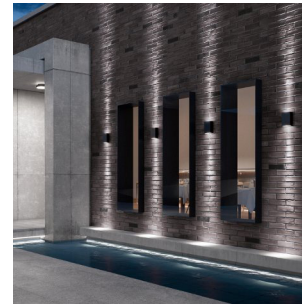
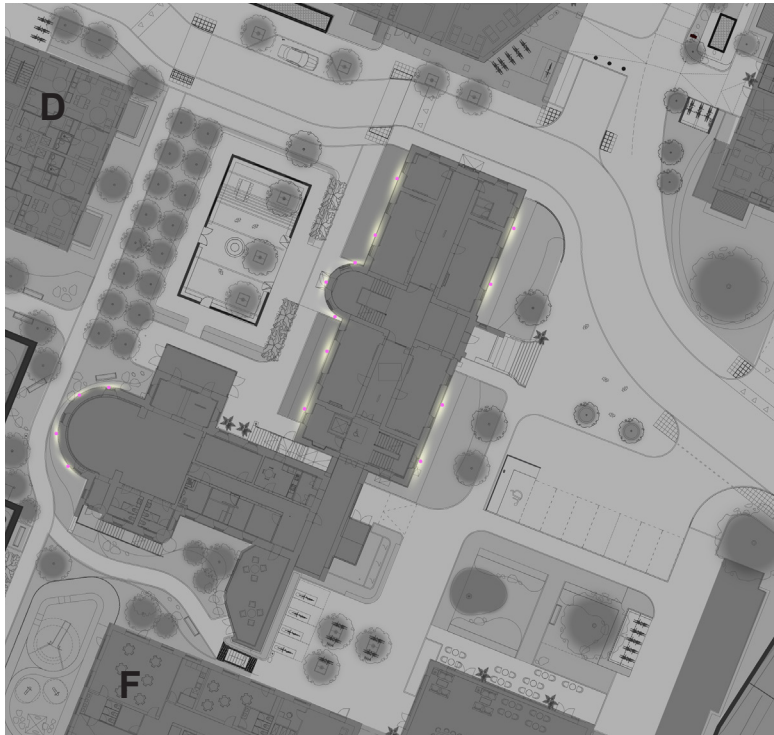
Handrails to Stairs & Ramps



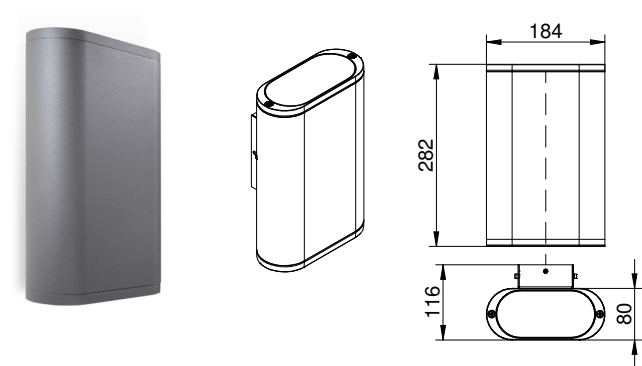
Handrail lighting provides additional focus and illumination on key stairs leading into the Building B/C courtyard; the route up to the Block C Belvedere Gardens; the ramp into the Building A1 community/cultural space entrance and resident concierge space and to those dwellings in Block A2 with their own entrances.

The source will be an integrated solution - either a diffuse linear source or individual point sources depending on the handrail design. All lighting will be downward lighting to avoid direct upward light spill. All sources will be 2700 kelvin colour temperature. These lights will run from dusk till dawn.

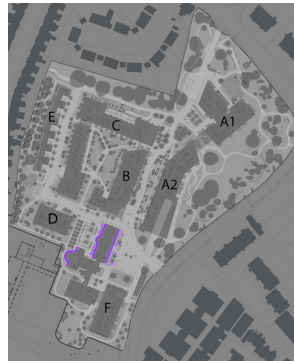
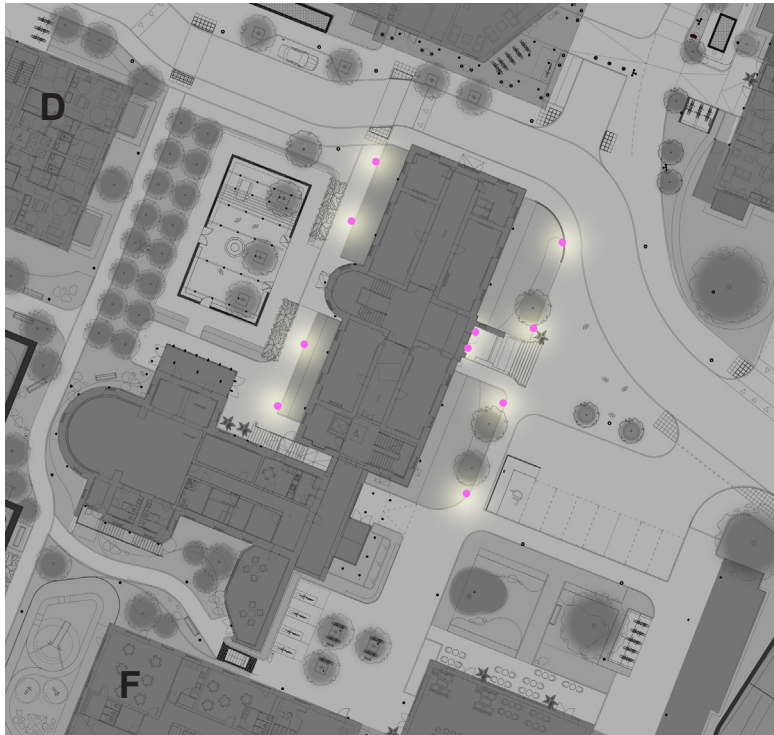
Heritage Zone - Facade Lighting



Illumination of the east and west facades of Tabor House and the west and north sides of the Chapel with a building mounted up/down lighting source with integral control gear. Units will to be RAL finished to special colour to be sympathetic with the stone finish of the building and will be mounted between window openings and at middle glazing height of the entry level floor. Colour temperature will again be limited to 2700 kelvin warm white.

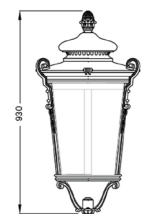


Heritage Zone - Heritage Columns & Heritage Wall Lights

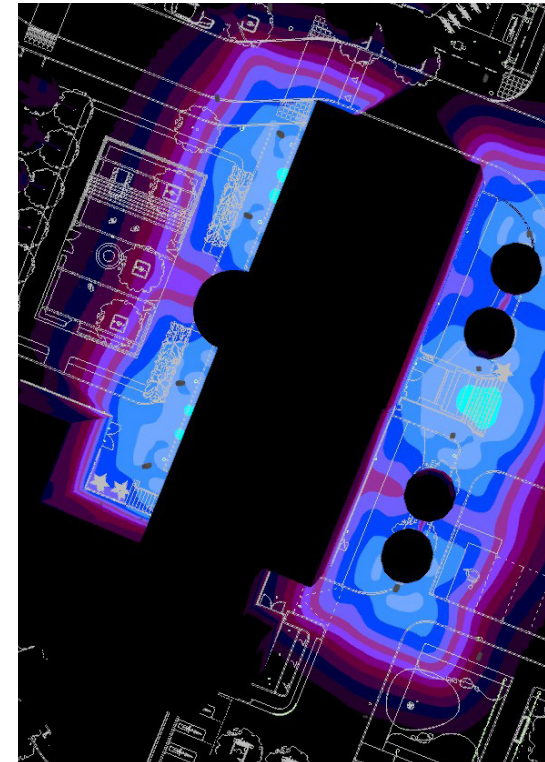
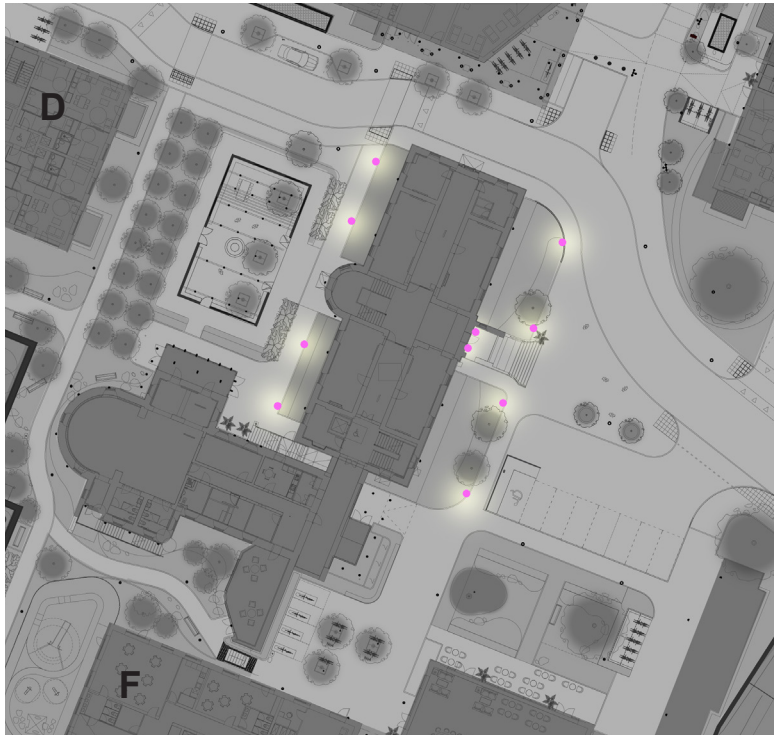


The building entrance and stairs will be lit with heritage style wall lights either side of the door. Light source will be LED in 2700 kelvin warm white and optics will be selected to maximise light onto the stairs.

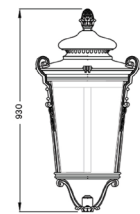
In front of the main building a set of 4 metre tall heritage lanterns with an LED source are set either side of the front of the facade of Tabor House. On the back side of the building this same fitting is set out in a similar pattern of symmetry to provide local amenity lighting in these zones.



Heritage Zone - Heritage Columns & Heritage Wall Lights - Light Levels

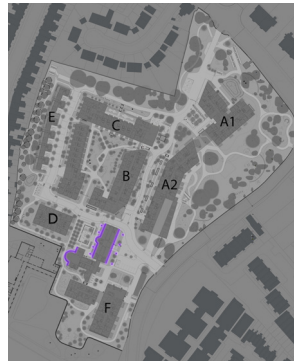
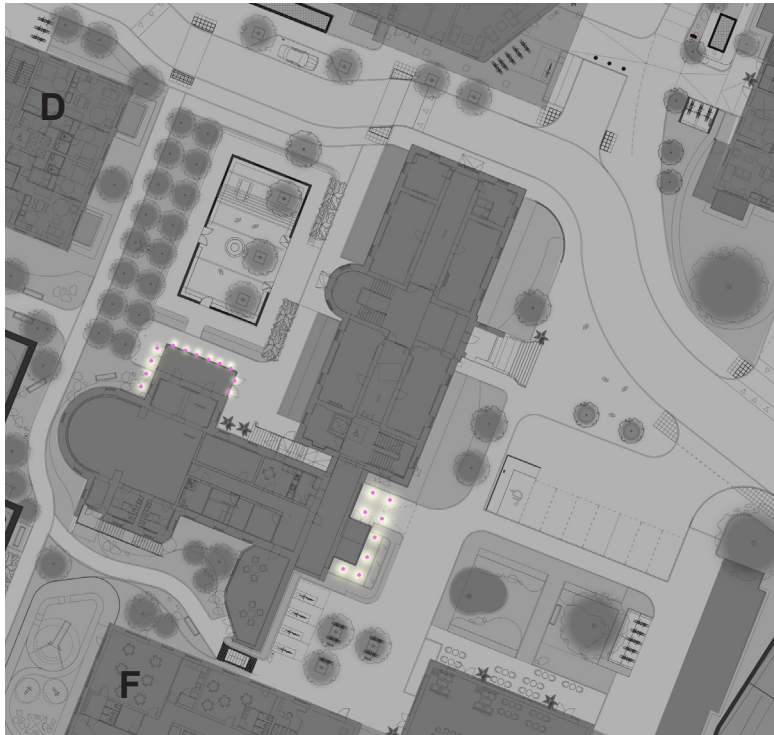


Key to Lux Level Colours



Light levels from these heritage amenity columns are set higher closer in to the building perimeter and will be softened by the building facade illumination. Source is dimmable and an allowance for decorative detail painting of the base will be allowed for.

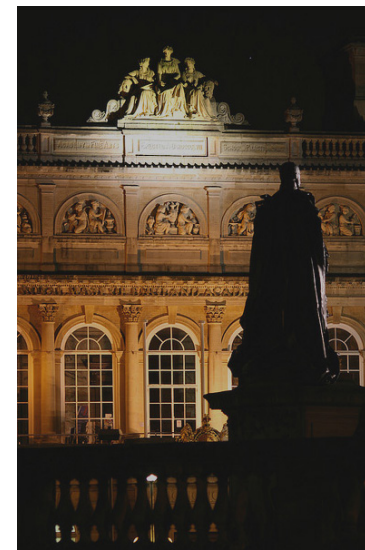
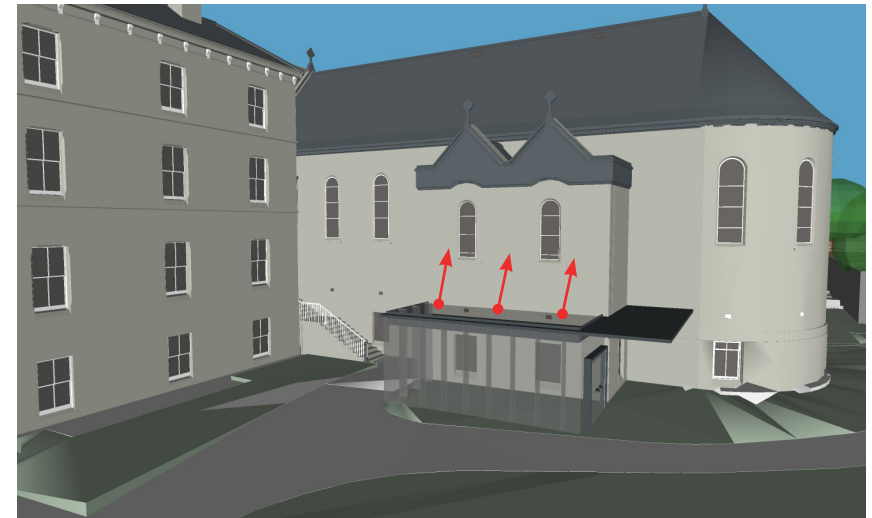
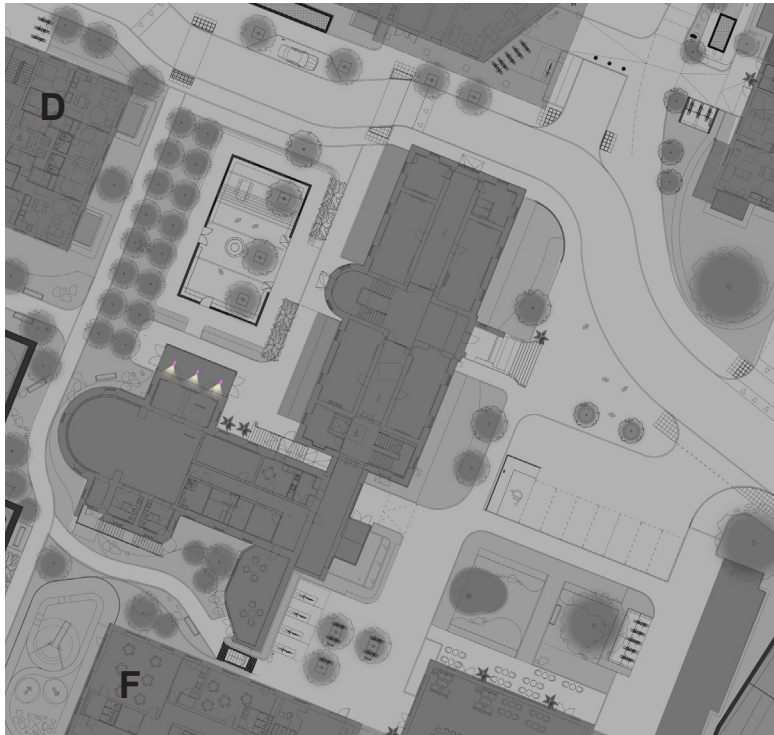
Heritage Zone - Chapel Entrances



The entrances to the chapel, to the east and north will be given an enhanced level of lighting. This will take the form of lighting mounted to the underside of canopies, where the architecture allows, or miniature wall-mounted projectors to illuminate the perimeter routeways where there is no canopy.

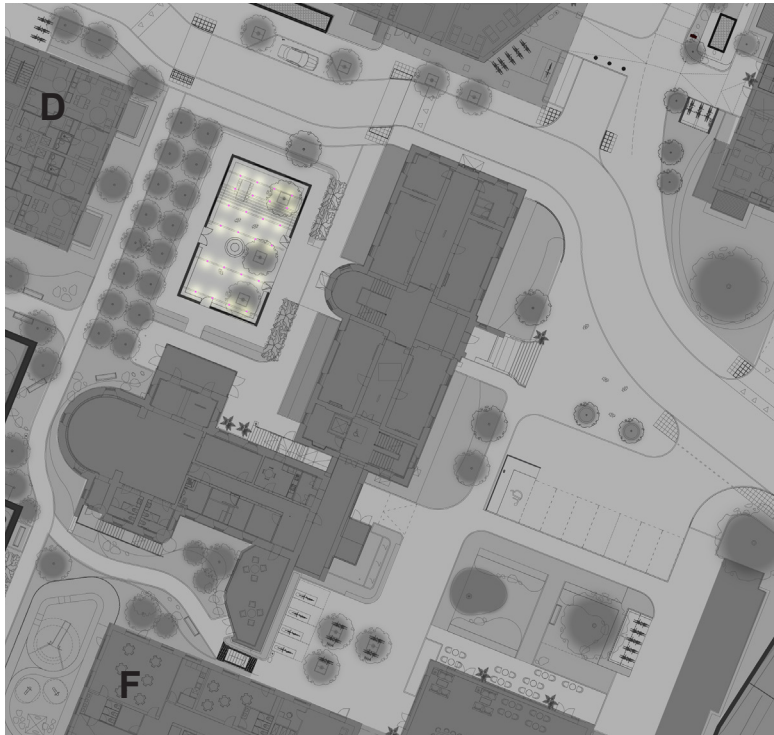
The intent is to see this lighting as both illuminating the thresholds as well as brightening the near landscape areas. As with all other external lighting the white light is restricted to 2700 kelvin warm white.

Heritage Zone - Facade Uplighting



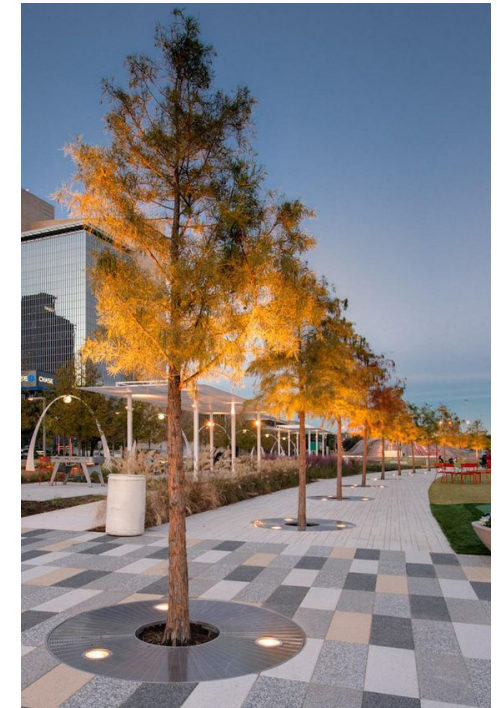
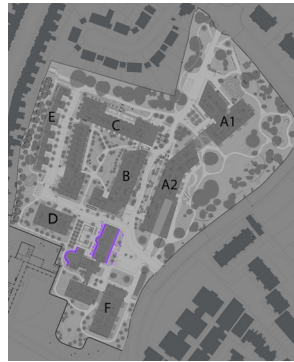
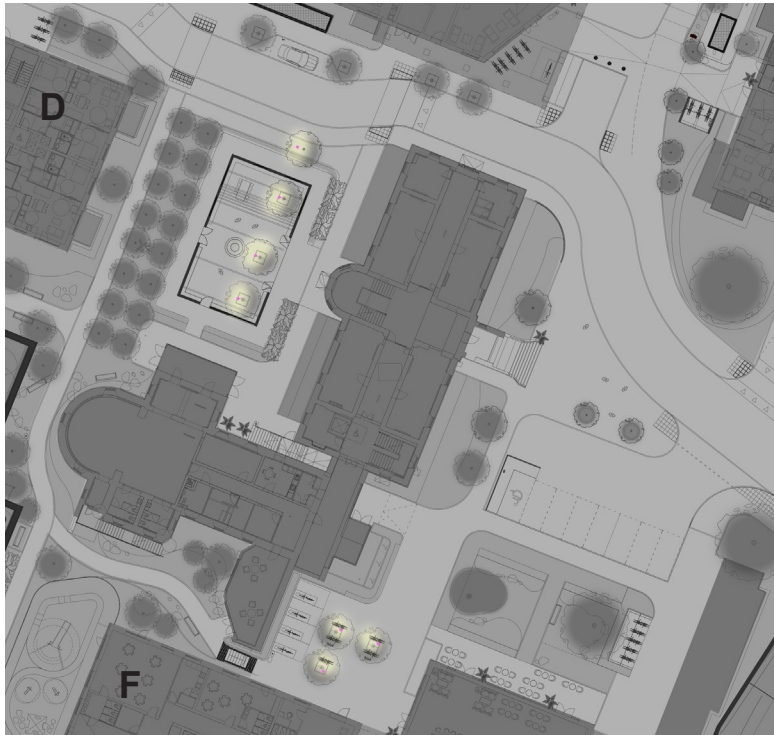
To complete the facade lighting of the chapel surface mounted projectors are proposed on the north side on the roof of the new extension to uplight the facade, which will provide illumination to the area of facade without up/down wall mounted fittings to be installed across the rest of the facade and in the same warm white 2700 kelvin light quality.

Heritage Zone - Structure Mounted Lighting



The proposed Secret Garden space shall be lit from overhead lighting - a very low glare, proscribed downlighting source integrated into the pergola beams in a 2700 kelvin warm white light. This will allow the garden to be well lit when required but with an extremely low glare source that can also be dimmed to low levels and to off during the crucial bat summer roosting months.

Heritage Zone - Tree Uplights

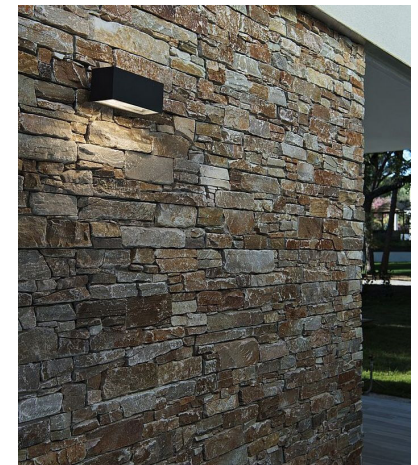
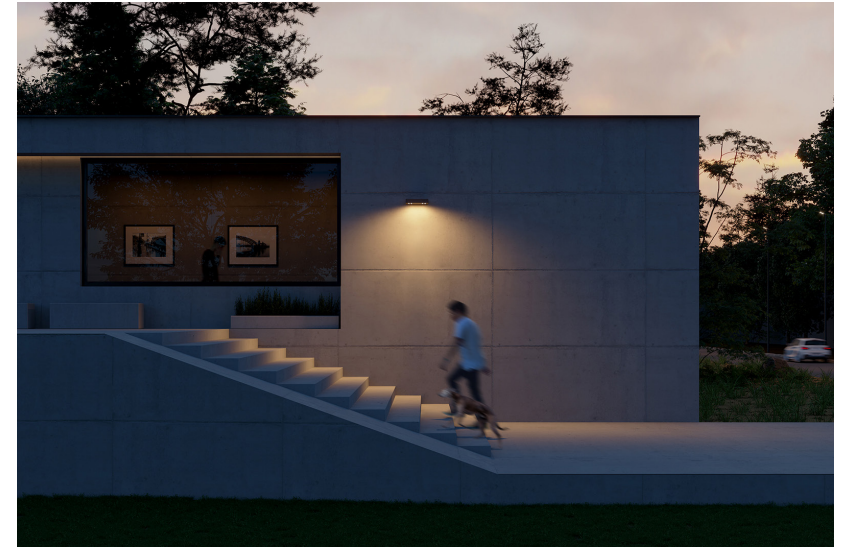
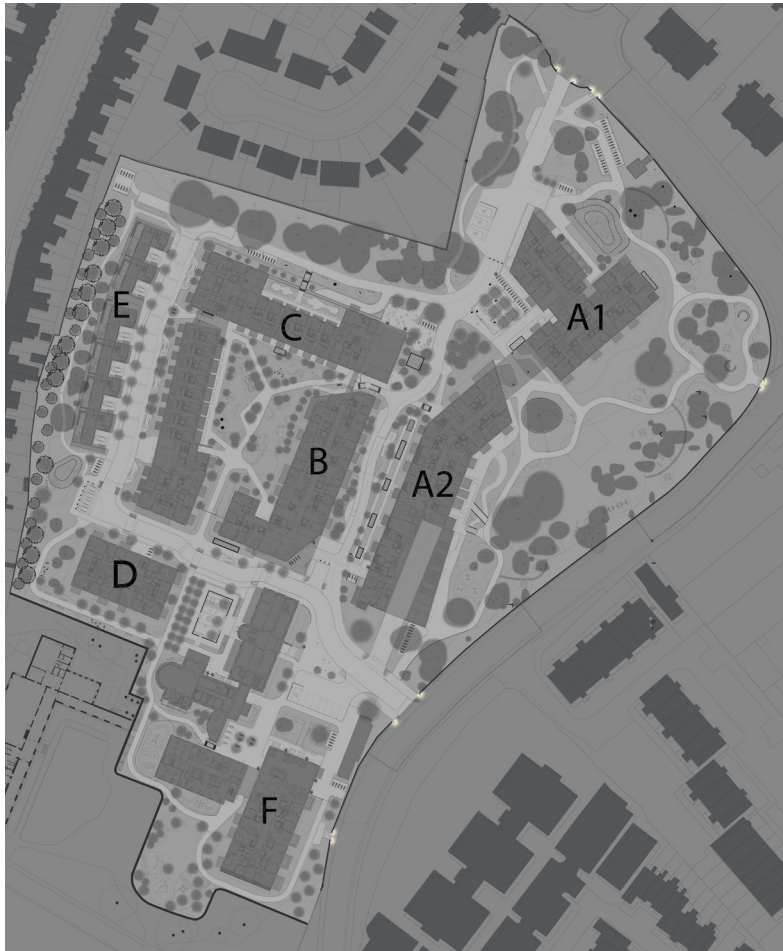


A small allowance for individual tree uplight of the 3no trees in the Secret Garden. These would be highly louvred sources in a warm 2700 kelvin light quality. The lights are a low wattage, mini size unit and fully dimmable - lights would be dimmed to half output to give a slight lighting sheen to the trees; at curfew and during the summer roosting period these are turned off completely.

Between Block F and the Chapel three additional trees are lit with the same uplight source but these ones will stay on in the summer roosting months although still turning off at the curfew as with all feature lights.

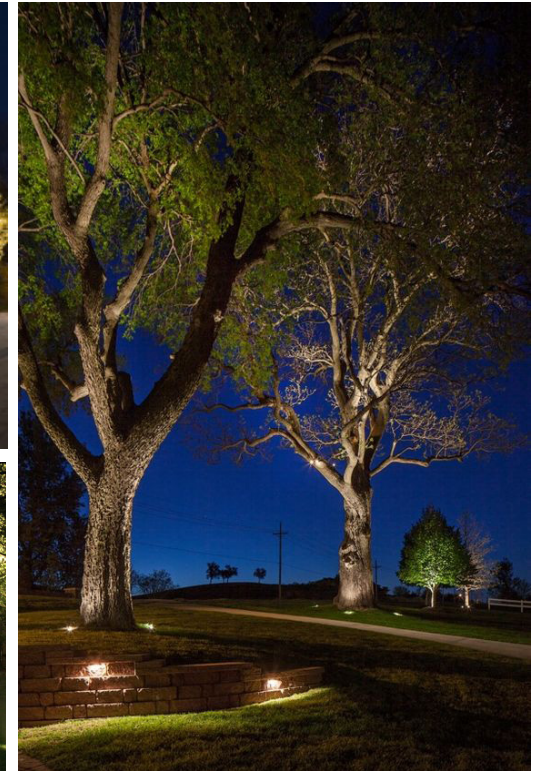
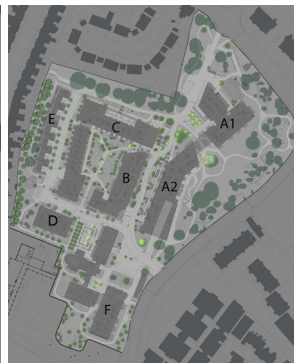
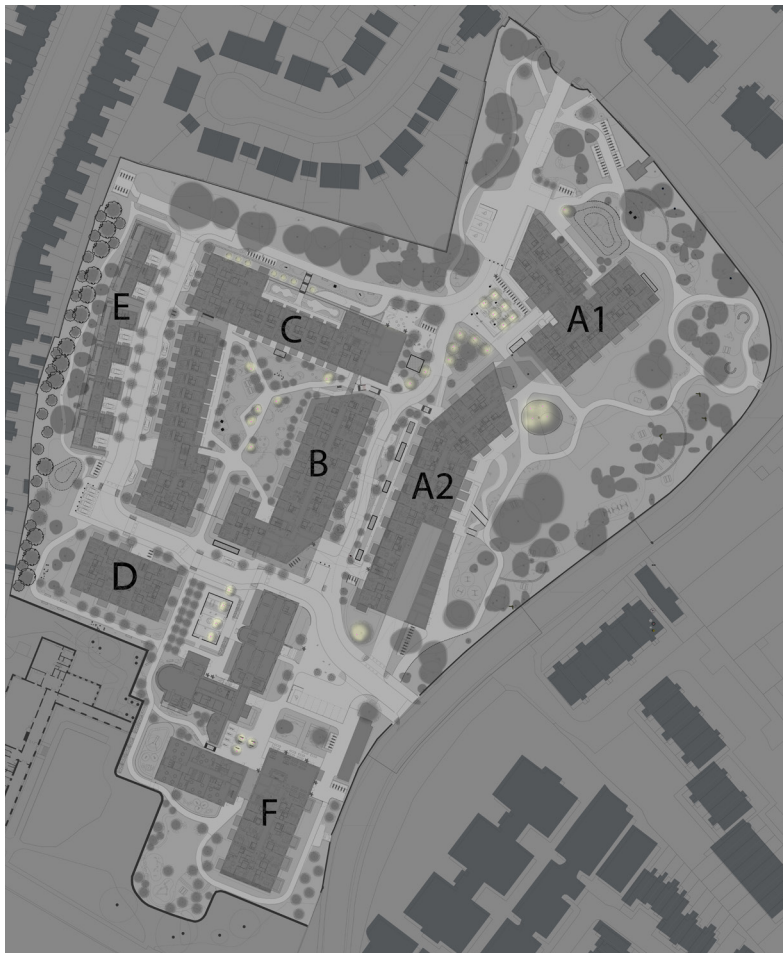


Gates



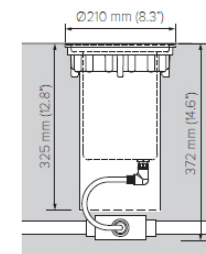
An allowance at present for wall mounted downlights at the two vehicular entrance gates, the pedestrian gates flanking the Sandford Road vehicular entrance, and the pedestrian entrance in the north and east corner of the site. These lights would be on dusk to dawn and in the developments signature 2700 kelvin warm white colour temperature.

Tree Uplighting

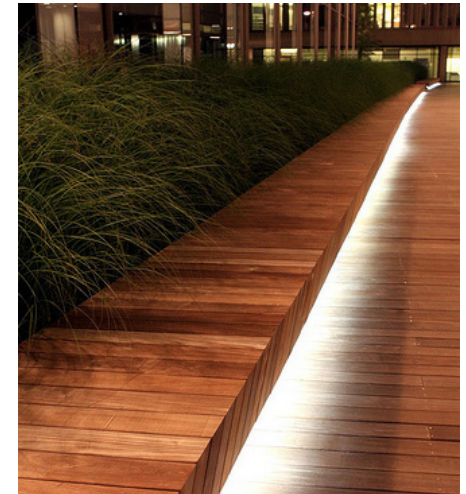
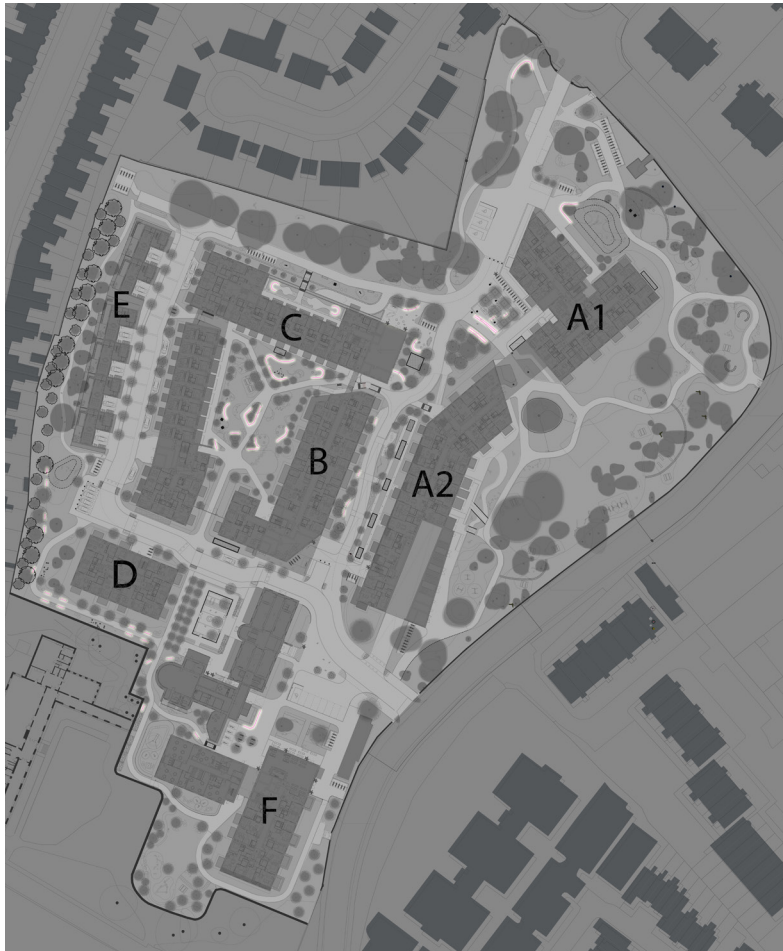


Inground uplights set into the soft and hard landscaping to illuminate key trees, selected in consultation with project environmental consultant to avoid the prescribed dark corridor shown on page 4 of this report. These sources will turn on at dusk and off at the prescribed curfew and all sources are 2700 kelvin warm white and all sources will be strictly cowed to mitigate light spill.

Lights in the Heritage zones are of a smaller fitting size and have stricter control use as outlined on page 50 of this report.

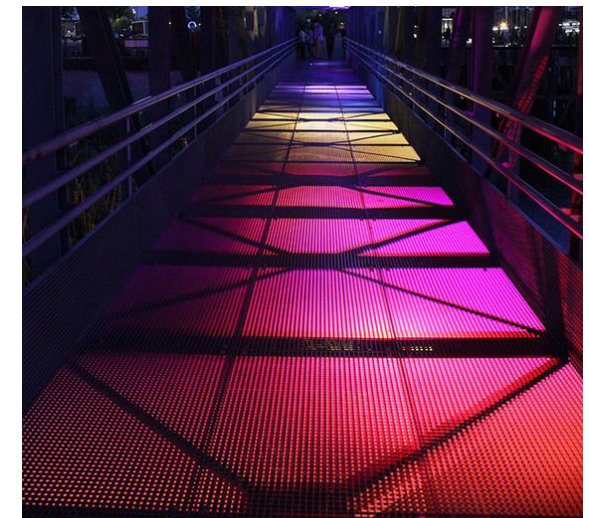
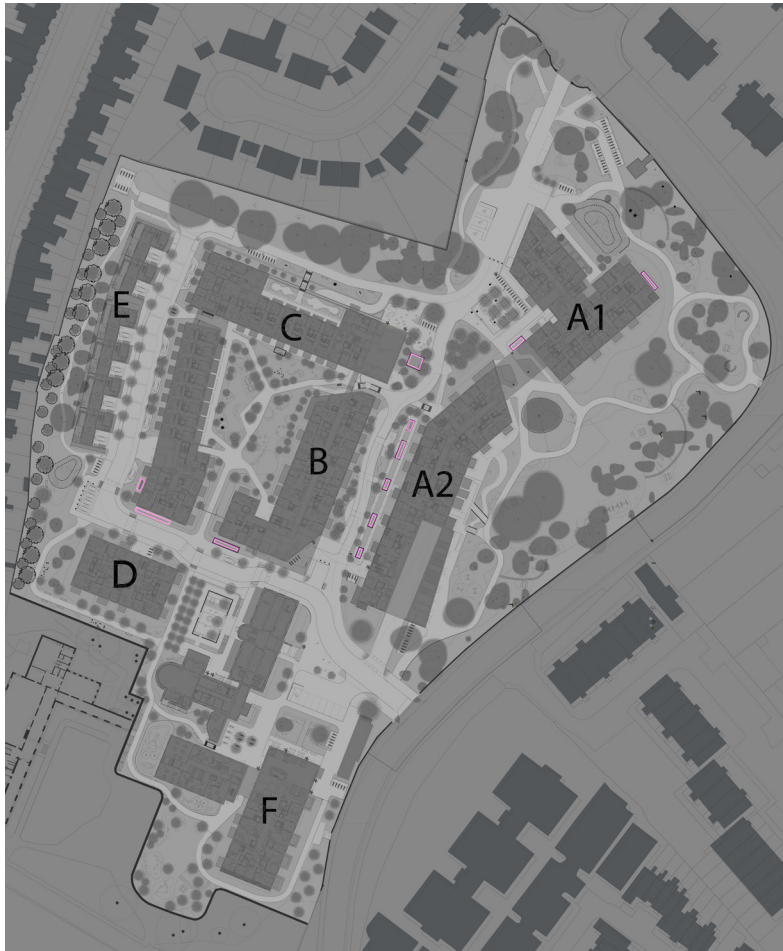


Benches



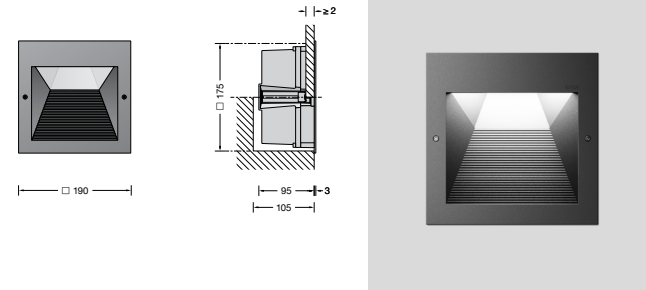
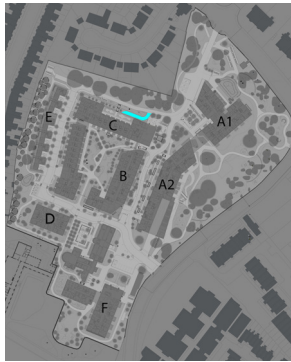
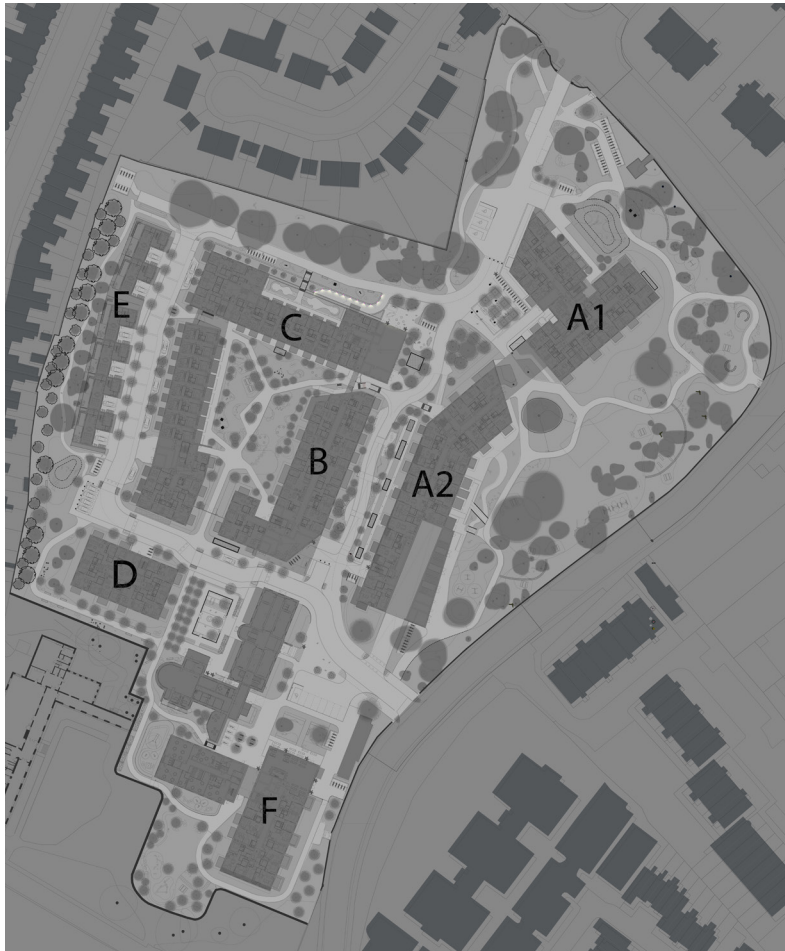
An allowance is made for limited bench illumination. This is proposed to be an integrated flexible linear lighting detail, to be co-ordinated with final bench designs. Lighting will always light downward to avoid any direct upward light spill and be restricted to the 2700 kelvin warm white colour.

Car Park Vents



An allowance is made at this stage for some limited lighting integrated under the vent structures. An occluded linear LED source will wash light over the perimeter of the opening. This will be an amber, red or 2700 kelvin warm white light and fully dimmable with all lights to dim to off at the curfew.

Cycling Ramp



The cycle ramp down to the underground cycle parking area has a provision for wall recessed wall lights to guide cyclists down the ramps in a 2700 kelvin white light source with downward facing assymetric optics.