STATEMENT TO ACCOMPANY PLANNING SUBMISSION FOR EXTERNAL LIGHTING SCHEME

School: Spring Lane Primary

This is a retrospective application to supplement the Main Works Planning Application reference: NO/04/1674, as the design of the external lighting was carried out by the electrical subcontractor after the PFI contract was let, and the main application already submitted and approved.

It was not realised that the external lighting might require approval if it exceeded the parameters set out in the provisions of the Town and Country Planning (General Permitted Development) order 1995. Where these permitted limits have been exceeded retrospective permission is now sought.

The requirement for the external lighting has been generated by the needs of the school for heightened security, given the nature of the local environment.

The security of the school needed to address the following issues and external lighting has been provided to enable these issues to be addressed during hours of low light or darkness:

1. The need to control and restrict pedestrian access to critical parts of the buildings during and after curriculum hours.

2. The need to prevent access into the buildings after core hours and onto the premises at all other times.

3. The need to monitor the external perimeter of the buildings during core hours and after school hours.

4. The need to provide limited / restricted access into certain areas of the premises.

The Client, acknowledging these requirements, requested, as set out below, that an external lighting system be provided and maintained.

Northamptonshire County Council PFI Contractual Authority’s Requirements

"The Contractor shall provide and maintain external lighting systems in accordance with DfES Building Bulletin 90, covering car parks, walkways and roads, entrances, particular building features, security requirements. The Contractor shall identify lighting levels as for internal spaces.

• The Contractor must provide external lighting that achieves safe environments for people, traffic and the building. Light pollution must be minimised and kept within the limits as required by BS 5489 and nuisance to the adjacent neighbourhood shall be avoided.

• The Contractor shall provide appropriate flood lighting to all the all weather pitch areas, subject to obtaining planning approval. “ [this latter paragraph is not relevant for this school]

Contractor’s Proposal to achieve compliance with the requirements

External Lighting

There were existing post mounted lighting in the school car park as shown on attached A3 drawing SP-01-90003. This was in poor condition and inadequate for safe use of the car park and approach to, and circulation around the building.

The existing external lighting installation has been replaced and extended to meet illumination levels stated below.
Illumination to external areas including roadways, car parking areas, pedestrian walkways, building entrances/exits, courtyards etc is provided together with lighting of the perimeter of the building. Due regard has been given to using energy efficient lighting sources and time switch/photocell control is utilised to maximise energy conservation. Design service illumination levels (based on CIBSE guidelines) are as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Lux Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Park lighting</td>
<td>20 lux at floor level</td>
</tr>
<tr>
<td>Vehicle Roads</td>
<td>10 lux at road level</td>
</tr>
<tr>
<td>Security lighting</td>
<td>20 lux at the building elevation</td>
</tr>
<tr>
<td>Pedestrian Areas</td>
<td>10 lux at floor level</td>
</tr>
<tr>
<td>Courtyards</td>
<td>10 lux at floor level</td>
</tr>
<tr>
<td>Building Entrance/Exits</td>
<td>20 lux at floor level</td>
</tr>
</tbody>
</table>

The above lux levels are met using building mounted luminaires and supplemented where necessary by additional luminaries mounted on self-finish columns, as set out on drawing 60673 SP E-1003 rev A.

The choice of luminaire to undertake each function referred to above has been made with due regard to the efficiency of the lamp (lm/W) employed and its aesthetic appearance.

The choice of column has been made with respect to the optimum height and spacing required to ensure an even and efficient distribution of light.

Control photocell(s) have been provided in vandal resistant positions in conjunction with a time clock within the building, such that illumination can be time controlled and react to the lighting need (failing light/darkness) enabling the School, in conjunction with the Facilities Management, to control the times at which the external lighting is on. The lighting will be switched off when the building is unoccupied.

**The adjacent environment**

The adjacent roads- Spring Lane, Crispin Street and Scarletwell Street have existing street lighting.

The neighbouring buildings along the West perimeter of the car park are mainly blank brickwork walls to an industrial unit, but with one residential property (until recently, the school caretaker’s house). The luminaries on this side of the car park are fitted with opaque black metal shields to the upper half and rear lower quarter of the globe preventing light from shining towards this property. (the effect of this shielding is not shown on the lux plot).

The buildings on the North side of Spring Lane are also industrial units.

The new nursery building and area between the main school and Crispin Street is at approximately 1500mm higher level than the car park so the effective height of column mounted luminaires will be reduced relative to the street level. The properties on the opposite side of this street comprise high rise flats.

The properties in Scarletwell Street are residential low rise flats, there are only building wall mounted luminaries on this side of the school.

**Attached details:**

- Cooper Lighting luminaire data sheets for Crompton Sidelite wall mounted luminaries.
- Data sheet for Cooper Strada 150 W HQI amenity post top luminaire with polycarbonate bowl
- N G Bailey external services drawing ref 60673 SP E-1003 rev A with lux plot
- GHM Architects external works plan ref RW1088 SP-01-90003 marked with existing lighting locations
### PLANNING SUPPORT STATEMENT

#### External lighting scheme for Spring Lane Primary School

#### Description of design criteria

**Overview**

The existing Spring Lane primary school has been extended to provide a new single storey IT resource area, library and staff room and a new separate single storey nursery building on a higher level terrace backing onto Crispin Street. The school carpark is accessed from Spring Lane while the rear of the school faces Scarletwell Street. All three streets are illuminated by street lighting. The adjacent properties comprise high rise flats on Crispin Street, two and four storey flats on Scarletwell street. Commercial properties line the opposite side of Spring Lane, the school caretaker's house being the only residential property. The existing lighting in the school carpark comprise two columns approximately 4 metres tall.

**Design Intent**

To provide external lighting that achieves a safe environment for people, traffic and the building. Light pollution would be minimised and kept within the limits of BS 5489 and from causing a nuisance to the adjacent neighbourhood.

<table>
<thead>
<tr>
<th>Item selected</th>
<th>Details</th>
<th>Reason for selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column</td>
<td>5 mt circular</td>
<td>Optimum height for luminaires</td>
</tr>
<tr>
<td>Car park luminaire</td>
<td>Cooper Strada polycarbonate globe with black top and 150W HQI lamp</td>
<td>A high performing, energy efficient, industry standard lighting solution for carparking and amenity lighting giving excellent performance and minimal sky glow light pollution.</td>
</tr>
<tr>
<td>Lighting Shield</td>
<td>180 deg black out shield</td>
<td>A Black steel insert that stops the emission of light from half of the lower hemisphere of the luminaer. To be used in situation as indicated on the layout drawings to prevent viewing of the light source from and light spilling into adjoining properties.</td>
</tr>
<tr>
<td>Building perimeter luminaire</td>
<td>Cooper Sidelight 70W SON-E wall mounted bulkhead</td>
<td>A vandal resistant wide spacing luminaire mounted at 2.86m above ground</td>
</tr>
<tr>
<td>Controls / Switching</td>
<td>Time clock / Photo Cell</td>
<td>To prevent lighting remaining switched on when not required a 7 day programmable time clock is installed. To prevent the lighting remaining on in day light conditions the lighting is over ridden by a photo cell. The time control is managed by the school facilities management to ensure that the lighting is only on during the hours of occupation of the buildings</td>
</tr>
</tbody>
</table>
• Attractive contemporary appearance
• Opal and clear spheres in acrylic or vandal resistant polycarbonate
• Anti-light pollution black top sphere option
• High performance refractors
• IP54 dust and splash proof
• Comprehensive range of columns and brackets

Delivering high performance with a striking, attractive appearance, the Strada range of spheres provides excellent amenity lighting for numerous and diverse applications. Available with the strength of vandal resistant polycarbonate or the economy of acrylic, spheres can be supplied in opal or clear finish. In addition, there is a black topped option which re-directs a large percentage of the upward light back to the ground, increasing efficiency and minimising light pollution which causes sky glow effect. Complementing the spheres is a comprehensive range of columns and brackets, with curved or straight profiles.

WHERE TO USE STRADA
- Public squares
- Precincts
- Pedestrian areas
- Car parks
- Estate roadways
- Shopping areas
- Gardens and parks
- Architectural landscapes
**LAMP OPTIONS**
- 70W SCONE/I (internal ignitor) - E27 cap
- 80W, 125W MBFU Deluxe - E27 cap

**MATERIALS**
- Sphere base - polycarbonate, self coloured black
- Reflector - high temperature acrylic, asymmetric version with high purity reflector
- Spheres - UV stabilised acrylic or polycarbonate, clear or opal finish. Black top version has external white and secondary black coating
- Columns and brackets - galvanised steel. Column roots are bitumen coated. Wooden backboards in base compartment

**INSTALLATION NOTES**
- Suitable for column and bracket mounting
- Sphere base has 76mm diameter spigot
- Base secured to column or bracket spigot by allen key screws supplied, marked for asymmetric directional installation
- Cable entry has clamp for circular flex
- 3 way, 1x2.5mm² terminal block
- Control gear cover bayonet fixes onto base
- Reflector bayonet fixes to gear cover, optically orientated
- Sphere is clamped onto base with allen key fixings
- Columns are root mounted, with cable entry via underground slot. Single base compartment with access door as standard
- Installer to supply/fitt gland plate/fused cutout to backboard
- Column supplied with grub screws to fix bracket
- Sphere bases supplied complete with lamp

**OPTIONS**
- Full range of wall and column brackets available
- Reflector must be used with clear and black top spheres
- Do not order reflectors for use with opal spheres
- Thermal cutout on SCNF lamp ballasts as standard
- Strada available with 500mm diameter spheres to special order

**SPECIFICATION**
Luminaire - To specify state: Decorative sphere luminaire, 450mm diameter, with integral control gear base in black polycarbonate, high temperature acrylic asymmetric/reflector and opal/clear/anti-pollution black top sphere in acrylic/polycarbonate, sealed to IP54, as Crompton Strada range, part no. __________

Columns & brackets - To specify state: 4/5m galvanised steel root mounted column, 140mm base, 76mm shaft, grub screw for fixing bracket, bitumen coated root and single base compartment with treated wooden backboard and access door, uniform bracket/column interface and geometrically designed brackets, as Crompton Strada column and bracket range, part no. __________

**PHOTOMETRIC DATA**

<table>
<thead>
<tr>
<th>Dia 1 (mm)</th>
<th>Dia 2 (mm)</th>
<th>Dia 3 (mm)</th>
<th>H (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>750</td>
<td>220</td>
<td>450</td>
<td>95</td>
</tr>
</tbody>
</table>

Opal sphere distributes light equally in all directions
Refractor sphere redirects light onto ground with a small upward light content
Black topped sphere collects upward light and redirects it onto ground
Refractor redirects light onto ground
### CATALOGUE NUMBERS

<table>
<thead>
<tr>
<th>Lamp Rating</th>
<th>Lamp and Gear Type</th>
<th>Cat. No.</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sphere bases - order sphere and refractor (if required) separately</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 70W</td>
<td>SGRH/1</td>
<td>ST15370</td>
<td>3.5</td>
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<tr>
<td>1 x 80W</td>
<td>MGRU Deluxe</td>
<td>ST15380</td>
<td>3.5</td>
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<tr>
<td>1 x 125W</td>
<td>MGRU Deluxe</td>
<td>ST153125</td>
<td>3.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lamp Rating</th>
<th>Description</th>
<th>Acrylic</th>
<th>Polycarbonate</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sphere - 450mm diameter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>Opal finish (Refractor not required)</td>
<td>ST15450OA</td>
<td>ST15450OP</td>
<td>3.6</td>
</tr>
<tr>
<td>All</td>
<td>Clear finish (Refractor essential)</td>
<td>ST15450CA</td>
<td>ST15450CP</td>
<td>3.6</td>
</tr>
<tr>
<td>All</td>
<td>Clear finish with black top (Refractor essential)</td>
<td>ST15450CA</td>
<td>ST15450CP</td>
<td>3.6</td>
</tr>
<tr>
<td>Refractor</td>
<td>Symmetric refractor</td>
<td>STRS</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>Asymmetric refractor/reflector</td>
<td>STRA</td>
<td>0.6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. No.</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4m column - for use with single Strada</td>
<td>COL476</td>
<td>32.0</td>
</tr>
<tr>
<td>4m column - for use with brackets for 2-4 Strada</td>
<td>COL476GS</td>
<td>32.0</td>
</tr>
<tr>
<td>5m column - for use with single Strada</td>
<td>COL576</td>
<td>36.0</td>
</tr>
<tr>
<td>5m column - for use with brackets for 2-4 Strada</td>
<td>COL576GS</td>
<td>36.0</td>
</tr>
<tr>
<td>Brackets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 way curved - for wall mounting</td>
<td>COL59BC1</td>
<td>6.0</td>
</tr>
<tr>
<td>2 way curved - for column mounting</td>
<td>COL59BC2</td>
<td>11.0</td>
</tr>
<tr>
<td>3 way curved - for column mounting</td>
<td>COL59BC3</td>
<td>15.0</td>
</tr>
<tr>
<td>4 way curved - for column mounting</td>
<td>COL59BC4</td>
<td>19.0</td>
</tr>
<tr>
<td>1 way straight - for wall mounting</td>
<td>COL59BS1</td>
<td>5.0</td>
</tr>
<tr>
<td>2 way straight - for column mounting</td>
<td>COL59BS2</td>
<td>9.0</td>
</tr>
<tr>
<td>3 way straight - for column mounting</td>
<td>COL59BS3</td>
<td>13.0</td>
</tr>
<tr>
<td>4 way straight - for column mounting</td>
<td>COL59BS4</td>
<td>17.0</td>
</tr>
</tbody>
</table>

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![Diagram](image.png)

2 way curved bracket - COL59BC2
Curved wall bracket - COL59BS1

2 way straight bracket - COL59BS2
Straight wall bracket - COL59BS3/NS1
SIDELITE

- Compact design
- Excellent distribution and wide spacing
- Rugged, close fitting base to resist removal
- Vandal resistant polycarbonate refractor lens
- IP55 dust proof and water jet proof
- Integral photocell option for ‘dusk to dawn’ operation

Offering wide spacing characteristics and rugged vandal resistant construction, Sidelite is a well established luminaire for area lighting of public spaces. Excellent spacing to height ratios are achieved by the prismatic refractive lens, minimising the quantity and therefore cost of luminaires to be installed. Sidelite is available with efficient SON lamps or MBFU for a white light appearance, both in coated elliptical format to minimise glare at low mounting heights. The robust base provides strength to ensure IP ratings are maintained when fixed to uneven surfaces and is close fitting to resist unauthorised removal. Automatic switching via an optional integral photocell augments this popular range.

WHERE TO USE SIDELITE
- Building perimeters
- Car parks
- Security lighting
- Walkways
- Footpaths
- Subways
- Precincts
- Schools
LAMP OPTIONS
- 70W SONE/I (internal ignitor) - E27 cap
- 50W M8FU Deluxe - E27 cap

MATERIALS
- Base - pressure die cast aluminium
- Lens/cover assembly - polycarbonate, self coloured black cover and clear prismatic refractor optic section

INSTALLATION NOTES
- Suitable for wall mounting
- BESA entry and 20mm cable entry knock-outs on back plate
- Direct screw fix via 2x6.5mm drill-outs on back
- 20mm conduit entry at base of fitting, or cable entry via gland supplied
- 2 way; 2x1.5mm² terminal block plus earth stud
- Lens/cover assembly retained by 2 captive screws
- Supplied complete with lamp

OPTIONS
- Integral photocell versions available
- Nominal 6:1 spacing to height ratio to the side of luminaire
- Nominal 4:1 spacing to height ratio to front of luminaire

SPECIFICATION
To specify state: Vandal resistant wall mounted area lighting luminaire, dust proof and water jet proof to IP55, with die cast aluminium base and polycarbonate lens/cover assembly including clear prismatic refractor, optional integral photocell, as Compton Sidelite range, part no. 

PHOTOMETRIC DATA

CATALOGUE NUMBERS

<table>
<thead>
<tr>
<th>Lamp Rating</th>
<th>Lamp Type</th>
<th>Without Photocell</th>
<th>With Photocell</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 70W SONE/I (internal ignitor)</td>
<td>SL70E</td>
<td>SL70ECE</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>1 x 50W M8FU Deluxe</td>
<td>SL50E</td>
<td>SL50ECE</td>
<td>2.5</td>
<td></td>
</tr>
</tbody>
</table>

Royal Mail, Newcastle-upon-Tyne
Sidelite