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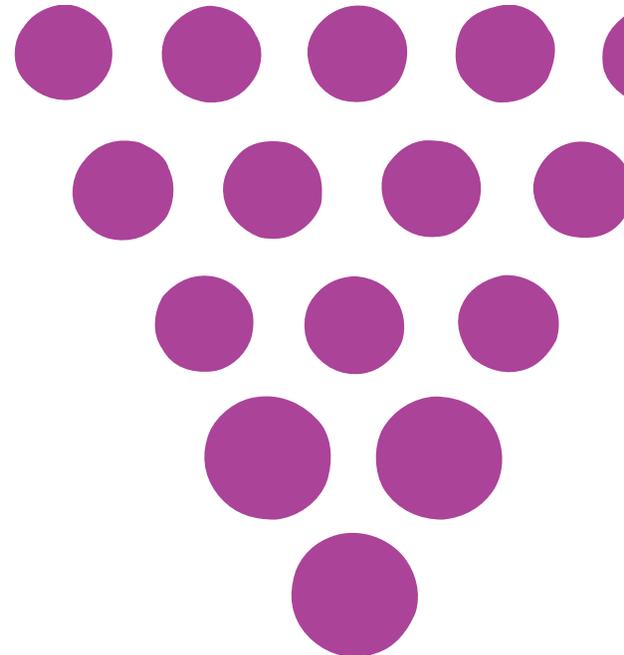
Street Lighting Design Guide

Criteria for Adoptable Street Lighting & Illuminated Traffic Sign Infrastructure

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Transport & Technology Service
Economy, Enterprise & Environment Directorate



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Introduction

This document forms part of a suite of design guidance documents for the Transport & Technology service. This particular guide is for those considering the installation of **“Street Lighting & Illuminated Traffic Signs Infrastructure”** equipment on the highway in Cornwall. It covers design, operation and installation and outlines the adoption standards that must be met in order to minimise the future revenue funding demands on the Council.

It is a requirement of Cornwall Council as The Highway Authority that all roads that are to be adopted shall be provided with street lighting to the satisfaction of Cornwall Council’s Engineer. In particularly rural locations, where there is no existing lighting in the surrounding areas, it may be appropriate to adopt a road without street lighting although this is very rare. Any request to omit street lighting from a design will be considered on an individual site basis.

1 General Principles

Street lighting must be planned as an integral part of the residential layout and, as stated by BS5489, on new roads the lighting layout should be determined prior to the design of proposed planting areas to prevent trees obscuring the light in later years. Adequate provision of street lighting is needed to improve road safety by reducing accidents after dark to both pedestrians and vehicular traffic and to provide a sense of security to the public through discouraging crime and vandalism.

Where a site lies beyond the limits of an existing lighting scheme it may be necessary for the intervening section to be lit at the expense of the developer. This is to ensure that there is not a dark gap left between two well lit areas which would be unsafe for both pedestrians and vehicular users. The distance and requirements must again be considered on an individual site basis, therefore early consultation with Cornwall Council's Engineer is essential.

The developer is responsible for the implementation of all work required in the removal, replacement or relocation of any existing lighting equipment made necessary by the street works, whether or not such work was detailed within the original street lighting drawings or specification. This work may involve the total removal of units from site and/or the replacement/relocation of units within the general area affected by the works. Existing lighting shall not be switched off, dismantled or removed without prior written approval of Cornwall Council's Engineer and any equipment removed must not be disposed of without prior written agreement of Cornwall Council's Engineer.

Subsequent to receiving detailed planning permission, details of the layout and design of a street lighting scheme will need to be approved in respect of all roads and footways that are to be adopted. The developer must submit a package showing a suitable lighting scheme for the site in AutoCAD format for approval by Cornwall Council. Included within this package must be the following:

- Column height and confirmation of correct specification
- Bracket outreach (if applicable) and confirmation of correct specification
- Lamp type and wattage and lantern type
- Confirmation of the correct Internal gear/control method
- BS5489 desired lighting level including actual levels achieved
- Plan showing lux levels and contours for all adoptable areas including any links between existing lighting units

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- Lighting units within a design layout must each have a unique reference number e.g. SL01, SL02
- Details of supply network (i.e. WPD or approved IDNO)
- Any existing lights must be plotted accurately with either the reference number from the lighting unit shown or for any unnumbered lights a unique site reference number and these must be included and allowed for in the lighting design

Adoption of the lighting units and energy payments by Cornwall Council will only take place where a Section 38 or S278 agreement has been completed and where the lighting, associated equipment and installation meets Cornwall Council's approved specification and standards. The developer must provide Cornwall Council with an Electrical Installation Certificate along with the location plan obtained from the electrical contractor to allow an inspection to take place.

The developer will remain responsible for paying the energy and for any remedial works required to the electrical installations until the final road adoption, as provided for under the Section 38 or S278 agreement, takes place.

2 Design Standard

2.1 General

All street lighting shall be designed in accordance with the current edition of BS5489 & BSEN13201 Parts 1-9 using the correct lighting level applicable to the proposed road, taking into account the road type, width and intended traffic flows. The spacing between columns and/or proposed locations of units should be calculated using a suitable lighting design calculation package.

Cornwall Council's current default maintenance factor is 0.92. This is due to the change towards LED luminaries.

Various site-specific details must also be considered to ensure that whilst maintaining the correct level of light on the highway, columns do not obstruct driveways/garages or shine directly into windows. For this reason, columns should be shown on the boundary of properties wherever possible. For any roundabouts/junctions, lighting should be designed using the suggested junction layouts in BS5489 wherever possible.

On estates where traffic calming features are present, careful consideration must be given to the location of columns to ensure that all features are adequately lit and uniformity of light on the highway is maintained.

2.2 Light Source

With light control and electricity consumption being a priority, Cornwall Council has committed to only installing "white light" lamp sources. White light sources provide a safer feel due to the ability for the eye to recognise more colours as the lamp emits a more natural colour of light. It is also a more energy efficient light source, meaning less light is required which allows for the use of lower wattages. The required wattages will be determined within the lighting design calculation for the road.

Changes to the Council lighting infrastructure, and the introduction to the UK market of LED lighting units, means that LED light sources shall be the default requirement for all new designs. Only in the circumstances where road lighting levels cannot meet the required design standard may the Cosmopolis lamp be used.

Street Lighting Design Criteria for Adoptable Street Lighting

The LED light source shall be protected against overheating by an over-temperature sensing system.

The LED shall be driven by a constant current supply in series configuration - parallel driving is strictly prohibited. Where a modular arrangement is required for street lighting application, modules should not contain less than 8 individual LEDs.

Life testing of LEDs shall be in accordance with LM-80.

The LED shall be white at colour temperature Warm (3000K). This is to ensure Cornwall Council does not impact on the “Dark Sky” status of locations in Cornwall.

When the design circumstances arise, and the LED lamp source will not meet the required standard a Cosmopolis lamp of wattages 45w, 60w, 90w or 140w may be used instead.

2.3 Luminaires

A functional lantern designed specifically of LED modules shall be generally used. This can be a low profile or flat glass version. All luminaires shall be fixed with an angle of inclination (tilt) of 5 degrees. The current standard lantern is the Kirium (standard or mini). Other lanterns may be used, where suitable, although these may be subject to a commuted sum being paid.

The LED lantern optics shall consider and factor in the overall efficiency of the lantern which may consist of the use of refractors, lenses or diffusers. All lanterns shall incorporate in their design and construction heat-sink cooling abilities to optimise the driver in the highway environment; it shall also provide an integral driver unit in a separate compartment sealed to IP 54.

All LED drivers contained within the lantern shall be guaranteed for 10 years operating LED from the date of installation of the unit and be compatible with the Council’s Central Management Control System (Vizion).

Cosmopolis lanterns shall only be used in circumstances where LED lanterns cannot fulfil the design requirements.

Any luminaire must be approved by Cornwall Council’s Engineer prior to installation. If not, Cornwall Council may not be able to adopt the units at a later date.

All luminaires shall have an overall IP rating of at least IP66.

2.4 Columns & Brackets

Standard Columns & Brackets

All components and brackets supplied must be manufactured by a company accredited under the quality assurance scheme BS EN ISO 9001: 2008. Evidence of the appropriate accreditation documentation must be provided to the ITC Service Manager prior to any purchases or erection of lighting columns and brackets under the contract.

All columns and brackets shall be manufactured, supplied and installed in accordance with the requirements of BSEN40 with a minimum design life of 40 years. All columns shall have a minimum wall thickness to the base of the column of not less than 5 mm irrespective of design criteria. All 6 metre columns shall have a minimum shaft diameter of 88.9 mm, 8 metre columns shall have a minimum shaft diameter of 114.3 mm, 10 metre/12 metre columns shall have a minimum shaft diameter of 139.7mm.

To ensure an aesthetic and consistent appearance with the existing lighting column assets the types and size of column and bracket are specified in the illustration and table below. The measurements specified provide a mounting height for the lantern above the carriageway using one column at each height requiring interchange of the bracket whilst still maintaining the nominal height requirement.

Design of the columns shall include for a sign loading of 0.6 m² surface area shape coefficient for 5 metre/6 metre columns and 1.0 m² for 8 metre/10 metre/12 metre columns.

All lighting columns and brackets shall carry a unique identification mark which indicates the name of the manufacturer, the year of manufacture and an identification number to enable details of the column and bracket to be determined throughout the design life of the column. This information shall be clearly visible after erection of the column.

The lighting columns and brackets shall be manufactured from steel which meets the requirements of BS EN 40-5 2000. All columns shall be of tubular steel design and shall be manufactured from the following:

Street Lighting Design Criteria for Adoptable Street Lighting

Hot finished circular hollow sections to EN 10210 Part 1 Grades S235, S275 and S355 JOH;

Cold formed circular hollow sections without subsequent heat Treatment to the dimensional requirements of EN 10219 Part 2 and the chemical and mechanical properties of EN 10219 Part 1 Grade S235, S275 and S355 JOH.

The lighting columns and brackets shall be manufactured from steel which meets the requirements of BS EN 40-5 2000. All columns shall be of tubular steel design and shall be manufactured from the following:

- Hot finished circular hollow sections to EN10210 Part 1 Grades S235, S275 and S355 JOH;
- Cold formed circular hollow sections without subsequent heat Treatment to the dimensional requirements of EN 10219 Part 2 and the chemical and mechanical properties of EN 10219 Part 1 Grade S235, S275 and S355 JOH.

Generally columns should be planted (as per standard drawing 13/101) and should be tubular steel, single reduction, hot-dipped galvanised. Columns must be designed to BD26/94 and allow for a 0.6m² sign to be mounted. They must also have positive anti-rotation to prevent bracket rotation. The height of the column will be determined within the lighting design calculation for the road although standard heights generally used are 6, 8 and 10 metres. 5m columns are also used in some circumstances. The current standard column used is supplied by CU Phosco.

Depending on the height of the column required, the specification must be in accordance with the table shown on standard drawing 13/102 and illustrated below in Figure 1. If not, Cornwall Council will not be able to adopt the units at a later date.

Independent certification of column design must be supplied for all columns.

Mid-hinged columns must be used where:

- Vehicular access is not available for maintenance purposes or
- Future maintenance will entail working in close proximity to overhead electricity cables (see WPD Standard Technique: OS6C).

Street Lighting Design Criteria for Adoptable Street Lighting

Mid-hinged columns should be 5m in height, unless agreed by The Highway Authority.

Generally luminaires should be mounted post top onto the column spigot to prevent the need for a bracket where possible. If there is a specific requirement for an outreach bracket such as a wide footway or parking area etc, the minimal projection should be used either a stub bracket, 0.5m or 1m. See standard drawings 13/102 and 13/103.

Twin lantern arrangements can be used where suitable but again these should use the minimal projection possible. See standard drawing 13/103.

In some circumstances luminaires can be mounted onto a wall provided that the wall is of sufficient construction and height and that the required lighting level and calculated spacing is not compromised. A suitable bracket would need to be used. See standard drawing 13/102. This would also be subject to an easement being obtained from the property owner.

In addition to this, an easement will also be required for any light that is not positioned within the highway limits. The developer will be responsible for providing any required easements to Cornwall Council prior to adoption.

Luminaires can also be mounted onto some Distribution Network Operator wooden poles provided that there is sufficient clearance from the cables and that the required lighting level and calculated spacing is not compromised. A suitable bracket would need to be used. See standard drawing 13/102.

Passively Safe Columns and Brackets

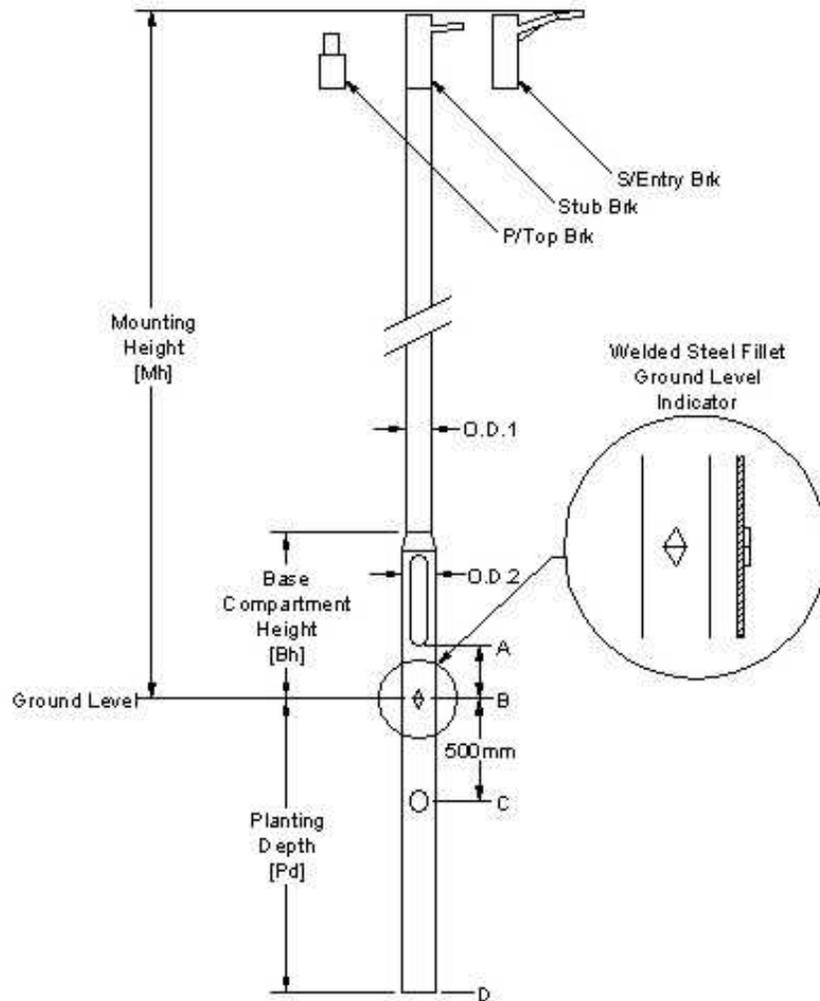
- a) Columns and brackets shall be designed to comply with BS EN 12767:2007 (Passive safety of support structures for road equipment – requirements, classification and test method) and TA 89/05 of the Design Manual for Roads and Bridges and shall be installed on all appropriate sites. The Service Manager shall advise the Contractor of sites where passively safe columns are to be employed. Any additional costs incurred with the installation of Passively Safe columns and brackets shall be charged against the appropriate Price List Extra Over Item.
- b) An effective and safe system of automatic disconnection of the electricity supply to passively safe columns designed to fit into an underground chamber installed adjacent to the column and complying with TA 89/05 shall be adopted and shall be approved by the Service Manager prior to

Street Lighting Design Criteria for Adoptable Street Lighting

installation. The chamber and chamber cover must be selected to suit the application and take into account the load-bearing requirements of each particular site location. The connection box contained within the chamber must be capable of sealing to a minimum of IP67 and as required by BS EN 60529. The electrical terminations shall be suitable for cables of between 6 mm² and 35 mm² and afford electrical isolation and protection.

Figure 1 – Cornwall Council Column Profile Table

Image and table to read in conjunction



Cornwall Council Column Profile Table									
Column Size	Luminaire Bracket Type	Mh (m)	Bh (mm)	Pd (mm)	A to C (mm)	A to B (mm)	O.D.1 (mm)	O.D.2 (mm)	Door Dimension
5 Metre	Post Top	5	950	800	800	300	88.9	168.3	500x100
	Single or Twin Stub	5	950	800	800	300	88.9	168.3	500x100
	Single or Twin Side Entry	5	950	800	800	300	88.9	168.3	500x100
6 Metre	Post Top	6	950	1000	800	300	88.9	168.3	500x100
	Single Stub or Side Entry	6	950	1000	800	300	88.9	168.3	500x100
	Twin Stub or Side Entry	6	1765	1000	1615	1115	88.9	168.3	500x100
8 Metre	Post Top	8	1250	1200	1000	500	114.3	168.3	600x115
	Single Stub or Side Entry	8	1250	1200	1000	500	114.3	168.3	600x115
	Twin Stub or Side Entry	8	1940	1200	1690	1190	114.3	168.3	600x115
10 Metre	Post Top	10	1250	1500	1000	500	139.7	193.7	600x115
	Single Stub or Side Entry	10	1250	1500	1000	500	139.7	193.7	600x115
	Twin Stub or Side Entry	10	1940	1500	1690	1190	139.7	193.7	600x115
12 Metre	Post Top	12	1350	1700	1100	600	168.3	219.1	600x115
	Single Stub or Side Entry	12	1350	1700	1100	600	168.3	219.1	600x115
	Twin Stub or Side Entry	12	1940	1700	1690	1190	168.3	219.1	600x115

2.5 Illuminated Traffic Signs

All Illuminated Traffic Sign units shall comply with the current Traffic Signs regulations and General Directions” Traffic signs manual; with all installation following the ITC Standard drawings related to that type of equipment.

It is Cornwall Councils preference to use a fully sustainable option where possible.

External Sign Luminaires

All external sign lighting units shall be die cast aluminium bodies (for overhead lighting); aluminium (for upward independent lighting); finished in traffic grey; with vandal resistant light panels and rated to IP65 as a minimum.

Incorporate outreach arms and sockets of die cast aluminium and painted traffic grey (or plastic coated with aircraft grey PVC to a minimum thickness of 0.5mm). Where required, be provided with stub posts to be supported from the sign frame or purlins. (Where arms are not available for any size of luminaire in aluminium, hot dip galvanised steel; all fixings shall be stainless steel.

The units shall have an LED light panel which must meet the illumination standards of the current BS EN 12899-1 and fitted with miniature electronic photo-electric control.

Street Lighting Design Criteria for Adoptable Street Lighting

The units shall be inconspicuously marked with the name/trademark of the manufacturer, BS873, month and year of manufacture.

Internal Sign Luminaires

Sign unit bodies shall be high impact UV stabilised polyethylene, one piece rotationally moulded. Sign faces shall be integrally moulded 4.00mm thick translucent white face featuring no seems. Weather proof seals from light unit to the body shall provide environment protection to IP 65.

Access to the sign shall be by the rear of an aluminium die cast light unit section using a tri-head key. Sign mounting shall be by rear mounted uni-clips, internal sockets or post top spigots. All uni-clips fixings used in the mounting of the sign shall be stainless steel.

The illumination of the sign face shall be by means of an LED array, which must meet the illumination standards of the current BS873 and be mounted on detachable trays. External finish of the sign excluding the translucent sign face shall be traffic grey.

Internally illuminated signs shall have fitted a miniature photo-electric cell control.

Traffic Bollards (Mains Powered)

All bollards shall comply with the current 'Traffic Signs Regulations and General Directions'; the 'Traffic Signs Manual' and to BS873.

Internally illuminated bollards shall be of the base lit type with flexible body. The illumination of the sign face shall be by means of an LED array, which must meet the illumination standards of the current BS 873 and be mounted on detachable trays and controlled by a miniature photo-electric cell.

The bollard base must be IP67, with the bollard top conform to BS8442:2006 section 14 (Retro-reflective self-righting bollards) and BS EN 12899-2 (Trans-illuminated bollards).

Mains powered bollards shall be installed unless there is a lack of mains power in the area, or a particular safety issue with installing mains power. Under these circumstances the Cornwall Council Highway Technology Manager may grant permission to install solar bollards.

Traffic Bollards (Solar)

All bollards shall comply with the current 'Traffic Signs Regulations and General Directions'; the 'Traffic Signs Manual' and to BS873.

The bollard base must be IP67 with a sealed battery pack housed below ground level. The bollard shall incorporate the solar panel, LED unit, while conforming to BS 8442:2006 section 14 (Retro-reflective self-righting bollards) and BS EN 12899-2 (Trans-illuminated bollards).

To ensure that battery life is maximised the unit shall have miniature photo electric cell control or similar.

Solar bollards shall only be installed where there is no mains power available, or a particular safety issue with installing mains power. Approval of the installation of solar bollards is required in writing from the Cornwall Council Highway Technology Manager.

Pedestrian Refuge Beacons

All Beacons shall comply with the current 'Traffic Signs Regulations and General Directions'; the 'Traffic Signs Manual' and to BS873.

The Globe shall be "White" with UV stabilised lightweight tough PVC construction.

The globe gallery shall be a heavy duty cast aluminium gallery construction and have a unique globe securing system which retains the beacon globe even under severe impacts and vandalism.

The globe illumination shall be a provided by a compact 24volt ac transformer and LED driver circuit with integrated constant output module, with high specification long life LED unit and IP54 sealing.

Belisha Beacons (Zebra Crossing)

All Beacons shall comply with the current 'Traffic Signs Regulations and General Directions'; the 'Traffic Signs Manual' and to BS873. the Zebra crossing beacons shall comply with the Pedestrian Crossing Regulations.

The Globe shall be "Yellow/Orange" with UV stabilised lightweight tough PVC construction.

The globe gallery shall be a heavy duty cast aluminium gallery construction and have a unique globe securing system which retains the beacon globe even under severe impacts and vandalism.

The globe illumination shall be provided by a compact 24volt ac transformer and LED driver circuit with integrated flasher output module, with high specification long life LED unit and IP54 sealing.

2.6 Painting Applications & Systems

Painting application and systems shall follow the guidance set out in ILP Technical Report 2. Two options of application are available depending on the scheme construction approach.

1. “Controlled” for equipment painted under factory conditions – Option N2 & R3
2. “Uncontrolled” for equipment painted on site or for existing equipment – Option S2

***** Important ***** Application of any paint system in an “uncontrolled” environment **must not** be applied during the following atmospheric conditions:

- a) In rain/ mist conditions
- b) After rain when steel work is wet or damp
- c) Outside the correct temperature as recommended by the manufacturer

FACTORY APPLIED

Factory Applied (Controlled) – Option R3

The following R3 root protection system shall be applied to all support root sections for columns, large based posts and feeder pillars.

Surface preparation and protective system

- i. External and internal surfaces, overall treatment
Hot dipped galvanized in accordance with the requirements specified in 2.4 above
- a) Root Section (including internal to 250mm above ground level)

1st Coat	Mordant Solution (type T) “T” Wash HA Item 155 Ref: 150-23
2nd Coat	Epidac 2 Extended Cure MIO (2 pack) HA Item 121, Ref: 90-270 AS.mdft 100 microns

Street Lighting Design Criteria for Adoptable Street Lighting

- b) Root Section (including external to 250mm above ground level)
 - 3rd Coat Epidac 2 Glass reinforced Epoxy Black (2 pack) Ref: 79-489
AS.mdft 200 microns

OR

- ii. Internal & External surface (Application 2) (including to 250mm above G-level)
- a) Additional overall Root, Ground and Upper Sections
 - Additional Coat Additional Coat “High Build” Thermoplastic
Polymer coating similar to “Abcite” or its equivalent

Factory Applied (Controlled) – Option N2

This option will be applied to the entire support and include the bracket and the Engineer shall specify which system shall be applied to suit a given location.

Surface preparation and protective system

- i. External and internal surfaces, overall treatment
 - Hot dipped galvanized in accordance with the requirements specified in 2.4 above
 - ii. External surface (Application 1)
 - a) Additional overall coats
 - 1st Coat Mordant Solution (type T) “T” Wash HA Item 155 Ref: 150-23
 - 2nd Coat Epidac 2 Extended Cure MIO (2 pack) HA Item 121, Ref: 90-270
AS.mdft 100 microns
 - b) Upper section (ext from 250mm above ground level overlapping 79-489 25mm additional coat)
 - 3rd Coat 2 pack HS Acrylic Finish
Ref: 82-line AS.mdft 50 micron
- (Colour/ Gloss level of finish is to be agreed by the ITC Service Manager)

Factory Applied (Controlled) ROOT Section – Option R3**Street Lighting Design** Criteria for Adoptable Street Lighting

- a) Root Section (including internal to 250mm above ground level)
 - 1st Coat Mordant Solution (type T) "T" Wash HA Item 155 Ref: 150-23
 - 2nd Coat Epidac 2 Extended Cure MIO (2 pack) HA Item 121, Ref: 90-270
AS.mdft 100 microns

OR

- b) Root Section (including external to 250mm above ground level)
 - 3rd Coat Epidac 2 Glass reinforced Epoxy Black (2 pack) Ref: 79-489
AS.mdft 200 microns

OR

- i. External surface (Application 2)
Additional overall Root, Ground and Upper Sections
 - a) Additional Coat "High Build" Thermoplastic Polymer coating similar to "Abcite" or its equivalent.
(Colour/ Gloss level of finish is to be agreed by the ITC Service Manager)

SITE APPLIED

Site Applied (Un-controlled) – Option S2

Surface preparation and protective system applied to new/ weathered galvanised steel

- i. External surface
New galvanised steel should be de-greased using clean rag swabs and white spirit (like or similar to Dacrylate thinners R1) followed by the application of Mordant Solution (type T) "T" Wash, HA Item 155 Ref: 150-23.

Weathered galvanised steel should be de-greased using clean rag swabs and white spirit (like or similar to Dacrylate thinners R1) followed by thorough scrubbing to remove dirt any white zinc salts using clean water and 1 % mild detergent, rinsed and allowed to dry off.

- a) Patch priming All areas of bare metal and cleaned rusted areas shall be patch primed using:
 - Vinadac HB MIO Zinc Phosphate Primer Red Oxide (or equivalent) Ref: 41-419 B mdft 75 microns

- b) Additional overall coats
- | | |
|----------|---|
| 1st Coat | Vinadac 41bHB MIO (or equivalent)
Ref 41-171 Natural Grey B mdft 75 microns |
| 2nd Coat | Solvent Bourne Acrylic Vinyl Sheen Ref 41-171 Natural Grey B
mdft 75 microns |

3 Ornate Style Lighting

Ornate style street lights are generally used in Conservation Areas, however, these may be used elsewhere, if appropriate, but this will be at the discretion of Cornwall Council's Engineer. A commuted sum will normally be payable for ornate style streetlights

Please note that if a decorative lighting unit is required to be painted, this must be carried out using one of Cornwall Council's approved methods. See standard drawing 13/107.

Any ornate luminaire chosen must be approved by Cornwall Council's Engineer prior to installation. If not, Cornwall Council may not be able to adopt the units at a later date.

4 Materials & Equipment

Only equipment which is approved by Cornwall council will be adopted. Cornwall Council will give consideration to requests from developers for the use of alternative materials but no such materials or equipment shall be used until approval is given in writing by Cornwall Council's Engineer.

5 Controls

All street lighting to be adopted by Cornwall Council must be able to be controlled via our Central Management System (Vizion). The infrastructure for maintaining lighting control is a combination of electronic control gear within the lanterns, individual nodes on each lantern, and Collector units that control groups of nodes and link back to the CMS.

Any LED luminaire must be fitted with a Zodion Dali node linked to a dimmable Dali Driver and be capable of communicating with the Vizion system. The driver must be one of the following – 350mA, 500mA or 700mA.

A Collector unit may also be required for the site at the cost of the developer if 10 or more new lighting units are required or if the site is outside of existing network coverage of Cornwall Council's system. Collectors will also require a Zodion Interface Module to connect to the Dali Driver.

All equipment must be approved by Cornwall Council. If not, Cornwall Council may not be able to adopt the units at a later date.

6 Clearance from Overhead Cables

Clearance from all overhead cables must be maintained at all times so as not to impose any restrictions during the erection procedure of any equipment or for its future maintenance. Lighting units must be at least 50mm from BT cables. The requirements for clearances from Western Power Distribution (WPD) cables are contained in WPD Standard Technique OS6C.

Where it is intended that any alterations are to be carried out to existing overhead cables and/or wooden poles, the developer should make their proposals clear to Cornwall Council as soon as they are able, providing plans of the proposals if possible.

7 Electrical Supply/Connections

The developer is responsible for obtaining appropriate power supplies to all of the required electrical equipment. All street lights and illuminated signs can be fed direct via a supply from the local Distribution Network Operator (DNO) who is currently Western Power Distribution (WPD). Alternatively, the supplies to street lights and illuminated signs can be obtained from GTC (formerly Independent Power Networks Limited, IPNL) or SSE Enterprise Utilities which are both an Independent Distribution Network Operator (IDNO). Currently, these are the only IDNOs which are registered with Cornwall Council and therefore the only two that can be used.

Whichever Company is used, aside from the Operator's cut out, every lighting unit must also be fitted with a secondary double pole isolator to Cornwall Council's specification. See standard drawing 14/102.

Where illuminated traffic bollards are required, these must be fed via a private Cornwall Council cable from an appropriate source using a suitable secondary double pole isolator to Cornwall Council's specification. The private cable must be of appropriate size and laid in orange ducting. See standard drawings 14/100 and 14/101.

All power supplies MUST be obtained via the local DNO (Western Power Distribution) or the registered IDNO (Independent Power Networks Limited). If any other company is used, Cornwall Council will NOT adopt the cable network or associated equipment.

Where street lighting is required, Cornwall Council is committed to only high quality and sustainable designs and equipment.

When completing a street lighting design, it is important to not only consider the optimum design requirements but also the future whole life performance and maintenance of the equipment.

Should further clarification on any element of this document or guide be required please contact the Cornwall Councils Integrated Contract Team, who be able to provide additional advice and guidance.

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10 September 2019

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