



# The Sizewell C Project

## 6.8 Volume 7 Yoxford Roundabout and Other Highway Improvements Chapter 6 Landscape and Visual Appendices 6A - 6B

---

Revision: 1.0  
Applicable Regulation: Regulation 5(2)(a)  
PINS Reference Number: EN010012

---

May 2020

Planning Act 2008  
Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009





VOLUME 7, CHAPTER 6, APPENDIX 6A: ILLUSTRATIVE VIEWPOINTS



**Appendices**

1.1 Illustrative Viewpoints ..... 1

**Plates**

Plate 1.1: Footpath E-584/010/0, North of Roundabout..... 1  
Plate 1.2: Footpath E-584/013/0, North West of Roundabout.....2  
Plate 1.3: Footpath E-584/020/0, South of Roundabout .....2

**Tables**

None Provided.

**Figures**

None Provided.



## 1.1 Illustrative Viewpoints

**Plate 1.1: Footpath E-584/010/0, North of Roundabout**



**Plate 1.2: Footpath E-584/013/0, North West of Roundabout**



**Plate 1.3: Footpath E-584/020/0, South of Roundabout**





VOLUME 7, CHAPTER 6, APPENDIX 6B: NIGHT-TIME APPRAISAL

## Contents

1.	Night-time Appraisal .....	1
1.1	Introduction .....	1
1.2	Legislation, policy and guidance .....	1
1.3	Methodology .....	3
1.4	Assessment .....	5
	References .....	10

## Tables

Table 1.1:	Summary of scale of effects on night-time viewpoints. ....	7
------------	--	---

## Plates

None provided.

## Figures

Figure 6B.1: Existing light pollution

Figure 6B.2: Night-time viewpoint 1: photograph panel

## 1. Night-time Appraisal

### 1.1 Introduction

1.1.1 This appendix assesses the likely landscape and visual effects arising from lighting during the construction and operation of the proposed Yoxford roundabout (referred to throughout this appendix as the ‘proposed development’). Lower level light periods, when lighting may be required, have the potential to arise in the early morning, dusk and evening, as well as at night.

1.1.2 The assessment describes the existing landscape and visual baseline at lower level light periods; describes the key lighting aspects of the proposed development as they relate to landscape and visual matters; describes the anticipated change upon both landscape and visual receptors; and assess the magnitude and significance of change for both the construction and operational phases of the proposed development.

### 1.2 Legislation, policy and guidance

1.2.1 No international or regional legislation or policy is deemed relevant to the assessment for this site.

#### a) National

1.2.2 At a national level, the relevant National Policy Statements (NPSs) are considered alongside the National Planning Policy Framework (NPPF), and the Planning Practice Guidance (PPG) for light pollution. Much of the policy and guidance relates to ecology considerations or creating nuisance through lighting. Lighting in relation to the proposed development will be designed to avoid creating nuisance or effects on residential amenity and policy specifically in relation to these matters is not referenced below.

1.2.3 Paragraph 180 of the NPPF (Ref 1.1) requires decisions to ensure that “*new development is appropriate for its location*” including by limiting the impact of light pollution on local amenity and “*intrinsically dark landscapes*”.

1.2.4 The PPG for light pollution (Ref 1.2) sets out the circumstances in which light pollution can become relevant to planning. It states at paragraph 001:



**NOT PROTECTIVELY MARKED**

*“Artificial light is not always necessary. It has the potential to become what is termed ‘light pollution’ or ‘obtrusive light’, and not all modern lighting is suitable in all locations. It can be a source of annoyance to people, harmful to wildlife, undermine enjoyment of the countryside or the night sky, especially in areas with intrinsically dark landscapes. Intrinsically dark landscapes are those entirely, or largely, uninterrupted by artificial light. National parks and nature reserves can serve as good examples, particularly where they support habitats for native nocturnal animals.”*

**1.2.5** The guidance continues at Paragraph 003:

*“Light intrusion occurs when the light ‘spills’ beyond the boundary of the area being lit. For example, light spill can result in safety impacts related to the impairment or distraction of people (e.g. when driving vehicles), health impacts arising from impaired sleep, cause annoyance to people, compromise an existing dark landscape and/or adversely affect natural systems (e.g. plants, animals, insects, aquatic life). These adverse effects can usually be completely avoided with careful lamp and luminaire design selection and positioning:*

*Lighting near or above the horizontal is usually to be avoided to reduce glare and sky glow (the brightening of the night sky).*

*Good design, correct installation and ongoing maintenance are essential to the optical effectiveness of lighting schemes such as fixed and/or regularly operated functional and decorative lighting elements.”*

**1.2.6** Paragraph 005 adds:

*“The character of the area and the surrounding environment may affect what will be considered an appropriate level of lighting for a development. In particular, lighting schemes for developments in protected areas of dark sky or intrinsically dark landscapes should be carefully assessed as to their necessity and degree.”*

**b) Local****1.2.7** Suffolk Coastal District Local Plan Core Strategy & Development Management Policies (Ref 1.3). Development Management Policy DM26 – Lighting sets out the Council’s approach to minimising light pollution. The policy is worded as follows:

*“The District Council will seek to minimise light pollution. Applications for development requiring or likely to require external lighting should include details of lighting schemes. This should include position, height, aiming points, lighting levels and a polar luminance diagram. Applicants will need to satisfy the District Council that:*

*(a) The proposed lighting scheme is the minimum needed for security, working purposes, recreational or other use of the land;*

*(b) It is designed so as to minimise pollution from glare and light spillage, particularly to residential and commercial areas, areas of nature conservation importance, and areas whose open and landscape qualities would be affected;*

*...*

*In order to prevent unnecessary intrusion into the countryside, or the effect on residential amenity, the District Council may seek to control the days and times of use of lighting (excluding street lighting).”*

## 1.3 Methodology

1.3.1 Night-time assessment of lighting on landscape and visual receptors is an emerging area, and there is no specific guidance on which to base the assessment.

1.3.2 The approach and methodology of this assessment will follow the same structured approach as **Volume 7, Chapter 6**. The assessment terminology will also follow that presented in the landscape and visual methodology, with the exception of the approach to assessing and describing the sensitivity of receptors as follows:

### a) Sensitivity of landscape character at night

1.3.3 For Landscape Character Types (LCTs), susceptibility will be judged based on the degree to which the character of the landscape is characterised by darkness, informed by satellite mapping of light distribution and site observations. Value will be judged as presented within the assessment of effects during the day, unless specific factors suggest otherwise, for example the identification of a Dark Sky Discovery Site which would increase value; or where factors that contribute to value in the daytime are irrelevant at night (which may reduce value at night).

**b) Sensitivity of visual receptors at night**

- 1.3.4 For visual receptors the assessment will take account of the importance attached to views at night. Generally, the value attached to night-time views is considered to be low, unless there is a particular feature that can be best, or only appreciated in the hours of darkness. This may include views of stars and the night sky that are only, or best available in particularly dark areas, or views to well-known landmarks that are illuminated at night.
- 1.3.5 The susceptibility of visual receptors also differs at night, reflecting the different activities people undertake in the hours of darkness. For example, drivers using roads at night tend to be more focused on the road and the area illuminated by their headlights and roadside lighting than during the day and may have their attention drawn by oncoming headlights, road markings/cat's eyes, or signage, resulting in lower susceptibility. By contrast, people taking part in activities requiring darkness, such as star gazing, would be of higher susceptibility.
- 1.3.6 The sensitivity of visual receptors at night is rated as follows:
- National value and high susceptibility – visitors to Dark Sky Parks or Dark Sky Reserves as recognised by the International Dark Sky Association.
  - Local value and high susceptibility – visitors to Dark Sky Discovery Sites, public observatories or places often visited by astronomical societies and groups.
  - Community value and high susceptibility – people engaged in night-time activity such as bat watching, residents of notably dark areas (i.e. rural locations with no street lighting) in the streets around their homes and footpaths where dark skies are integral to the amenity.
  - National (or Local) value and medium susceptibility – visitors to nationally important or well-known local landmarks that are illuminated at night.
  - Community value and medium susceptibility – residents in urban areas or semi-urban/rural areas, users of cycle routes and footpaths where street lighting/illumination is characteristic.
  - Community value and low susceptibility – drivers using local, unlit roads and train passengers.
  - Limited value and low susceptibility – users of A roads, illuminated minor roads and people at their place of work.

### c) Scope

1.3.7 The extent of the study area for the assessment of night-time effects is 0.5 kilometre (km), which replicates that used for the assessment of daytime effects, which has been agreed by landscape and visual consultees. The assessment considers the impact of lighting on Landscape Character, visual receptors and landscape designations.

1.3.8 A selection of viewpoints are used to aid the assessment of night-time effects. A night-time photograph is provided from Representative Viewpoint 1 as used in **Volume 7, Chapter 6**. Other viewpoints from the main assessment were visited as relevant. However, a number are inaccessible at night due to being unlit or were not suitable for night-time photography due to proximity to busy roads.

## 1.4 Assessment

1.4.1 This section identifies those groups of landscape and visual receptors likely to experience notable effects as a result of the proposed lighting associated with the proposed development. The baseline description of the existing night-time environment for each receptor group is provided alongside the assessment of effects for ease of reference.

1.4.2 This section considers both landscape character and visual receptors before considering designated landscapes. It is common for designations to encompass both character and visual considerations within their special qualities or purposes of designation. It therefore makes a more natural reading sequence to draw together those aspects of character and views which relate to the designation if they have been described earlier in the chapter.

### a) Night-time visual environment of the study area

1.4.3 The existing intensity of artificial lighting across the study area is illustrated on **Figure 6B.1** to this appendix using satellite data (Visible Infrared Imaging Radiometer Suite Day/Night) from March 2019 (Ref 1.4). This illustrates that there is a low level of artificial light within much of the study area. The site itself and the adjacent settlement of Yoxford, and also an area south-west of Darsham railway station, areas where there is already artificial lighting, create a much higher degree of light pollution within those parts of the study area.

1.4.4 There are also a small number of other light sources within the study area, beyond those generally associated with the settlements mentioned above, that can be seen from within the study area and vary in prominence depending on the context of the view. These include artificial lighting of tennis courts on the western edge of Yoxford. Other roads and settlements within the study area are generally unlit.



### b) Lighting proposals

1.4.5 As discussed in **Chapter 2** of this volume of the **ES**, lighting would line the new roundabout in compliance with the Design Manual for Roads and Bridges and the Code of Practice for the Design of Road Lighting, Lighting of Roads and Public Amenity Areas BS 5489-1:2013. Lighting columns would be of appropriate adoptable standards and are assumed to have a maximum height with lanterns of 10 metre (m). The design would seek to minimise light-spill into adjacent habitats and to reduce impacts on the Yoxford Conservation Area.

### c) Landscape effects

1.4.6 Local LCTs within the 0.5km study area, as identified in the Suffolk Landscape Character Assessment (Ref 1.5), are illustrated on **Figure 6B.1** to this appendix. This shows that LCTs within the east of the study area are characterised by lower intensity of artificial light present within them, with higher intensity focused in the west of the study area around Yoxford and the A12 corridor.

1.4.7 The main source of effects would occur as a result of the proposed lighting around the proposed Yoxford roundabout and the approaches to it. Lighting towards the west of the site would occur in an area that already experiences artificial light sources in the form of street lighting along the existing A12. Lighting towards the east of the site would occur in an area with less existing artificial lighting, but where artificial lighting is still present in the surrounding area.

1.4.8 As discussed in the **Volume 7, Chapter 6**, the only landscape types likely to experience effects from the proposed development are the Rolling Estate Claylands and Valley Meadows and Fens LCTs. This remains the case in relation to lighting effects at night.

#### i. Rolling Estate Claylands

1.4.9 The key characteristics of this LCT are described in the Landscape Character Assessment and set out in the **Volume 7, Chapter 6**. The night-time character of the LCT is not discussed in the current character assessment. However, this LCT is generally relatively dark with little existing light pollution, as illustrated by **Figure 6B.1** of this appendix, with the exception of in the vicinity of the proposed development where existing lighting is a feature within Yoxford and along the A12.

1.4.10 There are several sources of artificial lighting present within the landscape type, within the study area. As a result, this LCT is considered to have medium–low susceptibility to the proposed lighting. Taking this with the local value of the landscape, as set out in **Volume 7, Chapter 6**, the LCT is considered to have medium–low sensitivity to the proposed lighting.

1.4.11 The proposed development would introduce a focused area of lighting within the LCT, in an area where there is already existing lighting of a similar type and intensity over a slightly smaller area. This would result in permanent effects on this LCT that would be medium–small scale and occur over a localised extent. The effects would be of medium–low magnitude, resulting in a slight adverse effect, which is considered to be **not significant**.

ii. Valley Meadows and Fens

1.4.12 As for the main landscape and visual assessment in **Volume 7, Chapter 6**, visibility of the proposed development from within this LCT would be relatively limited. Those areas of the LCT that would have potential visibility of the lighting from the proposed development already experience the effects of existing lighting along the A12 and from Yoxford. This would result in negligible scale effects on this LCT. The effects would be of negligible magnitude, resulting in a minimal adverse effect, which is considered to be **not significant**.

d) Visual effects

1.4.13 The approach to assessing visual receptors will follow the same approach as **Volume 7, Chapter 6**, utilising receptor groups and assessing effects on key routes separately.

i. Visual aids

1.4.14 Annotated photographs are shown on figures supporting this appendix (see **Figure 6B.1** for viewpoint locations). The scale of effect at each viewpoint is summarised in **Table 1.1**.

**Table 1.1: Summary of scale of effects on night-time viewpoints.**

VP	Location	Approx. Distance/ Direction from Site.	Scale of effect Positive, Neutral, Adverse.
N1	A12, north of proposed roundabout.	0m, west.	Small, Adverse.

### Receptor groups

- 1.4.15 *Group 1 – users of footpaths through Cockfield Hall (E-584/013/0 and E-584/010/0) and residents of properties within the parkland at Cockfield Hall in the areas around their homes:* The public footpaths are unlikely to be used at night due to their unlit nature and effects on users of the routes are not considered further within this assessment. As above, people in and around their homes in unlit rural areas are considered to be of high–medium sensitivity. The stretch of the existing A12 closest to, and therefore most visible from, this receptor group is already lit. The lighting strategy would be designed to minimise the amount of lighting required and its spill into the surrounding area. Permanent effects from the proposed lighting would be of small–negligible scale over a localised extent. These effects would be of low–negligible magnitude, resulting in a slight adverse effect, which is considered to be **not significant**.
- 1.4.16 *Group 2 – users of the B1122 as a local road, residents of properties north-east and south the site, in the areas around their homes, and users of Footpath E-584/020/0 to the south of the site:* The public footpath is unlikely to be used at night due to its unlit nature and effects on users of the route are not considered further within this assessment. As set out above, people in and around their homes in unlit rural areas are considered to be of high–medium sensitivity, with users of unlit rural roads considered to be of medium–low sensitivity. The B1122 is currently lit for a short stretch at the current junction with the A12. In views towards the proposed development from this receptor group, existing lighting along the A12 and within Yoxford is generally visible. The lighting strategy would be designed to minimise the amount of lighting required and its spill into the surrounding area. Permanent effects from the proposed lighting would be of small scale over a localised extent. These effects would be of low magnitude, resulting in a slight adverse effect, which is considered to be **not significant**.
- 1.4.17 *Group 3 – residents and visitors to Yoxford along Brook Street:* As set out above, people in and around their homes in rural areas where street lighting/illumination is characteristic are considered to be of medium sensitivity. The A12 through Yoxford and along the eastern edge of the village is currently lit. It is not considered that the changes to lighting as a result of the proposed development would lead to a notably different night-time environment. Permanent effects from the proposed lighting would be of negligible scale over a limited extent. These effects would be of negligible magnitude, resulting in a minimal neutral effect, which is considered to be **not significant**.

### Long-distance routes

1.4.18 The A12 passes through the western part of the proposed Yoxford roundabout site. As set out above, users of A roads are considered to be of medium–low sensitivity. The A12 is currently lit as it passes through the site. As indicated by Viewpoint 1, road users on the A12 would experience small scale effects as they pass through the proposed development, as a result of the increased number of lights required. However, this would be a very brief part of a longer journey and the permanent effects would be of limited extent. These effects would be of negligible magnitude, resulting in a minimal neutral effect, which is considered to be **not significant**.

#### e) Effects on landscape designations

1.4.19 As set out in **Volume 7, Chapter 6**, a Special Landscape Area (SLA) covers the majority of the study area and all of the proposed Yoxford roundabout site. The SLA is generally relatively dark with little existing light pollution, as illustrated by **Figure 6B.1** of this appendix, with the exception of in the vicinity of the proposed development where existing lighting is a feature within Yoxford and along the A12.

1.4.20 There are several sources of artificial lighting present within the SLA, within the study area. As a result, this SLA is considered to have medium–low susceptibility to the proposed lighting. Taking this with the local value of the landscape, as set out in **Volume 7, Chapter 6**, the SLA within the study area is considered to have medium–low sensitivity to the proposed lighting.

1.4.21 The proposed development would introduce a focused area of lighting within the SLA, in an area where there is already existing lighting of a similar type and intensity over a slightly smaller area. This would result in permanent effects on the SLA that would be medium–small scale and occur over a limited extent. The effects would be of low–negligible magnitude, resulting in a slight adverse effect, which is considered to be **not significant**.



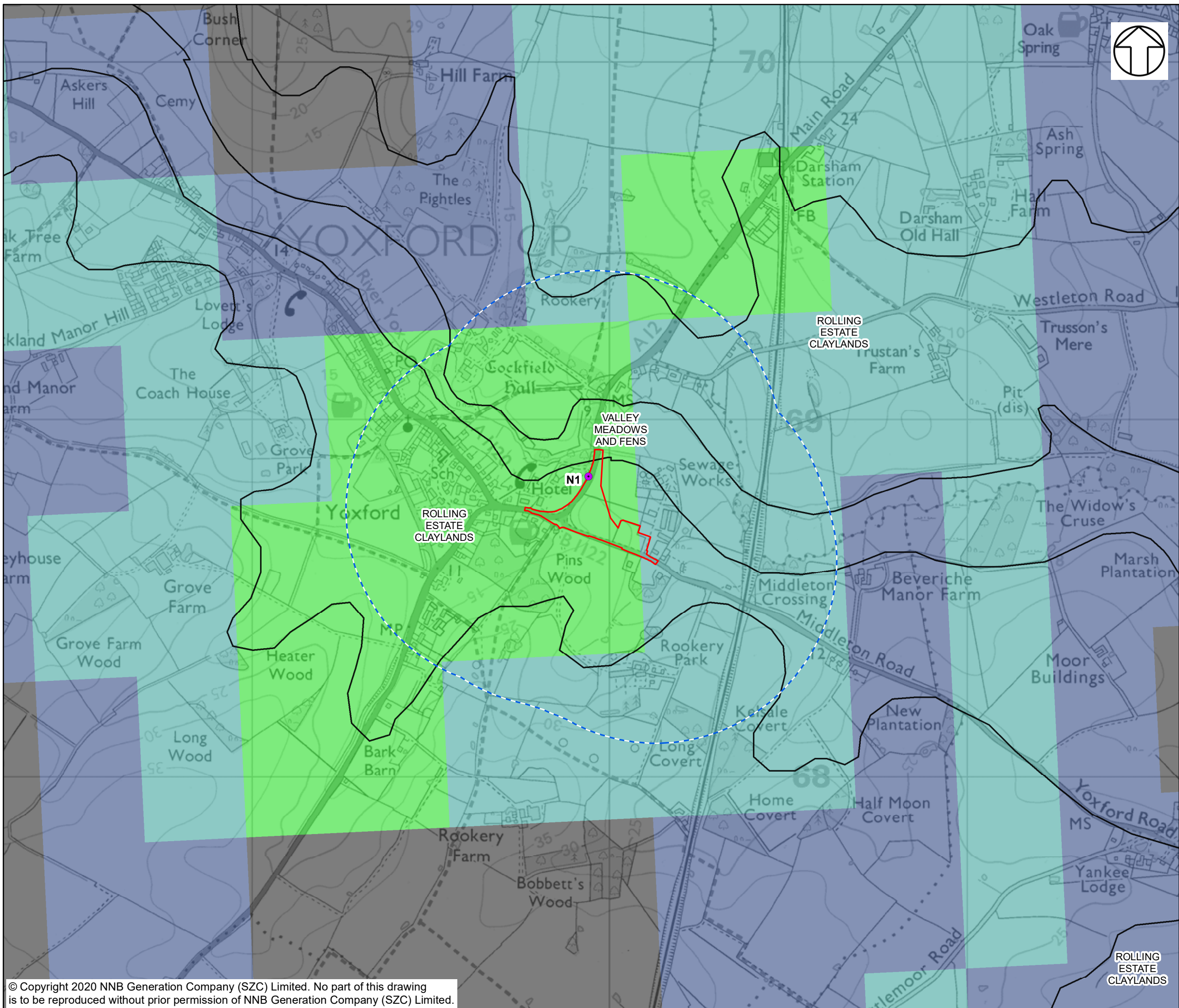
## References

- 1.1 MHCLG (2019) National Planning Policy Framework
- 1.2 MHCLG (2019) Planning Practice Guidance – Light Pollution
- 1.3 ESC (2013) Suffolk Coastal District Council Core Strategy and Development Management Policies
- 1.4 Juri Stare. Intensity of Artificial Lighting (Visible Infrared Imaging Radiometer Suite 2018). (Online) Available from: <https://www.lightpollutionmap.info/> (Accessed 22 March 2019).
- 1.5 Suffolk County Council (2008, revised 2011) Suffolk Landscape Character Assessment

## Figures

Figure 6B.1: Existing light pollution

Figure 6B.2: Night-time viewpoint 1: photograph panel



**NOTES**

DATA PRESENTED TO REPLICATE MAPPING AT  
WWW.LIGHTPOLLUTIONMAP.INFO

**KEY**

YOXFORD ROUNDABOUT DEVELOPMENT SITE BOUNDARY

STUDY AREA (0.5KM FROM SITE BOUNDARY)

LANDSCAPE CHARACTER TYPES

EXISTING LIGHT POLLUTION (MARCH 2019)

RADIANCE (W/CM<sup>2</sup> \* SR)

<math>< 0.25</math>

0.25 - 0.4

0.4 - 1

1 - 3

NIGHT TIME VIEWPOINT

NIGHT TIME

1 A12 NORTH OF ROUNDABOUT

NOT PROTECTIVELY MARKED

**COPYRIGHT**

Reproduced from Ordnance Survey map with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown Copyright (2019). All Rights reserved. NNB GenCo 0100060408.

VIIRS Day/Night Band Nighttime Lights (March 2019) Earth Observation Group, NOAA National Geophysical Data Center. Ordnance Survey material with the permission of the Ordnance Survey, on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright (Suffolk County Council Licence No. 100023395 2019).



**DOCUMENT:**

SIZEWELL C  
ENVIRONMENTAL STATEMENT  
VOLUME 7  
APPENDIX 6B  
NIGHT-TIME APPRAISAL

**DRAWING TITLE:**

EXISTING LIGHT POLLUTION

**DRAWING NO.:**

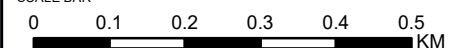
FIGURE 6B.1

DATE: JAN 2020

DRAWN: V.W.

SCALE: 1:10,000 @A3

**SCALE BAR**



ROLLING ESTATE CLAYLANDS





Night Time Viewpoint 1: A12 north of proposed roundabout

**Existing View:**

This viewpoint is located on the existing footway along the A12, immediately to the north of the existing junction of the A12 and the B1122 (Middleton Road). The viewpoint looks along the A12 towards the south. The existing road junction is lit by a series of street lights. Behind the viewpoint, lighting continues northwards along the A12 as far as the bridge over the River Yox. Lighting also continues along the A12 through Yoxford. The B1122 becomes unlit a short distance from the junction.

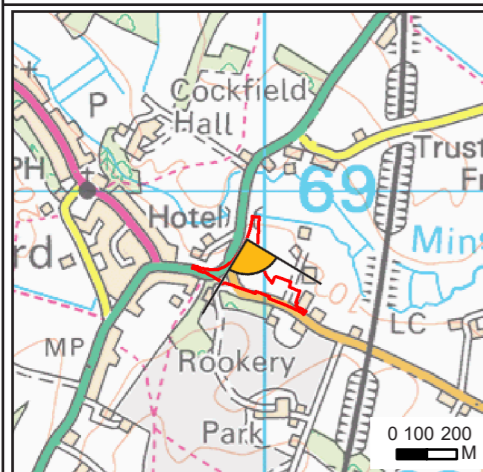
**Construction Effects:**

The construction of the proposed development would occur directly adjacent to this viewpoint, with the road moving further from the viewpoint and the footway becoming a cycleway. Task lighting during any required night working would be clearly visible, as would the proposed lights around the roundabout as these are constructed and become operational. The proposed lighting would be similar to the existing light, although located in different positions. Effects would be of **Small** scale and, on balance, **Adverse**.

**Operational Effects:**

The proposed development would occur directly adjacent to this viewpoint. Lights around the proposed roundabout, and the approaches to it, would be clearly visible from this location. The proposed lighting would remain similar to the existing lighting at the junction. Effects would be of **Small** scale and, on balance, **Adverse**.

© Copyright 2020 NNB Generation Company (SZC) Limited. No part of this drawing is to be reproduced without prior permission of NNB Generation Company (SZC) Limited.



**VIEWPOINT INFORMATION**

OS REFERENCE: 639941 E 268841 N  
 EYE LEVEL (AOD): 13.7M  
 CAMERA: CANON EOS 6D  
 LENS: EF50MM F/1.8 STM  
 CAMERA HEIGHT: 1.5M AGL  
 PHOTO DATE / TIME: 12/12/2018 19:50

NO DIMENSIONS ARE TO BE SCALED FROM THIS DRAWING,  
 ALL DIMENSIONS ARE TO BE CHECKED ON SITE.  
 AREA MEASUREMENTS FOR INDICATIVE PURPOSES ONLY.



**COPYRIGHT**  
 Reproduced from Ordnance Survey map with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown Copyright (2019). All Rights reserved. NNB GenCo 0100060408.

NOT PROTECTIVELY MARKED

DOCUMENT:  
 SIZEWELL C  
 ENVIRONMENTAL STATEMENT  
 VOLUME 7  
 APPENDIX 6B  
 NIGHT-TIME APPRAISAL

DRAWING TITLE:  
 NIGHT TIME VIEWPOINT 1:  
 PHOTOGRAPH PANEL

DRAWING NO:  
 FIGURE 6B.2

DATE: JAN 2020      DRAWN: V.W.      SCALE: NTS