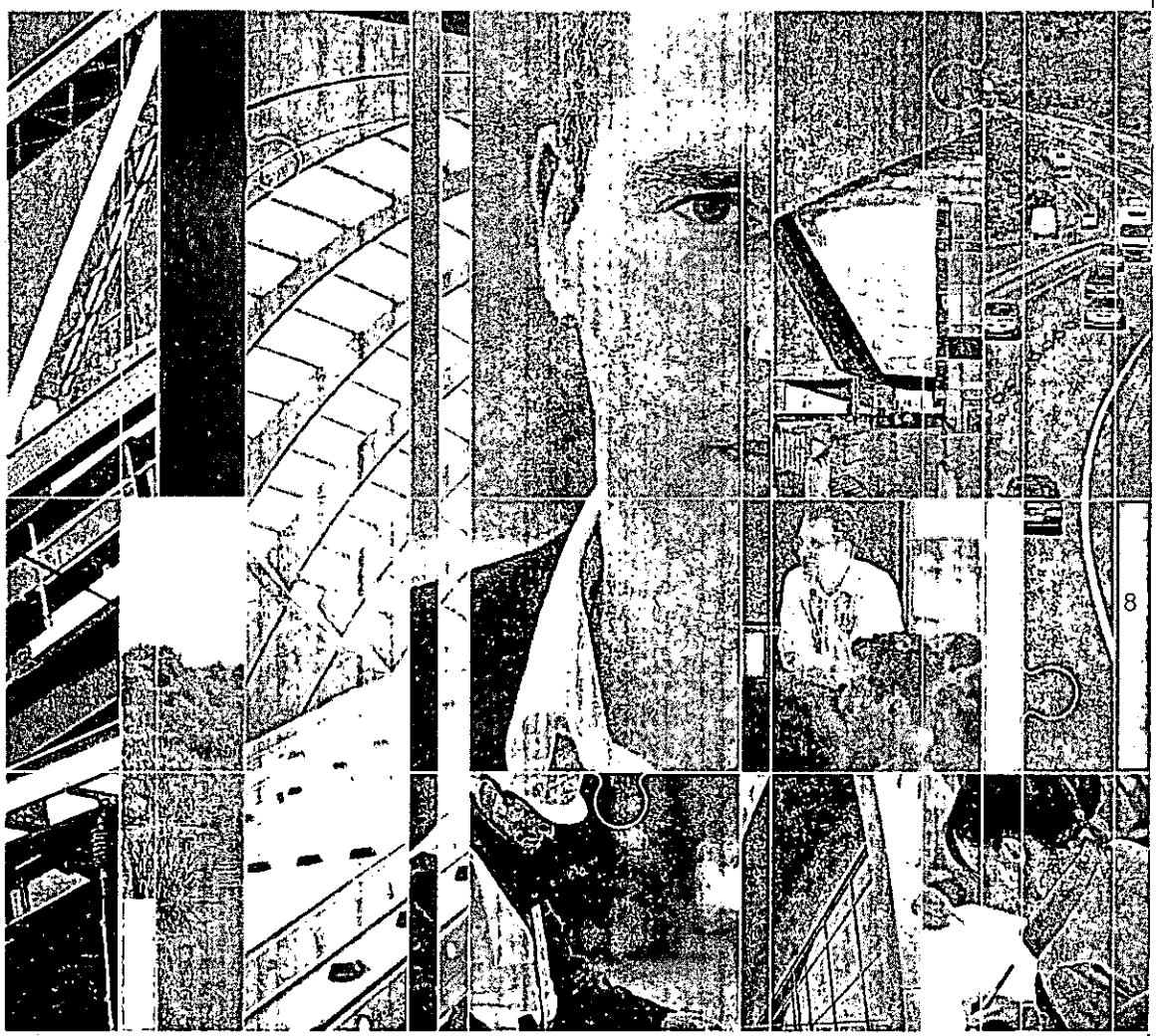

MLSurveyors
Bond International Software Plc, Parklands Avenue, Goring-by-Sea
Lighting Assessment Report

February 2011

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CONTENTS

1. Introduction

2. Lighting and Light Pollution

3. Relevant legislation, policy and guidance

4. Assessments

Appendix A – Light pollution (impact) assessment

1. INTRODUCTION

1.1 Capita Symonds was commissioned by MLSurveyors to provide a lighting report on the proposed external lighting at Bond International Software Plc, Parklands Avenue, Goring-by-Sea.

1.2 Capita Symonds has examined the following:

- Details of the bollard and bulkhead lights specified by the M & E Consultants;
- Sketch of the East elevation showing proposed location of the bulkhead lights;
- Electrical drawing E301 also showing location of bulkhead lights;
- M & E site plan Drawing No. ME401 Rev A showing location of 18 no. bollards;

1.3 The scheme assessed is predominantly lit using bollard lighting with a maximum rating of 80 watts. The maximum height of the lighting is 0.8m. Two bulkhead fittings fitted to the wall provide lighting to the building entrance.

1.4 Due to the close proximity of bollard No.s 13 and 14 to a residential property, they are being fitted with a shield to prevent excessive backlight.

1.5 This report first describes the principles of lighting in relation to light pollution, and sets out relevant guidance. It then assesses the impact of the scheme upon the neighbouring properties and on the environment as a whole, with the results tabulated in Appendix A.

2. LIGHTING AND LIGHT POLLUTION

2.1 It would be helpful to set out here some lighting principles that are relevant to lighting when considering impacts. These concern the various forms of light pollution.

Light pollution

2.2 Light pollution is a general term that covers several types of adverse impact caused by artificial lighting at night. These are described in the table below, which also indicates how localised the impact tends to be.

Form of light pollution	Definition	Typical extent of the impact
Glare	Visual discomfort arising from a bright light source with a dark background.	Impact is highest for the closest observers. In extreme cases it can be a problem as much as 200 metres away.
Light trespass	Light falling outside the target area onto a surface where it is not wanted.	Not usually a problem beyond approximately one hundred metres from the source. The most sensitive receptors are bedroom windows. Rarely, it is of significance ecologically for nocturnal mammals, aquatic life and plants.
Light presence	Visibility of lit elements (both sources and illuminated surfaces), affecting the character of the nightscape.	Impact can be felt over distances of more than one kilometre, depending on available viewpoints. Light presence can have significant ecological effects on bats, roosting birds and night-flying insects.
Local sky glow	Localised glow over lit development, affecting the character of the nightscape.	Impact is normally only significant for distances up to one kilometre. It is worst in misty or hazy conditions or with a low cloud base.
Sky luminance	General brightening of the night sky, impairing views of the stars on even the clearest nights.	Impact is not usually significant on its own, but is cumulative, adding to a problem that already persists throughout much of the UK.

3. RELEVANT LEGISLATION, POLICY AND GUIDANCE

Legislation, policies and guidance that are relevant when considering outdoor lighting schemes are given in the tables below.

Legislation and National Planning Policy	
Statutory Nuisance from Insects and Artificial Light, Defra 2006	Guidance to cover sections 101, 102 and 103 of the Clean Neighbourhoods and Environment Act 2005
PPG 17 Planning for Open Space, Sport and Recreation States	"19. In considering applications for floodlighting, local authorities should ensure that local amenity is protected. The impact on the openness of the Green Belt, or on the character of the countryside, of floodlight towers or pylons should be a key factor in determining whether planning permission should be granted."

Guidance Notes	
Guidance Note – Controlling Light Pollution and Reducing Energy Consumption, Scottish Executive, March 2007	This document is of relevance because a similar document is currently being drafted as an Annex to DCLOG Planning Policy Statement 23: Planning and Pollution Control.
Guidance Notes for the Reduction of Obtrusive Light, Institution of Lighting Engineers, 2005	Referred to hereunder as the ILE Guidance Notes. Sets out best practice for lighting design and control of obtrusive light, definitions of night-time Environmental Zone categories based on sensitivity, and gives guidance on the limitation of obtrusive light in terms of sky glow, glare and light trespass.
Lighting in the Countryside – Towards Good Practice, DoE/CC 1997	Guidelines for planning, environmental assessment, impact mitigation and design of lighting schemes in rural locations. Refers to the recommendations in the ILE Guidance Notes.
Light Pollution and Astronomy, House of Commons Science and Technology Committee, Seventh Report of Session 2002/03	Recommends that Local Planning Authorities should impose conditions relating to the lighting type, positioning and hours of use (paragraph 103), and endorses the use of well-controlled light sources, including "Full Cut Off "lighting where appropriate (paragraphs 75-82).

Referring to the ILE Guidance Notes, these recommend that a site is classified according to the prevailing lighting conditions in the immediate surrounds. The classifications are as follows:

Environmental Zones		
Zone	**Definition**	**Examples**
E1	Intrinsically dark areas	National Parks, Areas of Outstanding Natural Beauty, etc
E2	Low district brightness areas	Rural, small village, or relatively dark urban locations
E3	Medium district brightness areas	Small town centres and urban locations
E4	High district brightness areas	Town/city centres with high levels of night-time activity

Associated with each Environmental Zone is a set of recommended limits to obtrusive light (light pollution). The stringency of these is dependent on the sensitivity of the night time landscape, with E1 requiring the highest level of light control and E4 the lowest.

4. ASSESSMENTS

4.1 The scheme has been assessed as falling within Environmental Zone E2 (low district brightness), which is consistent with its relevantly dark urban location.

4.2 The scheme has been designed to provide a suitable level of lighting for security and safety, whilst minimising impacts upon neighbouring properties and the environment as a whole.

4.3 In breaking down the lighting impacts into different types in Appendix A, it is expected that light pollution from this proposal will not exceed an effect of Minor Adverse (noticeable but within acceptable limits). Therefore it is considered that the lighting, as proposed, will be appropriate and acceptable.

APPENDIX A – LIGHT POLLUTION (IMPACT) ASSESSMENT

Form of light pollution	Definition	Typical extent of impact from lighting	Receptor	Expected impact from scheme	Comment
Glare	Visual discomfort arising from a bright light source with a dark background	Unlikely to be a problem beyond a distance of 200 metres.	Residential properties with views toward the site	Negligible	The nearest residential property with views towards the site will not perceive any glare due to the low wattage of the lamps.
Light trespass	Light falling outside the target area onto a surface where it is not wanted	Not usually a problem beyond approximately100 metres from the source. The most sensitive receptors are bedroom windows.	Residential properties with views toward the site	Negligible	The nearest residential building is at a sufficient distance from the proposed lighting to ensure light trespass is well below levels defined for Environmental Zone E2.
			Ecology	Negligible	As adjacent lighting exists and the ecological sensitivity is low, there will be no significant effect.
Light presence	Visibility of lit elements (both sources and illuminated surfaces), affecting the character of the nightscape	Impact can be felt over distances of more than one kilometre, depending on available viewpoints.	Residential properties with views toward the site	Minor adverse	Intensity of the lighting is not a significant change to other lighting in the vicinity and it is predominantly screened therefore the effect of light presence is limited.
Local sky glow	Localised glow over lit development, affecting the character of the nightscape	Impact is normally only significant for distances up to one kilometre. It is most noticeable on misty or hazy nights or with a low cloud base.	Views from surrounding areas in general	Negligible	This scheme will not result in any significant change to sky glow in this area.
Sky luminance	General brightening of the night sky, impairing views of the stars on even the clearest nights	Impact is not usually significant on its own, but is cumulative, adding to a problem that already persists throughout much of the UK.	General	Negligible	This scheme will not result in any significant change to sky luminance.