

## **APPENDIX 11.3: LIGHTING STRATEGY**

### **INTRODUCTION**

A11.3.1 In order to assess the potential lighting effects from the Proposed Development it is necessary to specify sufficient detail concerning its external lighting. This is the purpose of the lighting strategy.

### **OVERALL PRINCIPLES**

- A11.3.2 External lighting will be provided wherever necessary to provide a safe and secure environment for staff and other users after dark. 'Secured by Design' principles will be adopted and emphasis will be placed on achieving good uniformity of light distribution.
- A11.3.3 All external lighting will comply with the South Northamptonshire Design Guide (2017). It will be designed to minimise light pollution and optimise energy use. Lighting will also comply with recommendations for Environmental Zone E1 given in Guidance Notes for the Reduction of Obtrusive Light GN01:2011 (Institution of Lighting Professionals, 2011), which is applicable to areas such as National Parks and Areas of Outstanding Natural Beauty. This is stricter than Environmental Zone E2, which is normally applied to Rural areas (such as villages or relatively dark outer suburban locations), but is readily achievable throughout.
- A11.3.4 All luminaires (lighting units or fittings) will be of the directional type that emit all their light below the horizontal. They will be mounted at as low a height as practicable and will be arranged to direct as much of their emitted light as possible to hard surfacing and task areas, while avoiding spill light onto adjacent green areas.
- A11.3.5 Luminaires will use LED light sources wherever possible. This not only provides the optimum energy efficiency, but also more accurate targeting of light output, thus keeping light pollution effects to the absolute minimum.
- A11.3.6 All illumination levels will be set as low as practicable while complying with safety and security recommendations. Spill of light onto building facades and outside of the target area for illumination will be minimised through careful design, specification and positioning of lighting equipment.
- A11.3.7 At the outer edges of the Proposed Development lighting units will as far as practicable be positioned so that they are out of view of receptors such as nearby residential properties and rural settlements further afield. Mounding, fencing and planting that is being provided for visual and noise reduction reasons will be recruited to assist in achieving this.
- A11.3.8 The lighting design will ensure that there will be negligible upwards emitted light, negligible light spill and no glare. A consequence of this is that there will be no possibility of any lighting giving rise to an effect that could be considered a Statutory Nuisance.

A11.3.9 The following sections give details on the lighting solution to be provided for different areas of the Proposed Development.

### **SPECIAL MEASURES CLOSE TO ECOLOGICALLY SENSITIVE AREAS**

A11.3.10 There are a number of ecological areas that will be sensitive to lighting effects. Where lighting is to be sited close to such areas there is the potential for such effects to be significant unless special measures are employed. This is particularly true for the retained woodland and the watercourse in the southern end of the Main Site. It is also necessary to prevent lighting effects on the proposed new mounding and planting around the perimeter of the Main Site.

A11.3.11 All lighting sited close to ecologically sensitive areas will be designed to minimise light spill. Ecological advice will be sought to confirm any particular constraints to be applied. Where bats are likely to be present the guidance issued from time to time by the Bat Conservation Trust in conjunction with the Institution of Lighting Professionals will be followed.

A11.3.12 Light sources will be LED with no UV content. Colour temperature will be warm white (3000K) LED where possible as this has reduced blue light content, helping to prevent adverse effects on airborne insect and bat populations.

A11.3.13 Additional mitigation that can be employed if required includes one or more of the following: reduced lighting levels; lowest practical mounting height; luminaires with sharp light cut-off; cowls/shield/louvres/hoods to block unwanted light; additional screening in the form of dense hedgerow planting and fencing.

### **RAIL TERMINAL**

A11.3.14 Trafficked areas will be lit as described below for internal roads, service yards and lorry parks.

A11.3.15 For areas where reach stackers are operating, lighting will be in accordance with BS EN 12464 'Light and lighting – Lighting of work places – Part 2: Outdoor work places'. It will be provided from 18 metre height columns and the target average illuminance will be 50 lux.

A11.3.16 For areas where gantry cranes are operating, the underside of the gantry cranes will carry down-lighting units to illuminate the working area immediately below the crane, this being at a height not exceeding 18 metres. The remainder of the area will be lit from perimeter lighting columns not exceeding 18 metres in height. The lighting will be in accordance with BS EN 12464 'Light and lighting – Lighting of work places – Part 2: Outdoor work places' and the target average illuminance will generally be 20 lux for trafficked areas, rising locally to 50 lux in the vicinity of load/unloading operations.

### **INTERNAL ROADS**

A11.3.17 Internal roads within the Site boundary will be lit using standalone lighting columns with a typical mounting height of eight to ten metres or luminaires

mounted to adjacent buildings. Lighting will comply with the recommendations given in BS 5489-1 'Code of practice for the design of road lighting – Part 1: Lighting of roads and public amenity areas'.

## **SERVICE YARDS**

A11.3.18 Lighting for service yards will be provided from column mounted luminaires around the perimeter of the yard and directed towards the building. Maximum column height will be 12 metres; a lower mounting height will be used wherever possible. Additional luminaires will be located over loading bays/lorry dock areas and aimed downwards, mounted at a maximum height of 10 metres.

A11.3.19 Lighting will comply with the recommendations given in BS EN 12464 'Light and lighting – Lighting of work places – Part 2: Outdoor work places' and the target average illuminance will be 20 lux.

## **LORRY PARKS AND CAR PARKS**

A11.3.20 Lorry parks and car parks will be lit by luminaires mounted on standalone lighting columns. Maximum column height will be 12 metres for lorry parks and 10 metres for car parks; lower mounting heights will be used wherever possible. The lighting will comply with the recommendations given in BS EN 12464 'Light and lighting – Lighting of work places – Part 2: Outdoor work places'. The target average illuminance will be 20 lux for lorry parks and 10 lux for car parks.

## **ADOPTABLE ROADS**

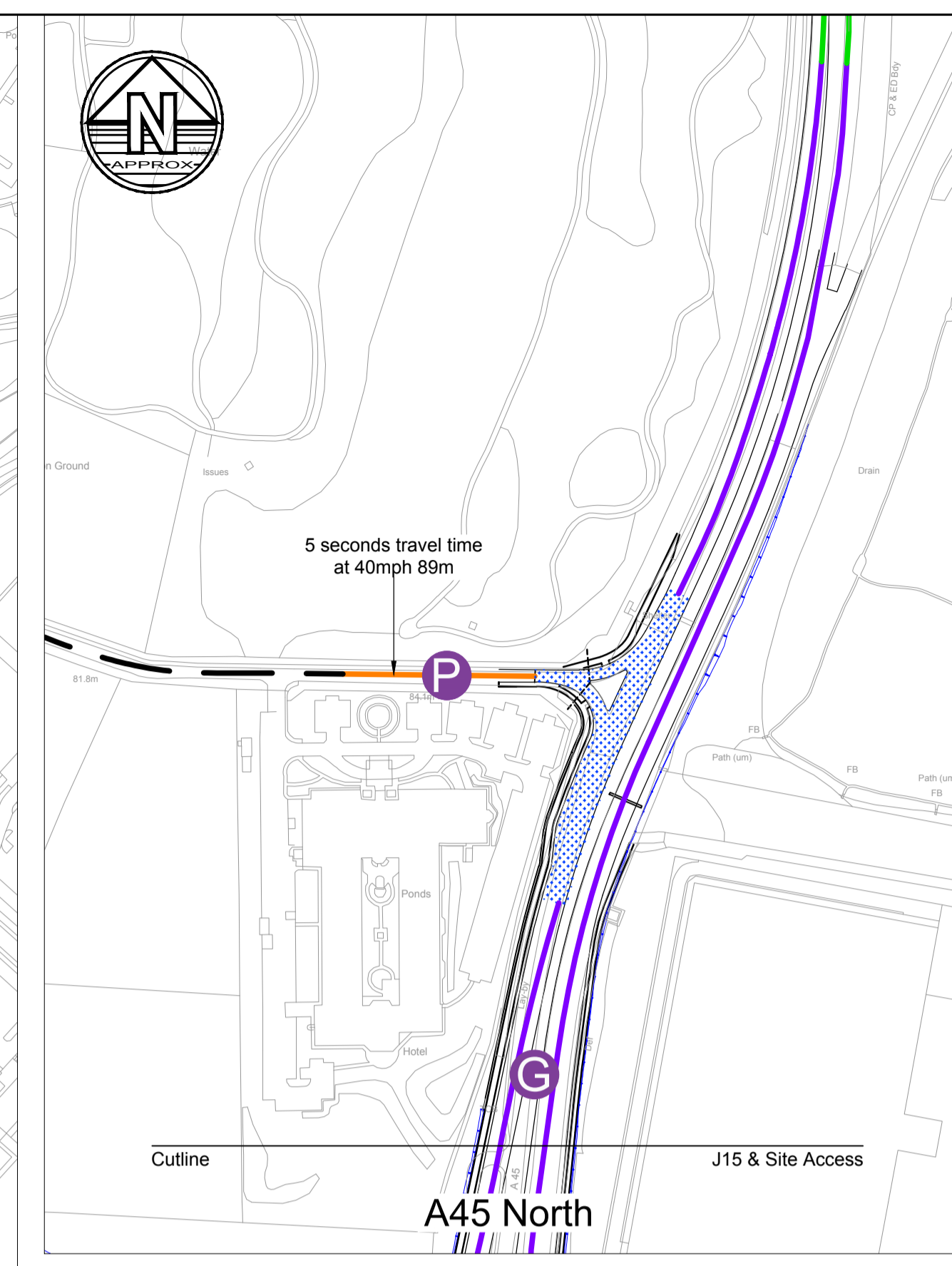
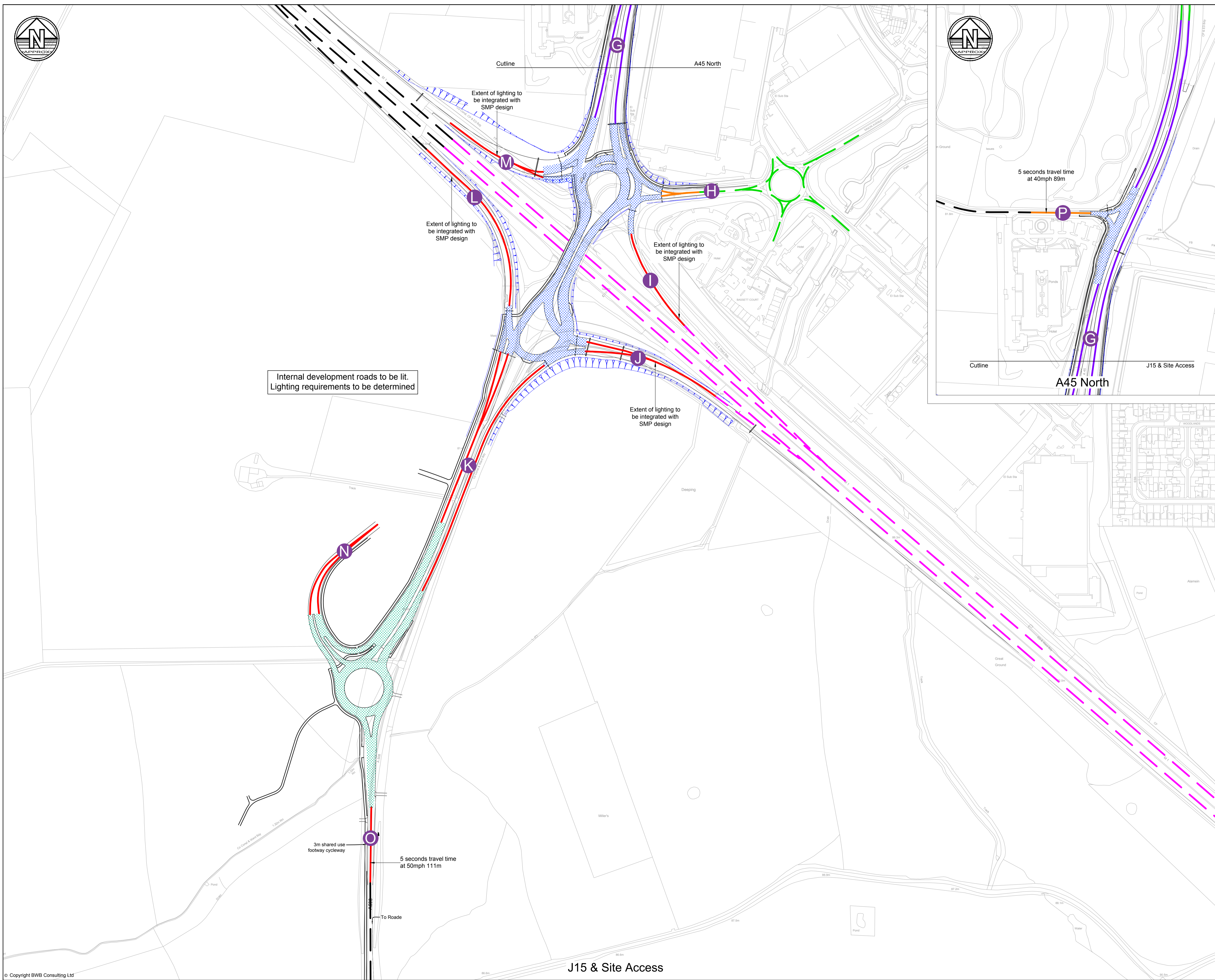
A11.3.21 Adoptable roads will be lit in accordance with the lighting policies of Highways England and Northamptonshire Highways that are current at the time of design. Lighting design will take into account the environment in which the lighting will be situated.

A11.3.22 The drawings on the following pages give the proposed street lighting strategy for:

- the Main Site access from the A508 through to the remodelled M1/A508/A45 grade separated junction (drawing NGW-BWB-GEN-XX-SK-C-SK09); and
- Roade Bypass (drawing NGW-BWB-GEN-XX-SK-C-SK10).

A11.3.23 For the roundabouts on the proposed A508 Roade By Pass, baffles/shields will be used on lighting units wherever this will reduce the visibility of that unit from a nearby residential property that currently has dark views in that direction.

A11.3.24 Lighting on the M1/A508/A45 grade separated junction will be designed by Highways England. It will either use stand-alone lighting columns or fewer, but taller high masts.



- Notes**
1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
  2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
  3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
  4. Any discrepancies noted on site are to be reported to the engineer immediately.

- Legend**
- UNLIT ROAD
  - EXISTING LIT ROAD
  - M1 LIGHTING REMOVED BY SMP
  - PROPOSED LIGHTING - DESIGN CLASS M2
  - PROPOSED LIGHTING - DESIGN CLASS M3
  - PROPOSED LIGHTING - DESIGN CLASS M4
  - PROPOSED LIGHTING - DESIGN CLASS M5
  - PROPOSED LIGHTING - DESIGN CLASS C1
  - PROPOSED LIGHTING - DESIGN CLASS C2

**Important Notes**

All lighting to comply with environmental class G6

Lighting to be designed to BSS489-1 2013 and relevant highway standards

Existing lighting only shown within general vicinity of the scheme

Rev	Date	Details of issue / revision	Dw	Rev
P2	26.02.18	Notes updated	PG	SRH
P1	03.07.17	Preliminary Issue	PG	SRH

**Issues & Revisions**

**BWB** CONSULTANCY | ENVIRONMENT | INFRASTRUCTURE | BUILDINGS

- Birmingham | 0121 233 3322
- Leeds | 0113 233 8000
- London | 020 7407 3879
- Manchester | 0161 233 4260
- Nottingham | 0115 924 1100

www.bwbconsulting.com



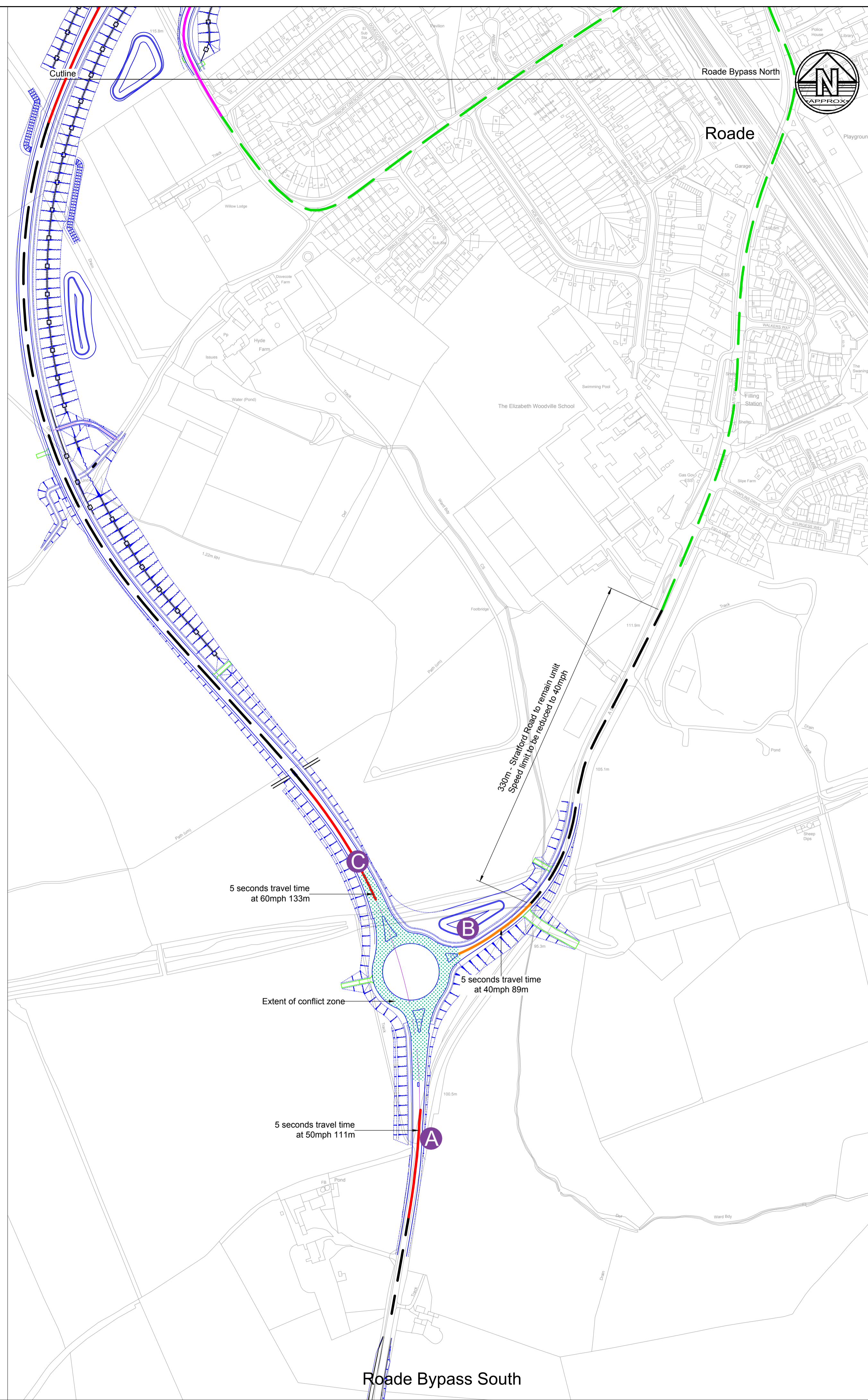
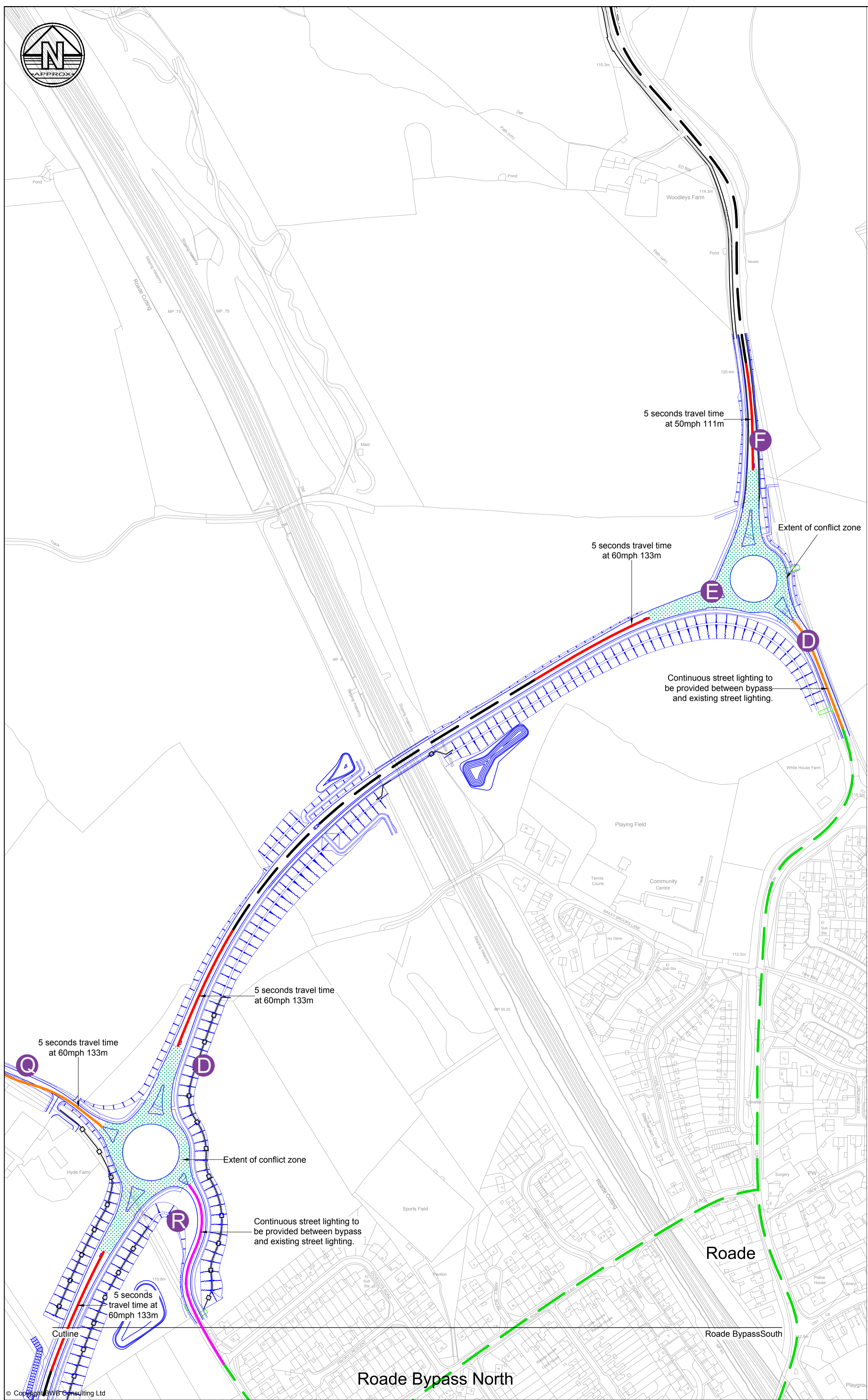
**Project Title**

**NORTHAMPTON GATEWAY RAIL FREIGHT INTERCHANGE**

**Drawing Title**

**STREET LIGHTING STRATEGY**

Drawn:	P. Goodyear	Reviewed:	S. Hilditch
BWB Ref:	NTH 2315	Date:	03.07.17
Scale:	@A1: 1:2000		
<b>FOR COMMENT</b>			
Project - Originator - Zone - Level - Type - Role - Number	Status	Rev	
NGW-BWB-GEN-XX-SK-C-SK09	S3	P2	



**Notes**

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

**Legend**

- UNLIT ROAD
- EXISTING LIT ROAD
- M1 LIGHTING REMOVED BY SMP
- PROPOSED LIGHTING - DESIGN CLASS M2
- PROPOSED LIGHTING - DESIGN CLASS M3
- PROPOSED LIGHTING - DESIGN CLASS M4
- PROPOSED LIGHTING - DESIGN CLASS M5
- PROPOSED LIGHTING - DESIGN CLASS C1
- PROPOSED LIGHTING - DESIGN CLASS C2

**Important Notes**

All lighting to comply with environmental class G6  
 Lighting to be designed to BS5489-1 2013 and relevant highway standards  
 Existing lighting only shown within general vicinity of the scheme

P2	25.02.18	Stratford Road speed limit and notes updated	PG	SRH
P1	30.08.17	Preliminary Issue	PG	SRH
Rev	Date	Details of issue / revision	Dw	Rev

**Issues & Revisions**

**BWB**  
 CONSULTANCY | ENVIRONMENT  
 INFRASTRUCTURE | BUILDINGS

- Birmingham | 0121 233 3322
- Leeds | 0113 233 8000
- London | 020 7407 3879
- Manchester | 0161 233 4260
- Nottingham | 0115 924 1100

www.bwbconsulting.com

Client

**ROXHILL**

Project Title

**NORTHAMPTON  
 GATEWAY RAIL FREIGHT  
 INTERCHANGE**

Drawing Title

**STREET LIGHTING  
 STRATEGY  
 ROADE BYPASS**

Drawn:	P. Goodyear	Reviewed:	S. Hilditch
BWB Ref:	NTH2315	Date:	30.08.17
Scale:	@A1: 1:2500		

Drawing Status

**FOR COMMENT**

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
NGW-BWB-GEN-XX-SK-C-SK10	S3	P2

© Copyright BWB Consulting Ltd  
 Y:\NTH\NTH2315\_M1\_115 SRP102 - Project Delivery\01 - WIP\Sketches\NGW-BWB-GEN-XX-SK-C-SK0&SK10\_Street Lighting Strategy.dwg