

Technical Note

To Rebecca Harrison (Gravesham BC); Emma England (KCC); Helen Forster (KCC)	Project name TKRE Cable Tunnel	Client National Grid	Subject Response to Ecological Points Raised in KCC Advice to Gravesham BC Dated 27 February 2024
Date 24th July 2024	Prepared by John Simmons	Revision No. 02	

Introduction

This technical note provides ecological clarifications relating to National Grid's proposed new cable tunnel beneath the River Thames between Tilbury and Gravesend (Gravesend Application Ref: 20231313). It follows receipt of the points raised in Kent County Council's (KCC's) ecological advice to Gravesham Borough Council dated 27 February 2024¹, and our subsequent call on 25 April 2024.

We have set out below the clarifications discussed in our meeting on 25 April 2024 and we hope that they help resolve the issues raised in KCC's initial response.

Reptiles

As set out within the Environmental Statement, it is acknowledged that reptile surveys undertaken at the Gravesend Site in 2023 were constrained. Survey visits in autumn 2023 were subject to unseasonably high temperatures, and in addition some refugia were subject to disturbance by the ponies that graze the fields which would be subject to permanent works. As a consequence, a precautionary approach was taken in the population size estimates assumed (good population of slow worm and low populations of grass snake and common lizard).

It is noted that the areas of habitat loss set out within paragraph 15.9.26 of the ES are the *total* areas of all habitat that will be permanently or temporarily lost due to the Proposed Development. However, it should be noted that these areas vary considerably in their suitability to support common reptiles. In order to provide further detail, we have documented the reptile suitability of the habitats currently present and the scale of the losses that would occur in Figure 1 attached and Table 1 below.

¹ Ecological Advice Service Response – Subject 20231313/Eastcourt Marshes Electricity Distribution Site, Gravesend dated 27 February 2024.

Table 1. Suitability for reptiles of habitats to lost due to the Proposed Development

	Low quality habitat (ha): (short grazed grassland and dense hemlock stands)	Moderate quality habitat (ha): (less grazed field margins and long sward unmanaged grassland)	Total (ha)
Retained	0.0	1.1	1.1
Habitat lost to construction (permanent impacts) ²	1.4	1.2	2.6
Habitat to be cut back temporarily to enable OHL works (temporary impacts) ³	0.6	2.2	2.8
Habitat disturbed due to access track/crane pads/laydown areas for OHL works (temporary impacts) ^{3 4}	0.0	0.4	0.4
Total	2.0ha	4.9	6.9ha

Vegetation clearance for the permanent works and associated construction area are proposed in autumn 2024/spring 2025. Areas required for temporary works associated with the overhead line realignments only are expected to occur in 2028.

Further discussion of the temporary and permanent impacts of the Proposed Development is provided below:

Areas of Temporary Works

Land in the east of the Site is only required to allow the realignment of the existing overhead lines (OHL). The existing OHL will be dropped to ground level and new lines erected on a new alignment linking to the new terminal pylon location.

At the crossings of watercourses, a scaffold tower will be created either side of the watercourse to avoid the need to clear vegetation associated with the watercourse, including associated scrub.

In order to drop and roll up/out the OHL, a strip of vegetation along the route of the both the existing and new OHL's will be cut to ground level to allow a series of 'trestle tables' to be laid out to support the cable. No other ground preparation will be required in these areas. The cut area will be traversed by a tractor but it is expected ground disturbance will be minimal and will last for a period of approximately 12 weeks.

Some smaller areas in the field to the south of the rifle range (0.4ha – see Table ; Figure 1 reference T1) will require temporary ground disturbance in order to install a temporary access road, crane pad and laydown area for materials.

The remainder of the areas of long sward grassland impacted by temporary works (2.2ha of habitat to be cut back to enable OHL works and 0.4ha disturbed due to access tracks/crane pads/laydown areas – see Figure 1 reference T2) , with a single area of shorter grassland associated with the rifle range (0.6ha habitat to be cut back temporarily to enable OHL works – area T3 Figure 1). The longer sward areas of grassland are suitable to support common reptiles and provide good foraging habitat. However, within the fields to the south of the rifle range in particular, there is an absence of shorter sward areas suited to basking, and suitable hibernation habitat/refugia is limited to scattered scrub associated with the boundaries of the Site. These factors are likely to limit the reptile population that can be supported.

Vegetation clearance will be undertaken during the period that reptiles are active, and the area where clearance is undertaken will be kept to the minimum required. The areas shown in Figure 1 are a worst-case scenario and it is likely that the areas cleared will be smaller.

² Considered as permanent impact because existing habitats will be removed throughout the construction period. Part of this area will be reinstated to suitable reptile habitat post-construction as per the habitat creation details provided within the Environmental Statement.

³ These works do not form part of the Town and Country Planning Act planning application and are instead consenting via Section 37 of the Electricity Act 1989 for which the Department of Energy and Net Zero is the determining body.

⁴ Considered as temporary impact as these areas will be reinstated following approximately 12 weeks.

Habitat requiring clearance will be cut in two phases under ecological supervision. Initially areas will be cut to 150mm above ground level and then again at least 24 hours later to ground level, working in the direction of retained habitat.

Following the completion of the OHL realignment works, the areas cut to ground level are expected to regrow naturally. The areas are likely to be suitable for use by reptiles within a few weeks of the completion of 12 week programme of works, and return to their original condition within a period of 6-12 months.

The route of the temporary access road, crane pad and laydown areas (Figure 1 reference T1) will be reinstated on completion of the works. Natural regeneration of these areas is proposed, and these small areas (0.4ha) are likely to return to their original condition within 12-24 months.

Throughout the works a buffer of suitable reptile habitat will be maintained around the northern margin of the southern fields (minimum width 5m) which will maintain connectivity with larger areas of retained suitable habitat to the east and northeast. Within the rifle range, connectivity will be maintained with large areas of similar habitat to the north and east outside of the planning red line boundary.

The OHL realignment works are expected to occur in 2028 near the end of the construction period, as such the works will follow several years after the habitat clearance works required for the main construction works. Based on the nature of the habitats currently present (long sward grassland suitable for foraging but with limited basking and refugia habitat which are likely to limit carrying capacity), it is expected that the areas subject to clearance will only support low numbers of reptiles, and therefore the methods proposed are considered reasonable to minimise the risk of killing and injury.

An update survey to confirm the size of the reptile population present will be undertaken in the season prior to the works in order to ensure that the methods remain appropriate for the population of reptiles present.

Areas of Permanent Works

The fields in the west of the Site and surrounding areas are required for the construction of the proposed cable tunnel and associated construction compound/laydown area. The fields are pony grazed and the majority consists of short sward grassland with locally frequent patches of common nettle and other ruderals. These areas represent lower quality habitat for reptiles. They contain limited suitable foraging habitat and/or shelter/cover and are subject to regular disturbance by ponies.

The area to the west of the existing electrical compound (Figure 1, reference P1) consists of a bank dominated by a dense stand of hemlock. This area is also considered to be of low suitability for reptiles based on dense and uniform stand providing shading at ground level.

The margins of the fields in the west of the Site, including the interface with drainage ditches (Figure 1 reference P2) , support a combination of longer sward areas of grassland, tall ruderals and scrub. These areas are disturbed less frequently by grazing and are considered to be of moderate suitability for reptiles.

As detailed in Table 1, the Proposed Development will result in the permanent loss of approximately 1.4 ha of low suitability reptile habitat (see Figure 1 reference P1, P3 and P4). Based on the nature of the habitats in these areas (predominately pony grazed grassland), these areas are considered likely to be used by only very low numbers of reptiles (if any), with those individuals being primarily associated with the adjoining areas of more suitable habitat. In isolation, they would be considered of negligible suitability.

The Proposed Development will also require the removal of approximately 1.2ha of the moderate suitability habitat around the margins of the fields in the west of the Site. This represents just over 50% of the moderate suitability habitat within this part of the Site. Approximately 1.1ha will be retained by implementing a 5m buffer from existing wet ditches⁵.

Surveys undertaken in 2023 identified low numbers of common reptiles associated with the existing habitats. Given constraints to the 2023 survey constraints, a precautionary medium-sized population class has been assumed. However, even if this higher precautionary population size class is present, it is likely that the 1.2ha of moderate quality habitat that would be lost in this area will support a relatively low number of total individuals as it represents only around 50% of the total area of moderate suitability habitat within these fields and the total carrying capacity of this area is likely to be limited due to the relatively small areas of suitable shelter/refugia/hibernacula available in close proximity.

⁵ One section of approximately 10m width will be disturbed late in the construction period for a period of 1-2 weeks to install a new headwall.

. In addition, the retained 5m buffer provides the opportunity to displace reptiles using the areas of suitable habitat into these buffer zones during site clearance. These areas maintain connectivity with other larger areas of retained habitat and will allow dispersal of reptiles into these connecting larger areas of habitat.

In order to increase the suitability of the retained 5m marginal areas we propose creating eight log/brush piles (each measuring approximately 2m x 2m x 0.5m height) to further enhance structural diversity and provide shelter/hibernation habitat. Where necessary, the 5m marginal areas will also be enclosed by temporary fencing (electric fence or netlon) to ensure that these areas remain undisturbed by pony grazing and therefore maximise their value for reptiles prior to commencement of habitat clearance.

Within those areas that are required for the development, habitat will be cut back in two phases under ecological supervision. Initially areas will be cut to 150mm above ground level and then again at least 24 hours later to ground level, working in the direction of retained habitat.

The final landscape design contains further habitat suitable for reptiles with the aim of allowing the site to recolonise with reptiles naturally following the completion of works (see paragraph 15.7.5 of the ES).

In combination, these measures are considered reasonable measures to minimise the risk of killing/injury and ensure that the local reptile population is maintained.

Non-statutory Designated Sites and Biodiversity Net Gain

National Grid are happy to provide a copy of the biodiversity metric calculation tool in excel format as requested.

Since submission of the planning application, National Grid have continued to explore off-site locations for the provision of additional habitat creation with the aim of achieving 10% Biodiversity Net Gain (BNG). We are currently in advanced discussions with RSPB over funding enhancements work options on one or more areas of land under their control. Areas in advanced discussion are:

- 1) An area of predominately reed dominated habitat within Shorne Marshes (to the east of the application site and approximately 4ha in area) which is currently in moderate condition. The area would be enhanced through excavation works to create deeper water and allow the water level criteria (currently failed) to be achieved;
- 2) An area of approximately 3.5ha at RSPB's Cliffe Pools which currently consists of a combination of modified grassland and scattered scrub would be enhanced to create areas of high-quality scrub habitat.

Updated calculations have confirmed that the project will be able to achieve a net gain of 12% for area based units and 23% for watercourse units (hedgerow units are not applicable). In addition, trading rules are satisfied for all distinctiveness categories. We have worked closely with the RSPB to achieve this and are in the process of creating a legal agreement to secure the funding. The RSPB have explained that they would be happy to discuss their environmental enhancement projects with the KCC Biodiversity team if it would be helpful.

We accept the proposal for providing a detailed Landscape and Ecological Management plan for both on-site and off-site areas through a suitably worded condition. Given that an outline management plan for on-site areas has already been provided as part of the application documents we would request this is not a 'pre-commencement' requirement.

Water Voles

The ditches within and adjoining the Site have previously been found to support water vole and their ongoing presence is assumed within the Environmental Statement. The existing wet ditches suitable for water vole will be retained with the only direct impact expected to be the installation of a single headwall that will contain a pipe which will outfall the runoff from the operational sealing end compound. The headwall structure is expected to be limited to several metres in width and with associated space to construct the structure it is

expected that up to single stretch of approximately 10m of ditch habitat will need to be cleared for these works.

The location of the outfall is yet to be confirmed and there will be some flexibility in its location allowing good potential to avoid any impacts to sections of ditch supporting water vole burrows. Where possible, the works will be targeted at an area of lower suitability for water vole such as a scrub dominated section which is overshadowed.

Once a potential outfall location has been identified an updated walkover survey will be undertaken to confirm the presence/absence of water vole burrows in the vicinity of the works area. In the event that it is not possible to avoid water vole burrows, then Natural England class licence CL31 will be utilised. The class licence allows the displacement of water vole by damaging or destroying their habitat over up to a 30m stretch of suitable habitat. Clearance for the outfall will be limited to the minimum required to enable safe working (expected up to a single 10m stretch). The removal of vegetation and destructive clearance of any burrows will be undertaken by a registered class licence holder.

Surveys in 2023 found that many sections of the north-south ditch adjoining the site were fringed by dense scrub creating overshadowing that reduces the suitability of these areas of habitat for water vole. When design work has been undertaken to confirm the likely outfall location, an updated walkover survey will be undertaken to confirm any signs of water vole burrows in the vicinity of the areas

The losses of reedbed habitat identified within the BNG calculation are small areas of reed dominated grassland in the fields that will be used as a construction laydown area (Figure 1, reference P4). These areas are infrequently wet. They were checked during water vole surveys undertaken in 2023 and were deemed unsuitable for use by water vole.

Invertebrates and Birds

We note the points raised and feel these are addressed fully within our existing submissions. The landscape and ecology strategy for the site is focussed on providing areas of suitable habitat for invertebrates as part of the operational development. Tussocky grassland habitats providing structural diversity will be created in the northern field at the margins of the operational sealing end compound. The southern fields will be returned to grazing in order to ensure continued availability of suitable habitat for hornet robber-fly. In addition, a biodiverse brown roof is to be provided on the tunnel head house building. These habitats will also provide suitable habitat for local bird populations.

National Grid has engaged with Buglife regarding the proposals prior to submission of the planning application and have incorporated their comments into our final design and mitigation approach. Areas subject to temporary disturbance will be wherever possible allowed to naturally regenerate, and restored surfaces will incorporate undulations to maximise the value for invertebrates. The electrical compound building will incorporate a biodiverse brown roof, and National Grid are working together with suppliers suggested by Buglife to develop the detailed design for the roofs.

The development is seeking to achieve a 10% Biodiversity Net Gain measured via the Statutory Metric. However, the project is not subject to the statutory requirements.

Statutory Designated Sites, Bats, Badgers, Protected/Notable Plant Species, Japanese Knotweed, Marine Mammals, Veteran Tree

National Grid note your comments and a detailed Construction Environmental Management Plan (CEMP) will be provided via condition prior to development.

Lighting and Biodiversity

As outlined within the ES, the proposed new electrical compound would not be occupied when operational. It is expected that maintenance visits will be made approximately monthly. These would be during daylight hours except in the case of any emergency/malfunctions. External security lighting will be sensor operated and will avoid direct lighting of sensitive retained features.

The baseline surveys did not identify any significant bat flight lines that would be impacted by the Proposed Development. However, habitats at the Site do represent part of the wider available foraging resource for the local bat assemblage. In this context, we would note that while our design will seek to incorporate guidance contained in current guidance⁶, we do not see the application of a condition relating to the requirement for dark buffer zones (and specific lux levels) to be appropriate to this development.

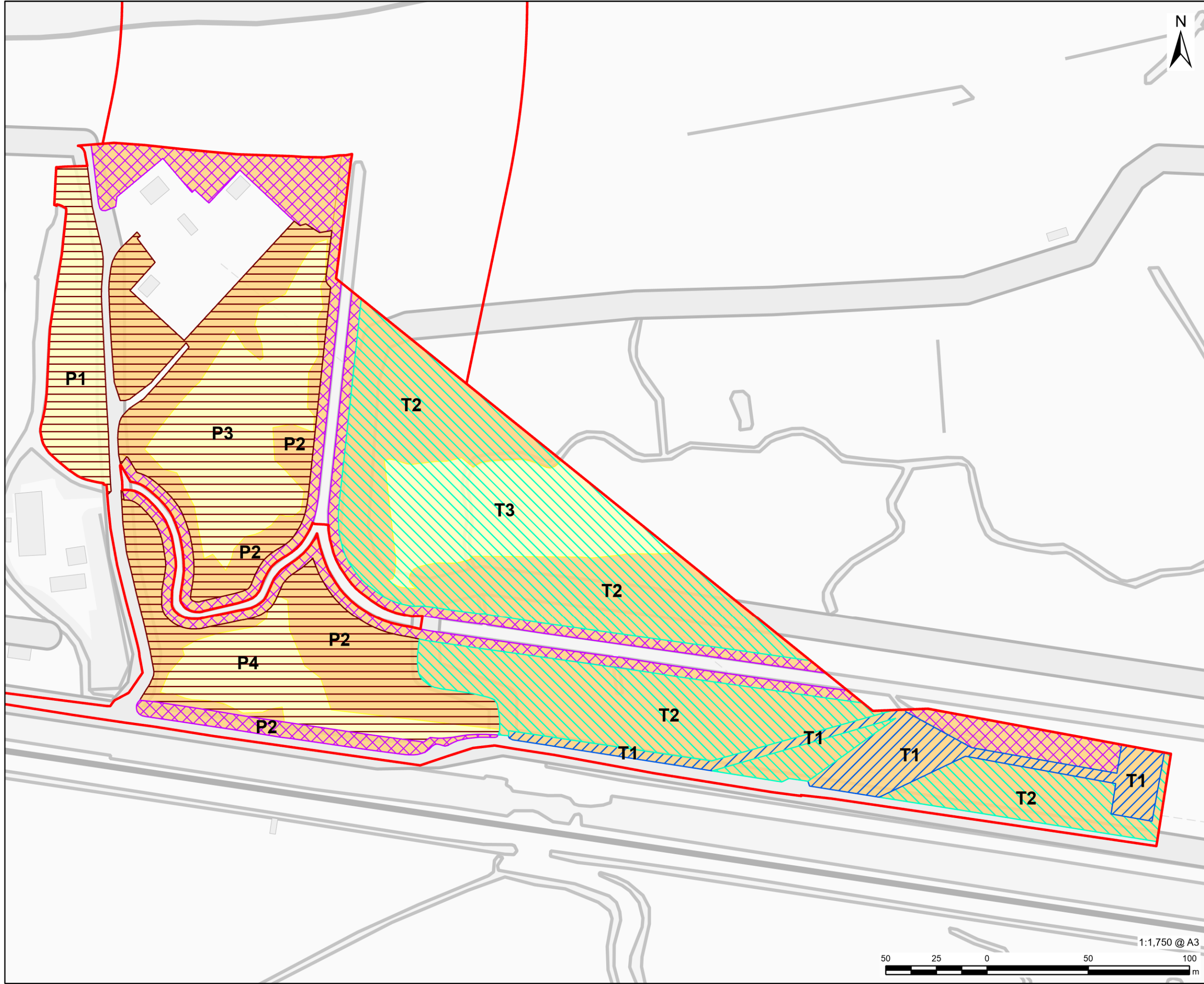
Conditions relating to buffer zones would normally be applied where significant flight lines are expected to be impacted and alternative suitable routes need to be provided. That is not the conclusion of the assessment set out in the ES and suitable flight lines are expected to remain available both during and after construction.

It is noted that there is significant existing light spill from nearby industrial buildings.

⁶ BCT/ILP (2023) Guidance Note 08/23 Bats and Artificial Lighting at Night.

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Revision: 0 Drawn: AC Checked: NK Approved: JS Date: 2024-06-06



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LEGEND

Red Line Boundary

T1

Habitat Area Reference Code

Reptile Habitat Impacts

Retained

Habitat lost to construction

Habitat to be cut back temporarily to enable overhead line (OHL) realignment

Access track/crane pads/laydown areas for (OHL) works

Reptile Habitat Quality

Moderate

Low

NOTES
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ISSUE PURPOSE
DRAFT

PROJECT NUMBER
60677311

FIGURE TITLE
Reptile Impacts Plan

FIGURE NUMBER
Figure 1