



Otterfield Road
Hillingdon
London

REPTILE MITIGATION STRATEGY



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QUALITY ASSURANCE

This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2nd Edition, December 2017).

The facts stated in this report are true to the best of our knowledge and belief, and any opinions expressed are held genuinely and in accordance with the accepted standards of the profession. ACD Environmental Ltd is a CIEEM Registered Practice.

Client:	Bugler Developments
Site/job:	Otterfield Road, Hillingdon, London
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1. EXECUTIVE SUMMARY

- 1.1. ACD Environmental Ltd have been commissioned to produce a Reptile Mitigation Strategy for Otterfield Road, Hillingdon, London to address **Condition 27** of the outline planning consent (planning ref: **76795/APP/2023/2503**) for erection of a 5-storey building, comprising 45 dwellings, with 25 car parking spaces.
- 1.2. Ecological Survey and Assessment Ltd (ECOSA) was appointed in September 2023 by Hillingdon Council to undertake a Preliminary Ecological Appraisal¹ of Otterfield Road. It was recommended that further reptile surveys were required to establish presence/absence within the site.
- 1.3. However, there is no record of any reptile surveys carried out at the Approved Development Site and as such this mitigation plan will proceed in a pre-cautionary approach, due to an absence of recommended baseline reptile surveys as a pre-commencement condition.
- 1.4. The Approved Development Site was assessed in September 2023 and was noted to include scrub and tussock grassland, that has the potential to support reptiles. As work has already commenced in November 2024, the habitat has now been lost. As a pre-commencement condition, ground clearance should not have been carried out. It is now, unknown what the carrying capacity is of the site and if it supported a population of reptiles.
- 1.5. In order to avoid any significant impacts on the potential remaining population of reptiles, a trapping and relocation programme within the Approved Development Site will be carried out, ensuring the isolation of the Approved Development Site from the surrounding habitat and reducing the risk of reptiles possibly recolonising the site if left unmanaged.
- 1.6. This document contains details of a methodology for the collection of reptiles and measures to prevent harm, and to prevent reptiles returning to the construction areas prior to and during development.
- 1.7. This document also contains ongoing management prescriptions for the receptor areas, to ensure that the reptile habitat is protected and maintained in perpetuity.
- 1.8. Implementing all of the practices, techniques, and prescriptions in this document will help to ensure that there will be no significant impacts upon the population of reptiles and the development will be in conformity with relevant legislation and planning policy.

¹Otterfield Road and Falling Lane, Hillingdon – *Preliminary Ecological Appraisal* (ECOSA) (2023)

2. INTRODUCTION

- 2.1. ACD Environmental Ltd was instructed by Bugler Developments in November 2024 to produce a Reptile Mitigation Strategy for Otterfield Road, Hillingdon, London. This land is hereafter referred to as the 'Approved Development Site'.
- 2.2. Outline planning consent '*for the erection of a 5-storey building, comprising 45 dwellings, with 25 car parking spaces*' was granted by Hillingdon Council on 30th August 2024 (planning ref: 76795/APP/2023/250).
- 2.3. This report has been produced to address **Condition 27** of the planning permission. **Condition 27** states:

"Prior to the commencement of development (including demolition or groundworks) of the Otterfield Road site, a detailed method statement for the protection of reptiles shall be submitted to and approved in writing by the Local Planning Authority. The method statement shall set out how reptiles are to be protected during ground clearance and/or preparatory works in accordance with best practice. The development must be carried out in accordance with the approved method statement."

Competence

- 2.4. This report has been written by Jake Cranston, Assistant Ecologist at ACD Environmental Ltd and Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Jake has undertaken various surveys, ranging from Habitat Surveys to Phase 2 surveys for protected species, including bats, badgers and dormice. Jake has written various reports, including Badger Technical Notes, and Landscape and Ecological Management Plans.
- 2.5. A Technical Review of this report has been undertaken in line with ACD Environmental Ltd's Quality Assurance procedures. The review was carried out by Dominic Lambert, Ecologist at ACD Environmental. Dominic Lambert has experience carrying out a variety of surveys including but not limited to Extended Phase 1 Habitat Surveys and UK Habitat Classification Surveys, Preliminary Roost Assessments (PRAs) and is experienced in the use of Biodiversity Metrics and Ecological Impact Assessments (EIAAs). Dominic is a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

3. METHODOLOGY

- 3.1. The Approved Development Site comprises approximately 0.42 hectares of land. The Ordnance Survey Grid Reference for the approximate centre of the site is: TQ 0615 8065.
- 3.2. The Approved Development Site is situated in a suburban location surrounded by the rear gardens of residential properties, a public car park and Yiewsley Recreation Ground. The Approved Development Site is 0.35 mile to the West Drayton train station and 15 miles to central London

Image 1.



Image 1: Approximate boundary of the Approved Development Site. Source: QGIS.

Reptile Surveys

- 3.3. There is no record of any reptile surveys being carried out at the Approved Development Site and as such, this mitigation plan will proceed in a precautionary approach, due to an absence of baseline reptile surveys.

- 3.4. The best practice as recommended by the Chartered Institute of Ecology and Environmental Management (CIEEM), is that reptile surveys are carried out prior to any works taking place, to determine the presence/absence of reptiles within suitable habitat in the Approved Development Site and receptor site. This survey would have also informed the carrying capacity of the site, in order to determine the size of a suitable receptor site, should it be required as part of the strategic mitigation to prevent the loss of suitable reptile habitats and avoid displacement of reptiles as they may be disturbed and/or harmed during ground clearance works. However, in light of the habitat loss onsite, presence and absence surveys are not considered suitable and a reptile translocation is to be undertaken as a precautionary measure, for any potentially remaining reptiles.
- 3.5. In addition to the reptile surveys of the receptor site, a habitat suitability assessment of the receptor site should also be considered, in order to determine the scope of enhancements required to ensure that the receptor site would be capable of supporting the population of reptiles, whether habitat enhancements would be required before/after the translocation, and to inform the long-term management of the site.
- 3.6. The proposed receptor site should be assessed using the National Amphibian and Reptile Recording Scheme (NARRS) Reptile Habitat Guide (Ref 6.8).

Key things to consider when assessing habitat suitability for reptiles are as follows:

- Vegetation structure – ideal reptile habitat has a variable structure with a mixture of vegetation heights, tangled or thorny areas, mosaics, bare patches, lots of edges ('ecotones') and good basking places.
- Extent – must be big enough area to support a population. Small habitat patches can be sufficient for lizards, whereas snakes need larger areas (although grass snakes can cross unsuitable habitat).
- Aspect – sunny, sheltered locations, unshaded, south-facing.
- Topography - undulating topography, banks, hummocks, hollows, south-facing slopes; generally not north-facing slopes.
- Connectivity – essential to allow colonisation when habitat is created, and recolonisation after local extinctions. For example, if an area of good habitat is surrounded by intensive arable farmland, reptiles might not be able to colonise it.
- History – habitat that has been recently created might look deceptively good, but it takes time for reptiles to colonise, and there must be connectivity with neighbouring areas where they are present.

3.7. Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981² and the Conservation of Habitats and Species Regulations 2017³ against harm and makes it an offence to intentionally kill or injure any of these species.

3.8. The reptile survey should involve the distribution of reptile refugia in suitable areas of habitat within the site. The reptile refugia should then be inspected on seven occasions between April and early October (with April, May and September being the optimal time) in order to determine the status of reptiles at the site.

Suitable Reptile Habitat

3.9. The tussocky grassland habitat within the Approved Development Site was identified as having foraging and sheltering opportunities for reptiles and the scrub habitats providing hibernating opportunities, however the habitats have limited connectivity to other nearby habitats and areas of open space.

Tussock grassland

3.10. The site supports a tussocky poor semi-improved grassland sward (**Image 2**). The grassland has been subject to management in the past (ECOSA, 2021) but appears to have been unmanaged in the intervening period. Species recorded include Yorkshire fog *Holcus lanatus*, yarrow *Achillea millefolium*, common cat's-ear *Hypochaeris radicata*, rough hawkbit *Leontodon hispidus*, white clover *Trifolium repens*, smooth sow thistle *Sonchus oleraceus*, common nettle *Urtica dioica*, ragwort *Senecio jacobaea*, dandelion *Taraxacum officinale* aggregate, ribwort plantain *Plantago lanceolata*, black medic *Medicago lupulina*, creeping thistle *Cirsium arvense*, fescue *Festuca* species, herb Robert *Geranium robertianum* and creeping cinquefoil *Potentilla reptans*.

² Wildlife and Countryside Act (1981)

³ Conservation of Habitats and Species Regulations (2017)



Image 2: Tussocky Grassland

Scattered Scrub

3.11. The site is dominated by false acacia *Robinia pseudoacacia* scrub (**Image 3**), that has colonised the site. Other scrub species recorded include bramble *Rubus fruticosus* aggregate, lime *Tilia x europaea* saplings, wood avens, *Geum urbanum* and buddleia *Buddleja davidii*.



Image 3: False acacia scrub

4. RESULTS AND EVALUATION

Reptile Surveys

- 4.1. The Approved Development Site had a reptile appraisal to assess the suitability of the habitat present within the site to support a population of reptiles. Reptiles favour scrub and rough grassland interfaces and the presence is a good indication that reptiles may be present on site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.
- 4.2. As the Approved Development Site was recorded to have potential to support reptiles, as outlined in ECOSA's Preliminary Ecological Appraisal undertaken in 2023. It is recommended by CIEEM that reptile surveys are carried out to determine the presence/absence of reptiles with suitable habitat within the site. However, due to the site being recently cleared of all suitable habitat, this step will be replaced with a translocation to limit any further potential impacts to reptiles that may pass through or are inhabiting the boundary vegetation of the Approved Development Site as no reptile fencing has been installed, this cannot be ignored. This will also inform the carrying capacity of the Approved Development Site and receptor site, in order to determine its suitability as a receptor site, should it be required as part of the strategic mitigation and avoid displacement of reptiles as they may be disturbed and/or harmed during ground clearance works.
- 4.3. As work has already commenced in November 2024, the habitat has now been lost. As a pre-commencement condition, ground clearance should not have been carried out. It is now, unknown what the carrying capacity is of the site and if it supported a population of reptiles. As such the following mitigation strategy will be precautionary.
- 4.4. The Approved Development Site is currently bare ground after being cleared in November 2024 and is unsuitable for reptiles in its current condition; however some suitable habitat remains along the northern boundary.
- 4.5. To safeguard surrounding population of reptiles, no works onsite shall continue until reptile fencing has been installed and a translocation of any remaining reptile individuals has been completed. After the translocation any further ground clearing should be supervised by an ecologist. Reptile fencing and a translocation exercise would also be beneficial prior to further commencement of works in order to protect any reptiles foraging/commuting within the Approved Development Site.

Suitable Reptile Habitat

- 4.6. The areas of suitable habitat within the Approved Development Site have been lost due to predevelopment clearance, resulting in the loss of scrub, and tussock grassland. Ecology enhancement measures will be included for the benefit of reptiles and other wildlife. This plan can be seen in **Appendix 1**.
- 4.7. It is considered unlikely that a receptor area can be delivered within the retained areas of land. Therefore, if a translocation exercise is required, a suitable receptor site will need to be identified.
- 4.8. This may include a reptile survey of the proposed receptor site to determine the carrying capacity of the site.
- 4.9. There are opportunities for enhancement for reptiles including the installation of log piles and reptile corridors on site or within a receptor site. Full details of enhancement necessary for reptiles should be informed by the results of the further survey work. As there are no baseline reptile surveys, ecology enhancement measures will be precautionary.
- 4.10. If grassland and other habitats reestablish before work commences then a sensitive grass cutting scheme should be followed⁴.
- 4.11. It is important to implement a cutting regime that does not harm key features of a reptile site and it is essential to avoid simultaneous removal of all vegetation cover across a site, or substantial areas of it. This can be achieved by strategic selection of limited areas of a site to be cut (for example targeting areas where scrub encroachment is most severe) or by programmed, phased cutting of a site divided into management plots. Many smaller plots are preferable to few larger ones to maintain habitat diversity at a fine scale. Two hectares is a suggested maximum plot size on large sites; smaller plots should be used for smaller sites. Interfaces between plots of differing vegetation heights create transitional zones which provide useful habitat.
- 4.12. Cutting should be undertaken when reptiles are least likely to be killed. If grassland reestablished on the Approved Development Site, then due regard must be given to the potential colonisation of reptiles which may be present within the local area. To account for this, cutting should only take place on dry days when temperatures are above 10°C to ensure any reptiles which may utilise the established grassland are able to move out of harm's way. Cutting should start from the centre of any area and move outwards to allow reptiles to disperse into surrounding edge habitats.

⁴ Edgar, P., Foster, J. and Baker, J. (2010). *Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth*.

5. MITIGATION STRATEGY

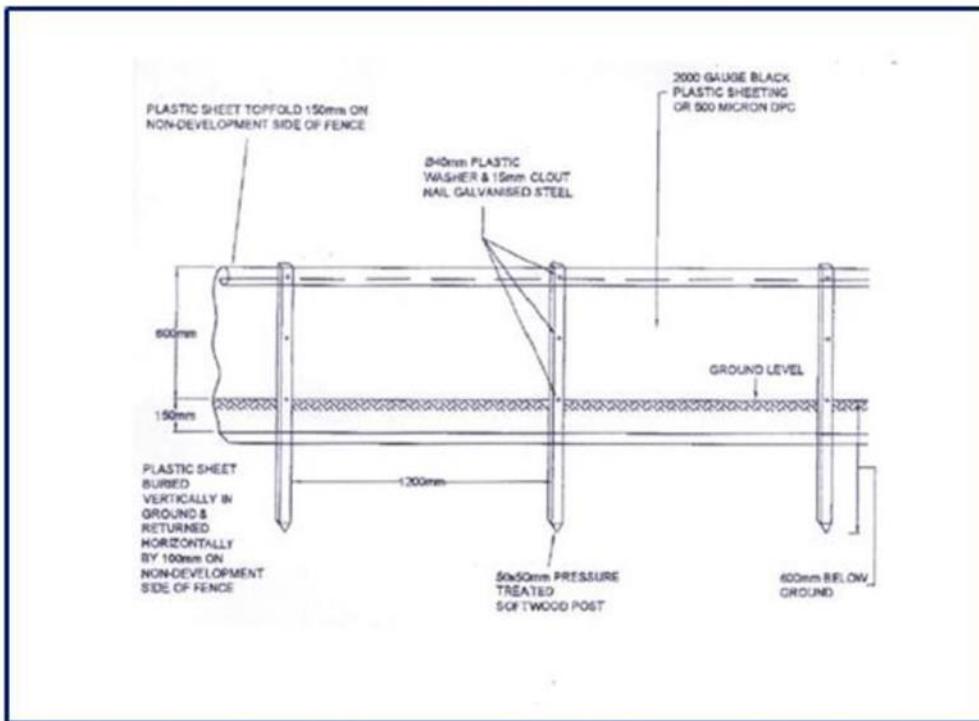
- 5.1. If any reptiles are found and prior to the translocation, a receptor site shall be agreed and reserved for receiving any reptiles found during the translocation. See **Image 2** for a proposed receptor area. Long-term management of the receptor site will need to be identified and secured via an appropriate agreement to ensure it is managed correctly and the reptiles are safeguarded from inappropriate management.

Pre-translocation

- 5.2. The Approved Development Site has already been cleared to bare ground and is not suitable as a receptor site due to limited space and habitat loss.
- 5.3. If an off-site receptor site is needed and identified, the grassland will not be cut prior to the translocation.
- 5.4. Log piles, and a basking bank would also be beneficial if the receptor site can facilitate this, prior to the translocation, reptile surveys must be carried out to determine the carrying capacity of the proposed receptor site and also identify habitat suitability.

Translocation Exercise

- 5.5. The off-site receptor areas must be protected throughout the duration of the construction phase. Heras fencing will be installed on the development side of receptor areas to prevent encroachment and disturbance by persons or machinery.
- 5.6. Semi-permanent HDPE reptile fencing will be installed according to the Reptile Mitigation Plan in **Appendix 1**, placed on the outside of the Heras fencing to prevent reptile re-access to the Approved Development Site during construction works.
- 5.7. The reptile fencing will be set out according to the diagram below, being approximately 600m above ground and 150mm below ground, with a 150mm topfold on the receptor area side of the fence. 2000-gauge plastic is recommended.



Reptile Fencing detail (taken from <http://www.reptilefencingco.co.uk/services>)

- 5.8. The reptile fencing must remain in place for the duration of construction and must not be removed until all construction works have been completed. This will protect reptiles from harm and once removed will allow them to re-colonise suitable areas within the Approved Development Site.
- 5.9. Reptile trapping will involve the installation of reptile exclusion fencing and placing of reptile 'refugia'. Refugia are best placed at high densities (to maximise capture rate), positioned in locations which will be attractive to reptiles (e.g. sun-traps).
- 5.10. A minimum of 20 days will be required to remove any reptiles found from the proposed development areas. In order to find reptiles while they are basking, it is generally best to search when the air temperatures are between 9 and 18°C. On cooler days, bright sunshine is a good sign, while hazy or intermittent sun gives the best results at the warmer end of the scale. Rainy or windy conditions are usually unsuitable. The sequence of weather conditions is significant. Reptiles can be captured in their active season between April and September/early October, but the most profitable season is Spring, particularly April. Summer can produce intermittent trapping results because it can become too hot to trap, and reptiles may be reluctant to emerge above ground during such conditions. September is also a good month, but more neonates (new-borns) are likely to be present, which can prolong trapping.

- 5.11. Reptile trapping will be carried out by experienced ecologists and reptiles will be transported in safe accommodation (terrariums or buckets lined with vegetation/ substrate) to the receptor site, and released in suitable weather, as soon as possible following capture.
- 5.12. Habitat manipulation will be carried out during the latter stages of the trapping period to increase the rate of captures. This will involve reducing the amount of suitable vegetation cover, thus rendering the reptiles easier to catch, by strimming and brush-cutting pockets of brambles and rough grass. 'Islands' of rank vegetation can be left, and it is around here that the remaining reptiles will be concentrated.
- 5.13. Once five clear days of zero captures have been achieved in suitable weather conditions, trapping will cease, and destructive searching will take place.
- 5.14. A destructive search will begin with the careful removal of any features which may provide refuge for reptiles, such as brash piles. Such features will be teased apart by hand or by appropriate machinery and thoroughly searched to ensure no reptiles are present. Vegetation will be thoroughly searched by a suitably qualified ecologist for the presence of reptiles prior to removal, following which systematic stripping will take place with the use of an excavator with a toothed bucket. Firstly, the top few centimetres of the ground will be removed, to expose reptiles sheltering in crevices just below the surface.
- 5.15. Ecologists would be positioned to catch reptiles as they are disturbed. Following this, larger and deeper excavations will be made, concentrating on areas which afford shelter to reptiles, such as tree stumps, debris and grass tussocks. Particular care will be taken when emptying the bucket in case any reptiles are dug up with the soil.
- 5.16. Given that slow worms spend large amounts of time underground, habitat manipulation can be less effective at sites containing buried material and other debris, therefore it is likely that reptiles (particularly slow worms which are largely subterranean) will also be found during the destructive search. Even when carried out using experienced contractors and ecologists, destructive searches may kill or injure a small percentage of animals (perhaps 0-5%) and the lawfulness of this method requires careful interpretation. Hence why the destructive search is typically carried out after other methods (i.e. trapping) have been used, particularly on sites with moderate to large reptile populations.

5.17. During construction of the development within donor areas of the proposed development after the translocation, the reptile fencing will be checked on a weekly basis by the Site Manager, and repaired immediately if any damage occurs.



5.18. **Image 2:** Shows a proposed receptor site with a reptile basking bank along the northern boundary and an area of the Yiewsley Recreation Ground that could be used as a receptor site. Source QGIS (2024)

6. ENHANCEMENT AND MANAGEMENT

- 6.1. Prior to the first season of hibernation following the translocation, log and brash piles will be created using timber from felled hedgerows and branches from coppiced and pollarded trees to provide hibernacula and sheltering areas. The addition of log and brash piles will be an enhancement after development is built.
- 6.2. If an off-site receptor is necessary and has been identified, the area will be managed to provide habitats such as long grassland and scrub for the provision of optimal foraging and hibernating habitat for reptiles.
- 6.3. Following the initial grace period, to maintain a diverse tussocky structure and prevent succession to scrub, the grassland in the field will be cut on a rotation of no shorter than three years (i.e. one third of the grassland is cut each year), in late summer during hot weather, when reptiles are active and can move out of harms way.
- 6.4. To allow access for the public, for example along the Public Right of Way, a limited quantity of 1m wide paths can be cut through grassland area as required.
- 6.5. Cutting will be undertaken by either a tractor-mounted mower, set a minimum of 15cm above ground level, or by strimming/brush-cutting.
- 6.6. Within the reptile hibernaculum area, only strimming will be used. Pockets of grassland will be strimmed to maintain a good mosaic of basking habitat and cover.

7. POST TRANSLOCATION MONITORING

- 7.1. The reptile population will be monitored by carrying out a total of three surveys in early spring, spread across a six year period; in years two, four, and six post-translocation.
- 7.2. Detailed methods for reptile monitoring surveys will be in accordance with the relevant published guidelines.
- 7.3. Following each survey, a short report will be produced to relate to management objectives, to monitor the condition of the habitats, and whether management prescriptions need to be adjusted to reach the desired outcomes (i.e., uneven-aged swards of tussocky grassland). A copy of the monitoring report will be sent to the Local Planning Authority and Local Wildlife Trust.
- 7.4. The receptor site will be managed in perpetuity for the conservation of reptiles, by way of a suitable legal agreement.

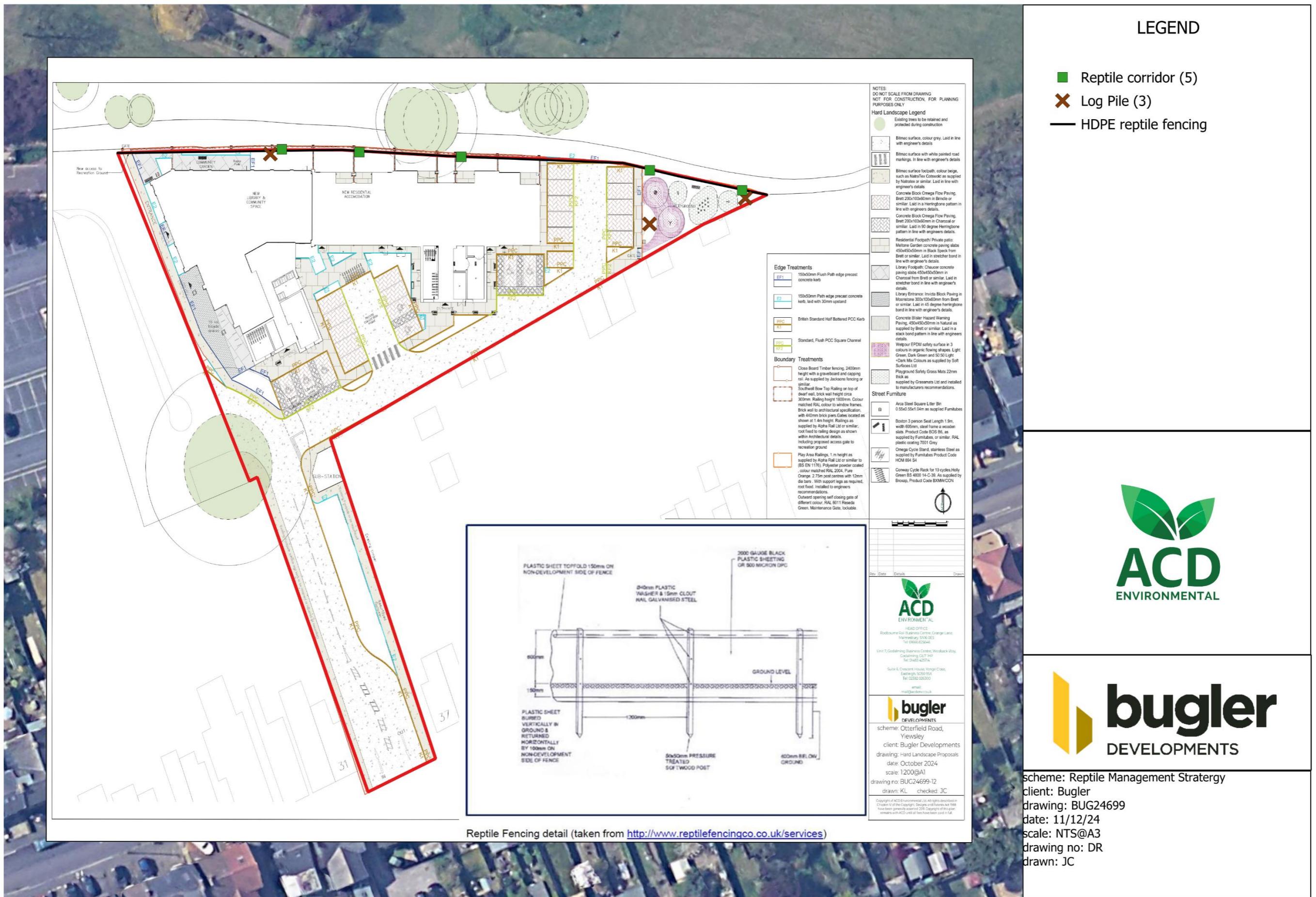
8. CONCLUSIONS

- 8.1. This Reptile Mitigation Strategy has been produced to fulfil **Condition 27** of the planning consent for the Approved Development Site (Hillingdon Council: **76795/APP/2023/2503**).
- 8.2. A reptile fence shall be installed to prevent any further reptiles returning to the site and translocation shall be carried out in line with the methodology mentioned above. Prior to the commencement of this mitigation the receptor site shall be enhanced through the means of hibernacular to ensure site is ready to receive any reptiles.
- 8.3. Upon completion of the reptile fencing, the translocation shall take place moving any reptiles found within the Approved Development Site to the receptor site, which will not be disturbed or impacted by the development in any way.
- 8.4. Once a suitable receptor site has been reserved nearby to receive any reptiles that may occupy the recently cleared site and if no reptiles are found during the translocation at the Approved Development Site work may continue; however, if they are recorded the reptile fence will need to be in situ until the completion of the development. This will ensure no further risk is imposed on any potential reptile individuals that may occupy or move through the site.
- 8.5. The northern boundary of the Application Site will include five reptile corridors to allow movement between the bank of Yiewsley Recreation Ground and the Approved Development Site. Three log piles have been included to replace lost habitat that might be used as hibernacula.
- 8.6. If an off-site receptor area is considered to be suitable to accommodate the donor population of reptiles, and will be subject to enhancements and sympathetic, targeted long term management in according with this Reptile Mitigation Strategy.
- 8.7. With implementation of the measures outlined within this report, it is considered that there will be no further significant impacts upon reptile populations, and the Approved Development Site will be in conformity with relevant legislation and policy.

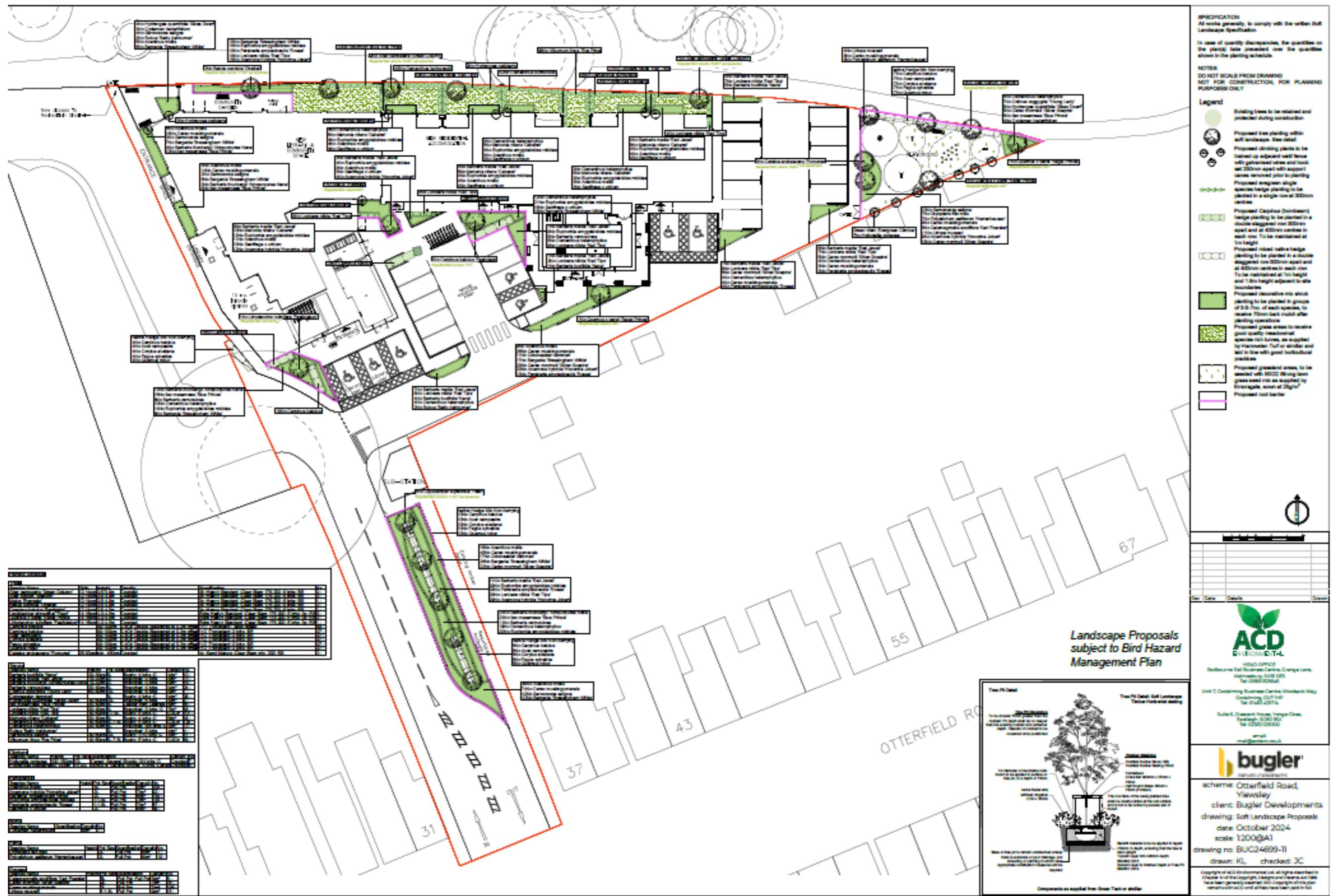
9. REFERENCES

- 9.1. ¹ Otterfield Road and Falling Lane, Hillingdon – *Preliminary Ecological Appraisal* (ECOSA) (2023)
- 9.2. ² Wildlife and Countryside Act (1981)
- 9.3. ³ Conservation of Habitats and Species Regulations (2017)
- 9.4. ⁴ Edgar, P., Foster, J. and Baker, J. (2010). *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth.

APPENDIX 1: REPTILE MITIGATION PLAN



APPENDIX 2: SOFT LANDSCAPE PLANS



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