ecosupport

Land East of Fathoms Reach, Hayling Island

Reptile Survey & Mitigation Strategy

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Taylor Wimpey Southern Counties

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Report	Reptile Survey & Mitigation Strategy
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1.0 INTRODUCTION

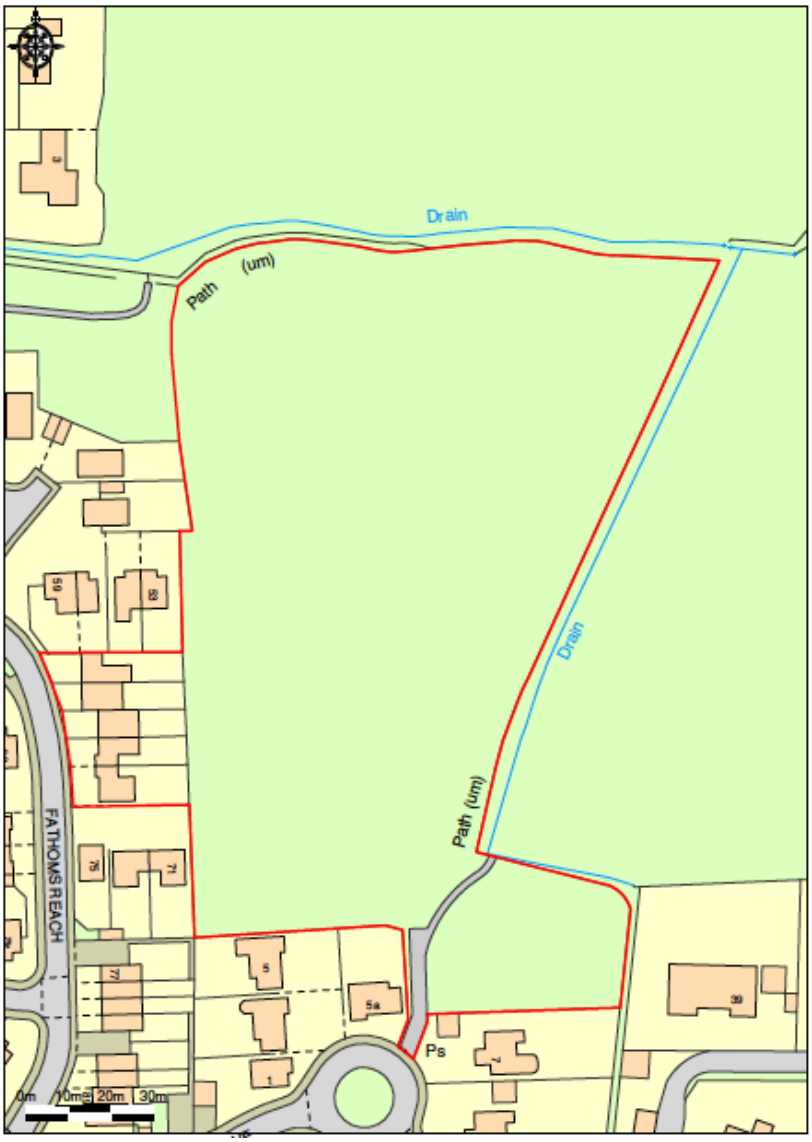
1.1 Background

Ecosupport Ltd was instructed by Taylor Wimpey Southern Counties to conduct a PEA of a parcel of land off of Fathoms Reach, Hayling Island. The PEA (Ecosupport 2021) identified habitat suitable for reptiles on the site and consequently recommended that a targeted reptile survey was carried out, the results of which (along with mitigation proposals) are outlined within this document.

1.2 Site Description

The site comprises a parcel of land supporting scattered trees, scrub and unmanaged grassland located to the east of Fathom's Reach, Hayling Island, PO11 0RR (centred on OS grid reference SZ 716 996) (**Fig 1**). The north of the site is bounded by a parcel of unmanaged grassland, the east by an arable field (listed as being a 'core area' habitat for Brent Goose and waders), the south by Southleigh Grove and the west by Fathom's Reach.

Figure 1. Redline location plan of the site.



1.3 Proposed Development

At this stage it is understood the proposals will entail the construction of 51 dwellings with associated access and infrastructure.

2.0 RELEVANT LEGISLATION & POLICY

2.1 Nature Conservation Legislation

All of Britain's reptile species are legally protected to some degree. The four "widespread" reptile species (Viviparous Lizard, Slow Worm, Grass Snake and Adder) are protected from killing, injury and sale (including offering/advertising/transporting for sale), including parts or derivatives under the Wildlife & Countryside Act 1981 (as amended). The Countryside and Rights of Way Act (CRoW) 2000 strengthened the Wildlife and Countryside Act by the addition of "reckless" offences in certain circumstances, such as where there is a likelihood of a protected species being present.

2.2 Policy

2.2.1 National

Due to their legal protection, Planning Policy also seeks to ensure that reptiles are not harmed as a result of development. National government guidance is provided by National Planning Policy Framework (NPPF, 2021) which places an onus on development to conserve and enhance biodiversity with a requirement for positive biodiversity outcomes wherever possible from the overall development process.

2.2.2 Local – Draft Havant Borough Local Plan

Policy E15- Ecological Conservation

"Development on any site in the Borough should conserve and enhance the natural environment wherever possible. Planning permission on any site in the Borough will be permitted where:

a. The applicant has identified and assessed the level of ecological value of the site through appropriate assessment(s) and any matters arising have been addressed through the development proposal at the earliest stage possible;
b. The development results in a net gain in biodiversity wherever possible;
c. Development avoids the fragmentation and isolation of habitats and wildlife corridors within or close to the development site;
d. The development is informed and influenced by the presence of woodlands, trees and hedgerows on site, particularly those protected by a Tree Preservation Order (TPO) or within a conservation area. If the removal of any tree is unavoidable because it would be in best arboricultural practice a replacement tree of at least equal value to that lost should be planted on site unless it is shown to be impractical to do so; and
e. Any necessary mitigation plan includes provision for ongoing management and maintenance.

2.3 Biodiversity Action Plans

Biodiversity Action Plans (BAPs) are the UK's response to the 1992 Convention on Biological Diversity. The UKBAP describes the biodiversity of the UK and contains Action Plans for the most threatened habitats and species. It is implemented at a local level through regional and local BAPs. However, it should be noted that the UK Post 2010 Biodiversity Framework has now superseded the UKBAP.

3.0 SURVEY METHODS

3.1 Desktop Survey

A data request was submitted to the Hampshire Biodiversity Information Centre (HBIC) for records held of reptiles using a 1 km search radius.

3.2 Field Survey

The surveys undertaken by Ecosupport were carried out in accordance with best practice guidelines as stated in various resources (Froglife 1999) (Gent & Gibson 1998) during September and October 2020. Artificial refugia comprising of bitumen roofing felt were distributed throughout the suitable reptile habitats on-site with a total of 76 pieces of refugia used (approximate distribution shown in **Fig 3**). Seven visits to the site were subsequently undertaken during suitable weather conditions during which all the refugia were checked for the presence of reptiles in combination with a visual observation transect.

This survey is considered sufficient to identify the presence or likely absence of reptiles on the site. It does not provide sufficient information to allow an accurate assessment of population sizes, however, it does allow inferences to be made as to population size class in combination with other considerations such as the extent and quality of the habitat.

4.0 RESULTS

4.1 Desktop Survey

HBIC did not return any records of reptile presence from within 1 km of the site.

4.2 Habitat Suitability Assessment

The grassland areas on site have been left unmanaged for a number of years supporting a dense tussocky structure (with Anthills also present) along with areas of Bramble scrub which would create the 'ecotones' favoured by common reptile species (Edgar et al., 2010) (**Fig 2**). Although no local records of reptile presence were provided by HBIC, anecdotal records of Slow Worm presence were given by local residents and given the maturity of the habitat on-site and the insolation opportunities, it is considered to be of ***High potential*** for common reptile species.

Figure 2. Dense poor semi improved grassland that developed on-site.

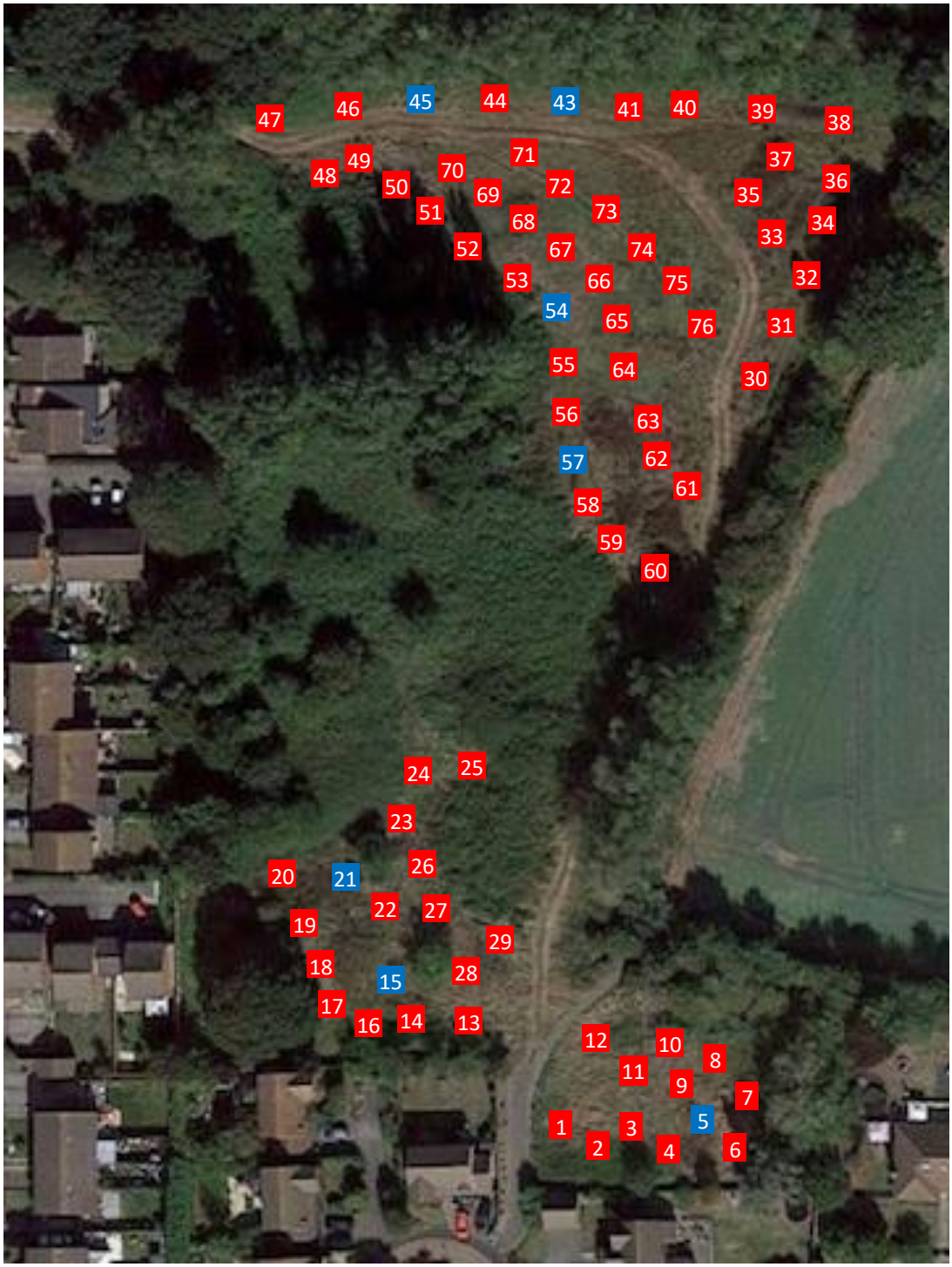
4.3 Field Survey

The results of the reptile presence / likely absence survey are presented below in **Table 1** with the survey refugia distribution and numberings provided in **Fig 3**. Reptiles appeared to be distributed evenly in low density across the site with no preferred areas noted.

Table 1. Results of the reptile surveys undertaken on site during September and October 2020 (AF = Adult female, AM = adult male, SA = sub adult, J = juvenile)

Survey No	Date	Time	Air Temp (°C)	Wind (Beaufort)	Cloud cover (%)	Other notes	Slow Worms				Total (all SW)	Total (excluding SA and J)
							AF	AM	SA	J		
1	22/09/2020	09:45	17	2	70	-	-	1	1	-	2	1
2	23/09/2020	10:30	16	1	80	-	-	-	-	-	-	-
3	25/09/2020	13:20	14	4	50	-	-	-	-	-	-	-
4	26/09/2020	13:45	14	4	60	-	-	-	-	-	-	-
5	27/09/2020	11:00	15	4	50	-	-	-	-	-	-	-
6	28/09/2020	12:00	15	2	50	-	-	-	-	-	-	-
7	06/10/2020	11:30	15	1	90	damp	-	3	2	1	6	3

Figure 3. The approximate locations of reptile mats (numbered 1-76) set out on site (blue = Slow Worm present, red = reptiles absent).



4.4 Evaluation

The survey work undertaken is sufficient to allow an estimate of population size class when the results are considered in combination with other factors, such as habitat quality and extent.

Based on the area of habitat that is considered to be suitable for reptile and the maximum number of adult reptiles recorded in a single survey (3 adult Slow Worms), it is considered that there is currently a ***Low*** Population of Slow Worms (using the Froglife 1999 guidance).

Slow Worms are relatively widespread within Hampshire and throughout the UK. Therefore, given the size of the population present, the site is considered to be of ***Local Value*** for reptiles.

5.0 ASSESSMENT OF IMPACTS IN THE ABSENCE OF MITIGATION

5.1 Introduction

This chapter considers the likely ecological impacts (both positive and negative) of the proposals in the absence of mitigation. In many cases, whilst a potential negative impact is identified at this stage, mitigation can be implemented to ensure no residual negative impacts. Correctly identifying the impacts of the development will ensure appropriate and proportionate mitigation to be designed and implemented.

5.2 Site Preparation and Construction Activities

Site clearance works would result in the loss of reptile habitat on-site(i.e. tussocky grassland and scrub) and based on latest plans, the majority of this is to be permanently lost (area estimated at approximately 4500m^2). Subsequent construction of the residential development would ensure this loss is permanent. Should reptiles be present during the clearance, this could result in their death and/or injury. As all reptile species are protected, this would constitute an offence under the Wildlife & Countryside Act (1981). Given the size of the site, the numbers recorded during the survey and the status of Slow Worms in the local area, loss of habitat and individual animals of these species would have a ***minor adverse impact*** at the ***Local Level*** of significance.

5.3 Site Operation Activities

The development will result in an increased level of human activity within areas surrounding the site, which may also be used by reptiles. This is likely to result in increased disturbance of reptiles remaining within these areas and may reduce their ability to bask and forage. It may also increase their vulnerability to killing by humans and cats.

6.0 MITIGATION STRATEGY

6.1 Introduction

Due to the legal protection relating to reptiles, it is necessary to implement mitigation to ensure these animals are not harmed as a result of the impending construction works and to ensure that there is no net reduction in the conservation status of reptiles in the local area. Therefore, this mitigation strategy has been produced in accordance with best practice guidelines relating to reptiles and development, published by English Nature (2004) and the HGBI (1998).

6.2 Mitigation Strategy Overview

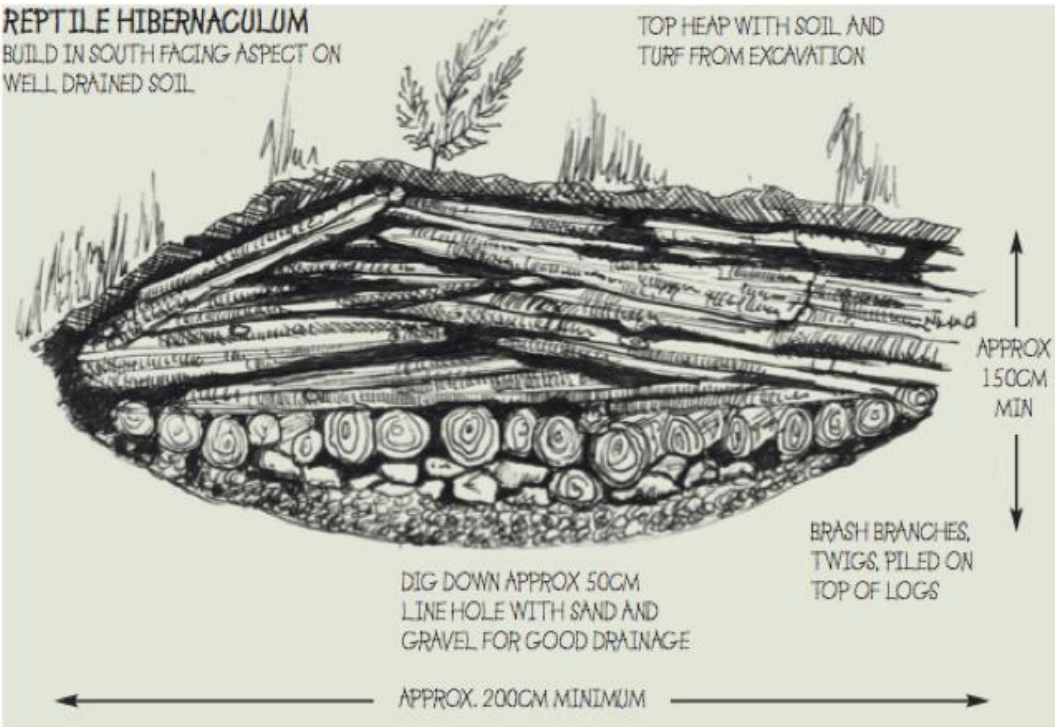
6.2.1 On Site Receptor

The Herpetofauna Workers Manual (Gent & Gibson 2003), recommended that *in situ* relocations are always preferable and as such, it is recommended that a suitable area of reptile habitat is retained on site that reptiles can be moved into (along with providing enhancements for reptiles within these areas). The most appropriate location to be used as a receptor area is the northern boundary as this will get suitable sunlight levels, has existing suitable habitat for reptiles (mixture of tussocky grassland and scrub) and is where 3 of the 8 Slow worms were identified during the surveys. At its widest point the buffer on the northern boundary is 11.4 m wide and when the area along the eastern boundary is also accounted for, the total area of the buffer (and useable reptile habitat) is 2733m^2 (see **Plan 1** for details).

6.2.2 Enhancements

To provide the relocated reptiles with suitable areas to hibernate within, 2 wood-based hibernacula will be created within the receptor strip (indicative locations provided in **Plan 1** but exact location to be determined by ecologists on site so the areas around them can be used as release focal points). This will be created following the specification outlined within *Reptile Habitat Management: Guidelines for Landowner*s (HART, 2009) (**Fig 4**) and each will be a minimum size of 5 m^2.

Figure 4. Reptile hibernaculum design as provided in HART (2009).



In addition to this, the grassland within the receptor areas will be left un cut prior to any relocation works taking place and any excessive scrub growth trimmed back (allowing the required structure to develop and provide cover for reptiles). Suitability will be enhanced through the introduction of wildflower plug plants at a density of 1 or 2 / m^2 into targeted areas of the grassland (with species suitable to the local conditions and planting areas to be determined once the grassland has been allowed to establish and a clearer idea of existing flowering species presence is understood).

6.2.3 Capture and Relocation

Reptile relocation entails the capture of reptiles from the construction area (donor site) and release into the on-site site receptor area. The relocation would be carried out in accordance with guidance published by the HGBI (1998). The methodology used for the capture of reptiles is the same as that used during survey. Artificial refugia made from materials such as roofing felt or corrugated metal allow reptiles to be detected and captured relatively easily. These artificial refugia warm up faster and retain heat for longer than the ground or surrounding vegetation, reptiles, being exothermic will shelter under the refuges in order for their bodies to reach the temperature required for activity. The reptiles can then be captured by experienced field ecologists who regularly visit each refuge during suitable weather conditions.

The construction area would be set up with reptile exclusion fencing where necessary (anticipated to be required around the entirety of the construction area) to prevent the movement of reptile's adjacent areas. In accordance with the HGBI guidelines (1998), artificial refugia should be distributed across the site at a minimum density of 50/ha.

Captured Slow Worms would be transported to the receptor area in appropriate containers such as buckets.

6.2.4 Effort and Timing

The guidelines for carrying out reptile captures based on population class sizes are outlined within **Table 2** below adopted from HGBI (1998) where a '***Low***' population of Slow Worms using the Froglife guidance (1999) would correspond to a '***Low***' population for capturing (based on the numbers noted and the area of currently suitable habitat on site).

Table 2. The minimum capture effort for common reptile species based on HGBI (1998). The figures relevant to this scheme are emboldened and italicised.

Species	Population Size (adult density)	Refugia Density / ha	Minimum No of Trapping Days in Good Weather
Slow Worm	High (> 100 / ha)	100	All suitable days between March and September (min 90 suitable days)
	Medium (> 50 / ha)	100	All suitable days between march and September (min 70 suitable days)
	Low (< 50 / ha)	***50***	***60 Suitable days***

Despite the recommendation for 60 capture days (as per **Table 2**), it is considered a lower figure than this would be appropriate (estimated at 30 days) although this can be reviewed during the capture works (***i.e. should the capture rates be higher than anticipated, the full 60 days will likely be required***). Visits will continue until 5 consecutive visits have been carried out in ideal weather conditions[1] where no reptiles are captured (or seen), it is considered that the relocation can come to an end. This approach is based on survey guidance (Highways Agency, 2005), which suggests that a minimum of five visits are required to establish whether reptiles are present or likely to be absent from a site, during a standard survey. Therefore, if no reptiles are recorded after five consecutive visits (in optimal survey conditions), it can be concluded that reptiles are likely to be absent from the site (or the capture works complete).

[1] Suitable weather conditions are generally considered to be between 10 and 18°C with intermittent sunshine and little or no wind and rain (see Froglife 1999).

6.2.5 Destructive Search

Following the conclusion of the relocation, a destructive search of the site may be necessary. The decision as to whether this would need to be more than a targeted destructive search of localised areas, such as brash piles, would depend on the number of reptiles captured during the relocation exercise in the wider site. Destructive search would entail the removal of any remaining natural reptile refugia within areas of the site where particularly high densities of reptiles were captured.

6.3 Protection of Ecology Area

6.3.1 During Construction

Once the reptile capture works have been completed and the site is due to commence building works, the edge of the reptile receptor (which will be marked by semi-permanent 1mm HDPE reptile fence) will have a line of Heras fence or similar placed in front of it (it may be that the tree protected fencing can be used for this purpose as well). Signage will be placed on this fence with phrases such as:

Protected Reptile Habitat, Do Not Disturb

This level of protection will remain in place for the duration of the construction works and the ecologist will make quarterly visits to the site to check on the integrity of the reptile fence and ensure any repairs are made as necessary.

6.3.2 Once Operational

To ensure the retained reptile receptor is afforded the appropriate level of protection once the site has been built, it should be listed within the S106 (or similar such as a restrictive covenant) as protected reptile habitat, along with the installation of a wooden knee rail along the boundary (to prevent public access) and an interpretation board (which will outline the reasons for the protection and why it is important to maintain the area as free form human disturbance).

6.4 Ongoing Management

Once the reptiles have been relocated into the defined receptor site, management works will need to be undertaken to ensure the area is maintained as a favourable habitat. This will be achieved through adopting the following prescriptions:

Future management of the ecology buffer / receptor will comprise of the following:

- The retained grassland areas will be strimmed by hand (not cut with a flail or rotary mower) once per year (ideally late summer in August / September) and never cut below a height of 30cm.
- The aim will be to keep on top of scrub (Bramble) encroachment and create a sward of varying degrees of structure. This can be achieved through cutting different areas of the grassland during different years so the western half could be cut in year 1 (and the eastern half left uncut) and this reversed in year 2. Bramble currently growing along the boundaries can be cut back annually to aim to keep coverage

below 10% by area (as some Bramble coverage is desirable to create shade and 'eco tones').

- All arisings must be removed and can be composted on site, away from buildings, fences, sheds and sources of ignition: This will provide additional habitat for Slow Worms.
- During each management visit, any rubbish and tipped garden waste (from residents) will be removed.

All management works as described above should be secured through an appropriate Section 106 agreement for the site that will legally oblige the developer to carry out the works. The responsibilities for the long-term management will be adopted by a (yet to be appointed) management company.

7.0 REFERENCES

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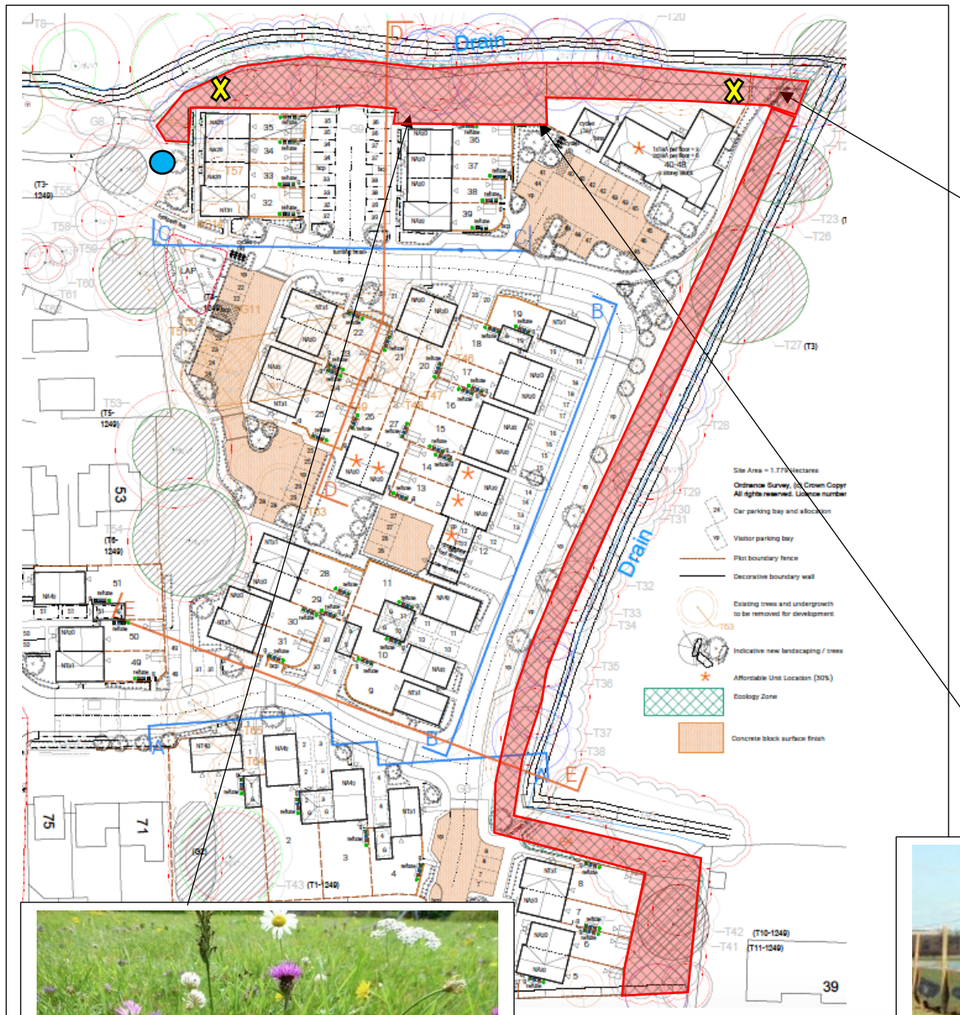

If pathway along eastern boundary created, a small 'wildlife' culvert will be required to go underneath it to maintain habitat connectivity.

Native wildflower plugs plants used in targeted (species poor) locations within receptor strip to increase floral diversity (which will act to increase invertebrate biomass and hence food resources for reptiles).

1 mm HDPE semi-permanent reptile fence used along edge of the retained receptor. This will need to be installed around the entirety of the site although it's exact location will need to be agreed with land surveyor to ensure there is adequate working space during construction.

Plan 1 Legend

Area that will from retained / long term reptile habitat, edge will be marked with wooden knee rail or similar once construction finished

Approximate location of interpretation board (text to be provided in conjunction with ecologist)

Wood based reptile hibernacula (2 No)

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