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LAND AT WARISH HALL FARM, NORTH OF JACK'S LANE,
TAKELEY | UTT/22/3126/FUL / S62A/2023/0016

BRIEFING NOTE: BYWAY IMPROVEMENTS – BAT SURVEY REPORT

Introduction

1. A holding objection has been registered in relation to the planning application for the land north of Jack's Lane (Planning ref: UTT/22/3126/FUL) due to insufficient ecological information regarding a byway running adjacent to the site which is subject to improvement. The Director for Highways and Transportation at Essex County Council requires that the byway is resurfaced and lit to serve as a main pedestrian link to the development north of Jack's Lane. Comments received from Ella Gibbs, Senior Ecological Consultant with Place Services, are as follows:

[The previously submitted ecology and arboriculture reports] did not assess these impacts along the Byway and so we are now not satisfied that there is sufficient ecological information available for determination of this application. It is recommended that an update or addendum is submitted assessing the ecological impacts by the proposed upgrades. It is also recommended that the proposals are discussed with an Arboricultural consultant.

2. Within the comments provided by Ella Gibbs, it is further detailed that:

If any further surveys are recommended within the updated ecological assessment, which is likely to at least include bat activity surveys, the details of the results of these surveys and any additional mitigation and enhancement measures, will be required prior to determination.

3. In order to address these comments, walkover surveys of the byway were conducted by Ecology Solutions on 4 and 7 June 2023. A briefing note summarising the findings of that work and any implications of the proposed improvements was then produced. Information from this report is reproduced in this document, where relevant.
4. Following the initial assessment, it was determined that the byway includes suitable habitat for foraging and commuting bats, as well as potential areas for small roosts. Treelines flank the majority of the byway on each side, including semi-mature and mature species, together with sections of tall ruderal, rough grassland and scrub, which form a dense understorey. In addition, seven trees were identified as having features suitable for roosting bats (see Briefing Note: Byway Improvements, produced in June 2023 by Ecology Solutions).

5. In order to appropriately assess its use by bats, a bat activity survey was conducted along the byway on 27 June 2023. To supplement this survey, two static detectors were deployed on site on 28 June 2023 and left in situ to record over a period of five days. This report sets out the findings of these surveys and summarises the implications of the development of this land in relation to bats.
6. No trees will be subject to removal. However, the potential presence of small roosts within these trees remains a material consideration of this report.

Methodology

7. To ascertain the level of bat foraging and commuting activity along the byway and identify any areas of particular interest, a bat activity survey was conducted on 27 June 2023.
8. Surveyors used an iPad paired with an Echo Meter Touch 2 PRO bat detector to record the data, which was subsequently analysed using Kaleidoscope bat sound analysis software.
9. The aim was to identify any bats using the byway for foraging and / or dispersal (the transect route is illustrated on Plan ECO1).
10. In order to maximise the encounter rate of bats (i.e. of both early and late emerging species), the transect commenced around sunset and continued until approximately two hours after sunset.
11. Surveyors observed the behaviour of any bat recorded (i.e. foraging or commuting) together with noting the species and number of bats present, where possible.
12. The survey was conducted when the night-time temperature was at least 10°C. The insectivorous diet of bats means there is little or no food available when the temperature falls below this level and consequently bat activity levels are low and may not accurately reflect the value of the site for bats. The weather conditions for the surveys were recorded and any limitations noted.
13. To supplement the activity survey, two static detectors were deployed within the site across a period of five consecutive nights. For each night of survey, the total number of bat registrations per species was calculated. This gives an impression of the overall level of bat activity on a given survey night, as well as the proportion of activity attributed to a given species or group of species (*Myotis* species are not generally separated). The locations of the static bat detectors aligned with the boundary vegetation to understand whether there were any particular features of interest for the local bat population (static detector locations are shown on Plan ECO2).
14. Secondly, for each night of survey, the bat registrations were calculated on a minute-by-minute basis for each species, allowing data to be presented for an entire survey night.
15. This method allows conclusions to be drawn as to whether particular species or groups are recorded early and late in the survey night which might suggest that they are commuting through the site to foraging grounds elsewhere, or whether they are recorded throughout the entire night which might suggest that the site itself is a foraging ground. The distinction is important to inform the evaluation of use of the site by bats and any mitigation measures that might be recommended.

Results

16. The timings and weather conditions of the bat activity survey undertaken on the evening of 27 June 2023 are shown in Table 1 below.

Date	27.06.23
Survey Type	Activity
Sunset	21:20
Survey Start	21:20
Survey End	23:20
Cloud (%)	85
Temp. (°C)	19
Weather and Wind	Light breeze (2) / no rain

Table 1. Activity survey timings and weather conditions.

17. The results of the activity survey are summarised below and in Table 2. The results are also illustrated on Plan ECO1.
18. A total of 46 registrations were recorded over the duration of the survey. Registrations were attributed to Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and an unidentified Pipistrelle species *Pipistrellus* sp. Common Pipistrelle was the most frequently recorded species, accounting for over 82% of registrations.
19. Both Common Pipistrelle and Soprano Pipistrelle were observed by surveyors, exhibiting mainly foraging behaviour. Several instances of two bat species foraging in the same area at once were observed. Most activity was focused along the middle section of the stretch of byway that extends from Burgattes Road to the southeast of the Jack's Field development site, with some activity also seen along the section that runs north, adjacent to Jack's Field (see Plan ECO1). No observations were made towards Burgattes Road to the east.

Species	Number of Registrations	First Registration after sunset
Ppip	38	14 min
Ppyg	7	8 min
Psp	1	1 h 51 min
Total	46	N/A

Table 2. Activity survey results 27.06.23¹.

20. Following the activity survey, static detectors were deployed within vegetation in two locations along the byway on 28 June 2023 (see locations on Plan ECO2). These were left in situ for a survey period of five days, ending on 2 July 2023. Results are summarised below and in Table 3.
21. A total of 308 registrations from position 1, and 1,060 from position 2, were recorded. The earliest and latest registrations both pertain to Common Pipistrelle, recorded five minutes before sunset and 18 minutes before sunrise. Common Pipistrelle was also by far the most frequently recorded species, accounting for 95% of registrations overall.

¹ In all cases the following abbreviations are used: Nn/Noctule *Nyctalus noctula*; Ppip/Common Pipistrelle *Pipistrellus pipistrellus*; Ppyg/Soprano Pipistrelle *Pipistrellus pygmaeus*; Psp/Pipistrelle Species *Pipistrellus* sp.

22. The majority of the remainder of registrations were of Soprano Pipistrelle. Each static also recorded a single registration of Noctule *Nyctalus noctula*.

Survey Nights	Position	Species	No. Registrations	First Registration after sunset	Last Registration before sunrise
28.07.23 – 02.07.23 (5 nights)	1	Ppip	293	5 min before sunset	18 min
		Ppyg	14	23 min	41 min
		Nn	1	1 h 17 min	6 h 6 min
		Total	308	N/A	N/A
	2	Ppip	1008	10 min	29 min
		Ppyg	51	10 min	24 min
		Nn	1	1 h 33 min	5 h 50 min
		Total	1060	N/A	N/A

Table 3. Static detector survey results 28.06.23 – 02.07.23.

Evaluation

23. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”). These include provisions making it an offence to:
- Deliberately to kill, injure or take (capture) bats;
 - Deliberately to disturb bats in such a way as to significantly affect:-
 - (i) be likely to impair their ability to survive, to breed or rear or nurture their young; or to hibernate or migrate; or
 - (ii) to affect significantly the local distribution or abundance of the species to which they belong;
 - To damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
24. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
25. The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
26. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
1. the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 2. there must be no satisfactory alternative; and
 3. the favourable conservation status of the species concerned must be maintained.
27. Licences can usually only be granted if the development is in receipt of full planning permission.

28. **Site Usage.** The byway offers suitable foraging and commuting opportunities for bats, in the form of tall ruderal, scrub, rough grassland and trees. In addition, several trees include features suitable for small bat roosts, providing low bat roost suitability overall. Survey work has identified significant usage of the byway for the foraging opportunities provided by Common Pipistrelle, the most common bat species in the UK. Soprano Pipistrelle, the next most common bat species, were found to utilise the site in modest amounts, and Noctule was recorded rarely during the survey. No rare or notable bat species were recorded utilising the byway during the period that survey work was conducted. Barbastelle *Barbastella barbastellus* and Brown Long-eared Bat *Plecotus auritus* were recorded close to Prior's Wood during surveys of the wider Warish Hall Farm site in 2021, and it is possible that they use the byway occasionally.
29. Early registrations of Common Pipistrelle indicate that a roost pertaining to this species is present within or near to the byway. It is possible that these roosts are present within the trees identified as having suitable roost features. There is no indication that significant roosts exist within the vegetation surrounding the byway.
30. **Mitigation.** Only relatively minor losses to some of the understorey vegetation are expected from the improvements, thus, much of the entomological interest in this area will be retained which will conserve foraging opportunities for bats in this area.
31. It is understood that some form of lighting is required by the highways authority as part of the byway improvements. Given the use of the feature by foraging and commuting bats, as well as the potential for nearby roosts, it is recommended that this comprise low-level bollards rather than higher columns. Warm white spectrum features should be used to minimise adverse effects on invertebrates and bats.

Summary and Conclusions

32. A holding objection regarding the planning application for the land north of Jack's Lane was issued, due to insufficient ecological information regarding a byway running adjacent to the site, which is also subject to development.
33. Initial walkover assessments identified potential foraging, commuting and roosting opportunities for bat species. In order to appropriately assess the use of the site by bats, an activity survey and static detector survey was conducted.
34. The activity survey demonstrated use of the byway predominantly by Common Pipistrelles, with some use by Soprano Pipistrelles.
35. Static detectors found significant Common Pipistrelle presence overall, constituting 95% of recordings. Some Soprano Pipistrelle presence and minor Noctule presence was also noted. Early (pre-sunset) Common Pipistrelle recordings indicate that this species is roosting within or near to the site, possibly within the trees along the byway identified as having suitable roost features.
36. No notable species were recorded / observed. However, previous reports of Brown Long-eared Bat and Barbastelle presence within the wider Warish Hall Farm site suggests that these species may also utilise the byway.
37. Owing to the relatively minimal loss to vegetation that will occur during the development of the byway, including the retention of all trees, it is considered that adverse effects on bats will be minimal.

38. Low lighting bollards are considered acceptable as part of the improvements, rather than columns, as they will minimise light spillage into sensitive areas. Their placement should avoid light spillage onto trees identified as having potential roost features.

Plans

- Plan ECO1: Bat Activity Survey Results 27.06.23
- Plan ECO2: Static Detector Locations

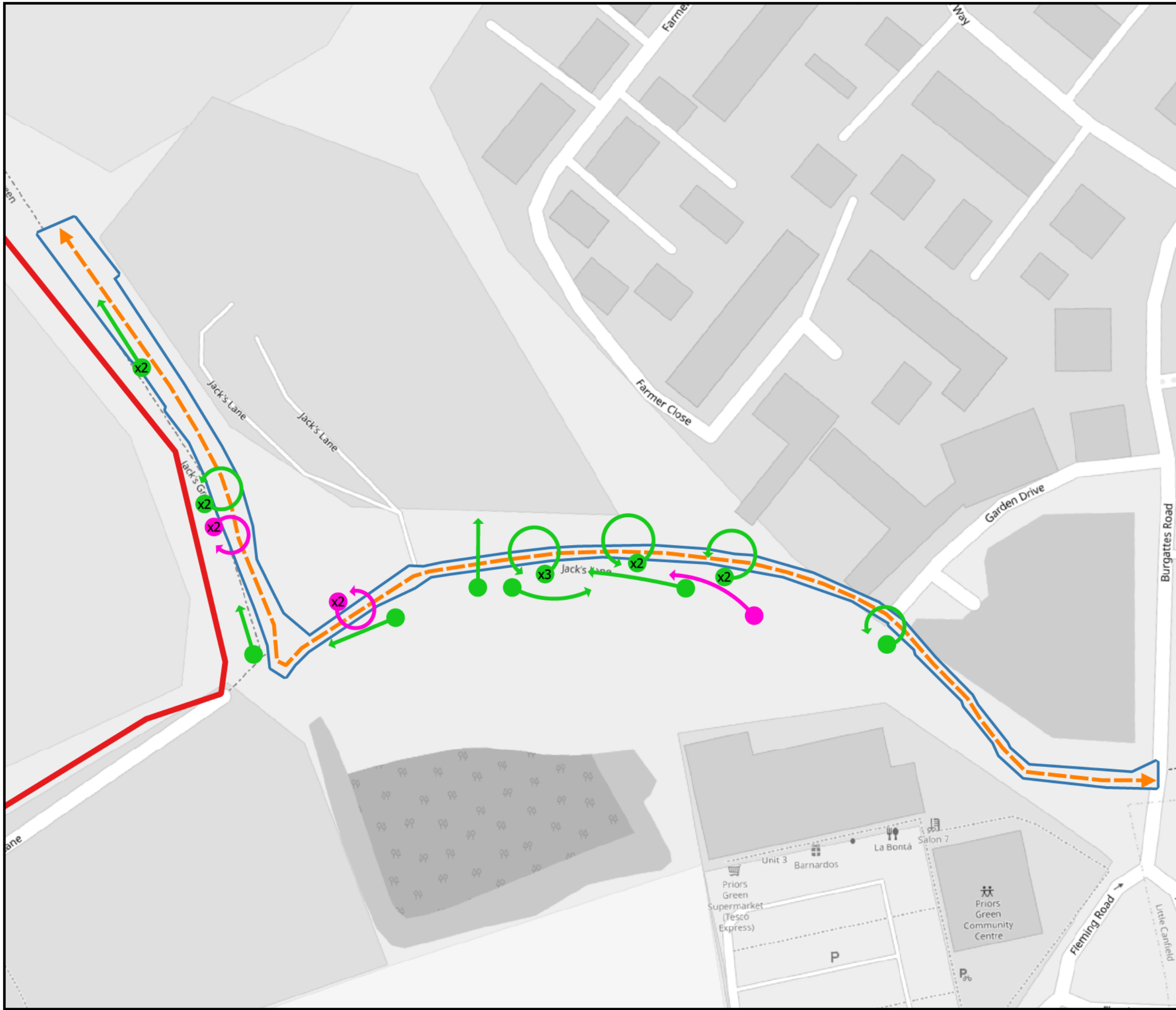
Appendices

- Appendix 1: Byway Location Plan (Weston Homes)
- Appendix 2: Typical Footpath Rejuvenation Detail (Weston Homes)

PLANS

PLAN ECO1

Bat Activity Survey Results 27.06.23



- KEY:**
- JACK'S FIELD SITE BOUNDARY
 - BYWAY BOUNDARY
 - TRANSECT ROUTE
 - COMMON PIPISTRELLE
 - SOPRANO PIPISTRELLE
 - COMMON PIPISTRELLE FLIGHT PATH
 - SOPRANO PIPISTRELLE FLIGHT PATH



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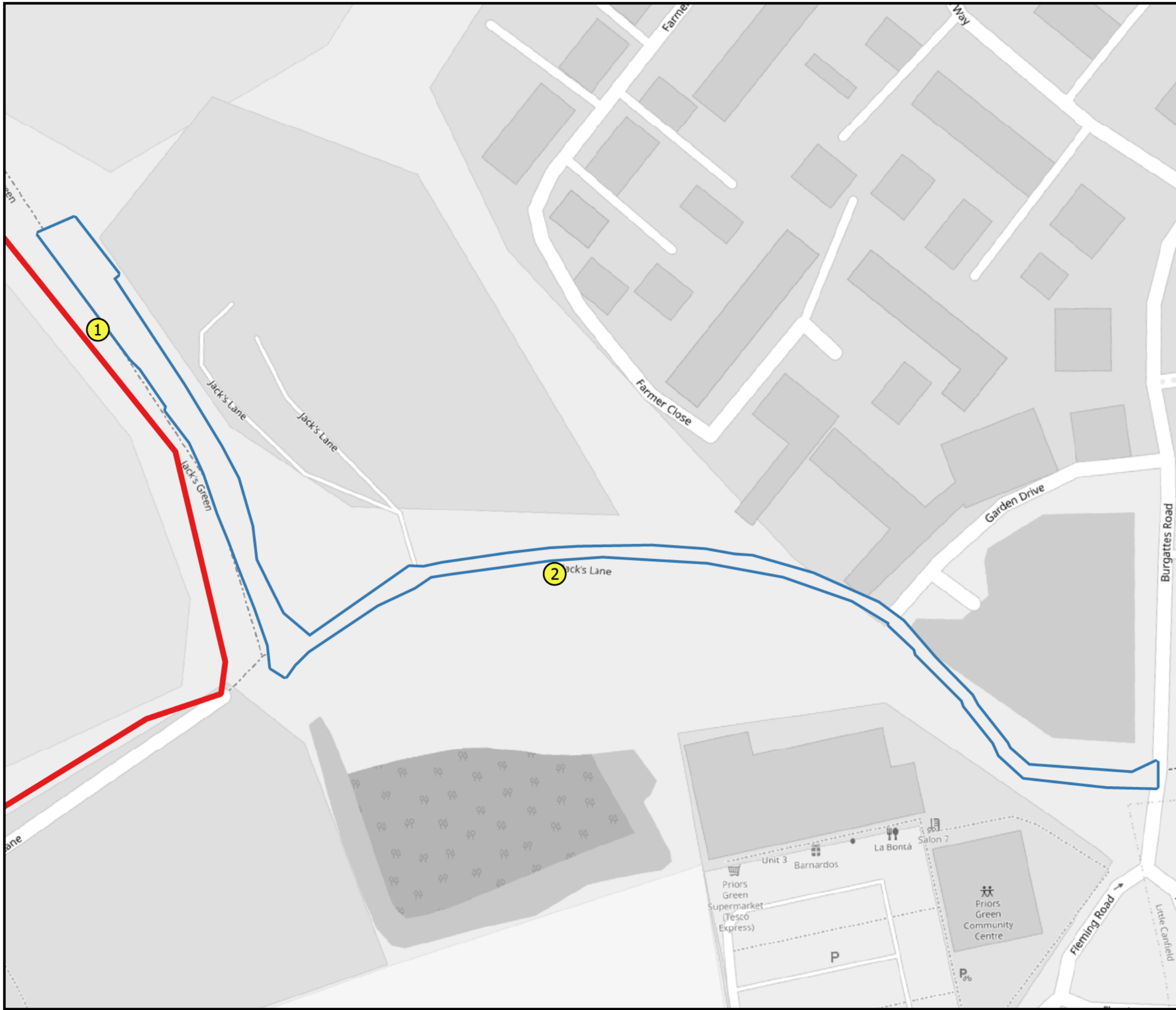
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9283: BYWAY ADJACENT TO JACK'S FIELD, WARISH HALL FARM, TAKELEY

PLAN ECO1: BAT ACTIVITY SURVEY RESULTS 27.06.23	Rev: A Jul 2023
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PLAN ECO2

Static Detector Locations



- KEY:**
-  JACK'S FIELD SITE BOUNDARY
 -  BYWAY BOUNDARY
 -  STATIC DETECTOR



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9283: BYWAY ADJACENT TO JACK'S FIELD, WARISH HALL FARM, TAKELEY

PLAN ECO2: STATIC DETECTOR LOCATIONS

Rev. A
Jul 2023

APPENDICIES

APPENDIX 1

Byway Location Plan (Weston Homes)



ROUTE TO BE RESURFACED AND LIT FROM DRIVE ACCESS FROM APPLICATION SITE TO PROGS GREEN

Rev

0m 10m 20m

PLANNING

1m PROGS GREEN ACCESS ROUTE

Site: JACKS GREEN, TAKELEY

Date: MARCH 2023	Drawn: FMT	Checked:
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Scale: 1:500@A1

Drawing No: WINGS WEST P1_ZZDR PL 10 00	Rev:
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Weston Homes

General Notes

1. This drawing is the property of Weston Homes and is not to be used for any other purpose without the written consent of Weston Homes. Weston Homes is not responsible for any errors or omissions in this drawing and shall not be liable for any loss or damage arising from its use.

2. This drawing is a preliminary drawing and is not to be used for construction purposes without the written consent of Weston Homes.

3. All dimensions are in millimeters unless otherwise stated.

4. All dimensions are to the centerline of the road unless otherwise stated.

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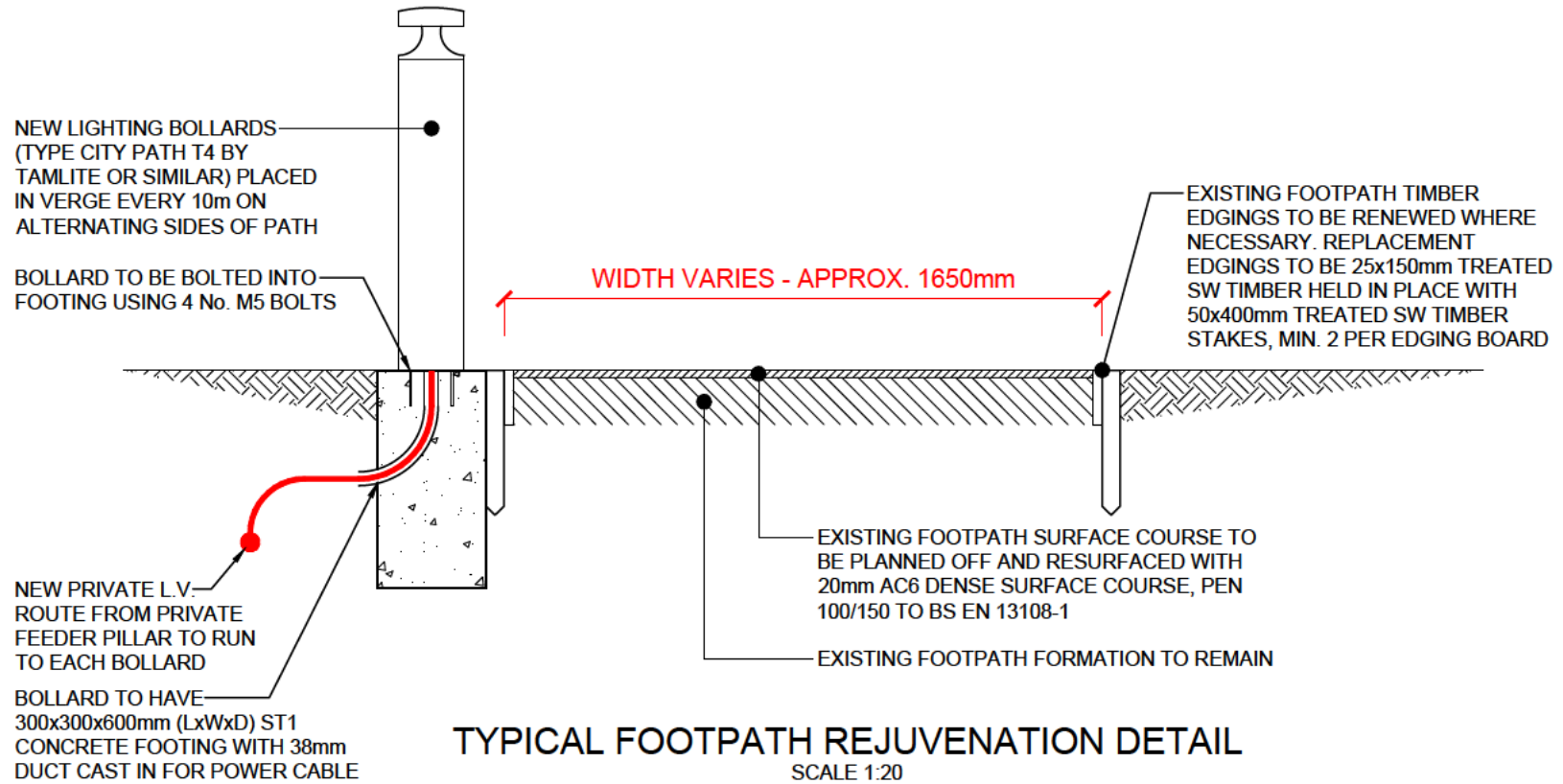
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100. All dimensions are to the centerline of the road unless otherwise stated.

APPENDIX 2

Typical Footpath Rejuvenation Detail
(Weston Homes)





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