

The background of the middle section is a vibrant green field of grass, slightly out of focus, with a bokeh effect of light circles. The top of this section is a light blue gradient.

ENGLISHCOMBE LANE, BATH

Pre-application Ecology Note

Environmental Gain Ltd

Unit 8 Westway Farm
Bishop Sutton
Bristol
BS39 5XP

01225 459564

enquiries@engain.com

www.engain.com

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ABBREVIATIONS

BANES	Bath and North East Somerset Council
NVC	National Vegetation Classification
SNCI	Site of Nature Conservation Importance
SSSI	Site of Special Scientific Interest

SAC Special Area of Conservation

1. INTRODUCTION

- 1.1. Engain have been asked by Bath and North East Somerset Council (BANES) to provide an ecological assessment of a parcel of land off Englishcombe Lane (Figure 1). The site has been subject to several previous ecological surveys in connection with proposals to develop the site.
- 1.2. This document summarises the ecological features that have been identified from previous surveys, provides updated ecological information based on surveys completed in 2023, and sets out a proposed approach to further evidence gathering.
- 1.3. At the time of writing, Engain has completed a botanical survey of the site and carried out bat surveys in April and May. It is anticipated that further surveys will be completed – an outline scope of these surveys is set out in this document and will be subject to agreement with BANES.

Figure 1, Site Location Plan



2. ECOLOGICAL FEATURES

2.1. The main source of information about the past status of the site comes from a report produced by John's Associates dated 7th January 2019 (Land off Englishcombe Lane, Bath: Ecological Impact Assessment – J00129 Version: Final). This report contains the results of a suite of surveys and the report's findings are summarised below:

- The site is within a consultation zone for the Bath and Bradford on Avon Bats Special Area of Conservation (SAC) and has habitat suitable for commuting and foraging bats.
- The report notes that the site is within the boundary of Stirlingale Farm Site of Nature Conservation Importance (SNCI).
- The site comprised tussocky grassland, some of which had affinities with uncommon types including the NVC communities CG3 and MG5.
- A series of linear 'flushes' or 'seepages' crossed the site from south to north. These supported common wetland plants, a non-native invasive species (*Impatiens glandulifera*) and some locally uncommon moss species.
- The grassland was surrounded by unmanaged broadleaved woodland, dense scrub and tall ruderals.
- Aquatic invertebrate samples of the 'flushes or seepages' suggested good biological quality within the watercourses. Ten terrestrial invertebrate species of note were recorded from the site.
- Dilapidated sheds contained bat feeding remains and had low suitability for night roosts (i.e. feeding perches) and three trees had low potential as roosting features.
- Static bat detectors recorded common and soprano pipistrelles, lesser horseshoes and serotines from the site and indicated that Englishcombe Lane is crossed by lesser horseshoe bats.
- Dormouse were not found during surveys of the site.
- There were three outlier badger setts adjacent to the site and one outlier sett entrance within the site.
- The site supported a population of slow-worms.

2.2. The report concluded that the site supported or was linked to the following Important Ecological Features:

- Stirlingale Farm SNCI
- Bath and Bradford on Avon Bats SAC (and Combe Down and Bathampton Mines SSSI)

- Basic flushes
- Habitat mosaic of grassland, woodland, hedgerow, tall ruderals and scrub
- Terrestrial invertebrates
- Foraging and commuting bats
- Slow-worms

3. RECENT SURVEY DATA

Survey Methods

Botanical Surveys

- 3.1. Botanical surveys were carried out over the course of three visits on 11th, 17th and 23rd May 2023. The surveys were completed in accordance with the methods set out in Rodwell (1991).
- 3.2. A total of 16 2m x 2m quadrats were taken at approximately regular intervals along two transects across the site, although the exact positions of some quadrats were adjusted to ensure that the full range of vegetation variation (and grassland types highlighted in the previous survey) were sampled. Each quadrat was photographed, mapped (with GPS assistance), briefly described and the cover of all higher plant species present recorded using the DOMIN scale of abundance.
- 3.3. Following the survey, the quadrat data were analysed using TABLEFIT software, which was used, together with published keys and written descriptions, to classify the vegetation types present on the site within the National Vegetation Classification (NVC).
- 3.4. Additionally, the whole site was walked and the vegetation types on site described, photographed, mapped and target noted, and indicative species lists compiled. The species lists included an estimate of the frequency of each species using the DAFOR frequency scale. Species which are 'positive indicator species' for Lowland Meadow or Lowland Calcareous Grassland in the Common Standards Monitoring Guidance for Lowland Grassland Habitats are highlighted.

Botanical Survey Results

- 3.5. The quadrat locations are shown in Figure 2 and the corresponding NVC matches are listed in Table 1. The full quadrat results are presented in Appendix 1 and the TABLEFIT outputs are presented in Appendix 2.

Figure 2, 2023 Quadrat Sample Locations and Field Notes



- 3.6. It is understood that the field was previously horse-grazed, but it now appears to lack management, and much of the area supports rank, herb-poor, occasionally weedy, grassland. Anthills were noted throughout, though these were often hidden by dense grass. The presence of anthills suggests a long history of un-intensive grassland management on the site. Watercourses run downhill from south to north across the centre of the site, and grasses indicative of less improved calcareous conditions were found in the north-west and west parts of the site.
- 3.7. At the time of the current survey, upright brome was still present, but extremely localised, only achieving significant cover in a very small area, perhaps only a few metres squared, and it occurred in a rankly structured sward with many other ubiquitous neutral grass species also present. No glaucous sedge was found, nor were any typical calcicole species or positive indicator species for Lowland Calcareous Grassland. A quadrat was taken in the area with the most upright brome (Q13). Although this quadrat shows affinity to a CG3 grassland (49% goodness of fit), it had no other characteristic species of CG3 except downy oat-grass. Despite the local occurrence of upright brome, this area can not clearly be classified as CG3 grassland with any confidence.

- 3.8. Another calcicolous grass, downy oat *Helictotrichon pubescens*, was also locally abundant in small patches of the western side of the field, albeit at mostly low covers within a rough neutral grassland sward (e.g. Q12). Again, the NVC analysis results were inconclusive, but suggest the grassland may be transitional between MG1 and MG6 *Avenula (Helictotrichon) pubescens* grassland. Apart from agrimony and meadow vetchling, there were few positive indicator species, and no strict calcicoles recorded here.
- 3.9. The samples indicated the presence of four broad groups of vegetation types:
- Vegetation closely matching MG1 grassland or transitions between this rough grassland and brambles (W24) or nettlebeds (OV24) – 10 of the 16 samples
 - Vegetation not closely matching an NVC type due to the high cover of meadow foxtail, but which are otherwise similar to MG1 grassland – 3 of the 16 samples
 - Vegetation with species found in calcareous grasslands (*Agrimonia eupatoria*, *Bromopsis erecta*, *Helictotrichon pubescens*, and *Lathyrus pratensis*) that had weak matches to calcareous NVC types – 2 of the 16 samples.
 - Vegetation where the sward is finer with a greater abundance of red fescue and the presence of bird's-foot trefoil, which had a weak match to MG5 grassland – one sample.
- 3.10. The distribution of these four types is illustrated on Figure 3 (the first two types are grouped into the 'rough grassland' category).

Figure 3, Vegetation Types within the Site



Table 1, NVC Matches for Quadrat Samples

Quadrat Number	NVC Type and Fit	Description
Q1	MG1a (85%)	Rough grassland. Herb-poor with red fescue
Q2	MG1 (76%)	Rough grassland – rank and weedy
Q3	Inconclusive due to high cover meadow foxtail. Best match was MC11 (49%)	Rough grassland. Herb-poor with red fescue
Q4	Inconclusive due to high cover meadow foxtail. Best match was MG7c (45%)	Rough grassland – lush and herb-poor with meadow foxtail
Q5	MG1a (67%)	Rough grassland – slightly finer area, but herb-poor
Q6	MG1a (74%)	Rough grassland with thistles
Q7	OV24b (77%) transitional to MG1b (75%)	Rough grassland – rank, tall and nettles
Q8	W24 (60%) transitional to MG1a (59%)	Rough grassland with bramble
Q9	MG1a (66%)	Rough grassland – previously mapped as calcareous grassland
Q10	MG1a (77%)	Rough grassland – rank and herb-poor with red fescue
Q11	MG1a (51%), but also a 53% match to W24b	Rough grassland – locally fine patch with red fescue and meadow vetchling (no bramble)
Q12	Transitional between MG1 (50%) and CG6 (49%)	Area with downy oat-grass
Q13	Unclear, with 49% match to CG3.	Area with upright brome
Q14	Inconclusive due to high cover of meadow foxtail, but matched to MG7d (42%)	Poor rough grassland
Q15	MG1a (64%)	Rough grassland – with creeping thistle
Q16	Probably a-typical MG5a (57%), but also matched to MC9a (59%)	Rough grassland – locally shorter and rich patch with frequent bird's-foot trefoil

- 3.11. The location and route of the overland watercourses appear to have changed since they were mapped in 2019, but botanically they have not altered substantially. Historic mapping of the site (Appendix 2) shows that a watercourse from Stirtingale Farm to the south used to be directed under the site via a land drain (at least up until the mid 1980s). This and the apparently changing routes of the water indicate that the overland flow is present because the land drain no longer functions, and new routes may be formed as old ones dry up or are blocked by debris.
- 3.12. The bat surveys in April and May recorded serotines, myotis bats, Leisler's bats, noctules, brown long-eared bats, Nathusius', common and soprano pipistrelles. The vast majority of registrations are of common pipistrelles, with Leisler's bats the next most commonly recorded species.
- 3.13. There are mammal runs through the site, but there is no active outlier sett within the site.

Conclusions

- 3.14. Species-diversity in the grassland has continued to decrease, likely due to an absence of any management or livestock grazing (the site is frequented by deer and rabbits, but they have not had a notable impact on sward structure or diversity). None of the vegetation types are a good match for the high-value calcareous grassland NVC types and therefore do not constitute a Priority Habitat type. Similarly, none of the grassland types are a good fit for the Lowland Meadow Priority Habitat type as they do not fall into the relevant NVC category and they are not cut for hay or grazed by livestock. There are no irreplaceable habitats on the site, within the meaning of the National Planning Policy Framework or Policy NE3 of the BANES Local Plan.
- 3.15. Whilst the vegetation types do not correspond to Priority Habitat descriptions, the presence of very small amounts of calcicoles and the previous survey data indicate that there may be potential to create or restore species-rich grassland with appropriate management. The area with the best potential for this is in the west of the site as illustrated on the plan below.

Figure 4, Species-rich Grassland Creation / Restoration Potential



- 3.16. The watercourses crossing the site have changed routes since 2019 but their botanical character is broadly the same as in 2019. The vegetation of these watercourses is not especially notable, albeit they contribute to the diversity of the site’s habitats for other species. It appears that the watercourses drain to a culvert or land drain at the northern edge of the site – understanding the status of the old land drain and the position of the outflow will be important in determining the future of the watercourses.
- 3.17. The potential for the site to be used by bats, reptiles and badgers has not altered substantially, and the bat data from April and May indicate similar patterns of bat activity.

4. FURTHER SURVEYS

4.1. It is proposed that further surveys will be carried out as follows:

- Bat activity and static detector surveys will be continued through summer and autumn, and trees and buildings will be re-assessed for roosting potential.
- Reptile surveys will be updated.

4.2. It is not proposed to repeat the dormouse presence / absence surveys as they are not likely to have colonised the site since they were found to be absent in 2019.

APPENDIX 1 – QUADRAT DATA

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Average sward height (cm)	25	35	30	50	15	30	60	70	40	45	25	30	40	40	45	15
Slope	gentle	gentle	gentle	gentle	gentle	gentle	gentle	v. gentle	flat	v. gentle	gentle	very gentle	flat	very gentle	very gentle	flat
Aspect	N	N	N	N	NE	N	NE	N	n/a	N	N	N	n/a	N	N	n/a
<i>Achillea millefolium</i>																3
<i>Agrimonia eupatoria</i>						1			3	2		4	3		1	2
<i>Agrostis capillaris</i>					2						4					
<i>Agrostis stolonifera</i>					3											
<i>Alopecurus pratensis</i>	4	5	4	8		3	1	5						8	8	
<i>Anisantha sterilis</i>													1			
<i>Anthoxanthum odoratum</i>		2	3	4						1						
<i>Anthriscus sylvestris</i>							2									
<i>Arrhenatherum elatius</i>	6	7		5	5	6	7	8	6	7	4	5	3	3	5	2
<i>Bromopsis erecta</i>												6	7			
<i>Bromus hordeaceus</i>			1													
<i>Cirsium arvense</i>						6									5	
<i>Convolvulus arvensis</i>			2		2			1	2	3	2	2	3	3		2
<i>Crataegus monogyna</i> (seedling)									1							
<i>Cynosurus cristatus</i>											4		3			
<i>Dactylis glomerata</i>	5	4	3		3	3			3	3	3	3	3	1	2	2
<i>Festuca rubra</i>	6	3	8		7	5	3	3	6	5	7	8	7	5	5	7
<i>Ficaria verna</i>		2						1	1							
<i>Galium aparine</i>		4	3	5		3	3			1		2	1	1	4	
<i>Geranium dissectum</i>						1										
<i>Glechoma hederacea</i>										4		3	1			1
<i>Helictotrichon pratense</i>									3							
<i>Helictotrichon pubescens</i>									4			6	3			
<i>Heracleum sphondylium</i>	1	3				6	7			1						
<i>Holcus lanatus</i>	3	3	2		4					1	3	3	3	3	3	3

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
<i>Impatiens glandulifera</i>						1										
<i>Lathyrus pratensis</i>									1	1	3	1				
<i>Lolium perenne</i>	2	1		1					4			2			1	3
<i>Lotus corniculatus</i>																5
<i>Phleum ?bertolonii</i>									1							
<i>Plantago lanceolata</i>									2		1		1			3
<i>Poa pratensis</i>	1				1				3							1
<i>Poa trivialis</i>	1									1		2				1
<i>Potentilla reptans</i>	1	1	1		1	1					2					
<i>Primula veris</i>	1															
<i>Ranunculus acris</i>			1													1
<i>Ranunculus bulbosus</i>													1			
<i>Ranunculus repens</i>																3
<i>Rubus fruticosus</i> agg.								6								
<i>Rumex acetosa</i>	1												2			
<i>Rumex crispus</i>						2	3									
<i>Rumex obtusifolius</i>				1			3									
<i>Schedonorus arundinaceus</i>		1	1	3						3	2	2	2			
<i>Schedonorus pratensis</i>	2	2	1	3	1	2					4	3				
<i>Taraxacum officinale</i> agg.	1															3
<i>Trifolium pratense</i>																3
<i>Trisetum flavescens</i>				1												
<i>Urtica dioica</i>							5	3								
<i>Veronica chamaedrys</i>									5				3			
<i>Vicia sativa</i>									3	3	3		3			3
SPECIES RICHNESS	14	13	12	9	10	13	9	7	16	14	13	15	18	7	9	18

APPENDIX 2 – TABLEFIT RESULTS

Sample Q1 Parameters = Nobryo Domin Sp & c

*** Name not in dictionary *** rume acet

E2.21 MG 1a 85 | 100 65 100 90 | Arrhenatherum elatius Festuca rubra
E2.21 MG 1 82 | 81 69 96 89 | Arrhenatherum elatius
F3.131 W24b 73 | 66 70 87 96 | Rub fr-Hol la underscb Arr ela-Her sph
E2.21 MG 1c 59 | 69 57 73 60 | Arrhenatherum elatius Filip ulmaria
E3.41 MG 9b 58 | 80 55 59 82 | Holc lana-Desch cespit Arrhen elatius

Sample Q2 Parameters = Nobryo Domin Sp & c

E2.21 MG 1 76 | 75 60 95 88 | Arrhenatherum elatius
E2.21 MG 1a 73 | 90 52 100 76 | Arrhenatherum elatius Festuca rubra
F3.131 W24b 67 | 62 61 83 87 | Rub fr-Hol la underscb Arr ela-Her sph
E2.21 MG 1c 59 | 65 50 76 70 | Arrhenatherum elatius Filip ulmaria
E2.21 MG 1b 53 | 76 39 72 63 | Arrhenatherum elatius Urtica dioica

Sample Q3 Parameters = Nobryo Domin Sp & c

B3.31 MC11 49 | 57 32 72 74 | Fest rubra-Daucus carot
B3.31 MC 4a 47 | 54 35 70 69 | Brassica oleracea cliff Beta vulgaris
D4.1N M37 47 | 42 15 87 80 | Craton comm-Fest rubr
B3.31 MC 4 44 | 42 33 70 71 | Brassica oleracea cliff
A2.53 SM16d 44 | 42 15 96 66 | Juncus gerardii Festuca rubra

Sample Q4 Parameters = Nobryo Domin Sp & c

E2.111 MG 7c 45 | 53 57 53 65 | Lol pere flood-pasture Lol-Alop-Fes pr
E2.111 MG 7d 28 | 45 39 36 51 | Lol pere hay-meadow Lol per-Alo pra
E2.21 MG 1 22 | 32 36 46 34 | Arrhenatherum elatius
E2.21 MG 1c 21 | 30 33 47 31 | Arrhenatherum elatius Filip ulmaria
J OV24b 21 | 45 33 30 32 | Urtica-Gal ap tall herb Arr ela-Rub fru

Sample Q5 Parameters = Nobryo Domin Sp & c

E2.21 MG 1a 67 | 86 62 68 83 | Arrhenatherum elatius Festuca rubra
F3.131 W24b 61 | 45 57 87 95 | Rub fr-Hol la underscb Arr ela-Her sph
E3.41 MG 9b 61 | 75 66 58 78 | Holc lana-Desch cespit Arrhen elatius
E2.21 MG 1 53 | 58 61 61 75 | Arrhenatherum elatius
B3.31 MC 8d 49 | 64 41 63 69 | Fest rubra-Armer marit Holcus lanatus

Sample Q6 Parameters = Nobryo Domin Sp & c

E2.21 MG 1a 74 | 82 52 99 84 | Arrhenatherum elatius Festuca rubra
E2.21 MG 1 71 | 70 55 88 87 | Arrhenatherum elatius
F3.131 W24b 66 | 55 54 100 80 | Rub fr-Hol la underscb Arr ela-Her sph
E2.21 MG 1b 54 | 73 39 72 67 | Arrhenatherum elatius Urtica dioica
E2.21 MG 1c 47 | 58 43 64 63 | Arrhenatherum elatius Filip ulmaria

Sample Q7 Parameters = Nobryo Domin Sp & c

J OV24b 77 | 83 66 87 82 | Urtica-Gal ap tall herb Arr ela-Rub fru
E2.21 MG 1b 75 | 85 56 93 86 | Arrhenatherum elatius Urtica dioica
J OV24 68 | 97 61 74 65 | Urtica-Gal ap tall herb
E2.21 MG 1 68 | 61 67 81 93 | Arrhenatherum elatius
F3.131 W24b 67 | 60 84 76 100 | Rub fr-Hol la underscb Arr ela-Her sph

Sample Q8 Parameters = Nobryo Domin Sp & c
F3.131 W24 60 | 57 71 71 78| Rub fr-Hol la underscb
E2.21 MG 1a 59 | 51 51 81 81| Arrhenatherum elatius Festuca rubra
F3.131 W24b 57 | 42 76 74 93| Rub fr-Hol la underscb Arr ela-Her sph
E2.21 MG 1 57 | 44 63 77 90| Arrhenatherum elatius
E2.21 MG 1b 50 | 57 49 63 69| Arrhenatherum elatius Urtica dioica

Sample Q9 Parameters = Nobryo Domin Sp & c
E2.21 MG 1a 66 |100 49 97 59| Arrhenatherum elatius Festuca rubra
E2.21 MG 1 57 | 74 48 83 56| Arrhenatherum elatius
B1.41 SD 9 46 | 68 44 55 61| Ammoph aren-Arrhen elat
F3.131 W24b 45 | 45 35 88 56| Rub fr-Hol la underscb Arr ela-Her sph
B1.41 SD 9b 44 | 66 48 50 56| Ammoph aren-Arrhen elat Geran sanguineum

Sample Q10 Parameters = Nobryo Domin Sp & c
E2.21 MG 1a 77 |100 56 94 82| Arrhenatherum elatius Festuca rubra
E2.21 MG 1 73 | 85 63 80 81| Arrhenatherum elatius
F3.131 W24b 72 | 73 66 87 77| Rub fr-Hol la underscb Arr ela-Her sph
E2.21 MG 1c 55 | 78 59 59 55| Arrhenatherum elatius Filip ulmaria
E2.21 MG 1e 51 | 69 70 44 70| Arrhenatherum elatius Centaurea nigra

Sample Q11 Parameters = Nobryo Domin Sp & c
F3.131 W24b 52 | 48 47 88 62| Rub fr-Hol la underscb Arr ela-Her sph
E2.21 MG 1a 51 | 98 56 46 52| Arrhenatherum elatius Festuca rubra
E2.21 MG 1 44 | 75 60 38 46| Arrhenatherum elatius
E2.112 MG 5a 43 | 50 75 41 81| Cynos cris-Centaur nigr Lath pratensis
E2.112 MG 5 42 | 49 70 42 77| Cynos cris-Centaur nigr

Sample Q12 Parameters = Nobryo Domin Sp & c
F3.131 W24b 53 | 59 50 87 54| Rub fr-Hol la underscb Arr ela-Her sph
E2.21 MG 1a 50 | 88 45 67 45| Arrhenatherum elatius Festuca rubra
E2.21 MG 1 45 | 74 52 58 39| Arrhenatherum elatius
E1.26 CG 6 40 | 39 26 84 57| Avenula pubescens
E3.41 MG 9b 40 | 80 44 50 38| Holc lana-Desch cespit Arrhen elatius

Sample Q13 Parameters = Nobryo Domin Sp & c
E1.26 CG 3d 49 | 65 34 76 61| Bromus erectus Fes rub-Fes aru
F3.131 W24b 43 | 55 41 69 48| Rub fr-Hol la underscb Arr ela-Her sph
E1.26 CG 6 35 | 48 28 67 45| Avenula pubescens
B3.31 MC11 33 | 63 25 72 37| Fest rubra-Daucus carot
E2.21 MG 1a 33 | 90 39 30 38| Arrhenatherum elatius Festuca rubra

Sample Q14 Parameters = Nobryo Domin Sp & c
F3.131 W24b 43 | 52 94 56 39| Rub fr-Hol la underscb Arr ela-Her sph
E2.111 MG 7d 42 | 56 63 38 72| Lol pere hay-meadow Lol per-Alo pra
E3.41 MG 9b 39 | 70 82 16 45| Holc lana-Desch cespit Arrhen elatius
E2.111 MG 7c 39 | 43 56 46 82| Lol pere flood-pasture Lol-Alop-Fes pr
E2.21 MG 1a 39 | 71 74 22 31| Arrhenatherum elatius Festuca rubra

Sample Q15 Parameters = Nobryo Domin Sp & c
E2.21 MG 1a 64 | 90 75 63 50| Arrhenatherum elatius Festuca rubra
E2.21 MG 1 59 | 75 86 55 54| Arrhenatherum elatius
E3.41 MG 9b 53 | 80 73 44 49| Holc lana-Desch cespit Arrhen elatius

F3.131 W24b 52 | 52 73 78 51| Rub fr-Holc la underscb Arr ela-Her sph
J OV25 51 | 76 75 43 45| Urtic-Cir arv tall herb

Sample Q16 Parameters = Nobryo Domin Sp & c
B3.31 MC 9c 59 | 63 42 90 71| Fest rubra-Holcu lanat Achill millef
E2.112 MG 5a 57 | 70 76 48 92| Cynos cris-Centaur nigr Lath pratensis
E2.112 MG 5 55 | 69 71 47 90| Cynos cris-Centaur nigr
E2.112 MG 5b 51 | 61 67 49 87| Cynos cris-Centaur nigr Galium verum
E1.26 CG 6 50 | 62 34 71 72| Avenula pubescens

APPENDIX 2 – HISTORIC MAPS

Figure 5, OS Map Extract showing the Termination Point of the Watercourse from Stiringale Farm

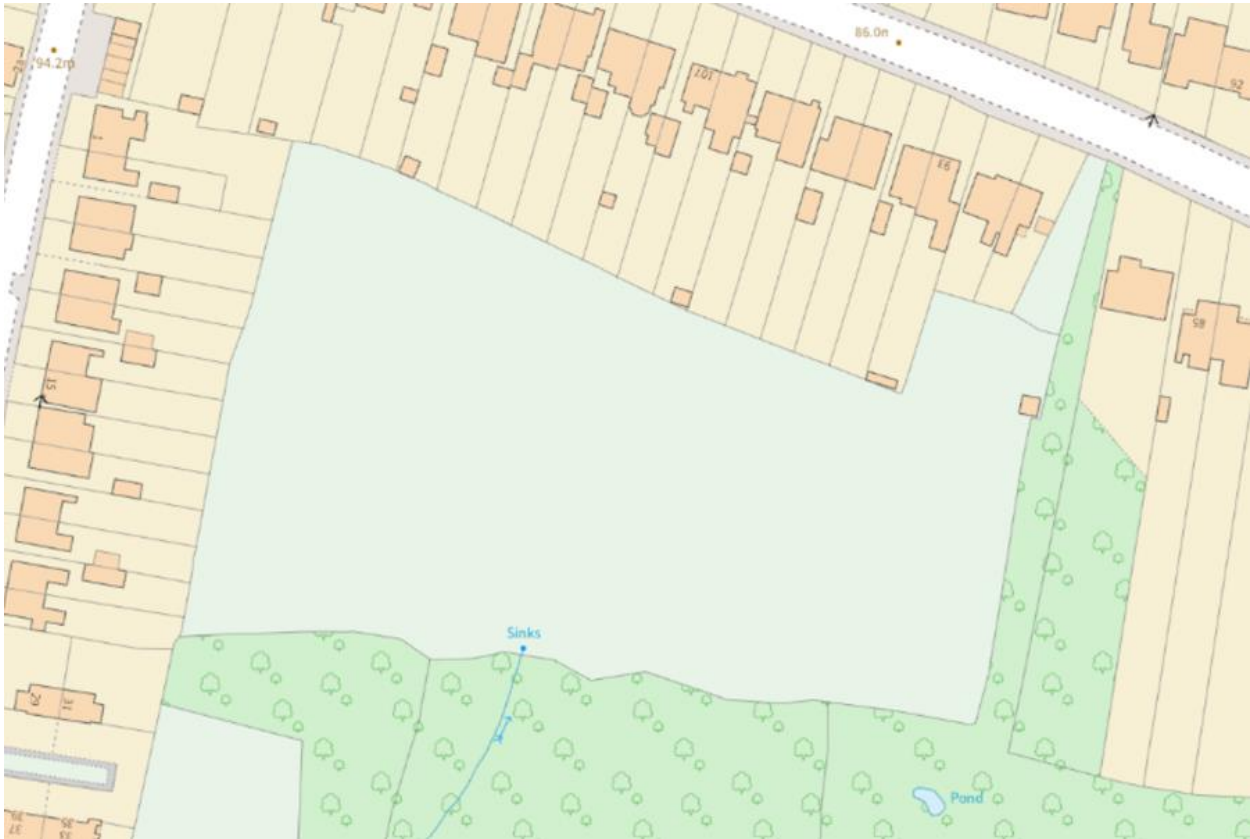
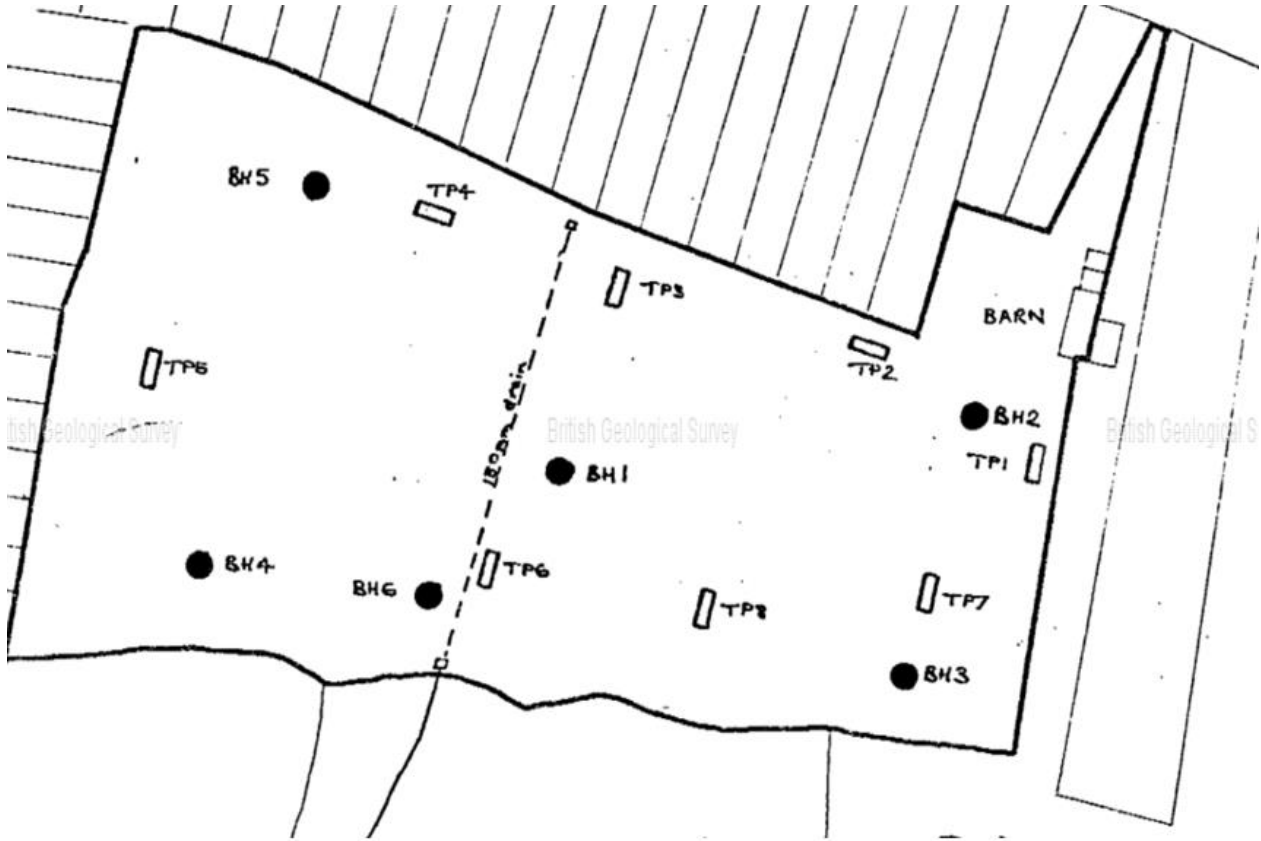


Figure 6, Extract of Borehole Record from British Geological Survey in 1984, Showing Route of Land Drain





Environmental Gain Ltd
Unit 8
Westway Farm
Bishop Sutton
Bristol
BS39 5XP

01225 459564
enquiries@engain.com
www.engain.com

