18th February 2019

Sandown Park Racecourse, Esher

Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment

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Summary

S.1. This report has been prepared by Tyler Grange LLP on behalf of Jockey Club Racecourses Ltd (JCR). It sets out the findings of a Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment (PBRA) to inform a Masterplan-led planning application for proposals at Sandown Park Racecourse (Sandown Park), owned by JCR.

S.2. A hybrid planning application has been prepared for the site, for mixed-use development comprising:

- Outline planning application (with all matters reserved except for access to the development) for:
  - Enhancement and rationalisation of existing racecourse facilities/infrastructure and car parking;
  - Re-location of an upgraded children's nursery (Use Class D1);
  - Development of a c. 150 room hotel (Use Class C1), and
  - Demolition of existing buildings/structures and residential development of approximately 318 dwellings (Use Class C3).
- A full planning application for:
  - Racetrack widening to the southwest and east sections of the existing racecourse track, including associated ground levelling/earthworks to the southwest section, and re-positioning of fencing, and improvements to a section of the existing internal access road from More Lane, and
  - New bell-mouth accesses serving the development.

S.3. None of the sites are covered or directly adjacent to any sites that are the subject of statutory or non-statutory protection and no such sites would be affected by proposals. Given the proximity of sites 1, 2, 3, 4, 5 and B, for which the proposals may result in increased recreational pressure, to the South-west London Waterbodies SPA and Ramsar (2.6km from the nearest site boundary). As such, consultation with Natural England has been undertaken to confirm if recreational impacts are likely. The consultation has concluded that no impacts are likely and as such no mitigation is required. This is detailed further in the Habitats Regulations Assessment (HRA) Screening report (Report Ref 11932/R03a) to be submitted with the hybrid planning application.

S.4. Potential recreational impacts on the nearby Littleworth Common SNCI, located c. 10m from the eastern masterplan site boundary (on the opposite side of Station Road), may be mitigated through the provision of adequate open space nearby to the development parcels that will result in a net increase in the number of residents/temporary visitors, namely sites 1, 2, 3, 4, 5 and B.

S.5. As the site is predominantly an operational racecourse and the proposed residential sites are on previously developed land or adjacent to existing developments, the majority of the habitats to be lost as a result of the proposed development (buildings, hardstanding and amenity grassland) are of negligible ecological importance and no specific mitigation is required. Some habitats of site ecological value (scrub and trees) will be lost as a result of the proposals, but it is considered that this can be mitigated through suitable replacement planting.

S.6. Impacts from the proposed developments as a whole are limited to roosting bats, great crested newt *Triturus cristatus* and reptiles. Further surveys and/or precautionary mitigation are required for these species groups across the 11 sites forming the masterplan site. This information is summarised in **Table 5.2** in text. The table also summarises required mitigation should the aforementioned protected species be present, alongside general enhancement opportunities for these species.

S.7. Precautionary mitigation for foraging and commuting bats, in the form of sensitive lighting, should be instated across all sites. This, in combination with targeted nectar rich planting and the establishment of linear features (where appropriate) such as hedgerows and treelines, should represent an enhancement to the local bat population.

S.8. Precautionary nesting bird checks are recommended by an Ecological Clerk of Works (ECoW) if buildings and vegetation at any site are to be removed in the nesting bird season (March – August inclusive) to ensure no nesting birds are disturbed. Should nesting birds be present in these areas, an appropriate buffer will need to be put in place and retained until an ECoW confirms that the young have fledged.

S.9. Within Site F, no impacts on roosting bats are considered likely given the low-impact nature of the proposals for this site. However, to inform the hybrid application, building B1 and the mature trees in the north of the site will be subject to a PBRA assessment, and the results of the PBRA and any subsequent further surveys (which are considered unlikely to be required given the proposals) will be detailed in the Ecological Assessment report, to be completed prior to the determination of the hybrid application.

S.10. Existing habitats will be retained and enhanced where possible, and new habitat created on-site where possible in line with local planning policy and the 'Biodiversity and Planning in Surrey' document. In addition, enhancements for specific species groups could be provided post-construction including bat boxes to increase the number of roosting opportunities and bird boxes to increase the number of nest sites across the site. Additionally, any artificial lighting to be instated as part of the proposed works should be designed to limit potential impacts on bats potentially utilising the site for foraging and commuting activities, for example by ensuring lights are angled below the horizontal plane and features such as baffles are utilised.

S.11. To demonstrate that the development is able to secure a measurable net gain in biodiversity, as referenced above, indicative landscaping proposals have been prepared for sites 3 and 5 (plans prepared by EDP, Plan Refs **edp5237_d011** and **edp5237_d012**), with landscaping considerations for all remaining sites covered by relevant text prepared by EDP, to demonstrate how the development will deliver a net gain in biodiversity. At the reserved matters stage, a Landscape and Ecological management Plan for the masterplan site should be submitted, detailing mitigation, compensation and enhancements for habitats and protected species. Additionally, enhancements to enhance the biodiversity resource for the wider Sandown Park Racecourse site may be implemented alongside the scheme, to include a management plan, bat/bird boxes and the establishment of additional linear boundary features, namely hedgerows.

S.12. Those valuable ecological resources that exist, or could exist, at the site, could be accommodated by the adoption of design principles. Where impacts may occur, these could be more than mitigated through better management of retained habitats (notably scattered trees, scrub and grassland) and habitat creation within the site. This is in line with relevant policies CS14, CS15 and DM21 of the Elmbridge Core Strategy and Development Management Plan.

Section 1: Introduction, Context and Purpose

Introduction

1.1. This report has been prepared by Tyler Grange LLP on behalf of Jockey Club Racecourses (JCR). It sets out the findings of a Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment (PBRA) to inform a Masterplan-led planning application for proposals at Sandown Park. The site names, central grid references and corresponding habitat features plan reference numbers are set out below in **Table 1.1**.

Table 1.1: Summary of site locations and corresponding plans

Site Name	OS Grid Reference	Habitat Features Plan
Site 1	TQ 13819 64939	11932/P01
Site 2	TQ 14059 64895	11932/P02
Site 3	TQ 13736 65640	11932/P03
Site 4	TQ 14683 65584	11932/P04
Site 5	TQ 14436 65306	11932/P05
Site A	TQ 14030 64910	11932/P06
Site B	TQ 14158 65142	11932/P07
Site C	TQ 14164 65375	11932/P08
Site D	TQ 13878 65246	11932/P09
Race Track Widening (Sites E1 and E2)	TQ 13722 65162 and TQ 14644 65713 (referred to as E1 and E2 respectively; see masterplan reference below)	11932/P12
Site F	TQ 14197 65072	11932/P16

1.2. The desk study was undertaken for the wider Sandown Park Racecourse site as a whole. As such, the wider Sandown Park Racecourse site is hereinafter referred to as the 'masterplan site'.

1.3. The purpose of the report is to inform a Masterplan led planning application at Sandown Park Racecourse, as set out in context below. Red line boundaries assessed in this report are based upon those illustrated in plan **11071FE_101_G_Masterplan**, prepared by PRC Architecture and Planning.

Context

1.4. A hybrid planning application has been prepared for the site, for mixed-use development comprising:

- An outline planning application (with all matters reserved except for access to the development) for:

    - Enhancement and rationalisation of existing racecourse facilities/infrastructure and car parking;
    - Re-location of an upgraded children's nursery (Use Class D1);
    - Development of a c. 150 room hotel (Use Class C1), and
    - Demolition of existing buildings/structures and residential development of approximately 318 dwellings (Use Class C3).

- A full planning application for:

    - Racetrack widening to the southwest and east sections of the existing racecourse track, including associated ground levelling/earthworks to the southwest section, and re-positioning of fencing, and improvements to a section of the existing internal access road from More Lane, and
    - New bell-mouth accesses serving the development.

Purpose

1.5. This report:

- Uses available background data and results of field surveys to describe and evaluate the ecological features present within the likely 'zone of influence' (ZoI)[1] of the proposed developments;
- Describes the actual or potential ecological issues and opportunities that may arise as a result of the sites' future redevelopment;
- Where appropriate, makes recommendations for mitigation of adverse effects and ecological enhancement, to ensure conformity with policy and legislation listed in **Appendix 1**; and
- Identifies further work required to inform a future planning application if relevant.

1.6. This assessment and the terminology used are consistent with the 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2016).

[1] Defined as the area over which ecological features may be subject to significant effects as a result of activities associated with a project and associated activities (CIEEM, 2016).

Section 2: Methodology

Data Search

2.1. The aim of the data search is to collate existing ecological records for the Sandown Park site as a whole, and the surrounding area. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site.

2.2. The data search has been undertaken for a 10km radius around the masterplan site for European statutory sites, and a 2km radius for national statutory sites and non-statutory sites. A 2km search radius was utilised for protected and priority[2] species records.

2.3. The Surrey Biodiversity Information Centre (SBIC) was contacted for details of protected and priority species and non-statutory sites. The information from the SBIC was requested on 4th October 2018 and received on 28th October 2018. Where relevant records were identified, the information provided has been incorporated into the report with due acknowledgement.

2.4. The Multi-Agency Geographic Information for the Countryside website[3] was accessed for information on the location of statutory designated nature conservation sites within a 10km radius (for sites of European designation) and 2km (for sites of national designation) of the masterplan site.

2.5. The Elmbridge Borough Council website was consulted for details of relevant local planning policies and supplementary planning guidance.

2.6. The Surrey Biodiversity Action Plan, the Local BAP (LBAP) in which the masterplan site is located, was consulted for priority habitats and species subject to conservation action, to assist with the evaluation of ecological features and to inform site enhancement strategies.

Extended Phase I Habitat Survey

2.7. An ‘extended’ Phase I habitat survey was undertaken on 9th October 2018 by Nathan Jenkinson and Christian Cairns. Both are experienced field ecologists, and Nathan is an associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The technique was based upon Phase I survey methodology (JNCC, 2010). This 'extended' Phase I technique provides an inventory of the habitat types present and dominant species.

2.8. An update ‘extended’ Phase I habitat survey was undertaken on 26th October 2018 by Nathan Jenkinson at sites 3, A, C, D and the track widening areas due to revisions of the site boundaries following the initial survey on 9th October 2018.

2.9. Note was taken of the more conspicuous fauna and any evidence of, or the potential for, the presence of protected notable flora and fauna. A basic inventory of the habitats and a representative species list for each site was produced. Where access allowed, adjacent habitats were also considered in order to assess the site within the immediate landscape and to provide information with which to assess possible impacts within the immediate landscape surrounding the site.

2.10. The weather conditions for the survey were mild with light cloud, light wind and a temperature of 14°C.

[2] UK priority species and habitats are those subject to conservation action and referred to as Species of Principal Importance (SoPIs) or Habitats of Principal Importance (HoPIs). They are listed at Section 41 [42 in Wales] of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act states that local planning authorities must have regard for the conservation of both SoPIs and HoPIs.

[3] http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx

2.11. Using the above method, the site was classified into areas of similar botanical community types with a representative sample of those species present at the time of the survey being described.

Habitat Suitability Index

2.12. OS mapping and aerial imagery identified five ponds (ponds P1-P5) in the east of the masterplan site, along with a wet ditch that bisects site 3 (ditch D1). The locations of the ponds and ditches are shown on plan 11932/P11. A Habitat Suitability Index (HSI) assessment of the ponds was undertaken on 9th October 2018 to determine the suitability of the pond for Great Crested Newt (GCN) *Triturus cristatus*, by Tyler Grange LLP Ecologist Nathan Jenkinson (GCN Class License No. 2015-16404-CLS-CLS) in line with published guidance (Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M., 2000).

Preliminary Bat Roost Assessment – Buildings & Trees

2.13. A preliminary bat roost assessment (PBRA) of the buildings and/or trees present within the sites was undertaken to assess their potential to support roosting bats. This survey was undertaken alongside the 'extended' Phase 1 habitat survey. The surveys followed standard methodologies (Mitchell-Jones, A.J., 2004; Mitchell-Jones, A.J. and McLeish, A.P., 2004; Collins, 2016) which are described below.

2.14. The PBRA for buildings comprised an external (all buildings) and internal (where access allowed) inspection of all buildings present on-site to assess their potential to support roosting bats. In summary, this required the following:

- A visual inspection of the exterior and interior of the buildings at the sites was undertaken on the 9th October 2018 and 26th October 2016 (the reason for the follow-up visit is outlined above), examining features such as brickwork, lead flashing, and tiles for evidence of use by bats, including the presence of bat droppings and staining from fur-oil or urine; and
- A number of factors were considered including the presence of features suitable for use by crevice dwelling bats, proximity to foraging habitats or cover, and potential for disturbance from lighting and other sources.

2.15. The PBRA for trees comprised a ground level inspection of all trees present at the sites on the 9th October 2018 and 26th October 2016 (the reason for the follow-up visit is outlined above) to determine the potential of each tree to support roosting bats. During this survey, Potential Roost Features (PRFs) that may be used by bats, as identified within the BCT Good Practice Guidelines (Collins, 2016), were sought. These included the following:

- Woodpecker holes, rot holes, knot holes arising from naturally shed branches and man-made holes;
- Hazard beams and other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
- Partially detached platey bark;
- Cankers;
- Other hollows or cavities, including butt-rots;
- Partially detached ivy with stem diameters in excess of 50mm; and
- Bird, bat or dormouse boxes.

2.16. Evidence of the presence of bat roosts was also sought. These signs include:

- Bat droppings in, around or below a PRF;
- Odour emanating from a PRF;
- Audible squeaking at dusk or in warm weather; and

- Visible staining below a PRF.

2.17. The potential of each building or tree at the sites and immediately adjacent to the sites to support roosting bats has been categorised against the criteria described in Table 2.1.

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on-site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection conditions and surrounding habitat.

Table 2.1 – Roost Assessment Criteria (adapted from Collins 2016)

Limitations

2.18. Owing to the timing of the surveys, some plant species may not have been visible. This may have a minor impact on the classification of habitat areas at the site. However, given the nature of the habitats present, this limitation is not considered likely to affect the conclusions of this report.

2.19. A small area of the masterplan site was not subject to a PBRA (namely the line of mature trees in the north-east of site F, along with building B1). Given the low impact nature of the proposals in this area, this is not considered a significant constraint to this assessment. The trees and building B1 within site F will be subject to a PBRA, with the results included in an ecological assessment report, for consideration prior to determination of the hybrid application.

Evaluation

2.20. The evaluation of habitats and species is defined in accordance with published guidance (CIEEM, 2016). The level of importance of specific ecological features is assigned using a geographic frame of reference, with international being most important, then national, regional, county, district, local and lastly, within the site boundary only.

2.21. Evaluation is based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages. In the case of the evaluation of the value of fauna at the site, an assumed valuation of each ecological feature has been given based on the habitats observed at the site during the initial survey. Where further surveys are required, the valuation may be subject to variation following the interpretation of survey results.

Quality Control

2.22. All ecologists at Tyler Grange LLP are members of CIEEM and abide by the Institute's Code of Professional Conduct.

Section 3: Ecological Features and Evaluation

Context

3.1. The masterplan site is an active horse racing course with leisure activities (golf and go-karting) provisioned for in the centre of the site. The proposed sites being considered for development comprise a mixture of actively used stables, hardstanding, residential properties and amenity grassland, with other habitats present in more discrete areas (as discussed below).

3.2. Sandown Park is bordered by Lower Green Road and the railway corridor to the north, Station Road to the east, the A307 to the south and More Lane to the west.

Protected Sites

Statutory Designated Sites

3.3. There are four sites of European designation within 10km of the masterplan site:

- South-west London waterbodies is located 2.6km north-west and is designated as a Ramsar site and Special Protected Area (SPA). The South-west London Waterbodies site is designated as an SPA for supporting over-wintering populations of gadwall *Anas strepera* and shoveler *Anas clypeata.* The assemblage at the site qualifies the SPA as a wetland of **international importance**.
- Richmond Park is located 6.5km north-east and is designated as a Special Area of Conservation (SAC). Richmond Park is designated as a SAC as it supports stag beetle *Lucanus cervus*. The presence of this invertebrate species qualifies Richmond Park as an area of **international importance**.
- Thames Basin Heaths is located 8km south-west of the site and is designated as a SPA. The SPA is designated for the bird species listed under Annex I of the Birds Directive that are found there, namely nightjar *Caprimulgus europaeus*, woodlark *Lullula arborea* and Dartford warbler *Sylvia undata*. Given that the site is designated as an SPA due to the bird species found there, it is considered to be of **international importance**.
- Wimbledon Common is located 8.5km north-east and is designated as an SAC for the species found there, namely stag beetle. The habitats found there, namely heathland, also form part of the qualifying features of the site as an SAC. Given that the site is designated as an SAC, the SAC is considered to be of **international importance**.

3.4. There are five sites of national designation within 2km of the masterplan site:

- One Site of Special Scientific Interest (SSSI), Esher Commons, located c. 1.5km south of the site. The SSSI is designated for the heathland, grassland, scrub, woodland and areas of marsh, bog, and open water habitat found there, along the with the ; and
- Four Local Nature Reserves (LNR), the closest of which is West End Common located c. 1.6km south-west of the site and designated for the wetland, grassland and woodland habitats found there.
- Given that Esher Commons is designated as a SSSI, the site is considered to be of **national importance**. The four LNRs are considered to be of local ecological importance.

3.5. The masterplan site does fall within the SSSI Impact Risk Zones (IRZs) of several SSSIs located both within and beyond the 2km search radius for national designated sites. However, the IRZ criteria do not apply to the types of development proposed within any of the 11 sites forming the masterplan site. As such, the relevant SSSIs are not discussed further in this report.

Non-Statutory (Local) Designated Sites

3.6. Non-statutory sites are known as Sites of Nature Conservation Importance (SNCI). The data search showed that there are six such sites within 2km of the masterplan site, as follows:

- Littleworth Common, located c. 10m from the eastern masterplan site boundary (on the opposite side of Station Road) and designated for the semi-natural habitats and ancient woodland indicator species found there;
- Ditton Common Golf Course, located c. 100m north-east of the masterplan site boundary and designated for the woodland, grassland heath and pond habitats found there;
- Island Barn Reservoir, located c. 1km north of the masterplan site boundary and designated for its importance for wintering wildfowl;
- Telegraph Hill, Hinchley Wood, located c. 1.2km south-west of the sider site boundary and designated for the ancient semi-natural woodland habitats found there;
- Hersham Pits, located c. 1.2km north-west of the masterplan site boundary and designated for the gravel pit, wet grassland, scrub and woodland habitats found there, along with the migrant bird and wintering wildfowl populations that utilise this SNCI; and
- Queen Elizabeth II Reservoir located c. 1.8km north-west of the masterplan site boundary and designated for the wintering wildfowl that utilise the reservoir.

Habitats and Flora

3.7. The habitats present across the proposed sites are summarised below in **Table 3.1**, along with a description of the composition of the main plant species present and an assessment of their ecological importance. The location of these habitats is provided on the corresponding Habitat Features Plans, as listed below. All corresponding site photos can be found in **Appendix 3**.

Table 3.1: **Habitat descriptions and evaluations of ecological importance for each area of habitat for the proposed sites**

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
Site 1	Amenity Grassland	A linear bank of amenity grassland, along with a small area of grassland in the north-east are present at the site. The grassland predominantly comprises perennial ryegrass *Loliom perenne*, with forbs typical of this habitat type present including dandelion *Taraxacum officinale,* common daisy *Bellis perenis* and yarrow *Achillea millefolium*.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of amenity grassland are considered to be of **negligible ecological importance.**	11932/P01
	Buildings and Hardstanding	There are a total of three buildings on-site, two of which are linear single-storey stable buildings (B1 and B2) and one of which is a disused single-storey toilet block (B3). One building, building B4, is located off-site but adjacent to the western site boundary, and is a two-storey agricultural building. The site is bisected by two hardstanding tarmac roads that form the access to the stables.	The buildings and hardstanding are of no inherent ecological value and so are considered to be of **negligible ecological importance**. It should be noted that some of the buildings have the potential to support roosting bats, as outlined in 'Fauna' below.	
	Scattered Broadleaved Trees	One horse chestnut *Aesculus hippocastanum* (T1) is present on the site boundary and forms part of a wider tree belt abutting the northern site boundary, to the rear of building B2.	The tree forms part of a wider tree belt, and broadleaved trees are prevalent throughout the masterplan site and wider landscape. As such, the tree is considered to be of **site ecological importance**	
Site 2	Amenity Grassland	A linear area of amenity grassland is present at the site, to the north of Building B2. The grassland predominantly comprises perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the area of grassland is considered to be of **negligible ecological importance.**	11932/P02

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
	Buildings and Hardstanding	Building B1 (small electrical unit) located nearby to the western and southern site boundaries respectively. The site largely comprises hardstanding tarmac that forms an active car park.	The buildings and hardstanding are of no inherent ecological value and so are considered to be of **negligible ecological importance**. It should be noted that some of the buildings have the potential to support roosting bats, as outlined in 'Fauna' below.	
	Scattered Broadleaved Trees	Several scattered semi-mature broadleaved trees are present along the southern site boundary. Species present include silver birch *Betula pendula* and sycamore *Acer pseudoplatanus*.	Broadleaved trees are prevalent throughout the masterplan site and wider landscape, but do offer value to the ecological resource at the site. As such, the tree is considered to be of **site ecological importance**	
Site 3	Allotment	A small area to the east of building B4 is used as a communal allotment, for cultivating vegetables.	The allotments are of little inherent ecological value, and as such are considered to be of **negligible ecological importance.**	11932/P03
	Amenity Grassland	In the west of the site is a linear area of grassland at the front of the residential properties (buildings B1-B4), amenity grassland within the residential gardens of each of the residential properties and amenity grassland forming the green that sits adjacent to Lower Green Road. The grassland predominantly comprises perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance**	
	Buildings and Hardstanding	Buildings B1-B4 are located in the west of the site. Buildings B1 and B2 are single-storey bungalows with pitched roofs, and buildings B3 and B4 are two-storey residential properties with pitched roofs. Building B5 is located east of the site boundary and comprises a storage shed of corrugated metal construction. Building B6 is a dilapidated wooden shed with a corrugated fibreboard roof. The hardstanding area of the site is a partially surfaced access road.	The buildings and hardstanding are of no inherent ecological value and so are considered to be of **negligible ecological importance**. It should be noted that some of the buildings have the potential to support roosting bats, as outlined in 'Fauna' below.	
	Dense Scrub	The western area of green adjacent to Lower Green Road, the centre of the site and the land in the east of the site are comprised of dense scrub, predominantly made up of bramble *Rubus fruticosus* with some hawthorn *Crataegus monogyna*.	Scrub is common in the wider landscape, but does represent one of the more valuable habitats at the site relative to others present. As such, the scrub is considered to be of **site ecological importance.**	

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
	Introduced Shrub	The rear gardens of buildings B1-B4 are comprised largely of introduced shrub.	The introduced shrub in the rear gardens is of little ecological value and so is considered to be of **negligible ecological importance**	
	Scattered Broadleaved Trees	Scattered broadleaved trees are present at the site, predominantly to the north of the wet ditch. The trees are a mixture of beech *Fagus sylvatica*, with tree T1 a mature pedunculate oak *Quercus robur*, and trees T2 and T3 are common lime *Tilia europaea.*	Broadleaved trees are prevalent throughout the masterplan site and wider landscape, but do offer value to the ecological resource at the site. As such, the tree is considered to be of **site ecological importance**	
	Wet Ditch	A wet ditch bisects the whole site from west to east, between the residential properties/gardens and the green area adjacent to Lower Green Road. The wet ditch was inundated at the time of survey, with flora typical of this habitat present including water mint *Mentha aquatica.*	The wet ditch is considered to be a habitat that is likely to be prevalent in the wider landscape but does offer some value to the ecological resource at the site. As such, it is considered to be of **site ecological importance**	
Site 4	Amenity Grassland	In the west of the site is a linear area of grassland at the front of the residential properties (buildings B1-B4), amenity grassland within the residential gardens of each of the residential properties and amenity grassland forming the green that sits adjacent to Lower Green Road. The grassland predominantly comprises perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance.**	11932/P04
	Bare Ground	The bare ground in the south-east of the site is a disused rubble roadway.	The bare ground is of no inherent ecological value and so is considered to be of **negligible ecological importance**.	
	Dense Scrub	The small area of dense scrub is located in the west of site and is comprised of bramble and buddleja *davidii*.	The scrub is common in the wider landscape, but does represent one of the more valuable habitats at the site relative to others present. As such, the scrub is considered to be of **site ecological importance.**	
	Poor Semi-improved Grassland	The small area of species-poor semi-improved grassland in the south-west of the site is comprised of cock's-foot *Dactylis glomerate*, Yorkshire fog *Holcus lanatus* and perennial ryegrass *Lolium perenne*, with common forbs present including broadleaved dock *Rumex obtusifolus* and ribwort plantain *Plantago lanceolate*.	The semi-improved grassland is considered to be species poor,but does offer some value to the ecological resource within the site. As such, it is considered to be of **site ecological importance.**	

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
	Scattered Broadleaved Trees	There are several scattered young and semi-mature trees present along the northern, eastern and southern site boundaries. Species present include silver birch, sycamore and hawthorn *Crataegus monogyna*.	The broadleaved trees at the site are common in the wider landscape, but do offer some value to the ecological resource at the site. As such, they are considered to be of **site ecological importance.**	
	Tall Ruderal	A discrete area in the north of the site is tall ruderal vegetation, made up of creeping thistle *Cirsium arvense*, common nettle *Urtica dioeca* and fleabane *Conyza sp.*	The tall ruderal vegetation is considered to be of little ecological value and so is of **negligible ecological importance.**	
Site 5	Amenity Grassland	In the south and centre of the site are areas of amenity grassland. The grassland predominantly comprises perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance.**	11932/P05
	Building and Hardstanding	There are a total of four buildings in the east of the site, two of which are small storage sheds (B1 and B2), with buildings B3 and B4 used comprising a two-storey building and one-storey building respectively, used as part of the active nursery. The hardstanding in the east of the site is associated with the nursery grounds, with the larger area of hardstanding in the west of the site used as a car park.	The buildings and hardstanding are of no inherent ecological value and so are considered to be of **negligible ecological importance**. It should be noted that some of the buildings have the potential to support roosting bats, as outlined in 'Fauna' below	
	Scattered Broadleaved and Coniferous Trees	There are numerous scattered broadleaved and coniferous trees within the site boundary, ranging from young to mature specimens and comprising sycamore, poplar *Populus sp*, horse chestnut and scots pine *Pinus sylvestris*.	The trees at the site are common in the wider landscape, but do offer some value to the ecological resource at the site. As such, they are considered to be of **site ecological importance**.	
	Scrub	The site possesses an area of dense scrub in the north and an area of dense scrub in its centre, with a discrete area of scattered scrub in the east. The scrub largely comprises bramble, with some hazel *Corylus avellana* and elm *Ulmus sp.*	Scrub is common in the wider landscape, but does represent one of the more valuable habitats at the site relative to others present. As such, the scrub is considered to be of **site ecological importance**	
Site A	Amenity Grassland	Throughout the site are areas of amenity grassland. The grassland predominantly comprises perennial ryegrass, with forbs typical of this habitat type present, including yarrow and ribwort plantain.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance**	11932/P06
	Buildings and	The site contains a total of eleven buildings. Building B1 is an active	The buildings and hardstanding are of no	

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
	Hardstanding	security hut. Buildings B2-B5 are actively used as stables and are single-storey, of brick construction. Building B6 is the Racecourse Reception building, a two-storey brick-built building with a pitched clay tile roof. Building B7 is a small wooden shed with a flat roof. Building B8 is a recently constructed brick storage shed with corrugated metal mounted on the top half of the exterior walls. Building B9 is a storage shed of breeze block construction with a corrugated metal roof. Building B10 is a two-storey accommodation building (Sandown Lodge). One additional stable building of brick/wooden construction (B11) sits just north of building B10. The land surrounding the buildings is predominantly hardstanding, to facilitate access to the stables.	inherent ecological value and so are considered to be of **negligible ecological importance**. It should be noted that some of the buildings have the potential to support roosting bats, as outlined in 'Fauna' below	
	Introduced Shrub	Discrete areas of introduced shrub in the form of heavily managed ornamental hedgerows are present in the east of the site, within the existing car park.	Given that this habitat type is of little note ecologically, the introduced shrub is considered to be of **negligible ecological importance.**	
	Scattered Broadleaved Trees	The site contains numerous scattered broadleaved trees throughout, with several mature trees present immediately south of building B6 and four veteran sweet chestnut *Castanea sativa* (Trees T5-T8) present in the north of the site.	The four veteran trees are considered to be of **local ecological importance**. The remaining scattered tree stock at the site are considered to be of **site ecological importance**.	
	Scattered Scrub	A discrete area of holly *Ilex aquifolium* and yew *Taxus baccata* is present in the centre of the site, beneath the mature tree line.	Scrub is common in the wider landscape, but does represent one of the more valuable habitats at the site relative to others present. As such, the scrub is considered to be of **site ecological importance.**	
Site B	Amenity Grassland	In the west of the site are areas of amenity grassland. The grassland predominantly comprises perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance.**	11932/P07
	Buildings and Hardstanding	There are a total of two buildings present within the site boundary, namely a ticket turnstile (B2) and a small cabin (B1). A utilities building (B3) is located nearby to the site boundary. The site largely comprises	The buildings and hardstanding are of no inherent ecological value and so are considered to be of **negligible ecological importance**. It	

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
		hardstanding, used for car parking and access to the grandstand.	should be noted that some of the buildings have the potential to support roosting bats, as outlined in 'Fauna' below.	
	Scattered Broadleaved Trees	The site is planted with several young specimens of Raywood ash *Fraxinus oxycarpa*, along with three semi-mature syacamore in the west of the site, adjacent to the hedgerow.	The trees are non-native and young/semi-mature, and are therefore considered to offer little to the local ecological resource. As such, they are considered to be of **negligible ecological importance.**	
	Species-poor Hedgerow	A planted cherry laurel *Prunus laurocerasus* hedgerow is present in the west of the site.	The hedgerow is comprised of cherry laurel only, which is considered to offer little to the local ecological resource. As such, the hedgerow is considered to be of **negligible ecological importance.**	
Site C	Amenity Grassland	The site largely comprises amenity grassland. Species present within the amenity grassland are perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance.**	11932/P08
	Buildings and Hardstanding	There are eight buildings within the site; one brick-built building associated with the go-kart track operations (B1), a smaller porta-cabin associated with the masterplan racecourse (B2), three brick-built buildings associated with storage/maintenance activities at the go-kart track (B3, B4 and B5), two large portakabins associated with go-kart track operations (B6) and a semi-permanent tent structure associated with he racecourse (B7).	The buildings and hardstanding are of no inherent ecological value and so are considered to be of **negligible ecological importance**.	
	Dense Scrub	Two discrete areas of bramble scrub are present in the east of the site.	Given the very small area covered by the bramble scrub, it is considered to be of **negligible ecological importance**.	
	Introduced Shrub	Areas of planted leyland *Leylandii sp*. and cherry laurel shrub are present in the west of the site.	The shrubs are non-native and are therefore considered to offer little to the local ecological resource. As such, they are considered to be of **negligible ecological importance**	
	Scattered Broadleaved Trees	Several young willow *Salix sp.* were present in the west of the site, adjacent to building B2.	The trees at the site are common in the wider landscape but do offer some value to the ecological resource at the site. As such, they are considered to be of **site ecological importance.**	

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
Site D	Amenity Grassland	The site largely comprises amenity grassland. Species present within the amenity grassland are perennial ryegrass, with forbs typical of this habitat type present including dandelion, ribwort plantain and common daisy	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance**	11932/P09
	Buildings and Hardstanding	Two buildings were present at the site, namely building B1 (a watchtower of wooden construction) and building B2 (a small pavilion building of plastic and glass construction. Hardstanding at the site is present in the form of a car park in the east, and a tarmac access road running west-east through the site.	The buildings and hardstanding are of no inherent ecological value and so are considered to be of **negligible ecological importance**.	
Race Track Widening (E1 and E2	Amenity Grassland	The area of track widening in the west of the masterplan site (E1) comprises amenity grassland. The grassland is made up of perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy. The area of track widening in the east of the masterplan site (E2) is predominantly made up of amenity grassland, comprised of the similar flora species as that outlined above, which are typical of this habitat type.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance.**	11932/P12
	Hardstanding	The area of western race track widening possesses an area of hardstanding access road, which is to be resurfaced as part of the proposal.	Given that this habitat type is of little note ecologically, the area of hardstanding is considered to be of **negligible ecological importance.**	
	Improved Grassland	The area of track widening in the east (E2) of the masterplan site possesses a small area of rough improved grassland in the south, largely comprised of fescue *Festuca sp.*	Given that this habitat type is of little note ecologically, the area of grassland is considered to be of **negligible ecological importance.**	
	Introduced Shrub	A small area of the track widening site in the east (E2) of the masterplan site is made up of a planted Leyland *Leylandii sp.* shrub.	Given that this habitat type is of little note ecologically, the introduced shrub is considered to be of **negligible ecological importance.**	
Site F	Amenity Grassland	The site comprises small pockets of amenity grassland throughout, with a larger area in the north. Species present within the amenity grassland are perennial ryegrass, with forbs typical of this habitat type present including dandelion and common daisy.	Given that this habitat type is common and widespread throughout the landscape and is of little note ecologically, the areas of grassland are considered to be of **negligible ecological importance.**	11932/P16

Site Name	Habitat Present	Habitat Description	Ecological Importance	Habitat Features Plan
	Hardstanding	The land throughout the site is predominantly hardstanding, to facilitate car parking.	Given that this habitat type is of little note ecologically, the areas of hardstanding are considered to be of **negligible ecological importance.**	
	Introduced Shrub	Areas of planted ornamental shrub are present throughout the site.	Given that this habitat type is of little note ecologically, the introduced shrub is considered to be of **negligible ecological importance.**	
	Scattered Broadleaved Trees	The site has scattered broadleaved trees throughout, with young and semi-mature pedunculate oak, horse chestnut and Italian alder *Alnus cordata* present. There are two parallel planted rows of mature common lime in the north of the site.	The trees at the site are common in the wider landscape but do offer some value to the ecological resource at the site. As such, they are considered to be of **site ecological importance.**	
Habitats in the Masterplan Site	Ponds	Other habitats present in the wider landscape that were surveyed are ponds. A total of five ponds are located in the east of the masterplan site. Pond P1 is a lined water storage pond with an active pump in the middle of the waterbody. Ponds P2 and P3 were located within he racecourse and were larger unlined attenuation ponds, with a good diversity of emergent vegetation including common reed *Phragmites australis* and bulrush *Typha latifolia*. Ponds P4 and P5 were located within the golf course present within the masterplan site and were almost dry. All ponds were subject to a HSI assessment (see 'Fauna' below, and **Appendix 4**).	The ponds at the site form a network of waterbodies considered to be of value to the local ecological resource. As such, the ponds are considered to be of up to **local ecological importance.**	11932/P11

Protected and Priority Fauna

3.8. The protected and notable species potentially present across the proposed sites are summarised below. Where bespoke mitigation for sites is required, these are set out in **Table 3.3**. The baseline findings for each site presented below should be read alongside the corresponding Habitat Features Plan, as set out below. All site photos can be found in **Appendix 3**.

3.9. The data search for the masterplan site returned records of protected and notable species from within 2km of the site. Records were provided at a 1km resolution so whilst it is not possible to distinguish if records originated from within the boundary of the masterplan site, the data search provides an indication of the species present in the local area. Results returned by the data search that were <10 years old are presented in **Table 3.2** below.

Table 3.2: Protected and notable species records returned by the data search

Species Group	Species	Number of Records	Most Recent Record
Amphibians	GCN	1	2016
	Common Frog *Rana temporaria*	7	2014
Bats	Brown Long-eared *Plecotus auritus*	3	2017
	Common Pipistrelle *Pipistrellus pipistrellus*	3	2017
	Nathusius Pipistrelle *Pipistrellus nathusii*	1	2017
	Noctule *Nyctlaus noctula*	1	2017
	Serotine *Eptesicus serotinus*	1	2017
	Soprano Pipistrelle *Pipistrellus pygmaeus*	5	2017
Reptiles	Grass Snake *Hedera helix*	2	2017

3.10. It should be noted that where applicable, the PBRA results for each site are also presented in **Table 3.3** below, in the 'Bats' column. PRFs noted in Table 3.2 are shown on the associated Habitat Features Plan.

3.11. Where results are presented in **Table 3.3** that discuss GCN and the potential of nearby ponds/ditches to support them, the results of the HSI assessments of the respective ponds/ditches can be found in **Appendix 4**. The pond location plan (Plan Ref: **11932/P11**) shows the areas of terrestrial habitat that fall within 250m of ponds/ditches assessed as potentially suitable for GCN by the HSI assessment (namely ponds P2, P4 and P5, ditch D1 and pond P3 as there is the potential that although it was dry at the time of survey, it may become inundated).

Table 3.3: Protected and notable species results for each of the proposed sites

Site	Protected/Notable Species	Reason	Plan Ref.
Site 1	Bats	Buildings B1 and B2 both possess low potential to support roosting bats. Building B1 is a single storey stables of brick construction, with a combination of soffit and mortar/brickwork gaps along the northern elevation.	11932/P01

Site	Protected/Notable Species	Reason	Plan Ref.
		Building B2 is also a single storey brick-built stables with a series of four soffit gaps along the southern elevation. Trees T1 and T2 possess low and high potential to support roosting bats respectively. Tree T1 is a sweet chestnut with 30% ivy cover that is considered to provide some roosting potential for crevice dwelling bat species. Tree T2 is a sycamore with two south-facing natural holes at 2m and 2.5m above ground level (AGL) respectively. All other buildings and trees are considered to have negligible bat roost potential.	
Site 2	Bats	Buildings B2 (referred to as building B3 for Site A) possesses low potential to support roosting bats. Building B2 is a single storey stables located in the west of the site. The stables possesses gaps beneath the fascia boards and a gap in a gable end mid-way along the building. All other buildings and trees are considered to have negligible bat roost potential.	11932/P02
Site 3	Bats	Building B3 is a two-storey semi-detached property of brick construction with a pitched roof. The property has several slipped or missing tiles presenting a series of small PRFs. As such, building B3 is considered to have low potential to support roosting bats. Tree T1 is a mature pedunculate oak that, although it possessed no observable PRFs, is of a size and age that means it is likely to have PRFs that are not visible from the ground. As such, Tree T1 is considered to have low potential to support roosting bats. Trees T2 and T3 are mature common lime, both with moderate potential to support roosting bats. Tree T2 has two south facing knot holes at 3m and 5m AGL, and one north facing knot hole at 6m AGL. Tree T3 is a small common lime that possesses one north-east facing knot hole on a small limb at 2.5m AGL. All other buildings and trees are considered to have negligible bat roost potential.	11932/P03
	GCN	The wet ditch that bisects the site (Ditch D1) was found to have average suitability for GCN. The habitats in the north of the site (namely the extensive area of dense scrub) is considered to provide suitable terrestrial habitat for GCN, along with habitat matrix provided by the allotments, large pile of grass clippings in the east and residential gardens that abut the ditch.	
	Reptiles	The scrub, allotment and south-facing bare ground (access track running west-east) habitat matrix provides suitable habitat for common reptile species.	

Site	Protected/Notable Species	Reason	Plan Ref.
Site 4	GCN	The limited areas of rough grassland, scrub and tall ruderal habitats are considered to be suitable for GCN. The site is c. 150m from Pond P3, which although it was dry at the time of survey, may become inundated.	11932/P04
	Reptiles	The site has limited areas of suitable habitat for common reptiles, namely in the rough grassland and scrub habitats in the west of the site.	
Site 5	Bats	Buildings B3 is a two-storey brick built residential property with a pitched roof, now used as a nursery building; building B4 is a single storey building of brick construction with a pitched slate roof, also used as a nursery building. Both buildings have a single soffit gap, and as such are both considered to have low potential to support roosting bats. Trees T1 and T3 are sycamore and horse chestnut respectively, and both have moderate potential to support roosting bats. Tree T1 has a wound on its western elevation, whilst tree T3 has one west facing natural hole at 12m AGL. Tree T2 is a sycamore with 80% ivy cover, and as such is considered to have low potential to support roosting bats. All other buildings and trees are considered to have negligible bat roost potential.	11932/P05
	GCN	Site 5 is 70m from pond P2 and 200m from pond P3. Pond P2 was assessed as having excellent suitability for GCN, whilst pond P3 was dry at the time of survey. Given that the site is located close to a pond considered suitable for GCN alongside another pond that may become inundated, and possesses areas of scrub habitat, it is considered that the site may support GCN.	
Site A	Bats	Buildings B2, B3, B4 and B5 are all single-storey stable buildings of brick construction. Buildings B2 and B5 have slate roofs, with building B3 possessing an undulating fibreboard roof and building B4 possessing a clay tile roof. Building B6 is a two-storey brick-built building with a pitched clay tile roof and dormer windows clad with hanging tiles. Building B10 is a two-storey accommodation building of brick construction with a pitched clay tile roof. Building B2 is considered to have moderate potential due to the presence of mortar gaps and soffit gaps. Building B3 (referred to as Building B2 for Site 2) has low potential due to the presence of a gap between the fascia and fibreboard on the northern elevation. The stables also possesses gaps beneath the fascia boards and a gap in a gable end mid-way along the building. Building B4 has high potential due to the presence of several raised clay tiles, two soffit gaps on the northern elevation and a soffit gap on the western elevation.	11932/P06

Site	Protected/Notable Species	Reason	Plan Ref.
		Building B5 is considered to have low potential due to the presence of a soffit gap on the southern elevation. Building B6 sits off-site but adjacent to the northern site boundary and possesses high potential to support roosting bats due to the presence of numerous slipped/missing tiles, dormer windows with hanging tiles and gable apex gaps. Building B10 possess moderate potential to support roosting bats due to the presence of mortar gaps on the western elevation and soffit gaps on the western and northern elevations. Tree T1 is a sycamore with moderate potential to support roosting bats due to a crack c. 2m AGL that possibly extends into the upwards into the main stem. Tree T2 is a beech with high potential to support roosting bats due to the presence of one east facing natural hole on the main stem at 3m AGL, and two west facing woodpecker holes at 2m and 6m AGL. Tree T3 is a beech with moderate potential to support roosting bats due to the presence of one east facing natural hole at 6m AGL. Tree T4 is a field maple with moderate potential to support roosting bats due to the presence of one west facing natural hole at 4m AGL. Tree T5 is a veteran sweet chestnut with high potential to support roosting bats due to the presence of a knot hole on a south facing limb; the hole is east facing at 8m AGL. The tree also has c. 10% loose bark on the northern aspect of the tree, on the main stem. Tree T6 is a veteran sweet chestnut with high potential to support roosting bats due to the presence of two south facing knot holes on the main stem, with c. 10% lifted bark cover present around a main stem wound at 3m and 5m AGL. There is also a knot hole on a south facing limb; the hole is east facing and at 6m AGL. Lastly, there is a north facing natural hole on the main stem, at 6m AGL. Tree T7 is a veteran sweet chestnut with high potential to support roosting bats due to the presence of one south-east facing woodpecker hole on a south-east facing limb, located at 12m AGL. Tree T8 is a veteran sweet chestnut with moderate bat potential due to the presence of c. 20% lifted bark cover due to the presence of a wound on the main stem. Other buildings (namely buildings B1, B7, B8, B9 and B11) are considered to have negligible potential.	
Site B	N/A	See Western European hedgehog *Erinaceus europaeus* and nesting birds below.	11932/P07

Site	Protected/Notable Species	Reason	Plan Ref.
Site C	Bats	Building B3 has low potential to support roosting bats due to the presence of a continuous mortar gap on the western elevation. Building B4 has low potential to support roosting bats due to the presence of two gable end access points, one on the western and one on eastern elevations respectively, and a single gap in the undulating fibreboard roof on the northern elevation. Building B5 has low potential to support roosting bats due to the presence of three slate tile gaps leading to a cavity between the slate tiles and the boarding on the underside of the slate tiles, on the northern building elevation.	11932/P08
	GCN	Site C is located 70m from pond P2 (excellent GCN suitability), 160m from pond P3 (dry but may become inundated), 130m from pond P4 (average GCN suitability) and 150m from pond P5 (average GCN suitability). The sites possesses discrete scrub habitats, along with structures (namely piles of tyres associated with the go-kart track) that are considered to offer suitable refugia habitat, and as such it is considered that GCN may be present within the site.	
Site D	N/A	See Western European hedgehog *Erinaceus europaeus* and nesting birds below.	11932/P09
Race Track Widening (E1 and E2)	GCN	The eastern area of track widening (E2) is located 180m from Pond P3. This pond was dry at the time of survey, and the area to be impacted by the track widening proposals is made up of a small area of long grassland which may be suitable for GCN.	11932/P12
Site F	Bats	As noted in the 'limitations' section, a small area of the masterplan site was not subject to a PBRA (namely the line of mature trees in the north-east of site F, along with building B1). Given the low impact nature of the proposals in this area, this is not considered a significant constraint to this assessment. The trees and building B1 within site F will be subject to a PBRA, with the results included in an ecological assessment report, for consideration prior to determination of the hybrid application.	11932/P16

3.12. It is considered that nesting birds are likely to utilise buildings and/or suitable vegetation across all sites for nesting during the nesting season (March-August inclusive). It is also considered likely that Western European hedgehog, a Species of Principal Importance[2] (SoPI), may be present and utilise whole Sandown Park.

3.13. None of the sites contain or sit directly adjacent to waterbodies or watercourses considered suitable for European otter *Lutra lutra*, water vole *Arvicola amphibius* or white-clawed crayfish *Austropotamobius pallipes*. As such, these species are not considered likely to be present and so are not discussed further within this report.

3.14. Bat activity surveys are not considered necessary as minimal amounts of suitable habitat will be lost as a result of the proposed schemes, with the racecourse as a whole remaining largely unchanged. This is subject to precautionary mitigation measures being implemented within the scheme design for all sites as set out in section 4 below.

3.15. Please note that further consideration for breeding and wintering bird is not considered necessary, as minimal amounts of suitable habitat will be lost as a result of the proposed schemes, with the racecourse as a whole remaining largely unchanged.

Invasive Species

3.16. Invasive species are those listed under Schedule 9 of the Wildlife and Countryside Act 1981. With regard to invasive plant species (listed under Part II of Schedule 9), it is an offence to plant or otherwise cause to grow in the wild any plant which is included in Part II of Schedule 9.

3.17. No invasive plant species were observed at any of the sites during the site visit and as such it is considered that invasive plant species are likely to be absent from these sites.

Section 4: Potential Impacts and Requirements for Mitigation and Enhancement

Proposed Development

4.1. As described previously, a hybrid planning application has been prepared for the site, for mixed-use development comprising:

- An outline planning application (with all matters reserved except for access to the development) for:
    - Enhancement and rationalisation of existing racecourse facilities/infrastructure and car parking;
    - Re-location of an upgraded children's nursery (Use Class D1);
    - Development of a c. 150 room hotel (Use Class C1), and
    - Demolition of existing buildings/structures and residential development of approximately 318 dwellings (Use Class C3).
- A full planning application for:
    - Racetrack widening to the southwest and east sections of the existing racecourse track, including associated ground levelling/earthworks to the southwest section, and re-positioning of fencing, and improvements to a section of the existing internal access road from More Lane, and
    - New bell-mouth accesses serving the development.

4.2. The potential impacts at these sites as a result of the proposed works are set out below, with reference to relevant legislation and planning policy, which is summarised in **Appendix 1**.

Potential Impacts, Requirement for Mitigation and Enhancement Opportunities

4.3. Both the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006 give the importance of conserving biodiversity a statutory basis, requiring government departments (which includes Local Planning Authorities) to have regard for biodiversity in carrying out their obligations (which includes determination of planning applications) and to take positive steps to further the conservation of listed species and habitats. These articles of legislation require Elmbridge Borough Council to take measures to protect species or habitats from the adverse effects of development, where appropriate, by using planning conditions or obligations. Planning authorities should refuse permission where harm to the species or their habitats would result, unless the need for, and benefits of, the development clearly outweigh the harm.

4.4. Where there are potential impacts to the ecological features described above during either the construction or operational phases of the development they are described below. Where impacts would trigger legislation or planning policy (as set out in **Appendix 1**), the requirement for mitigation is noted.

4.5. The mitigation and enhancement strategy takes account of national planning policy (NPPF) which requires that the planning system should contribute to and enhance the natural and local environment minimising impacts on biodiversity and providing net gains, as well as local planning policy, the key polices of which are provided in **Appendix 1** but also reproduced below.

4.6. The Elmbridge Core Strategy[4] (2011; see **Appendix 1**) sets out the vision, spatial strategy and core policies that are used for shaping future development in the Borough up to 2026. The accompanying Development Management Plan (DMP; 2015) document contains more detailed "every day" policies that all planning applications are assessed against.

4.7. The key policies within the Local Plan relating to ecology are:

- Policy CS14: Green Infrastructure;
- Policy CS15: Biodiversity; and
- Policy DM21: Nature Conservation and Biodiversity.

Protected Sites

European Designated Sites

4.8. Four European designated sites are present within 10km of the site. These are as follows:

- South-west London waterbodies SPA/Ramsar is located 2.6km north-west of the closest proposed development site;
- Richmond Park SAC is located 6.5km north-east of the closest proposed development site;
- Thames Basin Heaths SPA is located 8km south-west of the closest proposed development site; and
- Wimbledon Common SAC is located 8.5km north-east of the closest proposed development site.

4.9. These statutory designated sites are separated from the site by greenspace, existing residential developments and roads, and as such no direct impacts on the above-named European designated sites are considered likely.

4.10. Consideration of indirect impacts upon European designated sites through increased recreational pressure is considered necessary for the proposals at sites 1, 2, 3, 4, 5 given that the developments proposed will result in a net increase in local residents, and for site B as the proposed development will result in a net increase of temporary visitors (hotel guests) to the local area.

4.11. South-west London waterbodies SPA/Ramsar is designated for the assemblage of over-wintering birds found there. Given the 2.6km distance from the site and the proposals at sites 1-5 and site A, it is considered that indirect impacts through increased recreational pressure may occur. As such, consultation with Natural England has been undertaken to confirm if recreational impacts are likely. The consultation has concluded that no impacts are likely and as such no mitigation is required. This is detailed further in the Habitats Regulations Assessment (HRA) Screening report (Report Ref 11932/R03a) to be submitted with the hybrid planning application.

4.12. Thames Basin Heaths SPA is designated for the bird species listed under Annex I of the Birds Directive that are found there. The proposed developments are outside of the 5km zone of influence for this site as specified Policy CS13 of the Elbridge Borough Council Core strategy. As such, no impacts are considered likely and mitigation measures are not considered to be required. This conclusion has been agreed by Natural England.

4.13. Wimbledon Common SAC is designated for stag beetle and heathland habitats found there. Given the distances involved and the fact that the site is managed to accommodate recreational use, impacts are considered unlikely. This conclusion has been agreed by Natural England.

[4] https://www.elmbridge.gov.uk/planning/local-plan/

4.14. Richmond Park SAC is designated for the presence of stag beetle *Lucanus cervus*. Given the distance from the site and the fact that the deadwood habitat that stag beetles require are not susceptible to recreational disturbance, impacts are considered unlikely. This conclusion has been agreed by Natural England.

4.15. Consideration of indirect impacts upon European designated sites through increased recreational pressure is not considered necessary for the proposals at sites A, C and D given that the developments proposed are not likely to result in a net increase in local residents or temporary visitors. Therefore, it is considered highly unlikely that the proposed developments at the above-named sites will result in any adverse indirect impacts on these statutory designated sites through indirect pressures.

Nationally Designated Sites

4.16. The closest statutory designated site to the sites is Esher Common SSSI, located c. 1.5km south of the closest proposed development site. The other nationally designated site present within 2km is West End Common SSSI, located 1.6km from the closest proposed development site. Given the distance between these sites and the proposed development sites, no notable direct or indirect impacts are considered likely.

Non-statutory Designated Sites

4.17. Littleworth Common, located c. 10m from the boundary of site 4 (on the opposite side of Station Road), is the closest non-statutory designated site to the masterplan boundary. No direct impacts on this or any of the 5 other SNCIs are considered likely. Indirect impacts are considered unlikely provided that adequate open space is provisioned or made accessible nearby to the development parcels that will result in a net increase in the number of residents/temporary visitors (hotel guests) , namely sites 1, 2, 3, 4, 5 and B.

Habitats and Flora

4.18. Construction works are likely to result in the loss of some of the habitats at each of the site identified above in **Table 3.1**. **Table 5.1** below outlines the habitats at each site, the ecological importance of each habitat, likely impacts (as shown in the current iteration of the masterplan document, Ref: Sandown Park Masterplan, November 2018) and mitigation (where appropriate) required to offset the loss of habitats. Indicative landscaping proposals have been prepared for sites for sites 3 and 5 (plans prepared by EDP, Plan Refs **edp5237_d011** and **edp5237_d012**), with landscaping considerations for all remaining sites covered by relevant text prepared by EDP to demonstrate how the development will deliver a net gain in biodiversity.

4.19. Please note, the information in **Table 5.1** relates to habitats only, and does not consider the required mitigation for protected/notable species. This is presented in **Table 5.2**.

Table 5.1: **Impacts to habitats and required Mitigation/Enhancement**

Site Name	Habitat Present	Ecological Importance	Likely Impacts	Required Mitigation and Potential for Enhancement	Relevant Local Planning Polices	Habitat Features Plan
Site 1	Amenity Grassland	Negligible ecological importance	Loss of all amenity grassland	None	-	11932/P01
	Buildings and Hardstanding	Negligible ecological importance	Loss of all buildings and hardstanding	None	-	
	Scattered Broadleaved Trees	Site ecological importance	Likely retention of trees	If trees are retained, no mitigation is required. If trees are lost to facilitate the development, these should be replaced through replacement planting of native species. Retained trees appropriately buffered during development in line with best practice guidance (BS5837)	CS14, CS15, DM21	
Site 2	Amenity Grassland	Negligible ecological importance	Loss of some amenity grassland	None	-	11932/P02
	Building and Hardstanding	Negligible ecological importance	Loss of building B2 and hardstanding	None	-	
	Scattered	Site ecological	Likely retention of	If trees are retained, no mitigation is required. If trees are	CS14, CS15,	

Site Name	Habitat Present	Ecological Importance	Likely Impacts	Required Mitigation and Potential for Enhancement	Relevant Local Planning Polices	Habitat Features Plan
	Broadleaved Trees	importance	scattered trees along southern boundary	lost to facilitate the development, these should be replaced through replacement planting of native species. Retained trees appropriately buffered during development in line with best practice guidance (BS5837).	DM21	
Site 3	Allotment	Negligible ecological importance	Loss of all allotment space	None	-	11932/P03
	Amenity Grassland	Negligible ecological importance	Loss of majority of amenity grassland	None	-	
	Buildings and Hardstanding	Negligible ecological importance	Loss of buildings B1-B4 and B6	None	-	
	Dense Scrub	Site ecological importance	Loss of majority of dense scrub	Replacement planting of native woody species, to create a 'species-rich' thicket in places. An increase in woody species diversity would represent an enhancement in what is habitat currently dominated by bramble	CS14, CS15, DM21	
	Introduced Shrub	Negligible ecological importance	Loss of introduced shrub	None	-	
	Scattered Broadleaved Trees	Site ecological importance	Loss of some broadleaved trees	If trees are retained, no mitigation is required. If any trees are lost to facilitate the development, these should be replaced through replacement planting of native tree species. Retained trees appropriately buffered during development in line with best practice guidance (BS5837)	CS14, CS15, DM21	
	Wet Ditch	Site ecological importance	Likely retention of wet ditch	Watercourse should be appropriately buffered during development through the implementation of best practice water pollution prevention measures. Could be planted with graded aquatic/bankside vegetation to increase flora species diversity	CS14, CS15, DM21	
Site 4	Amenity Grassland	Negligible ecological importance	Loss of all amenity grassland	None	-	11932/P04

Site Name	Habitat Present	Ecological Importance	Likely Impacts	Required Mitigation and Potential for Enhancement	Relevant Local Planning Polices	Habitat Features Plan
	Bare Ground	Negligible ecological importance	Loss of all bare ground	None	-	
	Dense Scrub	Site ecological importance	Loss of dense scrub	Replacement planting of native woody species, to create a 'species-rich' thicket in places. An increase in woody species diversity would represent an enhancement in what is habitat currently dominated by bramble	CS14, CS15, DM21	
	Poor Semi-improved Grassland	Site ecological importance	Loss of poor semi-improved grassland	Replacement planting of species-rich grassland, to be included within landscaping proposals. Establishing species-rich grassland would represent an enhancement compared to the species-poor semi-improved grassland currently present at the site	CS14, CS15, DM21	
	Scattered Broadleaved Trees	Site ecological importance	Loss of some scattered trees	If trees are retained, no mitigation is required. If any trees are lost to facilitate the development, these should be replaced through replacement planting of native tree species. Retained trees appropriately buffered during development in line with best practice guidance (BS5837)	CS14, CS15, DM21	
	Tall Ruderal	Negligible ecological importance	Loss of all tall ruderal vegetation	None	-	
Site 5	Amenity Grassland	Negligible ecological importance	Loss of most of amenity grassland	None	-	11932/P05
	Building and Hardstanding	Negligible ecological importance	Loss of all buildings	None	-	
	Scattered Broadleaved and Coniferous Trees	Site ecological importance	Loss of some trees	If trees are retained, no mitigation is required. If any trees are lost to facilitate the development, these should be replaced through replacement planting of native tree species. Retained trees appropriately buffered during development in line with best practice guidance (BS5837)	CS14, CS15, DM21	
	Scrub (Dense	Site ecological	Loss of all scrub	Replacement planting of native woody species, to create a 'species-rich' thicket in places. An increase in woody	CS14, CS15,	

Site Name	Habitat Present	Ecological Importance	Likely Impacts	Required Mitigation and Potential for Enhancement	Relevant Local Planning Polices	Habitat Features Plan
	and Scattered)	importance		species diversity would represent an enhancement in what is habitat currently dominated by bramble	DM21	
Site A	Amenity Grassland	Negligible ecological importance	Loss of all amenity grassland	None	-	11932/P06
	Buildings and Hardstanding	Negligible ecological importance	Loss of buildings B2 – B5 and B10, and loss of hardstanding	None	-	
	Introduced Shrub	Negligible ecological importance	Likely retention of introduced shrub	None	-	
	Scattered Broadleaved Trees	Local ecological importance (veteran trees) and site ecological importance (remaining scattered broadleaved trees)	Likely retention of veteran trees Likely selective loss of other scattered broadleaved trees	If trees are retained, no mitigation is required. If any trees are lost to facilitate the development, these should be replaced through replacement planting of native tree species. Retained trees appropriately buffered during development in line with best practice guidance (BS5837)	-	
	Scattered Scrub	Site ecological importance	Likely retention of scattered scrub	None	-	
Site B	Amenity Grassland	Negligible ecological importance	Loss of amenity grassland	None	-	11932/P07
	Buildings and Hardstanding	Negligible ecological importance	Loss of buildings B1 and B2, and potentially B3	None	-	
	Scattered Broadleaved Trees	Negligible ecological importance	Loss of scattered broadleaved trees	None; inclusion of native tree planting within landscaping proposals would represent an enhancement	-	
	Species-poor Hedgerow	Negligible ecological importance	Loss of cherry laurel hedgerow	None; inclusion of native woody species planting within landscaping proposals would represent an enhancement	-	
Site C	Amenity Grassland	Negligible ecological importance	Loss of amenity grassland	None	-	11932/P08
	Buildings and Hardstanding	Negligible ecological importance	Potential loss of buildings and loss of hardstanding	None	-	
	Dense Scrub	Negligible ecological importance	Loss of dense scrub	None	-	
	Introduced Shrub	Negligible ecological importance	Loss of leylandii hedgerows	None	-	

Site Name	Habitat Present	Ecological Importance	Likely Impacts	Required Mitigation and Potential for Enhancement	Relevant Local Planning Polices	Habitat Features Plan
	Scattered Broadleaved Trees	Site ecological importance	Potential loss of scattered willow trees	If trees are retained, no mitigation is required. If any trees are lost to facilitate the development, these should be replaced through replacement planting of native tree species. Retained trees appropriately buffered during development in line with best practice guidance (BS5837)	CS14, CS15, DM21	
Site D	Amenity Grassland	Negligible ecological importance	Loss of amenity grassland	None	-	11932/P09
	Buildings and Hardstanding	Negligible ecological importance	Loss of buildings and hardstanding	None	-	
	Treeline	Negligible ecological importance	Loss of some or all of evergreen treeline	None	-	
Race Track Widening (E1 and E2)	Amenity Grassland (E1 and E2)	Negligible ecological importance	Loss of existing amenity grassland, to be replaced by new amenity grassland in the form of the racecourse	None	-	11932/P12
	Hardstanding (E1)	Negligible ecological importance	Loss of existing hardstanding, to be resurfaced	None	-	
	Improved Grassland (E2)	Negligible ecological importance	Loss of improved grassland	None	-	
	Introduced Shrub (E2)	Negligible ecological importance	Loss of introduced shrub	None	-	
Site F	Amenity Grassland	Negligible ecological importance	Loss of isolated areas of amenity grassland	None	-	11932/P16
	Hardstanding	Negligible ecological	Loss of isolated areas of	None	-	

Site Name	Habitat Present	Ecological Importance	Likely Impacts	Required Mitigation and Potential for Enhancement	Relevant Local Planning Polices	Habitat Features Plan
		importance	hardstanding			
	Introduced Shrub	Negligible ecological importance	Loss of isolated areas of introduced shrub	None	-	
	Scattered Broadleaved Trees	Site ecological importance	None	None	-	
Habitats in the Masterplan Site	Ponds	Local ecological importance	None	None	CS14, CS15, DM21	11932/P11

Protected and Priority Fauna

4.20. **Table 5.2** below summarises the further survey requirement, proposed mitigation and enhancement measures for each of the 11 sites forming the masterplan site. Sites B, D and E1 do not require any specific further surveys/mitigation other than that set out for nesting birds and western European hedgehog in the paragraphs below. As such, they have been excluded from **Table 5.2**.

4.21. For all sites, it is considered that bat activity surveys are not required provided precautionary mitigation in the form of lighting sensitive to foraging and commuting bats is utilised. Additionally, the planting of native nectar-rich species within landscaping proposals will act to increase the invertebrate food resource. Where planting is required to mitigate for habitat loss or represent an enhancement, the establishment of linear features such as treelines or hedgerows will act to increase habitat suitability at the site(s) for foraging and commuting bats, therefore representing an enhancement.

4.22. For all sites, if any vegetation is to be removed or buildings demolished during the nesting bird season (March-August inclusive), prior to the commencement of works a check by an ECoW should be undertaken to determine if nesting birds are present. If nesting birds are found to be present, a buffer zone will be instated, and no works should be undertaken within the buffer zone until the chicks have fledged. A repeat visit by an ECoW will be required to determine if the chicks have fledged. Bird boxes should also be incorporated into the scheme designs, where possible, to represent an enhancement to the resource at the sites for birds.

4.23. For all sites, it is considered that there is the potential for western European hedgehog to be present, namely utilising the site for refuge, commuting and foraging. As such, precautionary mitigation measures to ensure that hedgehog and other UK native mammals do not become trapped in trenches, culverts or pipes should be instated at the sites. All trenches left open overnight should include a means of escape for any animals that may fall in. The scheme design should include raised fence panels to ensure connectivity is maintained or in some cases, improved, across the masterplan site. The creation of log/brash piles will also act to increase the refugia resource for hedgehog across the sites.

4.24. It should be noted that in **Table 5.2** below, the requirement for further survey of ponds P2-P5 and ditch D1 for GCN are mentioned for each site individually. However, each pond will only need to be subject to one set of surveys, with that survey information used to inform any required mitigation/enhancement at all sites where an impact on GCN is considered possible.

4.25. Although the species to be impacted and the scale of potential impacts presented below vary between sites, it is considered that in each case, if the species indicated in **Table 5.2** are present, it is possible to incorporate appropriate mitigation during the construction phase and within the design of the scheme that will maintain the favourable conservation status of the species concerned. In the unlikely event that any required mitigation cannot be accommodated within red-line boundaries, it may be able to be implemented within the wider Sandown Park Racecourse site. Further information on this would be provided following further surveys and the subsequent design of appropriate mitigation strategies which will be submitted at reserved matters.

4.26. To demonstrate that the development is able to secure a measurable net gain in biodiversity, as referenced above, indicative landscaping proposals have been prepared for sites for sites 3 and 5 (plans prepared by EDP, Plan Refs **edp5237_d011** and **edp5237_d012**), with landscaping considerations for all remaining sites covered by relevant text prepared by EDP. At the reserved matters stage, a Landscape and Ecological management Plan for the masterplan site should be submitted, detailing mitigation, compensation and enhancements for habitats and protected species.

Table 5.2: Further survey, mitigation and enhancement recommendations for protected and notable species at each of the sites

Site	Protected /Notable Species	Legislative Protection	Further Surveys	Mitigation	Enhancement	Plan Ref.
Site 1	Bats	Conservation of Habitats and Species Regulations (CoHSR; 2017) Wildlife and Countryside Act (WCA; 1981) (as amended) Countryside and Rights of Way Act, (CRoW Act; 2000) Natural Environment and Rural Communities Act (NERC, 2006)	Building B1 (low): 1 survey, May-August/September Building B2 (low): 1 survey, May-August/September Tree T1 (low): none Tree T2 (high): Located off-site and impacts are considered unlikely, therefore no further survey required	The recommended surveys will detail the need for a European Protected Species Mitigation Licence or Bat Low Impact Class Licence (BLICL) if the bat assemblage to be impacted is of a small size and comprised of common and widespread species (if a bat roost is found in the buildings). If tree T1 requires removal, it should be soft felled. Suitable habitats (trees) should be retained where possible. Precautionary mitigation in the form of sensitive lighting design should also be employed during the construction and operation phases of the development to minimise disturbance to foraging and commuting bats utilising the site.	Habitat enhancement targeting bats through nectar rich planting of native flora, the establishment of linear features such as hedgerows and treelines and the enhancement of the site for roosting bats through the instatement of artificial roost features such as bat boxes where appropriate.	11932/P01
Site 2	Bats	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Building B2 (low): 1 survey, May-August	The recommended surveys will detail the need for a European Protected Species Mitigation Licence or Bat Low Impact Class Licence (BLICL) if the bat assemblage to be impacted is of a small size and comprised of common and widespread species (if a bat roost is found in the building). Suitable habitats (trees along the southern boundary) should be retained where possible. Precautionary mitigation in the form of	Habitat enhancement targeting bats through nectar rich planting of native flora, the establishment of linear features such as hedgerows and treelines and the enhancement of the site for roosting bats through the instatement of artificial roost features such as bat boxes where appropriate.	11932/P02

Site	Protected /Notable Species	Legislative Protection	Further Surveys	Mitigation	Enhancement	Plan Ref.
				sensitive lighting design should also be employed during the construction and operation phases of the development to minimise disturbance to foraging and commuting bats utilising the site.		
Site 3	Bats	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Building B3 (low): 1 survey during May-August/September Tree T1 (low): impacts are considered unlikely, therefore no further survey required Tree T2 (moderate): impacts are considered unlikely, therefore no further survey required Tree T3 (moderate): impacts are considered unlikely, therefore no further survey required	The recommended survey will detail the need for a European Protected Species Mitigation Licence or Bat Low Impact Class Licence (BLICL) if the bat assemblage to be impacted is of a small size and comprised of common and widespread species (if a bat roost is found in the building). Suitable habitats (scrub, trees and wet ditch) should be retained where possible. Precautionary mitigation in the form of sensitive lighting design should also be employed during the construction and operation phases of the development to minimise disturbance to foraging and commuting bats utilising the site.	Habitat enhancement targeting bats through nectar rich planting of native flora, the establishment of linear features such as hedgerows and treelines and the enhancement of the site for roosting bats through the instatement of artificial roost features such as bat boxes where appropriate.	11932/P03
	GCN	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Ditch D1: Presence/likely absence survey and/or eDNA survey. Mid-March to mid-June and mid-April to end of June respectively	The recommended surveys will detail the need for a European Protected Species Licence (if GCN are present), and requirements for habitat retention. The license referenced above may be a standard European Protected Species Mitigation License (EPSML) or a GCN Low Impact Class Licence, if the population of GCN/perceived impact is sufficiently small.	Habitat enhancement targeting GCN, where appropriate, to include the establishment of new waterbodies (may be a multi-functional use between proposed drainage systems and pond habitat), and the instatement of artificial refugia such as deadwood	

Site	Protected /Notable Species	Legislative Protection	Further Surveys	Mitigation	Enhancement	Plan Ref.
					piles.	
	Reptiles	WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Presence/likely absence surveys in suitable areas of habitat, April – October (excl. July/August); to be undertaken at the reserved matters stage	The recommended surveys, to be undertaken at the reserved matters stage, will determine if reptiles are present/likely absent and therefore detail the need for appropriately detailed impact avoidance and mitigation measures to be submitted with the reserved matters planning application.	Habitat enhancement targeting reptiles, where appropriate, could include the instatement of artificial refugia (log/rubble piles) and the establishment of graded habitats, to include grassland, tall ruderal and scrub.	
Site 4	GCN	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Pond P3: Given the 160m distance between pond P3 (dry at the time of survey) and the site, and the limited amount of sub-optimal habitat to be lost (a total of c. 0.05Ha of rough grassland, scrub and tall ruderal), no further surveys are considered necessary.	A precautionary working method statement (PWMS) could be implemented, to include a destructive search of the sub-optimal grassland habitat, to be supervised by an ECoW.	Habitat enhancement targeting GCN, where appropriate, to include the instatement of artificial refugia such as deadwood piles.	11932/P04
	Reptiles	WCA, 1981 CRoW Act, 2000 NERC Act, 2006	None	Directional strimming of vegetation towards suitable vegetation, to the north of the site	Habitat enhancement targeting reptiles, where appropriate, could include the instatement of artificial refugia (log/rubble piles) and the establishment of graded habitats, to include grassland, tall ruderal and scrub.	
Site 5	Bats	CoHSR, 2017 WCA, 1981	Building B3 (low): 1 survey during May-August/September Building B4 (low) 1 survey	The recommended surveys will detail the need for a European Protected Species Mitigation Licence or Bat Low Impact Class Licence (BLICL) if the bat assemblage to be impacted is of a small	Habitat enhancement targeting bats through nectar rich planting of native flora, the establishment of linear	11932/P05

Site	Protected /Notable Species	Legislative Protection	Further Surveys	Mitigation	Enhancement	Plan Ref.
		CRoW Act, 2000 NERC Act, 2006	during May-August/September Tree T1 (moderate) and Tree T3 (moderate): climbed endoscope inspection; if features cannot be scoped out, both trees will require 2 surveys during May-August/September Tree T2 (low): None, current proposals indicate it is likely to be retained	size and comprised of common and widespread species (if a bat roost is found in the buildings or trees T1 or T3). Suitable habitats (scrub and trees) should be retained where possible. Precautionary mitigation in the form of sensitive lighting design should also be employed during the construction and operation phases of the development to minimise disturbance to foraging and commuting bats utilising the site.	features such as hedgerows and treelines and the enhancement of the site for roosting bats through the instatement of artificial roost features such as bat boxes where appropriate.	
	GCN	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Ponds P2 and P3: Presence/likely absence survey and/or eDNA survey. Mid-March to mid-June and mid-April to end of June respectively	The recommended surveys will detail the need for a European Protected Species Licence (if GCN are present), and requirements for habitat retention. The license referenced above may be a standard European Protected Species Mitigation License (EPSML) or a GCN Low Impact Class Licence, if the population of GCN/perceived impact is sufficiently small.	Habitat enhancement targeting GCN, where appropriate, to include the establishment of new waterbodies (may be a multi-functional use between proposed drainage systems and pond habitat), and the instatement of artificial refugia such as deadwood piles.	
Site A	Bats	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Building B2 (moderate): 2 surveys during May-August/September Building B3: 1 survey during May-August/September Building B4 (high): 3 surveys	The recommended surveys will detail the need for a European Protected Species Mitigation Licence or Bat Low Impact Class Licence (BLICL) if the bat assemblage to be impacted is of a small size and comprised of common and widespread species (if a bat roost is found in the buildings or trees T1). If the masterplan is likely to change to result in impacts to or loss of trees T2-T8, further	Habitat enhancement targeting bats through nectar rich planting of native flora, the establishment of linear features such as hedgerows and treelines and the enhancement of the site for roosting bats through the instatement of	11932/P06

Site	Protected /Notable Species	Legislative Protection	Further Surveys	Mitigation	Enhancement	Plan Ref.
			during May-August/September Building B5 (low): 1 survey during May-August/September Building B10 (moderate): 2 surveys during May-August/September Considered likely that trees T2-T8 will be retained, so provided these trees are adequately buffered from development no further surveys are required. Tree T1 (moderate): endoscope inspection. If features cannot be scoped out, this tree will require 2 surveys during May-August/September	surveys of these trees may be required. Suitable habitats (scrub and trees) should be retained where possible. Precautionary mitigation in the form of sensitive lighting design should also be employed during the construction and operation phases of the development to minimise disturbance to foraging and commuting bats utilising the site.	artificial roost features such as bat boxes where appropriate.	
Site C	Bats	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Building B3: 1 survey during May-August/September Building B4: 1 survey during May-August/September Building B5: 1 survey during May-August/September	The recommended surveys will detail the need for a European Protected Species Mitigation Licence or Bat Low Impact Class Licence (BLICL) if the bat assemblage to be impacted is of a small size and comprised of common and widespread species (if a bat roost is found in the buildings). Precautionary mitigation in the form of sensitive lighting design should also be employed during the construction and operation phases of the development to minimise disturbance to foraging and	Habitat enhancement targeting bats through nectar rich planting of native flora, the establishment of linear features such as hedgerows and treelines and the enhancement of the site for roosting bats through the instatement of artificial roost features such as bat boxes where appropriate.	11932/P08

Site	Protected /Notable Species	Legislative Protection	Further Surveys	Mitigation	Enhancement	Plan Ref.
				commuting bats utilising the site.		
	GCN	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Ponds P2, P3, P4 and P5: Presence/likely absence survey and/or eDNA survey. Mid-March to mid-June and mid-April to end of June respectively	The recommended surveys will detail the need for a European Protected Species Licence (if GCN are present), and requirements for habitat retention. The license referenced above may be a standard European Protected Species Mitigation License (EPSML) or a GCN Low Impact Class Licence, if the population of GCN/perceived impact is sufficiently small.	Habitat enhancement targeting GCN, where appropriate, to include the establishment of new waterbodies (may be a multi-functional use between proposed drainage systems and pond habitat), and the instatement of artificial refugia such as deadwood piles.	
Track Widening (Site E2)	GCN	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Pond P3: Given the 190m distance between pond P3 (dry at the time of survey) and the eastern area of track widening (E2), and the limited amount of sub-optimal habitat to be lost (c. 0.1Ha of rough grassland), no further surveys are considered necessary.	A precautionary working method statement (PWMS) could be implemented, to include a destructive search of the sub-optimal grassland habitat, to be supervised by an ECoW.	Habitat enhancement targeting GCN, where appropriate, to include the instatement of artificial refugia such as deadwood piles.	11932/P12
Site F	Bats	CoHSR, 2017 WCA, 1981 CRoW Act, 2000 NERC Act, 2006	Building B1: PBRA Mature limes in north-east of site: PBRA and tree climbing	No impacts on bats are considered likely given the low-impact nature of the proposals for this site. However, building B1 and the mature trees in the north of the site will be subject to a PBRA assessment, and the results of the PBRA and any subsequent further surveys (which are considered unlikely to be required given the proposals) will be detailed in the Ecological Assessment report, to be completed prior to the determination of the hybrid	Habitat enhancement targeting bats through nectar rich planting of native flora, the establishment of linear features such as hedgerows and treelines and the enhancement of the site for roosting bats through the instatement of artificial roost features such as bat boxes where	11932/P16

Site	Protected /Notable Species	Legislative Protection	Further Surveys	Mitigation	Enhancement	Plan Ref.
				application.	appropriate.	

Enhancements Beyond Scheme Boundaries

4.27. In addition to the enhancements outlined above, which are predominantly concerned with providing enhancements within the identified scheme boundaries, the wider Sandown Park Racecourse site present an opportunity to provide enhancements for biodiversity across the site (subject to third party tenant and operational considerations). Such enhancements could include:

- An ecological management plan for the wider site, to be implemented by the grounds team, to manage the park in a manner more tailored to maximising biodiversity value;
- The implementation of additional bat and bird boxes around the Sandown park Racecourse site, to be detailed on a 'Wider Site Enhancement Plan; and
- The establishment of additional native woody hedgerows in place of boundary features currently in place that are of less biodiversity value, namely fences and ornamental shrub planting, where possible.

Section 5: Conclusions

5.1 None of the proposed sites comprise or are directly adjacent to any sites that are the subject of statutory or non-statutory protection and no such sites would be affected by proposals. Four European designated sites are located within 10km of the site, along with six nationally designated sites within 2km of the site. Of these sites, the only site that may be indirectly impacted by the proposals at sites 1, 2, 3, 4, 5 and B through increased recreation pressure is the South-west London Waterbodies SPA and Ramsar, located 2.6km from the nearest site boundary. As such, consultation with Natural England has been undertaken to confirm if recreational impacts are likely. The consultation has concluded that no impacts are likely and as such no mitigation is required. This is detailed further in the Habitats Regulations Assessment (HRA) Screening report (Report Ref 11932/R03a) to be submitted with the hybrid planning application.

5.2 Potential recreational impacts on the nearby Littleworth Common SNCI, located c. 10m from the eastern masterplan site boundary (on the opposite side of Station Road), may be mitigated through the provision of adequate open space nearby to the development parcels that will result in a net increase in the number of residents/temporary visitors , namely sites 1, 2, 3, 4, 5 and B.

5.3 As the site is predominantly an operational racecourse and the proposed residential sites are on previously developed land or adjacent to existing developments, the majority of the habitats to be lost as a result of the proposed development (buildings, hardstanding and amenity grassland) are of negligible ecological importance and no specific mitigation is required. Some habitats of site ecological value (scrub and trees) will be lost as a result of the proposals, but it is considered that this can be mitigated through suitable replacement planting.

5.4 **Table 5.2** summarises the requirement for further surveys across the proposed sites, namely for bats, GCN and reptiles. The table also summarises required mitigation should the aforementioned protected species be present, alongside general enhancement opportunities for these species.

5.5 Precautionary mitigation for foraging and commuting bats, in the form of sensitive lighting, should be instated across all sites. This, in combination with targeted nectar rich planting and the establishment of linear features (where appropriate) such as hedgerows and treelines, should represent an enhancement to the local bat population.

5.6 Precautionary nesting bird checks are recommended by an ECoW if buildings and vegetation at any site are to be removed in the nesting bird season (March – August inclusive) to ensure no nesting birds are disturbed. Should nesting birds be present in these areas, an appropriate buffer will need to be put in place and retained until an ECoW confirms that the young have fledged.

5.7 It should be noted that the track widening proposals (E1 and E2) and the associated bell-mouth access that forms part of E1 are being submitted in full. E1 is not considered to be ecologically constrained and so no further consideration for E1 with respect to ecology is required. E2 supports very limited areas of sub-optimal GCN habitat and is located c. 180m from a dry pond basin. As such, a PWMS should be prepared prior to the commencement of works to ensure that in the unlikely event a GCN is encountered, works are halted and the required procedure followed. The production of this PWMS could be secured as a pre-commencement condition.

5.8 Existing habitats will be retained and enhanced, and new habitat created on-site where possible in line with local planning policy and the 'Biodiversity and Planning in Surrey' document. In addition, enhancements for specific species groups could be provided post-construction including bat boxes to increase the number of roosting opportunities and bird boxes to increase the number of nest sites across the site. Additionally, any artificial lighting to be instated as part of the proposed works should

be designed to limit potential impacts on bats potentially utilising the site for foraging and commuting activities, for example by ensuring lights are angled below the horizontal plane and features such as baffles are utilised.

5.9 To demonstrate that the development is able to secure a measurable net gain in biodiversity, as referenced above, indicative landscaping proposals have been prepared for sites for sites 3 and 5 (plans prepared by EDP, Plan Refs **edp5237_d011** and **edp5237_d012**), with landscaping considerations for all remaining sites covered by relevant text prepared by EDP. At the reserved matters stage, a Landscape and Ecological management Plan for the masterplan site should be submitted, detailing mitigation, compensation and enhancements for habitats and protected species. Additionally, enhancements to enhance the biodiversity resource for the wider Sandown Park Racecourse site may be implemented alongside the scheme, to include a management plan, bat/bird boxes and the establishment of additional linear boundary features, namely hedgerows.

5.10 Those valuable ecological resources that exist, or could exist, at the site, could be accommodated by the adoption of design principles. Where impacts may occur, these could be more than mitigated through better management of retained habitats (notably scattered trees, scrub and grassland) and habitat creation within the site.

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Appendix 1: Legislation and Planning Policy

Appendix 1: Legislation and Planning Policy

Legislative Context

A1.1. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:

- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Countryside and Rights of Way (CRoW) Act 2000;
- The Hedgerows Regulations 1997;
- The Protection of Badgers Act 1992;
- The Natural Environment and Rural Communities Act (NERC) 2006; and
- The Wild Mammals (Protection) Act 1996.

A1.2. The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2010 (as amended).

A1.3. In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.

A1.4. The CRoW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.

Species and Habitats of Principal Importance and the UK Biodiversity Action Plan

A1.5. The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species and Habitats agreed under the UKBAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A Strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been succeeded, Species Action Plans (SAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.

A1.6. Priority Species and Habitats identified under the UKBAP are also referred to as Species and Habitats of Principal Importance (SoPI/HoPI) for the conservation of biodiversity in England and Wales within Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

National Planning Policy

National Planning Policy Framework (NPPF), July 2018

A1.7. The National Planning Policy Framework (NPPF) was published in July 2018 and sets out the Government's planning policies for England and how these should be applied. It replaces the first National Planning Policy Framework published in March 2012.

A1.8. Paragraph 11 states that:

"Plans and decisions should apply a presumption in favour of sustainable development."

A1.9. Section 15 of the NPPF (paragraphs 170 to 177) considers the conservation and enhancement of the natural environment.

A1.10. Paragraph 170 states that planning and decisions should contribute to and enhance the natural and local environment by:

a) "protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; and
c) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".

A1.11. Paragraph 171 states that plans should distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

A1.12. Paragraph 174 states that in order to protect and enhance biodiversity and geodiversity, plans should:

a) "Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

A1.13. When determining planning applications, Paragraph 175 states that local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

a) "if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of

special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons58 and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."

A1.14. As stated in paragraph 176 the following should be given the same protection as habitats sites:

a) "potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."

A1.15. Paragraph 177 states that the presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

Elmbridge Core Strategy

A1.16. The Elmbridge Core Strategy[5] (2011) sets out the vision, spatial strategy and core policies that are used for shaping future development in the Borough up to 2026.

A1.17. The key policies within the Local Plan relating to ecology include:

- Policy CS14: Green Infrastructure, which states:

  'The Council will protect, enhance and manage a diverse network of accessible multi-functional green infrastructure by……. Safeguarding important trees, woodlands and hedgerows and securing provision of soft landscaping measures in new development, focusing on the use of native species, particularly trees, which are an important feature of the Elmbridge landscape, and taking opportunities to create links with the wider green infrastructure network.'

- Policy CS15: Biodiversity, which states:

  The Council will seek to avoid loss and contribute to a net gain in biodiversity across the region and the objectives of the Surrey Biodiversity Action Plan (BAP), by:

  '1. Protecting and seeking to improve all sites designated for their biodiversity importance, as identified on the proposals map, in accordance with PPS9: Biodiversity and Geological Conservation and CS13-Thames Basin Heaths Special Protection Area (SPA), including those sites considered as being relevant to the integrity of the South West London Waterbodies SPA and Ramsar site. Criteria based policies against which proposals will be judged for any development on, or affecting, sites of regional or local significance will be brought forward through future DPDs that address Development Management and Site Allocations;

[5] https://www.elmbridge.gov.uk/planning/local-plan/

2. Support the implementation of the Regional Forestry and Woodland Framework by: Protecting all woodland, including ancient woodland, as shown on the proposals map, from damaging development and land uses; Promoting the effective management, and where appropriate, extension and creation of new woodland areas including, in association with areas of major development, where this helps to restore and enhance degraded landscapes, screen noise and pollution, provide recreational opportunities, helps mitigate climate change, and contributes to floodplain management; Replacing woodland unavoidably lost through development with new woodland on at least the same scale; Promoting and encouraging the economic use of woodlands and wood resources, including wood fuel as a renewable energy source; Promoting the growth and procurement of sustainable timber products.

3. Protecting and enhancing BAP priority habitats and species and seeking to expand their coverage by supporting the development of the Biodiversity Opportunity Areas(12)(13);as shown on the proposals map;

4. Managing and maintaining a mosaic of habitats and rich variety of wildlife across the Council's landholdings in accordance with the Elmbridge Countryside Strategy;

5. Working in partnership (14) to re-store and enhance: the Thames Basin Heath SPA, in accordance with CS13-Thames Basin Heaths SPA, which is an area of strategic opportunity for biodiversity improvement. Brooklands Community Park and Esher Commons Site of Special Scientific Interest (SSSI) in accordance with the Council's most up-to-date mitigation strategy for the Thames Basin Heath SPA and the Esher Commons SSSI Restoration and Management Plan;

6. Maximising the contribution of other green spaces and features (15), where appropriate, to the area's biodiversity resources including identifying and developing wildlife corridors(16) to provide ecological 'stepping stones' and form a coherent local and regional biodiversity network in accordance with CS12-The River Thames and its tributaries and CS14-Green Infrastructure;

7. Directing development to previously developed land in accordance with CS1-Spatial Strategy, taking account of its existing biodiversity value; and

8. Ensuring new development does not result in a net loss of biodiversity and where feasible contributes to a net gain through the incorporation of biodiversity features.'

A1.18. The Development Management Plan (DMP) document contains more detailed "every day" policies that all planning applications are assessed against. The key policy within the DMP relating to ecology is:

- Policy DM21: Nature Conservation and Biodiversity, which states:

a. In accordance with Core Strategy policy CS15 – Biodiversity, all new development will be expected to preserve, manage and where possible enhance existing habitats, protected species and biodiversity features. The Council will work in partnership to explore new opportunities for habitat creation and restoration.

b. Support will be given to proposals that enhance existing and incorporate new biodiversity features, habitats and links to habitat networks into the design of buildings themselves as well as in appropriate design and landscape schemes of new developments with the aim of attracting wildlife and promoting biodiversity. Conditions will be used to secure the provision of mitigation measures, as appropriate.

c. Development affecting designated international sites of biodiversity importance and compensatory sites will be considered against Core Strategy policies CS13 – Thames Basin Heaths Special Protection Area, CS15 – Biodiversity, the Framework and relevant legislation.

d. Development affecting national sites of biodiversity importance will not be permitted if it will have an adverse effect, directly or indirectly, individually or in combination, on the site or its features. In exceptional circumstances, proposals that have an adverse effect on a national site may be permitted if the benefits of the development clearly outweigh the harm. If a development is approved under these circumstances, appropriate avoidance, mitigation and compensation will be sought wherever possible.

e. Development affecting locally designated sites of biodiversity importance or sites falling outside these that support national priority habitats or priority species will not be permitted if it will result in significant harm to the nature conservation value of the site or feature.

f. Sites identified on the Policies Map as having potential to be designated in future as Suitable Accessible Natural Greenspace (SANG) will be protected from development that may compromise its ability to serve that function, taking into account the level of existing SANG when the development is proposed and any wider benefits of the proposal.

Biodiversity Actions Plans

A1.19. The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species agreed under the UK BAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been superseded, Species Action Plans (SAPs) and Habitat Action Plans (HAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.

A1.20. Most areas now possess a Local BAP (LBAP) to complement the national strategy where priority habitats and species are identified, and targets set for their conservation. BAP's are the key nature conservation initiative in the UK, working at national, regional and local levels.

A1.21. The Surrey Biodiversity Action Plan was produced in 1999 and valid until 2010. The Surrey Nature Partnership, which produced the LBAP, has now produced a new 'Biodiversity and Planning in Surrey'[6] (2018) document which aims to help identify when and where biodiversity must be protected by the planning system, as well as how to identify opportunities to deliver biodiversity enhancements as 'net gains' in the most effective way.

[6] https://surreynaturepartnership.org.uk/our-work/

Appendix 2: Ecology Survey Planner

Tyler Grange

Ecology • Arboriculture • Landscape Planning & Design • Expert Witness

Ecology Survey Planner

Ecology Survey Planner

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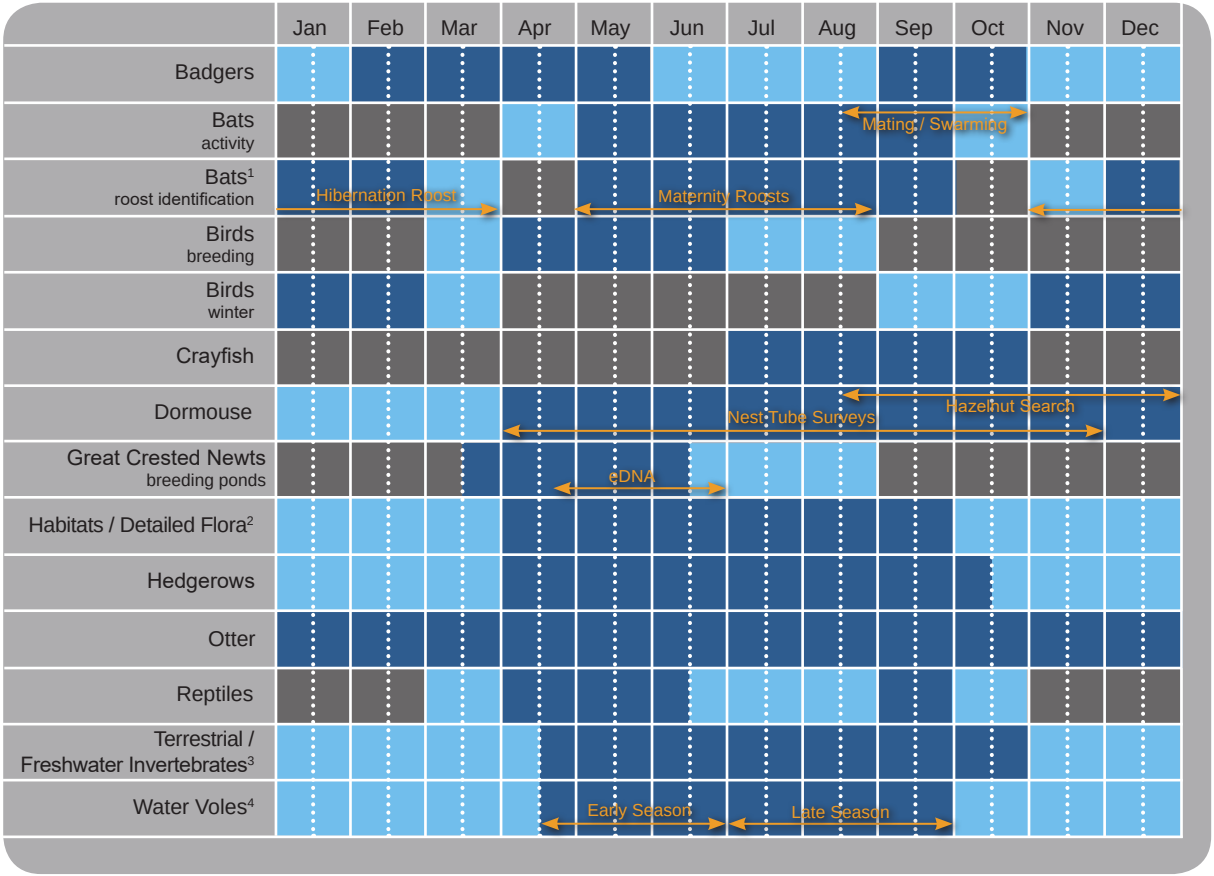


[1] Internal building searches for evidence of bats can be undertaken at any time; winter is the best time for assessing trees for roosting potential, with further work to confirm potential undertaken in spring / summer.

[2] The timing of detailed flora surveys is dependent on the specific habitat type to be investigated. Lower plants should be surveyed in winter.

[3] Timing is dependent on target species/group.

[4] Surveys are required in both the early and late seasons.

Surveys optimal

Surveys sub-optimal

Surveys cannot be undertaken / results unreliable

Appendix 3: Site Photos

Appendix 3: Site Photos

Site 1

Photos (left to right);

- Amenity grassland, hardstanding and northern elevation of Building B1
- Hardstanding and southern elevation of Building B2
- Tree T2 (located off-site)



Site 2

Photos (left to right):

- Hardstanding in the centre of the site
- Southern elevation of Building B2
- Tree T1 wound on main stem



Site 3

Photos (left to right):

- Amenity grassland to the south of residential properties
- Building B3
- Allotments and scrub



Site 4

Photos (left to right):

- Amenity grassland comprising most of the site
- Poor semi-improved grassland in the west of the site
- Scrub in the west of the site



Site 5

Photos (left to right):

- Hardstanding in the west of the site
- Amenity grassland in the south of the site
- Tree T3


Site A

Photos (left to right):

- Amenity grassland in the north of the site
- Northern elevation of Building B4
- Northern elevation of building B2

Site B

Photos (left to right):

- Hardstanding and amenity grassland in the east of the site
- Building B1 and laurel hedgerow

Site C

Photos (left to right):

- Go-kart track comprising a majority of the site
- Leylandii hedge in west of site
- Western end of go-kart track

Site D

Photos (left to right):

- Amenity grassland in the west of the site
- Building B1 in the north of the site
- Amenity grassland in the south of the site



Track Widening (E1 and E2)

Photos (left to right):

- Amenity grassland in western area of track widening
- Rough grassland and Leyland shrub in east area of track widening


Appendix 4: Habitat Suitability Index

Appendix 4: Habitat Suitability Index

Methodology

Habitat Suitability Index (HSI)

A4.1 OS mapping and aerial imagery identified five ponds (P1-P5) within the masterplan site and within 250m of some of the sites (English Nature, 2001), with a wet ditch (Ditch D1) bisecting Site 3. A Habitat Suitability Index (HSI) assessment of the aforementioned ponds and ditches was undertaken on 9th October 2018 to determine the suitability of the pond for Great Crested Newt (GCN) *Triturus cristatus*, by Tyler Grange LLP Ecologist Nathan Jenkinson (GCN Class License No. 2015-16404-CLS-CLS) in line with published guidance (Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M., 2000).

A4.2 The National Amphibian and Reptile Recording Scheme HSI guidance (based on the Oldham et al. methods) was used whereby a number of factors including pond size and location, proximity to other ponds, water quality, macrophyte cover and shading were assessed. A score is given to each water-body between 0 and 1, with scores closer to 0 having lower probability of GCN occurrence. Although the HSI cannot be used as confirmation of GCN presence or likely absence, it can be used as a guide to assess the habitat in terms of its potential to support GCN. It also provides useful information that can inform pond management and enhancement programmes.

A4.3 The HSI classifications are provided below:

- < 0.5 Poor;
- 0.5 – 0.59 Below average;
- 0.6 – 0.69 Average;
- 0.7 – 0.79 Good; and
- ≥ 0.8 Excellent.

Results

A4.4 The HSI calculations for each pond are shown in **Tables A4.1 – A4.6**, below, with the pond/ditch locations shown on plan **11932/P11**:

Table A4.1: HSI Assessment result for Pond P1

Indices	Pond P1
Grid Reference	TQ 14322 65454
Distance to Site	Adjacent to Site C 150m north-west of Site 5

Indices	Pond P1
Photograph	
HSI Classification	Not subject to a HSI as completely lined, with no emergent vegetation and an active pumping system considered to make the waterbody unsuitable for GCN

Table A4.2: HSI Assessment result for Pond P2

Indices	Pond P2
Grid Reference	TQ 14400 65407
Distance to Site	70m from Site 5 70m from Site C
Photograph	
SI_1- Location	Optimal
SI_2- Pond area	600m^2
SI_3 - Pond drying	Never dries
SI_4 - Water quality	Moderate
SI_5 - Shade	5%
SI_6 - Fowl	Minor
SI_7 - Fish	Possible

Indices	Pond P2
SI_8 - Ponds	5 ponds
SI_9 – Terrestrial habitat	Moderate
SI_{10} - Macrophyte	60%
HSI Score	0.81
HSI Classification	Excellent

Table A4.3: HSI Assessment result for Pond P3

Indices	Pond P3
Grid Reference	TQ 14471 65531
Distance to Site	160m from Site C 160m from Site 4 200m from Site 5
Photograph	
HSI Classification	Not subject to HSI as dry at the time of survey

Table A4.4: HSI Assessment result for Pond P4

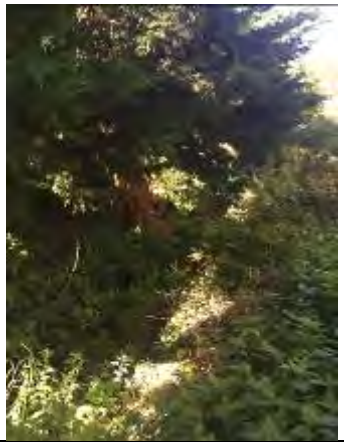
Indices	Pond P4
Grid Reference	TQ 14357 65589
Distance to Site	130m from Site C

Indices	Pond P4
Photograph	
SI_1- Location	Optimal
SI_2- Pond area	$6m^2$
SI_3 - Pond drying	Rarely dries
SI_4 - Water quality	Poor
SI_5 - Shade	5%
SI_6 - Fowl	Minor
SI_7 - Fish	Absent
SI_8 - Ponds	5 ponds
SI_9 – Terrestrial habitat	Moderate
SI_{10} - Macrophyte	65%
HSI Score	0.59
HSI Classification	Average

Table A4.5: HSI Assessment result for Pond P5

Indices	Pond P5
Grid Reference	TQ 14349 65612
Distance to Site	150m from Site C
Photograph	No Photograph Available
SI_1- Location	Optimal
SI_2- Pond area	$10m^2$
SI_3 - Pond drying	Rarely dries
SI_4 - Water quality	Poor
SI_5 - Shade	10%
SI_6 - Fowl	Minor
SI_7 - Fish	Absent
SI_8 - Ponds	5 ponds
SI_9 – Terrestrial habitat	Moderate
SI_{10} - Macrophyte	70%
HSI Score	0.59
HSI Classification	Average

Table A4.6: HSI Assessment result for Ditch D1

Indices	Ditch D1
Grid Reference	TQ 13727 65645
Distance to Site	Within Site 3
Photograph	
SI_1- Location	Optimal
SI_2- Pond area	270m^2
SI_3 - Pond drying	Rarely dries
SI_4 - Water quality	Moderate
SI_5 - Shade	95%
SI_6 - Fowl	Absent
SI_7 - Fish	Absent
SI_8 - Ponds	5 ponds
SI_9 – Terrestrial habitat	Good
SI_{10} - Macrophyte	40%
HSI Score	0.68
HSI Classification	Average

Plans

Habitat Features Plan - Site 1 (11932/P01)

Habitat Features Plan - Site 2 (11932/P02)

Habitat Features Plan - Site 3 (11932/P03)

Habitat Features Plan - Site 4 (11932/P04)

Habitat Features Plan - Site 5 (11932/P05)

Habitat Features Plan - Site A (11932/P06)

Habitat Features Plan - Site B (11932/P07)

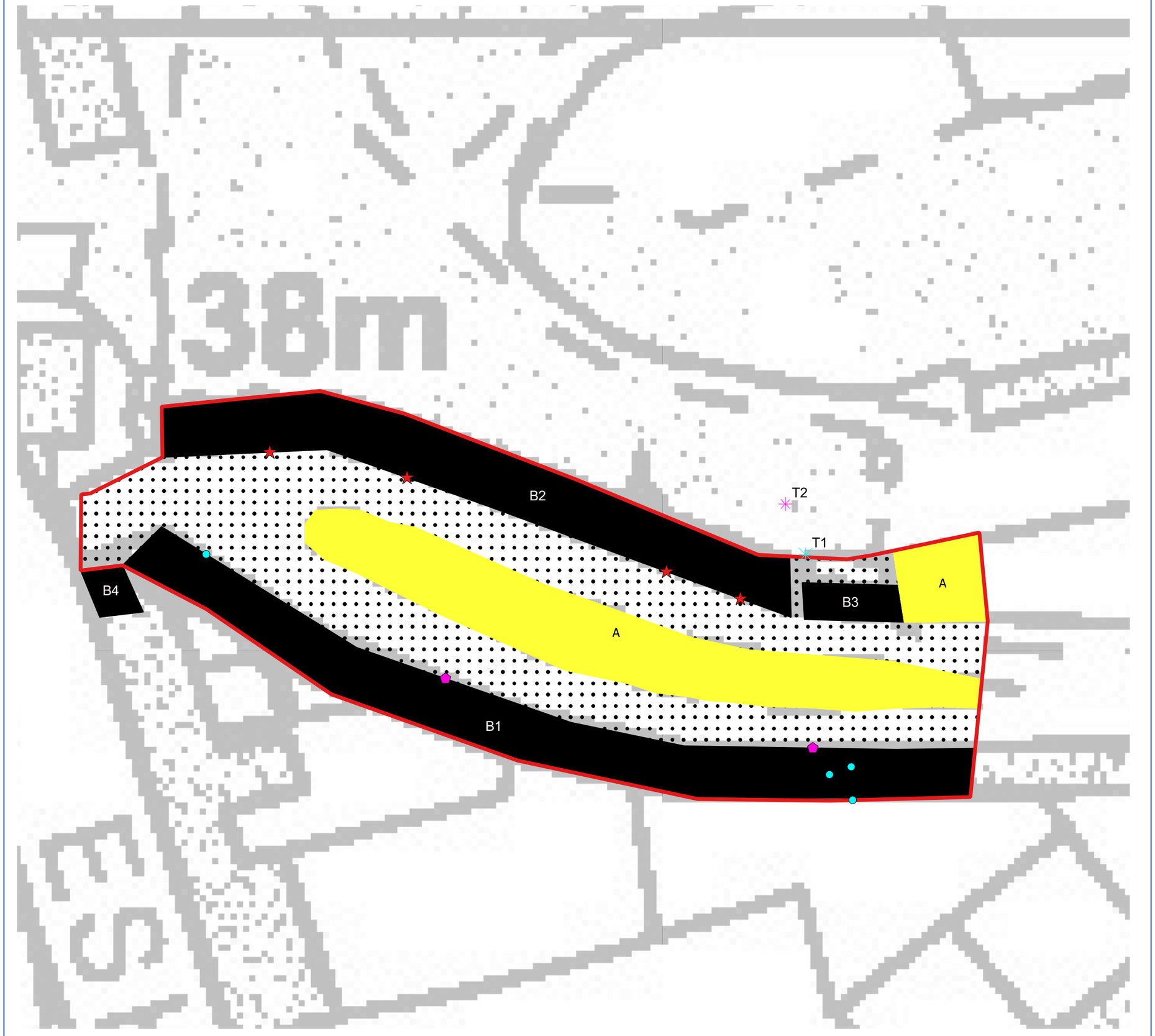
Habitat Features Plan - Site C (11932/P08)

Habitat Features Plan - Site D (11932/P09)

Habitat Features Plan – Sites E1 and E2 (Track Widening) (11932/P12)

Habitat Features Plan - Site F (11932/P16)

Pond Location Map (11932/P11)



- Site boundary
- A — Amenity grassland
- Building
- Hardstanding
- Tree with low bat potential
- Tree with moderate bat potential
- Hole in mesh
- Mortar gap
- Soffit gap

N

0 — 25 m

Project	Sandown Park - Site 1
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P01
Date	January 2019
Checked	NJ

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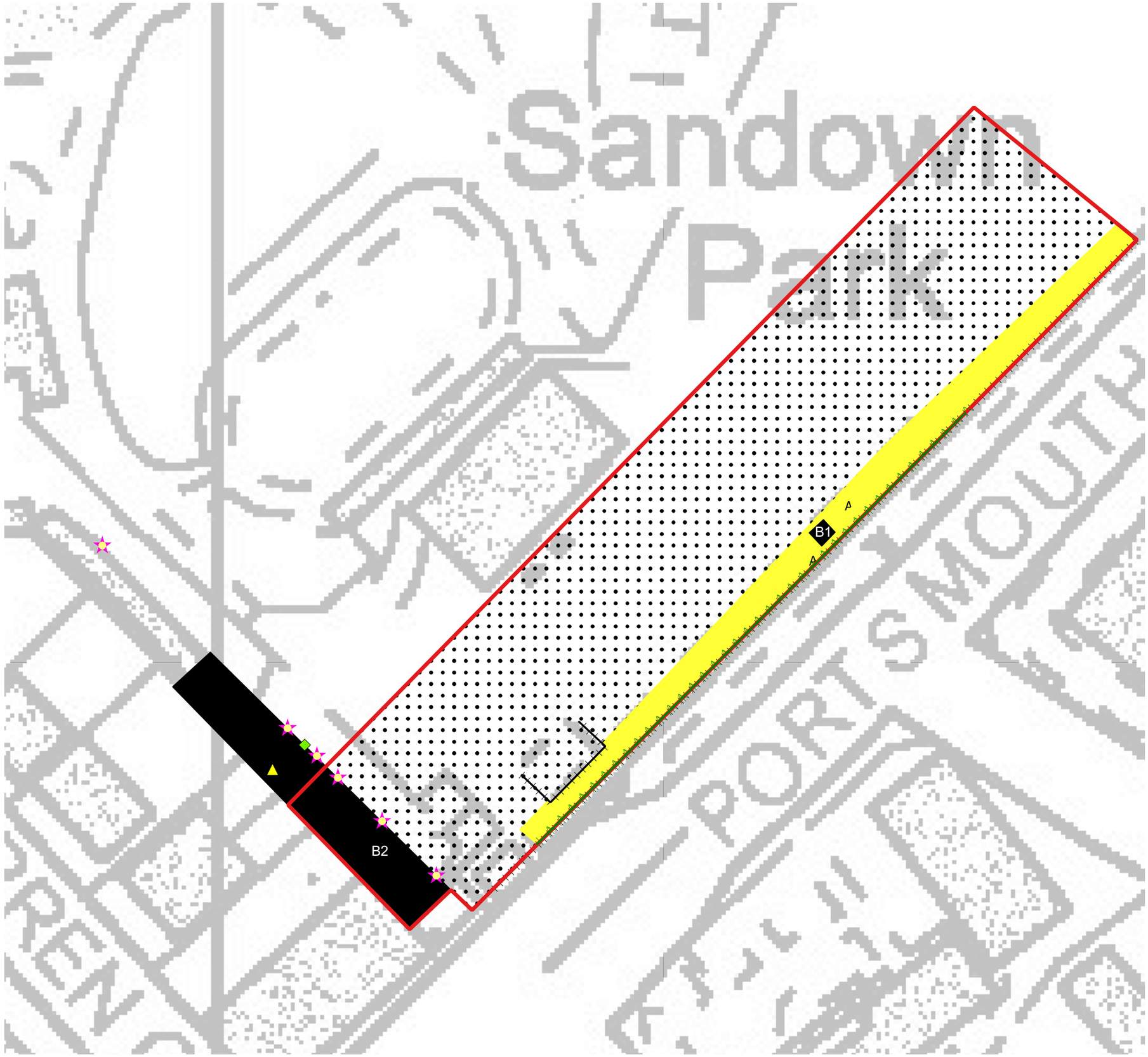

- Site boundary
- A — Amenity grassland
- Buildings
- Hardstanding
- Fence
- Treeline
- Facia gap
- Gable end gap
- Gable apex gap

N

0 — 50 m

Project	Sandown Park - Site 2
Drawing Title	Habitat Features Plan
Scale	As Shown (Approximate)
Drawing No.	11932/P02
Date	November 2018
Checked	NJ

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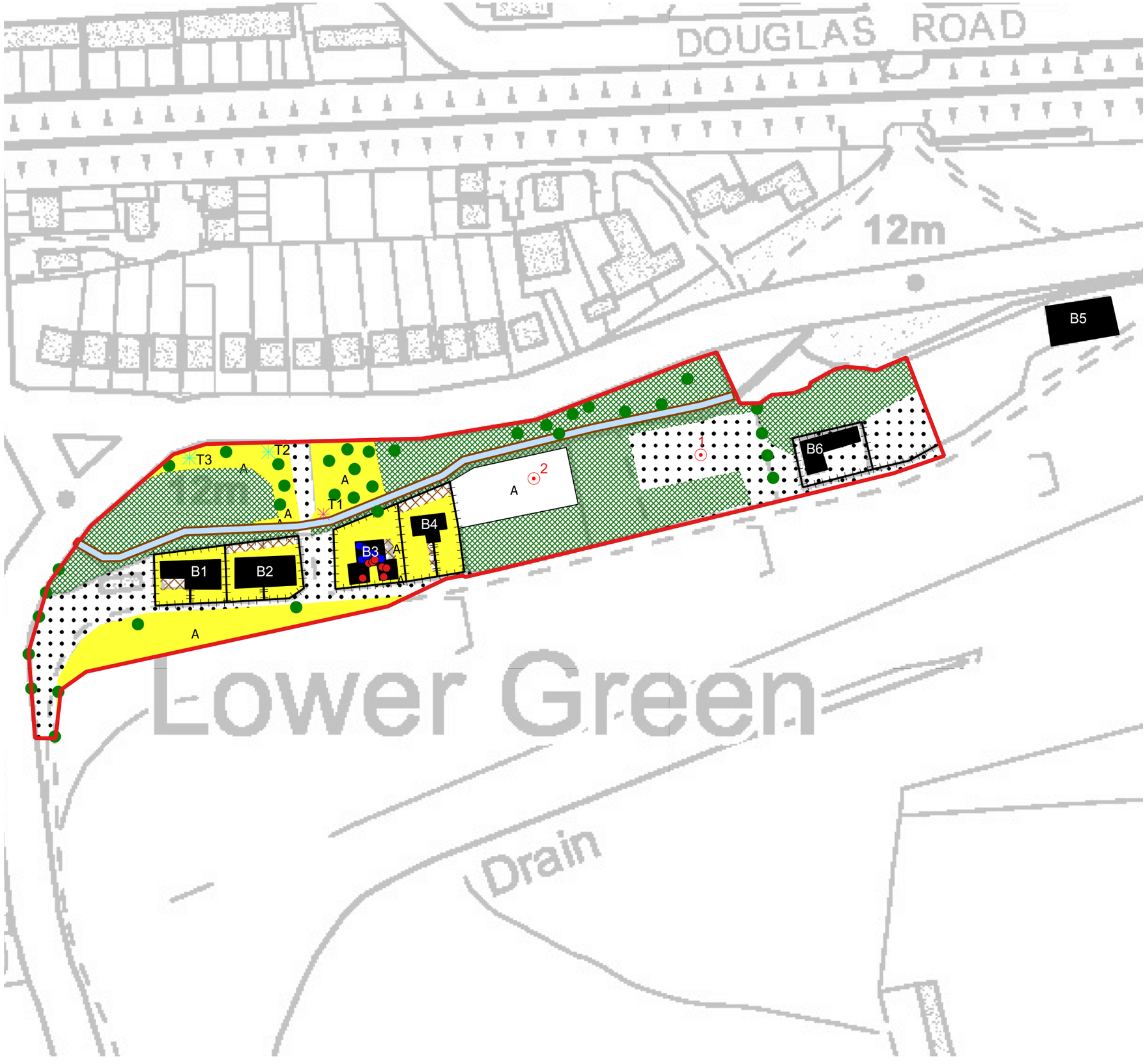

- Line boundary
- Target note
- A — Amenity grassland
- A — Allotment
- Building
- Dense scrub
- Fence
- Introduced scrub
- Hardstanding
- Scattered broadleaved trees
- Wet ditch
- Tree with low bat potential
- Tree with moderate bat potential
- Tile gap
- Ridge tile gap

N

0 — 100 m

Project	Sandown Park - Site 3
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P03
Date	January 2019
Checked	NJ

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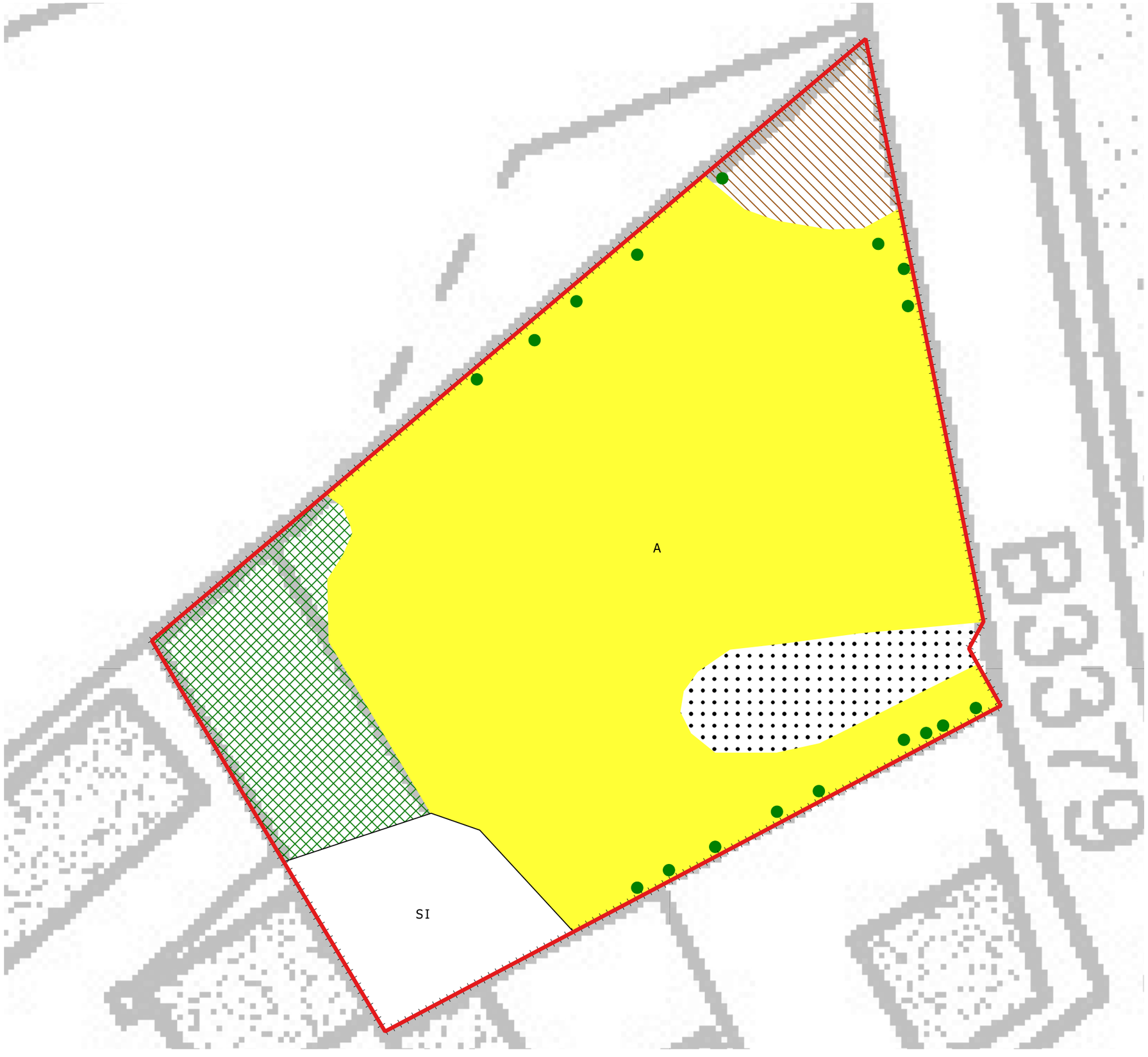

- Site boundary
- A — Amenity grassland
- Bareground
- Dense scrub
- Fence
- SI — Poor semi-improved grassland
- Scattered broad-leaved trees
- Tall ruderal

N

0 — 50 m

Project	Sandown Park - Site 4
Drawing Title	**Habitat Feature Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P04
Date	October 2018
Checked	NJ

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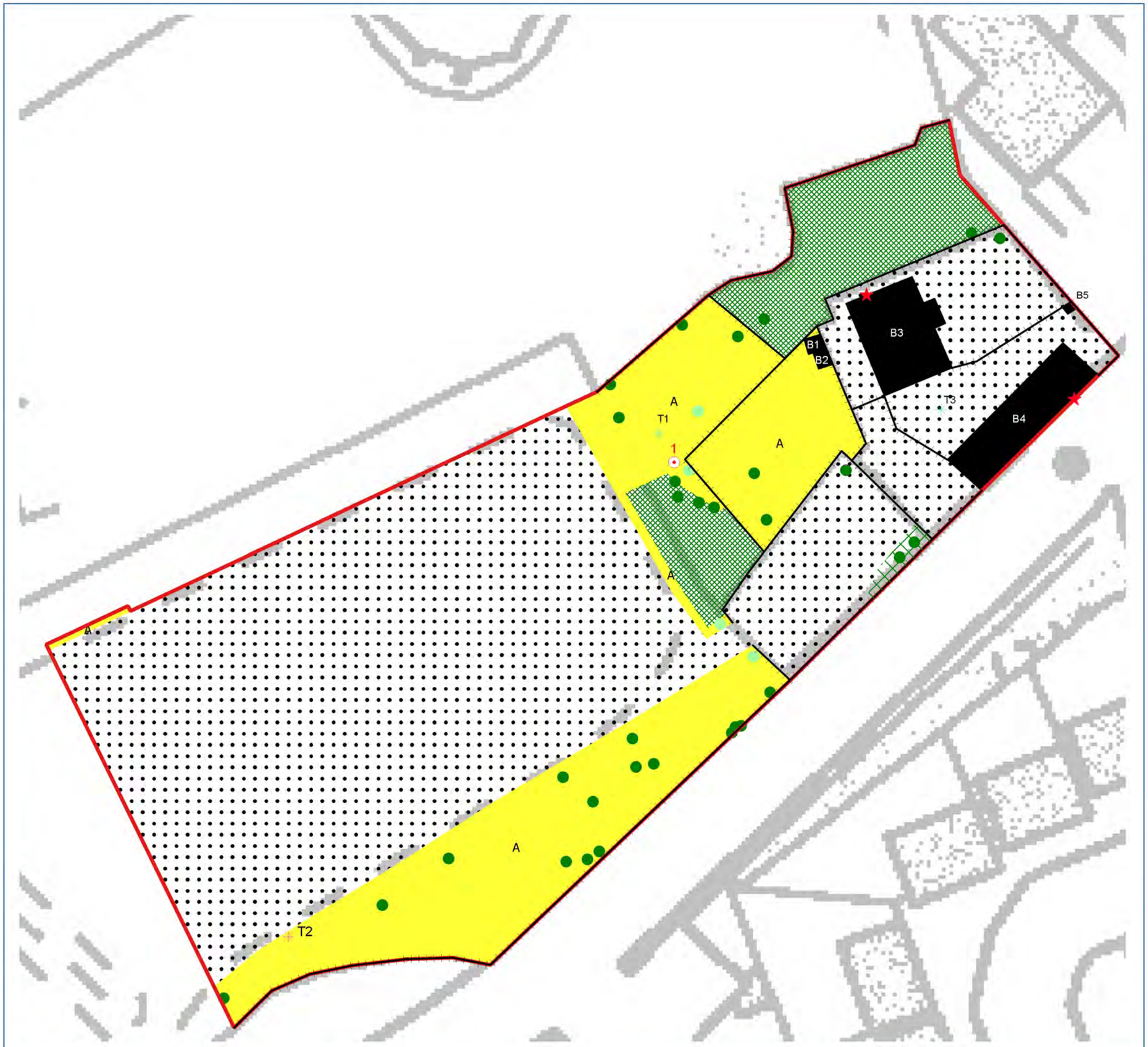

- Site boundary
- Target notes
- Amenity grassland
- Buildings
- Dense scrub
- Fence
- Hardstanding
- Scattered scrub
- Scattered broad-leaved trees
- Scattered coniferous trees
- Tree with low bat potential
- Tree with moderate bat potential
- Soffit Gap

N

0 25 50 m

Project	Sandown Park - Site 5
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P05
Date	November 2018
Checked	NJ

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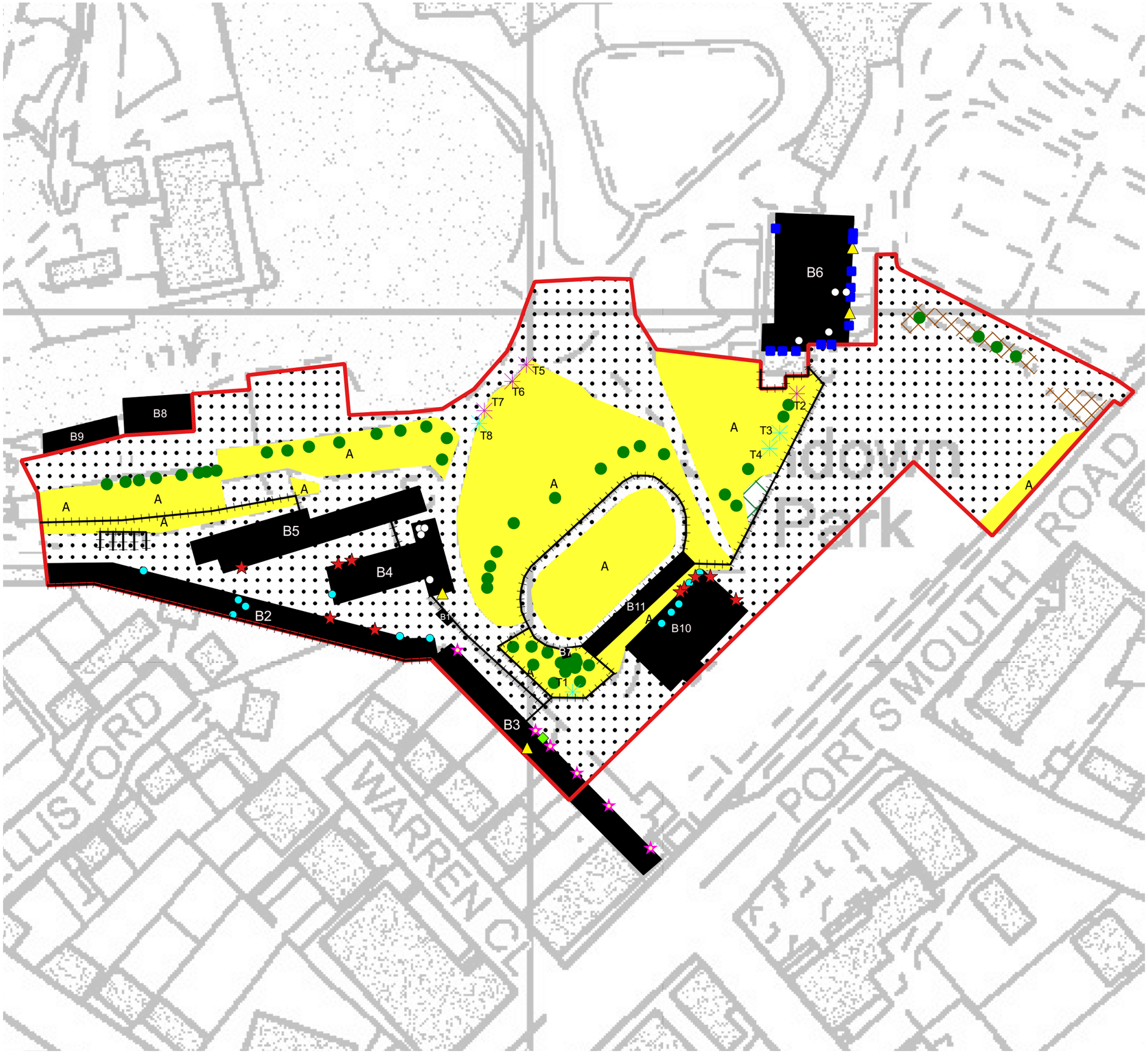

- Site boundary
- A — Amenity grassland
- Building
- Hardstanding
- Fence
- Introduced scrub
- Scattered broadleaved trees
- Scattered scrub
- Tree with moderate bat potential
- Tree with high bat potential
- Raised tile
- Soffit Gap
- Hanging tiles
- Gable apex gap
- Gable end gap
- Facia gaps
- Mortar gap

N

0 — 100 m

Project	Sandown Park - Site A
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P06
Date	January 2019
Checked	NJ

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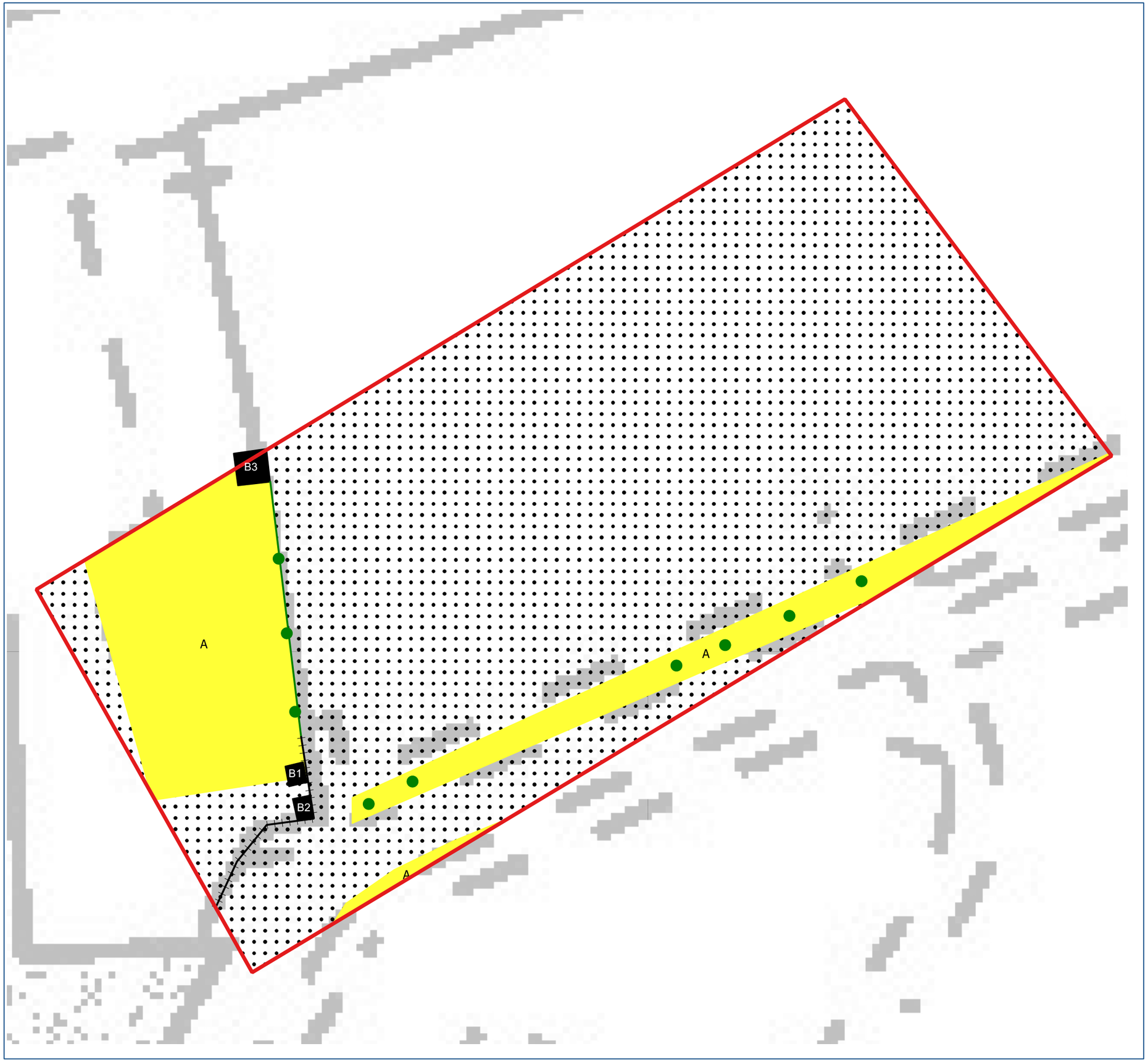

Site boundary

A Amenity grassland

Buildings

Fence

Hardstanding

Scattered broadleaved trees

Species-poor intact hedgerow

Concrete gap

Fascia gap

N

0 25 m

Project	Sandown Park - Site B
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P07
Date	November 2018
Checked	NJ

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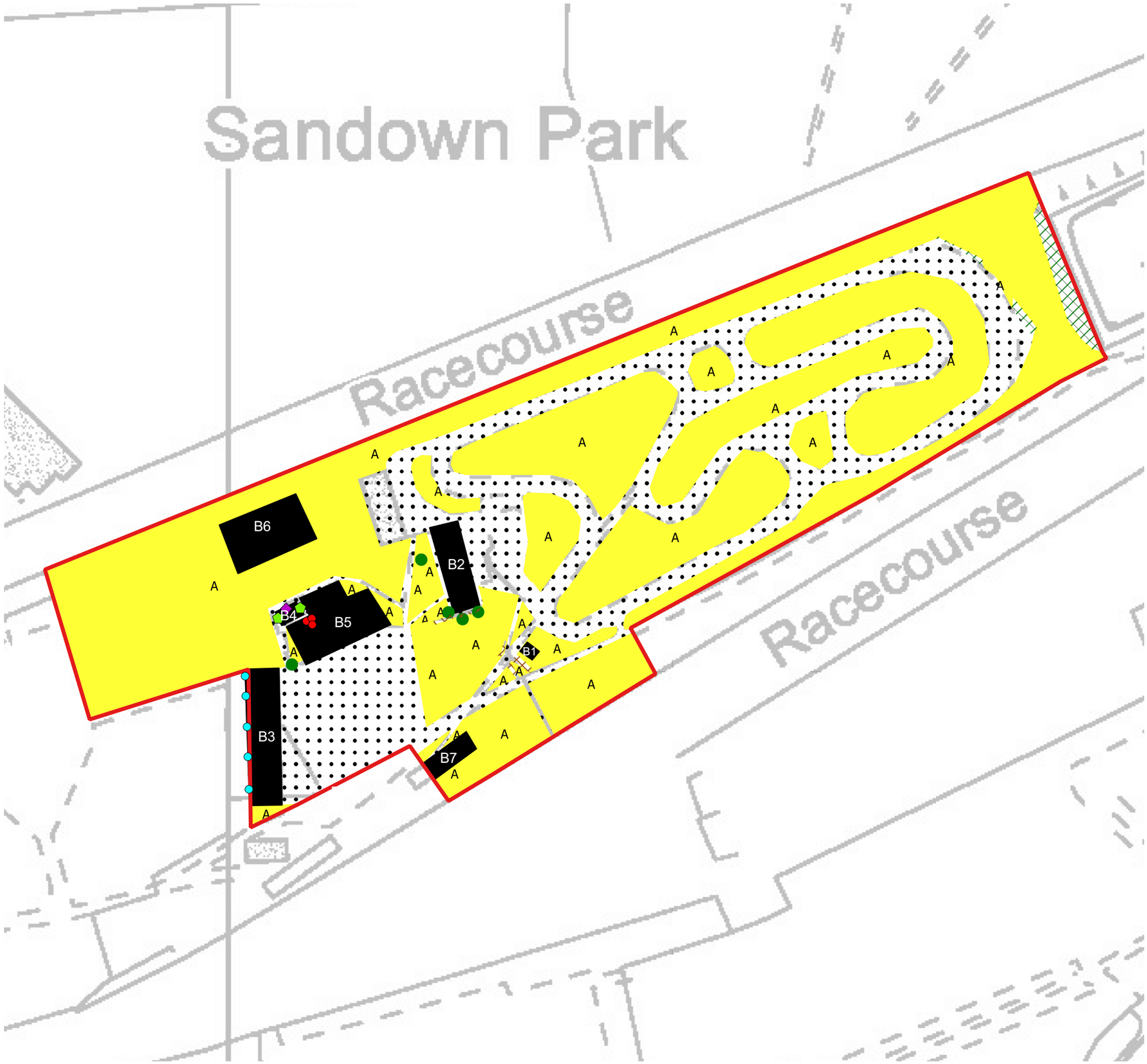

- Site boundary
- A — Amenity grassland
- Buildings
- Dense scrub
- Fence
- Hardstanding
- Introduced scrub
- Scattered broadleaved trees
- Asbestos roof gap
- Gable end gap
- Mortar gap
- Tile gap

N

0 — 100 m

Project	Sandown Park - Site C
Drawing Title	**Habitat Feature Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P08
Date	January 2019
Checked	NJ

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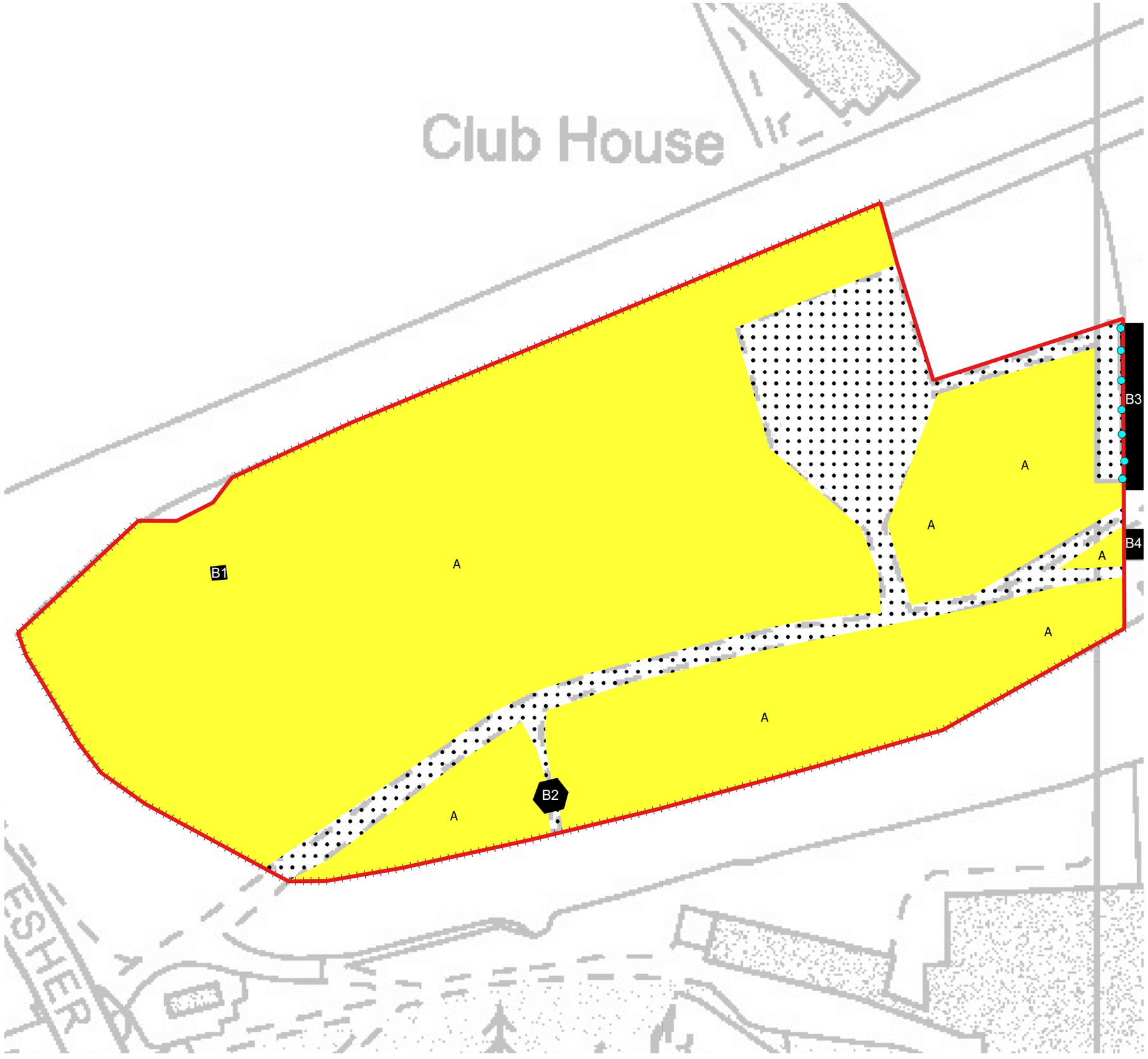

- Site boundary
- Target note
- A — Amenity grassland
- Buildings
- Fence
- Hardstanding
- Mortar gap

N

0 — 100 m

Project	Sandown Park - Site D
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P09
Date	January 2019
Checked	NJ

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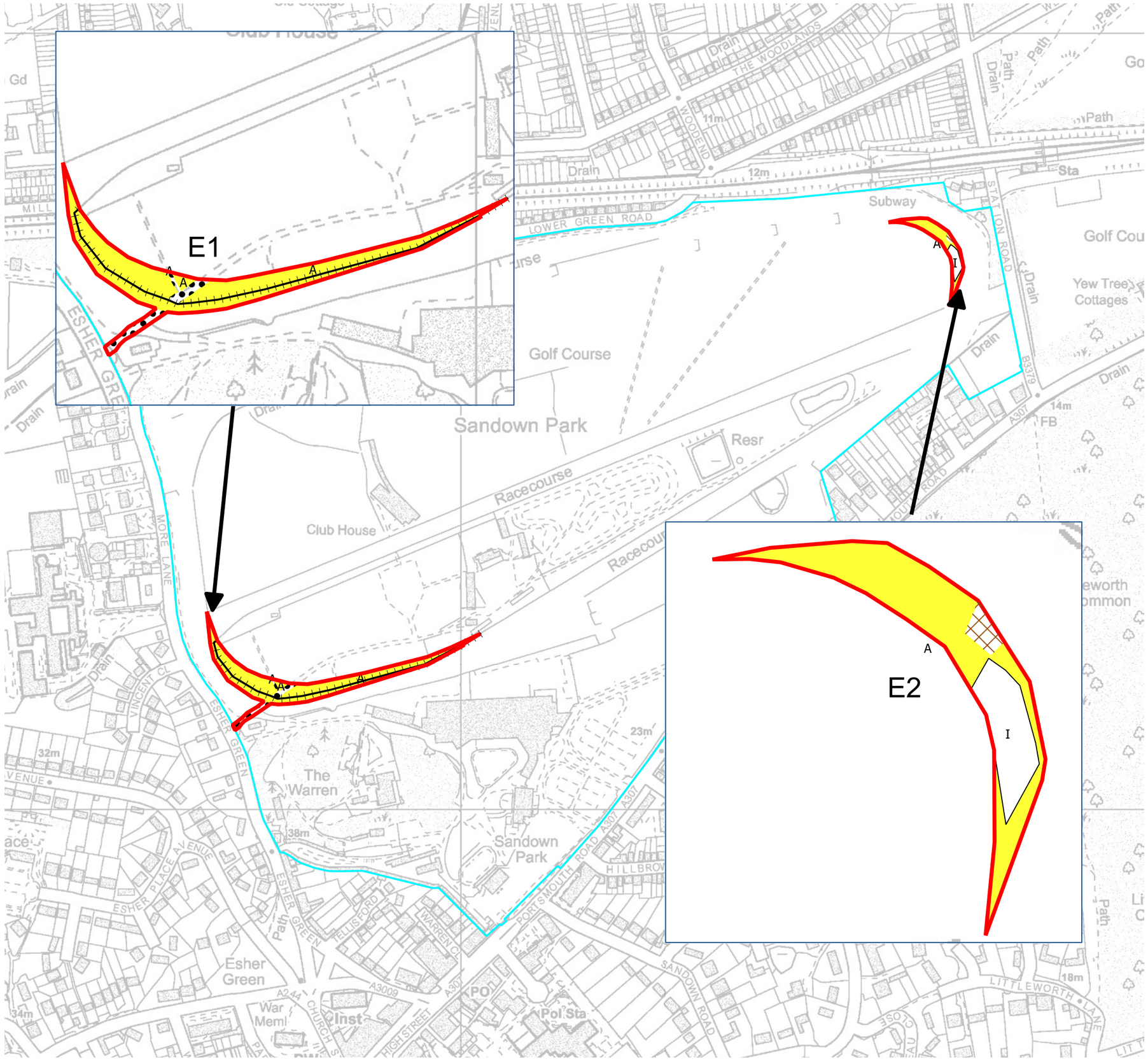

Project	Sandown Park - Track Widening
Drawing Title	Habitat Features Plan
Scale	As Shown (Approximate)
Drawing No.	11932/P12
Date	January 2019
Checked	NJ

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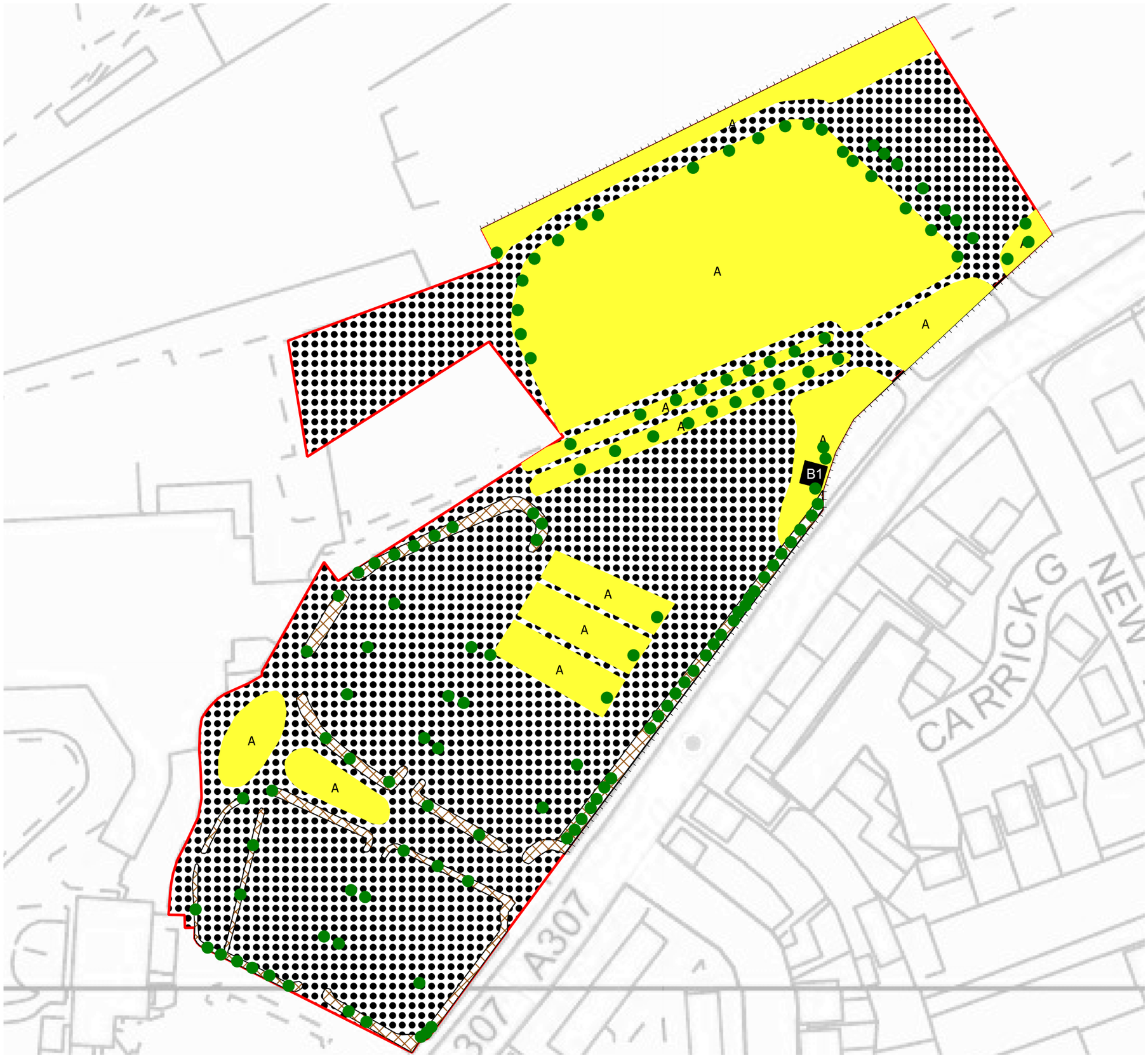

- Site boundary
- A — Amenity grassland
- Building
- Introduced shrub
- Hardstanding
- Hedgerow
- Fence
- Scattered broadleaved trees

N

0 100 m

Project	Sandown Park - Site F
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	11932/P16
Date	February 2019
Checked	SC/NJ

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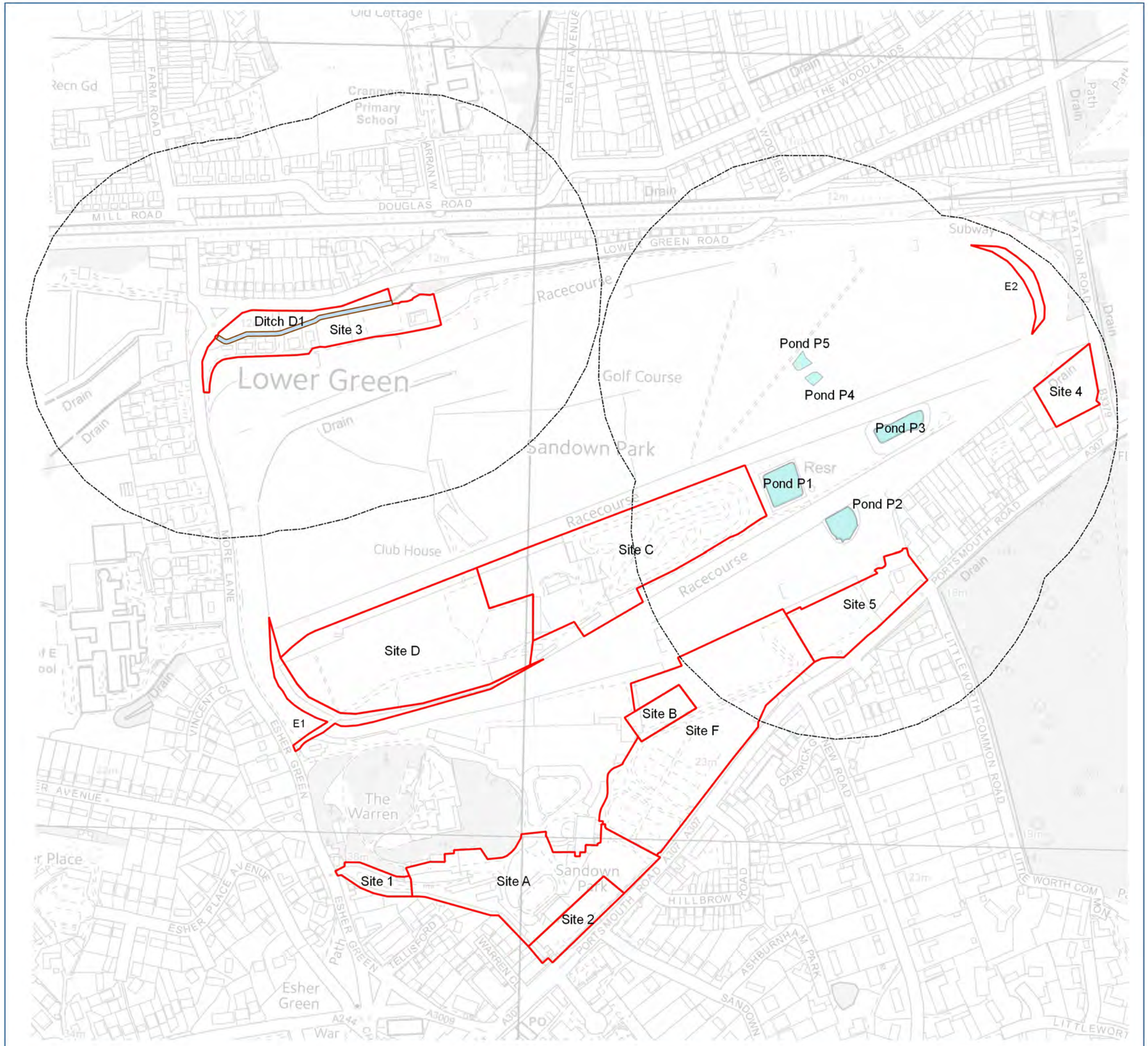

Project	Sandown Park
Drawing Title	Pond Location Plan
Scale	As Shown (Approximate)
Drawing No.	11932/P11
Date	February 2019
Checked	NJ

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