



THE
ENVIRONMENT
PARTNERSHIP

RUGBY FOOTBALL UNION

Ecological Assessment

Twickenham Stadium – East Stand Extension

July 2016





THE
ENVIRONMENT
PARTNERSHIP



TWICKENHAM STADIUM EAST STAND EXTENSION

ECOLOGICAL ASSESSMENT (JULY 2016)

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Executive Summary

1. TEP was commissioned in May 2016 to carry out an ecological assessment of the proposed East Stand extension at Twickenham Rugby Stadium, within the London Borough of Richmond upon Thames.
2. The development area (see red line below) is predominantly hardstanding around the stadium curtilage. There is a maintenance shed in the survey area, although it may not require removal for this application.
3. There are no designated wildlife sites or S41 Habitats of principal importance on site.
4. The development site has no ecological value. There are no signs of protected species and no buildings which would support roosting bats. Some London plane street trees between Rugby Road and the existing east Stand will require removal. These were inspected for bat roosts using ground-based assessment techniques and have no suitability for bat roosting.
5. For the street trees which require removal for development, it is recommended these are replaced in accordance with local authority policy and/or agreements.
6. The construction compound will be located on a gravel car park north of the stadium (within the blue line shown below). There are some trees between the car park and Rugby Road. One oak tree has moderate suitability for bat roosting. This tree will be retained. It is recommended that this tree is protected using Tree Protection Fencing to BS5837:2012 (Trees in Relation to Design, Demolition and Construction) and this can be secured by a planning condition.
7. The Duke of Northumberland's River is a Site of Importance for Nature Conservation (SINC), designated for its aquatic flora and fauna, including kingfisher, a Schedule 1 bird. It is recommended that no works are carried out within 10m of the bank top, and to ensure this, construction compound fencing should be located at least 15m from bank top. This can be secured by planning condition.

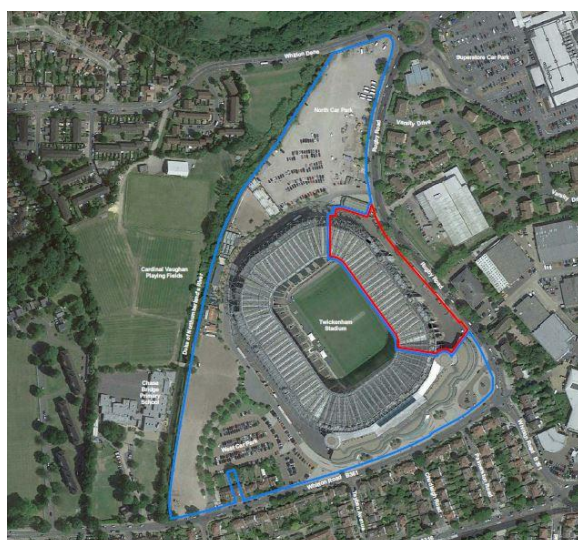


Figure 1: Aerial Photograph

1.0 Introduction

1.1 TEP was commissioned in May 2016 to carry out an ecological assessment of the East Stand and surrounding land at Twickenham Stadium, in the London Borough of Richmond upon Thames. This assessment has been requested in order to inform development proposals for an extension to the East Stand.

1.2 The objectives of this report are as follows:

- Describe the existing vegetation and give an overview of the habitats present on the site;
- Identify whether there are any features of conservation value such as legally protected species or habitats of biodiversity importance;
- Advise of any further surveys or mitigation requirements that might be needed prior to development of the site; and
- Outline opportunities to provide biodiversity enhancement within site proposals.

2.0 Site Description

- 2.1 The site comprises the East Stand of Twickenham Rugby Stadium and hardstanding ground within the stadium curtilage stretching along the eastern end. The gravel car park north of the stadium will be used for a construction compound. The approximate central grid reference is TQ 15424 74214.
- 2.2 The stadium is located in south west London, north of the River Thames within the built up London Borough of Richmond upon Thames. Rugby Road borders the site along eastern edge and Whitton Road along the south. Immediately surrounding the site is predominantly residential and business/ retail properties as well as local schools. The Duke of Northumberland's River runs west of the stadium and a large sewage treatment works is located to the north.
- 2.3 The aerial photograph shown in the Executive summary shows the permanent works (red line) and the ownership boundary (blue line).

3.0 Method

Desktop Study

- 3.1 Information regarding historic species records and protected sites within a 1km radius of the site was requested/gathered from the sources listed in Table 1.

Table 1: Ecological information and consultations

Consultee / Source of Information	Nature of Information
eCountability Ltd (Greenspace Information for Greater London CIC)	Identification of records for protected species, statutory sites, non-statutory sites and habitats within the local area.
Natural England, Magic Map	Online mapping system for England for BAP habitats and protected sites.
Magic Map: Multi-Agency Geographic Information for the Countryside	Online mapping system identifying statutory and rural designations, citations, natural area boundaries etc.
Section 41 NERC Act 2006	Habitats and species of principal importance for the conservation of biodiversity.
Google Maps	Satellite imagery

Habitats and Flora

- 3.2 The Phase 1 habitat survey for Twickenham Rugby Stadium East Stand extension was undertaken by Francis Hesketh MCIEEM FISC Level 3, on Monday 30th May 2016. The survey was carried out in accordance with the Phase 1 Habitat Survey assessment methods (JNCC, 2010) and the Guidelines for Baseline Ecological Assessment (EIS, 1995). Habitat types and any incidental evidence of protected or invasive species were noted.

Limitations

- 3.3 The Phase 1 habitat survey was undertaken within the optimum survey season of mid-April to mid-October. There was therefore no limitation to the habitat surveys with regard to the time of year.

Fauna

- 3.4 During the Phase 1 habitat survey, the habitats present were assessed for their potential to support species of conservation concern, particularly statutorily protected species or S41 priority species.

3.5 The ecological appraisal included a preliminary ground-based assessment of the trees and buildings within the site boundary. The trees and buildings were assessed for potential to support roosting, foraging and commuting bats. The criteria for roost assessment and are based upon the Bat Conservation Trust (BCT) Guidelines (2016) as shown in Table 2. The client provided photographs of trees growing between the gravel car park north of the stadium, and Rugby Road. Although these trees will be retained, the photographs were studied for bat suitability.

Table 2: Bat Potential Categories (BCT, 2016).

Suitability	Roosting Habitats	Commuting/ Foraging Habitats
Negligible	Negligible potential roost features are present that are likely to be used by bats	Negligible features on site likely to be used by commuting or foraging bats. A general lack of linear features and low habitat, structural or floristic diversity.
Low	A structure with one or more potential roost features that could be used by individual bats opportunistically, but which do not offer sufficient space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.	Habitat that could be used by small numbers of commuting bats (e.g. a gappy hedgerow or an un-vegetated stream) or foraging bats (e.g. a lone tree or small patch of scrub) but which is isolated from the surrounding countryside.
Moderate	A structure with one or more potential roost features that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but which is unlikely to support a roost of high conservation status (maternity or hibernation).	Continuous habitat connected to the wider landscape that could be used by bats for commuting (e.g. lines of trees or scrub or linked back gardens), or foraging bats (e.g. trees, scrub, water, grassland).
High	A structure possessing one or more potential roost features that are suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time, due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high quality habitat that is strongly connected with the wider landscape that is likely to be used regularly by commuting bats (e.g. river valley, vegetated stream, woodland edge, hedgerows with trees) or foraging bats (e.g. broadleaved woodland, grazed parkland, tree-lined watercourses or ponds).

4.0 Results

Desktop Survey

- 4.1 A full desktop report was provided by eCountability Ltd, but at their request has not been provided alongside this report. The desktop data was reviewed with important habitats and species summarised below.

Statutory Sites and Local Nature Reserves

- 4.2 A desk-based search shows that there are no sites with European or National statutory designation within the search area and no LNRs.

Non-Statutory Sites

- 4.3 Sites of Importance for Nature Conservation (SINCs) are recognised by the Greater London Authority and London borough councils as important wildlife sites.
- 4.4 A desk-based search shows that there are 8 SINCs and no RIGS/LIGS within the search area.
- *Duke of Northumberland's River north of Kneller Road*, immediately west of the site at its closest point; A very attractive section of the Duke of Northumberland's River with an outstanding variety of aquatic plants, and the presence of kingfisher, a Schedule 1 bird species.
 - *Mogden Sewage Works*, approximately 550m north of the site at its closest point; A large sewage works, providing a good range of habitats for birds.
 - *Duke of Northumberland's River south of Kneller Road*, approximately 550m south-west of the site at its closest point; A straight and shallow section of the river with abundant fish.
 - *Crane Corridor*, approximately 750m south of the site at its closest point. This corridor of open space around the River Crane combines an excellent variety of wetland habitats, including ponds and lakes, and includes some historic buildings.
 - *River Crane at St Margaret's (Richmond side)*, approximately 750m south of the site at its closest point; A short section of the River Crane, just above its tidal limit, spanning the borough boundary between Richmond and Hounslow.
 - *River Crane at St Margarets*, approximately 950m west of the site at its closest point; A section the river, lined with trees, that runs through allotments.
 - *Moor Mead Recreation Ground*, approximately 950m south-east of the site at its closest point; Attractive village green beside the River Crane in Twickenham.
 - *Twickenham Junction Rough*, approximately 1000m east of the site at its closest point; An island of wildlife habitat surrounded by railway lines.

Notable Habitats

- 4.5 A habitat of principal importance under Section 41 (S41) of the NERC Act (2006) occurs within the 1km search area; Priority Habitat Inventory - Deciduous woodland, and Broad-leaved woodland. The closest section is approximately 250m north of the site. The Duke of Northumberland's River has aquatic flora considered rare in The Borough.

Notable Species Records

- 4.6 Although there are no records of notable species within the site boundary, there are a number of records of notable species within 1km of the site. Species include those listed under any of the following:
- European Protected Species (EPS);
 - Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
 - Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
 - Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
 - Species of principal importance under Section 41 of the Natural Environment and Communities Act 2006 (S41);
 - Protection of Badgers Act 1992 (PBA);
 - Biodiversity Action Plan Priority London (LBAP);
 - Local and Species of Conservation Concern (LSCC); and
 - Red and Amber listed Birds of Conservation Concern (BRd/BAm).

Mammals/ Bats

- 4.7 There are records of notable terrestrial mammal species within 1km of the site. The notable recorded mammal species are as follows:
- Common pipistrelle *Pipistrellus pipistrellus* (EPS, WCA5); closest record is 896m north of the site.
 - Pipistrelle bat *Pipistrellus* species (EPS, WCA5); closest record is 309m south-west of the site.
 - Soprano pipistrelle *Pipistrellus pygmaeus* (EPS, WCA5); closest record approximately 735m north of the site.
 - West European Hedgehog *Erinaceus europaeus* (WCA5); is 309m south-west of the site.

- 4.8 Although the Duke of Northumberland's River has bank habitat which might be suitable for water voles, there are no historic records of its presence.

Birds

- 4.9 There are a number of protected bird species and bird species of conservation concern. The bird records identified are:
- Black Redstart *Phoenicurus ochruros* (WACA1, LBAP)
 - Common (Mealy) Redpoll *Acanthis flammea* (LBAP, LSCC)
 - Kingfisher *Alcedo atthis* (WACA1, LSCC)
 - Swift *Apus apus* (LSCC)
 - Grey Heron *Ardea cinerea* (LSCC)

- Mute Swan *Cygnus olor* (LSCC)
- Little Egret *Egretta garzetta* (LSCC)
- Grey Wagtail *Motacilla cinerea* (LSCC)
- House Sparrow *Passer domesticus* (S41, LBAP, LSCC)
- Willow Warbler *Phylloscopus trochilus* (LSCC)
- Starling *Sturnus vulgaris* (BRd, LBAP, LSCC)
- Song Thrush *Turdus philomelos* (BRd, LSCC)

Habitats and Flora

4.10 A Phase 1 Habitat Survey of the development site was undertaken and habitat types mapped as well as assessed for their potential to support protected species. The habitats within the site are illustrated in Drawing G5793.001. Photographs are included at Appendix A.

- Building
- Hardstanding
- Scattered broad-leaved trees

Buildings

4.11 The East Stand is formed of massive concrete blockwork, with exposed stairwells and stairways. There is an estate maintenance shed which is formed of a single storey of bricks and an upper storey of metal cladding. This is understood to be outside the planning application area.

Hardstanding

4.12 The concourse within the stadium curtilage is formed of bitmac surfacing. A green palisade fence separates the concourse from Rugby Road. Outside the stadium curtilage there are areas of paving and slabs.

4.13 North of the development site is an area of gravelled car parking, part of which will be used for construction compounds and temporary car parking.

Scattered Broad-leaved trees

4.14 There are seven street trees fronting Rugby Road, including London planes *Platanus x acerifolia*, Norway maple and *Acer platanoides*. There are also four small London planes growing within the stadium ownership between the stadium service road and a gravel car park, part of a longer line of London planes planted around the stadium. These species are not of native origin.

4.15 There are some further trees located between the gravel car park and Rugby Road, north of the stadium. It is understood these are to be retained and protected during construction.

Fauna

Birds

- 4.16 No sign of nesting birds was noted during the survey. 1 crow was seen flying over and landing on the top of the East Stand. Several feral pigeons were noted perching on the East stand. No nests were present in the street trees.
- 4.17 Kingfisher is recorded in the Duke of Northumberland's River, west of the gravelled car park north of the development site.

Bats

- 4.18 The trees between the East Stand and Rugby Road were inspected for their bat potential, using ground-based assessment techniques. Most trees are too small and young to support the features necessary for a roost to establish. The two largest London planes fronting Rugby Road are regularly maintained, presumably by the Highways Authority and had no deadwood and no cavities capable of sustaining a bat roost. These trees are understood to require felling.
- 4.19 The largest oak tree in the section between Rugby Road and the gravel car park which will be used as a construction compound was studied from photographic evidence. It may have low-moderate bat roosting suitability but as it does not require felling or pruning it did not require inspection.
- 4.20 The estate maintenance shed cladding is generally very tightly sealed to the brickwork on all elevations. There are some occasional small gaps between the cladding and the brickwork but it appears that the gaps do not lead to access to the internal aspects of the shed. No signs of staining or scratching were noted at the few gaps.
- 4.21 Internally, the shed is cladded at ceiling and wall levels with a single skin of insulated material. There is no loft space. There are some Velux roof lights, but no signs of any significant gaps between the cladding and the Velux.
- 4.22 The concrete blockwork of the East Stand is occasionally clad with signs and cosmetic fascia boards. There are few entrance points for any birds or bats and the surfaces (smooth concrete) are generally unsuitable for perching.
- 4.23 The security and inquiries office complex is formed of metal and glass clad walls with no apparent fissures nor loft spaces. There do not appear to be any bat entry points at the fascia.

5.0 Conclusions

- 5.1 There are no designated wildlife sites or S41 Habitats of principal importance on the development site.
- 5.2 The development site has no ecological value, and no features would be removed which would support protected species, notably roosting bats.
- 5.3 The trees to be removed (various London planes and other species, located between the existing East Stand and Rugby Road) do not have bat roost suitability.
- 5.4 The Duke of Northumberland's River SINC lies immediately to the west of the gravelled car park north of the site. This car park will be used for construction compounds and temporary parking. The SINC is designated for its aquatic flora and fauna and would be vulnerable to physical habitat damage and disturbance and pollution arising from construction activity. Protection measures are required to comply with planning policy relating to SINC's and protected species.
- 5.5 The trees to be retained between the proposed construction compound on the existing gravel car park and Rugby Road do have low to moderate bat roosting suitability due to the presence of some dead wood. These require protection to avoid committing a wildlife offence.

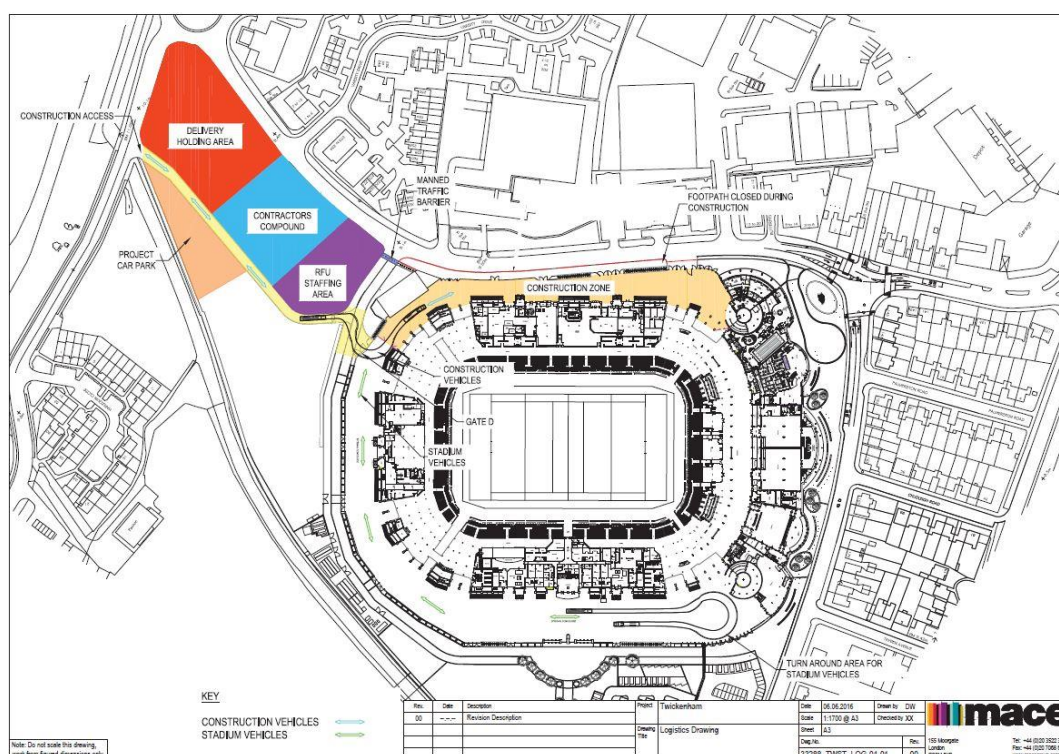


Figure 2: Extract from Construction Management Plan (Mace, June 2016)

6.0 Recommendations

- 6.1 If street trees require removal for development, it is recommended these are replaced in accordance with Local Authority policy and agreements.
- 6.2 The trees to be retained between Rugby Road and the gravel car park which will be used as a construction compound will require to be fully protected, using Tree Protection Fencing to BS5837:2012 (Trees in Relation to Design, Demolition and Construction). This is a matter that can be secured by a planning condition.
- 6.3 The Duke of Northumberland's River SINC should be protected by restricting construction compounds to be located no closer than 15m from banktop, along with the provision of solid perimeter fencing to contain vehicles and materials within the compound. No new drainage outfalls should be installed. This is a matter that can be secured by planning condition.
- 6.4 The NERC Act imposes a duty upon Local Planning Authorities to seek biodiversity enhancement through development and this duty is transposed through planning policy. Therefore measures that can be conducted to enhance ecological features within the site are recommended to comply with current legislation and policy.
- 6.5 This could include the use of native trees and shrubs in landscaping, trellises with pollinator-friendly climbing plants, and the consideration of green walls in appropriate areas of new construction.
- 6.6 It is also recommended that additional provision of bird nesting sites be made, and consultation with the Council suggests that provision of 3 house sparrow "terrace" boxes be made within the new or existing structure, at positions that can be agreed under planning condition.

References

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APPENDIX A: Photosheet

5793 Twickenham Rugby Ground Ecology



Photo 1 Concourse of East Stand with Street trees in Rugby Road slightly overhanging



Photo 2 Exposed concrete and hardstanding concourses of East Stand showing maintenance shed



Photo 3 Hardstanding external concourse with movable planters



Photo 4 One of a pair of large London planes adjacent Rugby Road



Photo 5 Ornamental fruit tree adjacent Rugby Road



Photo 6 Line of young London planes between East Stand and gravel car park

5793 Twickenham Rugby Ground Ecology



Photo 7 Concrete blockwork has no bat entry points



Photo 8 Some cosmetic fascias attached to concrete blockwork of East Stand



Photo 9 Maintenance Shed is single storey brick with metal clad roof



Photo 10 Metal cladding is generally tightly butted to brickwork with few bat access points



Photo 11 Maintenance shed Gable



Photo 12 Internal view of maintenance shed

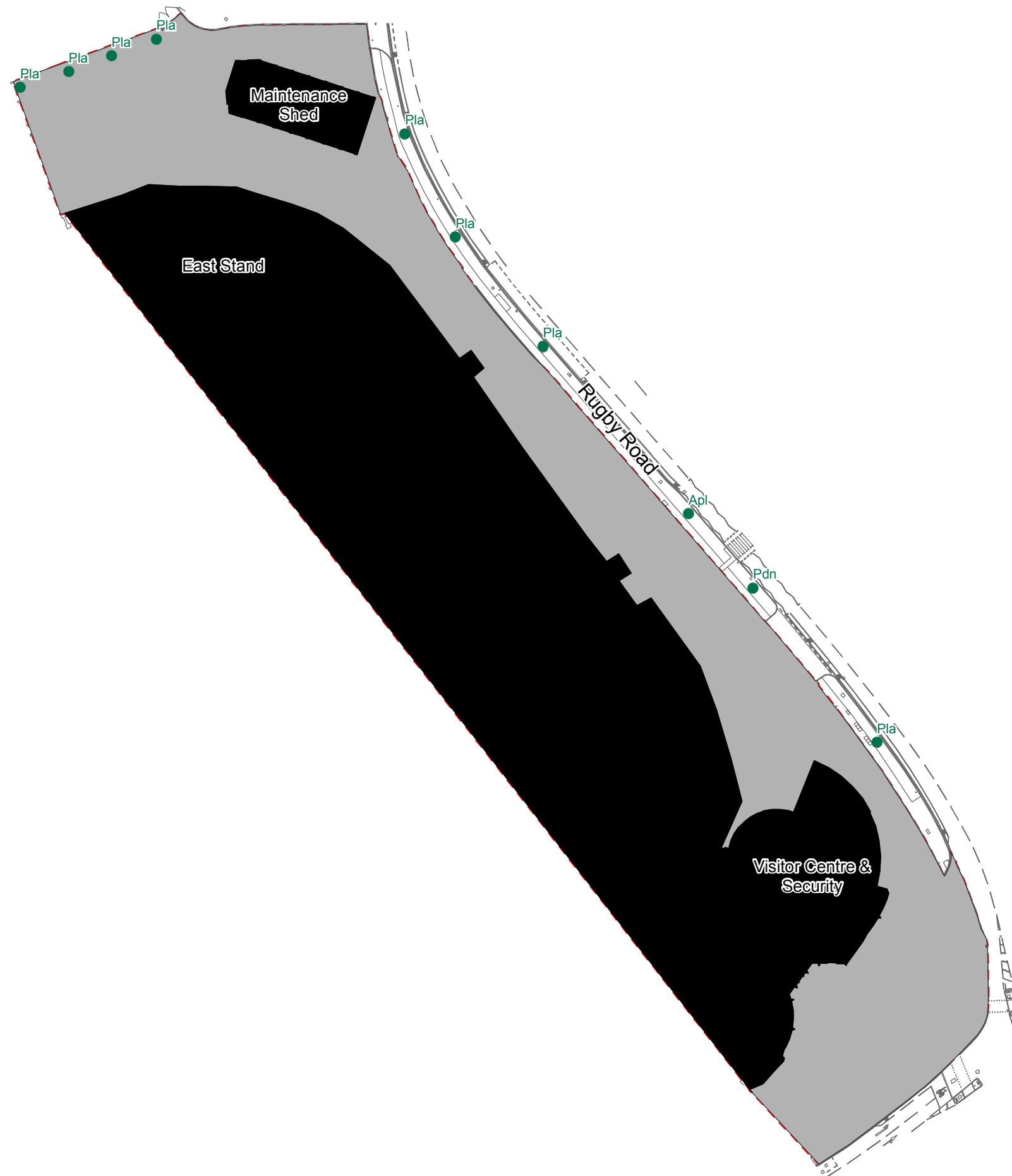
5793 Twickenham Rugby Ground Ecology



Photo 13 Internal view of maintenance shed showing boarding of roof with no loft spaces

DRAWINGS

Drawing 1 – G5793.001 Phase 1 Habitat Survey



KEY

- Survey boundary
- Scattered Broad-leaved Trees
- Buildings
- Hardstanding
- Apl Norway Maple
- Pdn Plum species
- Pla London Plane



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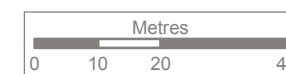
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Project
Twickenham

Title
Phase 1 Survey

Drawing Number
G5793.001

Drawn	Checked	Approved	Scale	Date
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