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Report prepared for: Extraspace Solutions

For the Site of: Collis Primary School, Fairfax Road, TW11 9BS

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Ecological reports are limited in shelf life, Natural England usually expect reports for licenses to be no more than 12 months old and therefore should the project not proceed within 12 months of this report an updated survey should be undertaken in order to check for changes that may have occurred on site. Information is believed to be accurate at the time of survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

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Bat license level 3 and 4. GCN level 1, Dormouse level 1 and Barn Owl

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Ecological Appraisal (EA)

0.0 Non Technical Summary

0.1 Background -

The survey undertaken follows national guidelines JNCC (2010) allowing for a day-time inspection and recommends for further surveys if considered necessary. If a deviation from the guidelines has been made this will be detailed in the Method Section.
The following report details the findings and recommendations for the site of Collis Primary School, Fairfax Road, TW11 9BS.
The client commissioned Cherryfield Ecology to undertake an EA as the proposals include for demolition of selected school buildings B1 (EFAA & EFAF) and B2 (EFAD) and the construction of a new school building. Buildings B3 (EFAB) and B4 EFAE are to remain and will not be affected by the development. This report serves as an update to a PRA carried out in 2018 (PRA 2018 Cherryfield Ecology Collis Primary School, Fairfax Road, TW11 9BS) and also provides an expansion to the report in regard to surrounding habitats.

0.2 Results and Findings -

The site consists of buildings, amenity grass, hard standing and scattered trees. No protected species or any evidence of protected species could be found. The site has potential to support breeding birds as there is suitable nesting habitat available through the scattered trees found on site. It is currently understood these will remain as part of the development.

0.3 Impact Assessment and Recommendations -

No impacts foreseen. No material change has occurred since the 2018 PRA. Sensible precautions are given in section 4 along with enhancements that the LPA has a duty to ask for.

1.0 Introduction

1.1 Aim

The aim of this report is to inform of ecological constraints that may affect the development proposals and recommend to the client if further surveys are required for protected species. An impact assessment is undertaken at this stage, however if further surveys are required additional and unexpected impacts may result.

1.2 Background information

The client, Extraspace Solutions, has commissioned Cherryfield Ecology to undertake an EA for the site of Collis Primary School, Fairfax Road, TW11 9BS. Planning permission is being sought to carry out the demolition of selected school buildings B1 (EFAA & EFAF) and B2 (EFAD) and the construction of a new school building. Buildings B3 (EFAB) and B4 EFAE are to remain and will not be affected by the development.

This survey has checked all habitats, buildings, trees (from ground level only) or structures due to be affected by the proposals on site, it includes checking for protected species, signs of protected species or habitat value e.g. crevices, badger setts, ponds etc. as well as mapping the habitats on site.

The inspection was conducted on the 30/07/2019.

The survey can only ever provide a 'snap shot' of the site at the time of the survey and circumstances may change following this report. Health and Safety restrictions or obstructions may limit the ability to find evidence.

Biological records have been requested to give the report context and allow a study of the surrounds. The information is often sensitive and therefore a synopsis is provided.

The survey can be conducted year round with the optimal period between mid-March and mid-October (south)/1st April and 30th September (north). However it can be limited due to bad weather and in the winter, when some species are not as active, thus evidence and species are often not found. During these periods habitat value (likely presence) becomes more important to the assessment of the site.

Summary of legislation and National Planning Policy that protects wildlife in England:

- Conservation of Habitats and Species Regulations 2017.
- Wildlife and Countryside Act 1981 as amended.
- Countrywide and Rights of Way Act 2000.
- Natural Environment and Rural Communities Act 2006.
- National Planning Policy Framework ("NPPF").
- Circular 06/05.

This legislation makes it illegal to:

- Intentionally or deliberately kill, injure or capture a protected species.
- Deliberately disturb a protected species, whether at rest or not.
- Damage, destroy or obstruct access to a resting place.
- Possess or transport a protected species or any part of that species, unless acquired legally.
- Sell, barter or exchange a protected species, or any part of a species.

1.3 Species Specific information: -

All EU protected species have the same protection and the detail under Bats also applies to GCN, Dormouse, Otters and the two EU protected reptiles.

1.3.1 Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore a number of birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate a "no-go" buffer zone around such nests – typically out to 5m.

1.3.2 Bats

All 18 species of bat common in the UK (17 known to be breeding) are fully protected under the Wildlife and Countryside Act (as amended) 1981 through inclusion in Schedule

V of the Act. All bat species in the UK are also included in Schedule II of the Habitats Regulations 2017 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive") which defines European protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport bats, unless acquired legally.
- Sell, barter or exchange bats.

1.3.3 Reptiles

There are six species of reptiles in Great Britain (Edgar *et al*. 2010) and four of these are commonly found; the grass snake (*Natrix natrix*) and/or the barred grass snake, (*Natrix Helvetica),* adder (*Vipera berus*), common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis*).

All native British species of reptiles are legally protected through their inclusion in Schedule V of the Wildlife and Countryside Act 1981. As such, all species are protected from deliberate killing or injury. Therefore, where development is permitted, and there will be a significant change in land use, a reasonable effort must be undertaken to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without appropriate licensing.

Two species of reptile; the smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*), are further protected through their inclusion in Schedule II of the Habitats Regulations 2017 which transposes Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("EC Habitats Directive"), which defines European protected species of animals ("rare reptiles.")

1.3.4 Badgers

Badgers (*Meles meles*) Both the badger and its habitat are protected under The Protection of Badgers Act 1992, Schedule V of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention 1979.

This legislation makes it an offence to:

- Kill, injure, take or possess a badger.
- Interfere with, damage or destroy a badger sett including e.g. obstruct access to a badger sett.
- Cruelly treat or harm a badger.
- Disturb a badger in a sett.

1.3.5 Great Crested Newts

Great crested newts (GCN) *Triturus cristatus* are listed in both Annex IV of the EC Habitats Directive and in Schedule V of the Wildlife and Countryside Act 1981.

GCN are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

2.0 Methods

The survey follows the national guidelines JNCC (2010) and the following equipment is available for the inspection:

- Torches (e.g. LED Lensar type).
- Ladders (Standard 4m telescopic surveying ladder).
- Endoscope where holes, cracks and crevices are accessible.
- Mirrors (extendable and movable mirror face).
- Binoculars (Pentax close focus).
- Thermometer/hygrometer.
- Camera.
- Sample bags for collecting dropping and feeding evidence.

Target notes are made when appropriate to highlight e.g. protected species or an 'other feature(s)' of ecological note.
If a deviation from the guidelines has been made the reason and justification will be explained below: -
No deviation from the standard guidelines has been made for this survey.

2.2 Limitations

This survey provides a snap –shot of the site at the time of the survey(s) only. Species are highly mobile and can and do turn-up from time to time unexpectedly. All care has been taken to ensure the results and recommendations are suitable to the context of the development and the information gathered on surveys.

Table 1: Habitat value (likelihood) of protected species presence assessed against Collis (2016), Edgar *et al* (2010) and NE (2007) etc.

Likelihood of species presence (Habitat Value)	**Features that species can and will use, regardless of evidence being present.**
Confirmed Presence	Species are found to be present during the survey. Evidence of species is found to be present during the survey.
Higher likelihood of presence.	Buildings, trees or other structures with features of particular significance for use by protected species e.g. nesting habitat, roosting opportunities, and ponds. Habitat of high quality for foraging e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting species e.g. river and or stream valleys and hedgerows. Site is close to known locations of records for protected species.
Moderate and Lower likelihood of species presence.	Several potential habitat opportunities in buildings, trees or other habitats. Habitat could be used for foraging e.g. trees, shrub, grassland or water. Site is connected with the wider landscape by linear features that could be used by commuting species e.g. lines of trees and scrub or linked back gardens. A small number of less significant habitat opportunities. Isolated habitat for foraging e.g. a lone tree or patch of scrub. An isolated site not connected by prominent linear landscape features.
Negligible likelihood of species presence.	No features suitable for roosting, minor foraging or commuting.

3.0 Results

The following section details the results of the desk study, inspection and survey, it includes MAGIC information, biological records data and map/aerial photo information. The results detail the building, structure or tree (numbered for reference) description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study is centred on Grid Ref – TQ164705 and postcode – TW11 9BS.

Table 2: Weather records –

Temperature	15C
Cloud cover	100
Precipitation	heavy
Wind	1/8

3.2 Magic:

The following statutory sites have been located on the search (2km) see Figure 1 –

- Three statutory designations were found within the search area. The local nature reserves (LNR) of Ham Lands and Ham Common are found approx. 1.1km north and 2km north east, respectively. Bushy Park & Home Park special site of scientific interest (SSSI) is found approx. 308m south west and is classified as being in a favorable condition.
- Four EPS licenses were found within the search area, these are as follows; 2001-2921, 2014-2080, 2014-274 and 2016-24315. The licenses include for common pipistrelle *Pipistrellus pipistrellus,* soprano pipistrelle *P. pygmaeus* Natterer's bat *Myotis nattereri* and brown long eared *Plecotus auritus*. The nearest of these are the 2014 licenses which are found approx. 840m south east and 687m north east.

MAGIC **Collis Primary School**

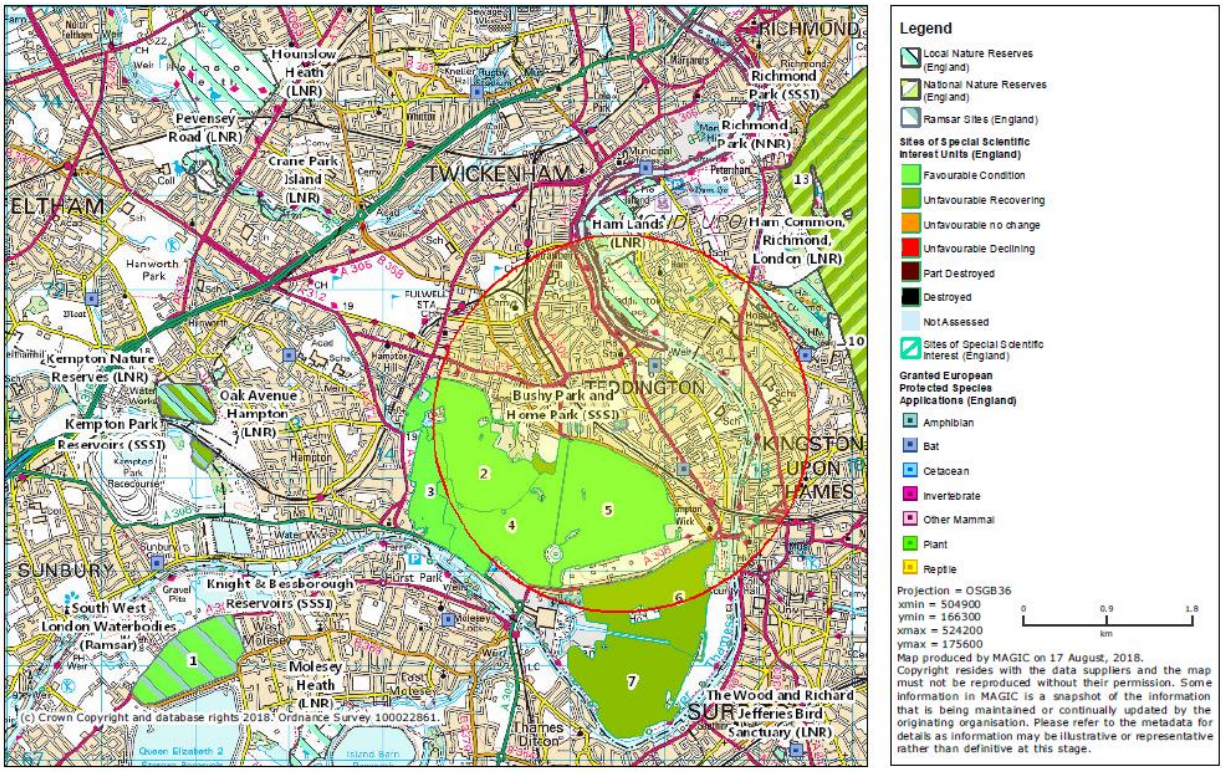

Figure 1: Magic search.

3.3 Biological Records Data:

A standard 1km data search of existing records for protected species and nature reserves has been commissioned, below details the results and site context:

Biological records were obtained from Greenspace Information for Greater London (GIGL, 2019). 5,281 records are supplied and range in date from 1841 to 2017. There are a large number of invertebrates, flora, and bird records. Records also include for amphibians such as great crested newt *Triturus cristatus* (found approx. 810m south west) and reptiles such as grass snake *Natrix helvetica* (found 910m south west). Mammal records include for hedgehog *Erinaceus europaeus* found approx. 55m north of site and a number of bats species. These species include common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, serotine *Eptesicus serotinus*, Daubenton's *Myotis daubentonii*, noctule *Nyctalus noctula*, and brown long eared *Plecotus auritus*.

The closest bat record is for common pipistrelle found approx. 300m north west of site. There are no records from the site itself. The biological records also showed four Sites of Importance for Nature Conservation (SINCs) within the search area and are outlined below.

Metropolitan

Site Reference:	M031
Site Name:	River Thames and tidal tributaries
Summary:	The Thames, London's most famous natural feature, is home to many fish and birds, creating a wildlife corridor running right across the capital.
Grid ref:	TQ 302 806
Area (ha):	2304.92
Borough(s):	Barking and Dagenham, Bexley, City of London, Greenwich, Hammersmith and Fulham, Havering, Hounslow, Kensington and Chelsea, Kingston upon Thames, Lambeth, Lewisham, Newham, Richmond upon Thames, Southwark, Tower Hamlets, Wandsworth, Westminster
Habitat(s):	Intertidal, Marsh/swamp, Pond/Lake, Reed bed, Running water, Saltmarsh, Secondary woodland, Vegetated wall/tombstones, Wet ditches, Wet grassland, Wet woodland/carr
Access:	Free public access (part of site)
Ownership:	Port of London Authority (Tidal banks) and Private (Riparian owners (non tidal banks))

Site Description:

The River Thames and the tidal sections of creeks and rivers which flow into it comprise a number of valuable habitats not found elsewhere in London. The mud-flats, shingle beach, inter-tidal vegetation, islands and river channel itself support many species from freshwater, estuarine and marine communities which are rare in London. The site is of particular importance for wildfowl and wading birds. The river walls, particularly in south and east London, also provide important feeding areas for the nationally rare and specially-protected black redstart. The Thames is extremely important for fish, with over 100 species now present. Many of the tidal creeks are important fish nurseries, including for several nationally uncommon species such as smelt. Barking Creek supports extensive reed beds. Further downstream are small areas of saltmarsh, a very rare habitat in London, where there is a small population of the nationally scarce marsh sow-thistle (Sonchus palustris). Wetlands beside the river in Kew support the only London population of the nationally rare and specially-protected cut-grass (Leersia oryzoides). The numerous small islands in the upper reaches support important invertebrate communities, including several nationally rare snails, as well as a number of heronries. Chiswick Eyot, one of the islands, is a Local Nature Reserve. The towpath in the upper reaches is included in the site, and in places supports a diverse flora with numerous London rarities, both native and exotic. Ninety per cent of the banks of the tidal Thames and its creeks are owned by the Port of London Authority, whereas the riparian owners are responsible for the non tidal (upriver) banks. The water is not owned by anybody. The River Thames upriver of the Thames Barrier is followed by the Thames Path National Trail.

Site first notified:	01/04/1986	**Boundary last changed:**	30/11/2005
Citation last edited:	13/04/2006	**Mayor Agreed:**	25/11/2002
Defunct:	N		
Last Updated:	30/05/2007		

Metropolitan

Site Reference:	M084
Site Name:	Bushy Park and Home Park
Summary:	This area provides an extensive and varied open space on the edge of London. The parks contain several nationally scarce plants, as well as a variety of wetlands and some fine old trees.
Grid ref:	TQ 158 699
Area (ha):	644.54
Borough(s):	Richmond upon Thames
Habitat(s):	Acid grassland, Bracken, Pond/lake, Running water, Secondary woodland, Veteran trees, Wet ditches, Wet grassland
Access:	Free public access (all/most of site)
Ownership:	The Historic Royal Palaces Agency and The Royal Parks

Site Description:

These two adjacent Royal Parks comprise a large area of old parkland habitats, including some of the best acid grassland in London and a variety of interesting wetlands. The acid grasslands support numerous locally uncommon plants, including small cudweed (Filago minima), subterranean clover (Trifolium subterraneum), spring and prickly sedges (Carex caryophyllea, C. muricata ssp. lamprocarpa), upright chickweed (Moenchia erecta), and several nationally scarce species; chamomile (Chamaemelum nobile) and the only sizeable population in south-east England of autumn squill (Scilla autumnalis). Damp neutral grassland in Hampton Court Paddocks supports a completely different range of plants, including meadow crane's-bill (Geranium pratense) which is scarce in London. The numerous ponds and ditches are also home to rare plants, including the only London population of the nationally scarce mudwort (Limosella aquatica), a declining plant which grows at the edges of Heron Pond in Bushy Park. Ditches in the Paddocks support a particularly rich wetland flora, including the London rarities marsh arrow-grass (Triglochin palustre), blue water-speedwell (Veronica anagallis-aquatica) and yellow loosestrife (Lysimachia vulgaris). The specially protected water vole occurs here. Open habitats also support a good diversity of invertebrates. The old parkland trees support fewer invertebrates than those in Richmond Park, although several nationally rare species such as the rusty click-beetle (Elater ferrugineus) are present. Older trees are also valuable for hole-nesting birds such as tree sparrow and jackdaw. A group of horse paddocks in the west of Bushy Park include several old pollards of sweet chestnut (Castanea sativa) and oak, an old hedgerow and a series of inter-connected pools. The Longford River feeds Bushy Park's wetlands with water from the River Colne.

Bushy Park won a Green Flag Award for 2006/7.

Site first notified:	19/09/1988	**Boundary last changed:**	30/11/2005
Citation last edited:	24/07/2006	**Mayor Agreed:**	25/11/2002
Defunct:	N		
Last Updated:	28/02/2007		

Local

Site Reference:	RiL15
Site Name:	Churchyard of St Mary with St Alban, Teddington
Summary:	An attractive churchyard with colourful, flowery grassland and some large trees.
Grid ref:	TQ 165 713
Area (ha):	0.56
Borough(s):	Richmond upon Thames
Habitat(s):	Amenity grassland, Secondary woodland, Semi-improved neutral grassland, Vegetated wall/tombstones
Access:	Free public access (all/most of site)
Ownership:	Diocese of London

Site Description:

This attractive churchyard is a pleasant blend of formal and semi-natural landscapes. Alongside Ferry Road, the grass between the graves is kept short to present a tidy appearance. Away from the road, the grass is allowed to grow longer, with an annual hay cut in late summer. This allows wild flowers to thrive, including rosy garlic (Allium roseum), honesty (Lunaria annua) and wood avens (Geum urbanum). Foxgloves (Digitalis purpurea) and sweet violets (Viola odorata) grow in the shade cast by a group of yew (Taxus baccata) and lime (Tilia sp.) trees.

Site first notified:	01/01/1993	**Boundary last changed:**	01/01/1993
Citation last edited:	17/01/2007	**Mayor Agreed:**	
Defunct:	N		
Last Updated:	07/02/2007		

Local

Site Reference:	RiL16
Site Name:	The Copse at Hampton Wick and Normansfield Hospital
Summary:	A wooded nature reserve and the landscaped grounds of a former hospital.
Grid ref:	TQ 173 703
Area (ha):	13.02
Borough(s):	Richmond upon Thames
Habitat(s):	Amenity grassland, Coniferous woodland, Scattered trees, Veteran trees
Access:	Access on public footpaths only
Ownership:	London Borough of Richmond upon Thames (The Copse) and Private (Normansfield Hospital)

Site Description:

The Copse is a small educational nature reserve, run by the Borough Council. It is largely wooded, with a canopy of sycamore (Acer pseudoplatanus) over an understorey of birch (Betula pendula), elder (Sambucus nigra) and willow (Salix sp.). Ivy (Hedera helix) scrambles up many of the trees, and the ground flora is dominated by cow parsley (Anthriscus sylvestris). It is well used by local schools, but is not accessible to the public.

Across Normansfield Road from The Copse is the former Normansfield Hospital. This is currently disused and due for development. Much of the grounds are parkland, with some magnificent mature trees, including horse chestnuts (Aesculus hippocastanum), false acacias (Robinia pseudacacia) and a variety of conifers. In one area, these latter form a dense stand of woodland, with a number of species including Scots and Bhutan pines (Pinus sylvestris and P. wallichiana), wellingtonia (Sequoiadendron giganteum) and yew (Taxus baccata), interspersed with a few broadleaves such as pedunculate and holm oaks (Quercus robur and Q. ilex), London plane (Platanus x hispanica) and common lime (Tilia x europaea). The woodland has a well developed shrub layer of holly (Ilex aquilifolium), elder (Sambucus nigra), rhododendron (Rhododendron ponticum) and elm (Ulmus sp.). The woodland supports a good range of common birds, including coal tit, treecreeper, nuthatch and stock dove, and other animals. The redevelopment is expected to retain the woodland and mature trees. As part of a planning agreement, public access is permitted along the path across the site between Broom Road and Kingston Road.

Site first notified:	01/01/1993	**Boundary last changed:**	01/01/1993
Citation last edited:	29/03/2007	**Mayor Agreed:**	
Defunct:	N		
Last Updated:	10/04/2007		

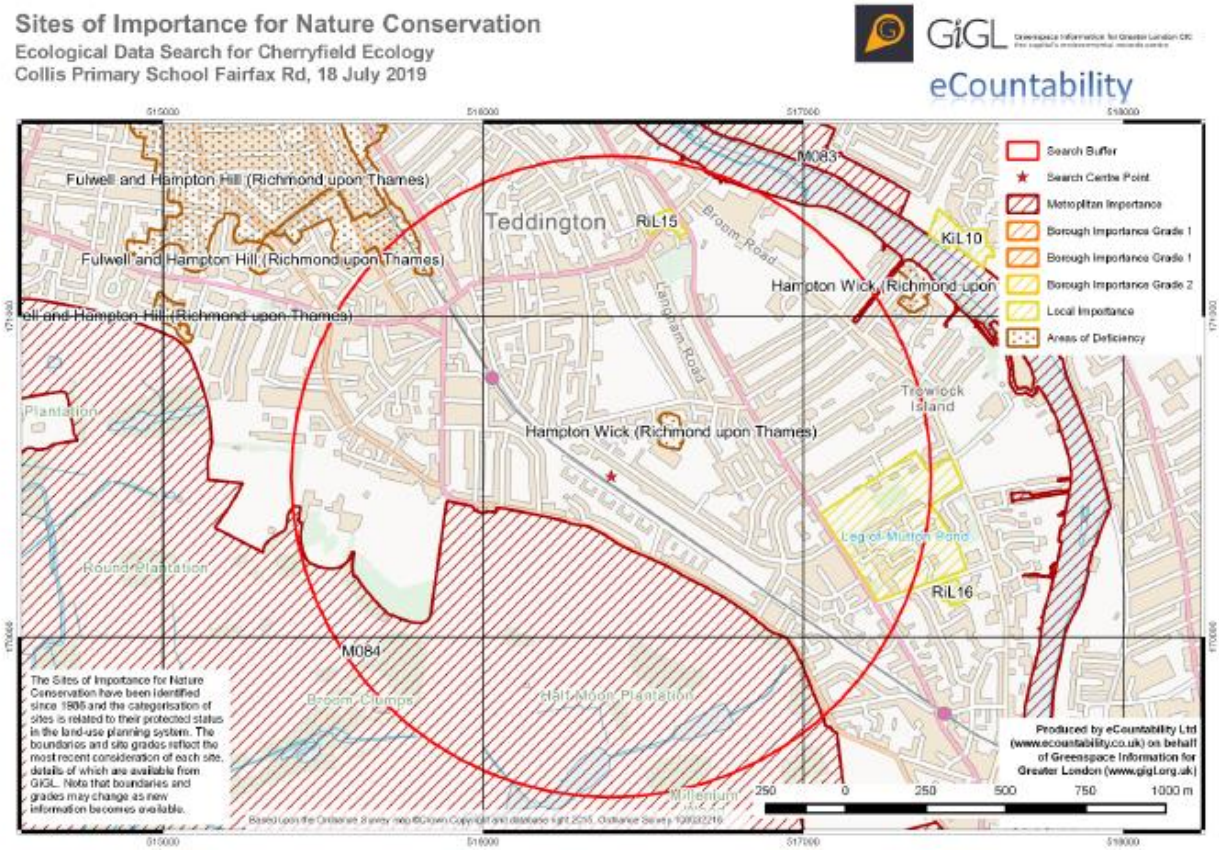

Figure 1a: Non-statutory site location map.

3.4 Site Location and Surrounds:

The site is located in Twickenham, Greater London and is surrounded by high density urban and parkland in the immediate local. Table 3 details the commuting, feeding and habitat features in a 1km radius of the site.

Table 3: Habitat features suitable for use by protected species

Feature	Description
Water course	The River Thames is found approx. 1km to the east.
Water bodies	There are a number of small unnamed water bodies in the search area mostly confined to nearby parkland, the closest being found approx. 700m east.
Woodland	N/A

Linear e.g. hedgerows	There are garden hedgerows however, these do not link to the wider landscape.
Pasture/arable/grassland	A large area of parkland is found approx. within 300m south of the site. There is also amenity grassland found on site in school grounds.
Other	A railway line is found approx. 150m south west of the site.

3.5 Habitat, Building, Tree or Other Structure

This section details the structures/habitat reference and descriptions (see Figure 16 for site plan).

3.5.1 Habitats

3.5.2 Buildings

There are four buildings found on site (B1 - EFAA & EFAF, B2 – EFAD, B3 – EFAB and B4 – EFAE). B1 is a large multipurpose school building, with a brick-built structure with concrete render with a flat roof design. Plastic rainwater goods were found and metal framed windows. B1 has no chimneys and a mixture of PVC and wooden framed doors. Three loft spaces were found in B1, with a small amount of connectivity between them. All loft spaces in B1 have fully boarded floors. All loft spaces in B1 are currently used for storage. B2 is a small classroom building and is a brick-built building with a mono pitch roof design. Plastic rainwater goods were found and wooden framed windows. B2 has one small loft space/void, this area was heavily cobwebbed. B3 is a large multipurpose school building, with a brick-built structure with concrete render and timber cladding, with a flat roof design. B3 has no loft spaces. B3 is not part of any development works. B4 is a small timber clad building and is used for storage with no loft spaces.

Figure 2: Front elevation of B1.

Figure 3: Rear elevation of B1.

Figure 4: Rear elevation of B1.

Figure 5: Example of B1 loft space.

Figure 6: Rear elevation of B2.

Figure 7: Example of B2 loft space.

Figure 8: Rear elevation of B3.

Figure 9: Side elevation of B3.

Figure 10: Front elevation of B3.

Figure 11: Rear elevation of B4.

Figure 12: Front elevation of B4.

3.5.3 Amenity grass

Amenity grass is found to the east of the site in the form of playing fields. This consisted of regularly mown lawn with species such as such as perennial rye-grass *Lolium perenne* and daisy *Bellis perennis* present.

Figure 13: Example of amenity grass found on site.

3.5.4 Hard standing

Hard standing is found to cover most of the site with pathways, playground and car parking.

Figure 14: Example of hard standing.

3.5.5 Scattered trees

Trees are found scattered across site with species including *Prunus*. sp and *Acer*. sp.

Figure 15: Example of scattered trees found on site.

Table 4: Target notes

Target Note	Description
N/A	N/A

3.6 Species List

Ash	*Fraxinus excelsior*
Birch	*Betula* sp.
Creeping Buttercup	*Ranunculus repens*
Daisy	*Bellis perennis*
Dandelion	*Taraxacum officinale*
Horse-chestnut	*Aesculus hippocastanum*
Oak	*Quercus* sp.
Perennial Rye-grass	*Lolium perenne*
Portugal Laurel	*Prunus lusitanica*
Ribwort Plantain	*Plantago lanceolata*
Sycamore	*Acer pseudoplatanus*
White Clover	*Trifolium repens*

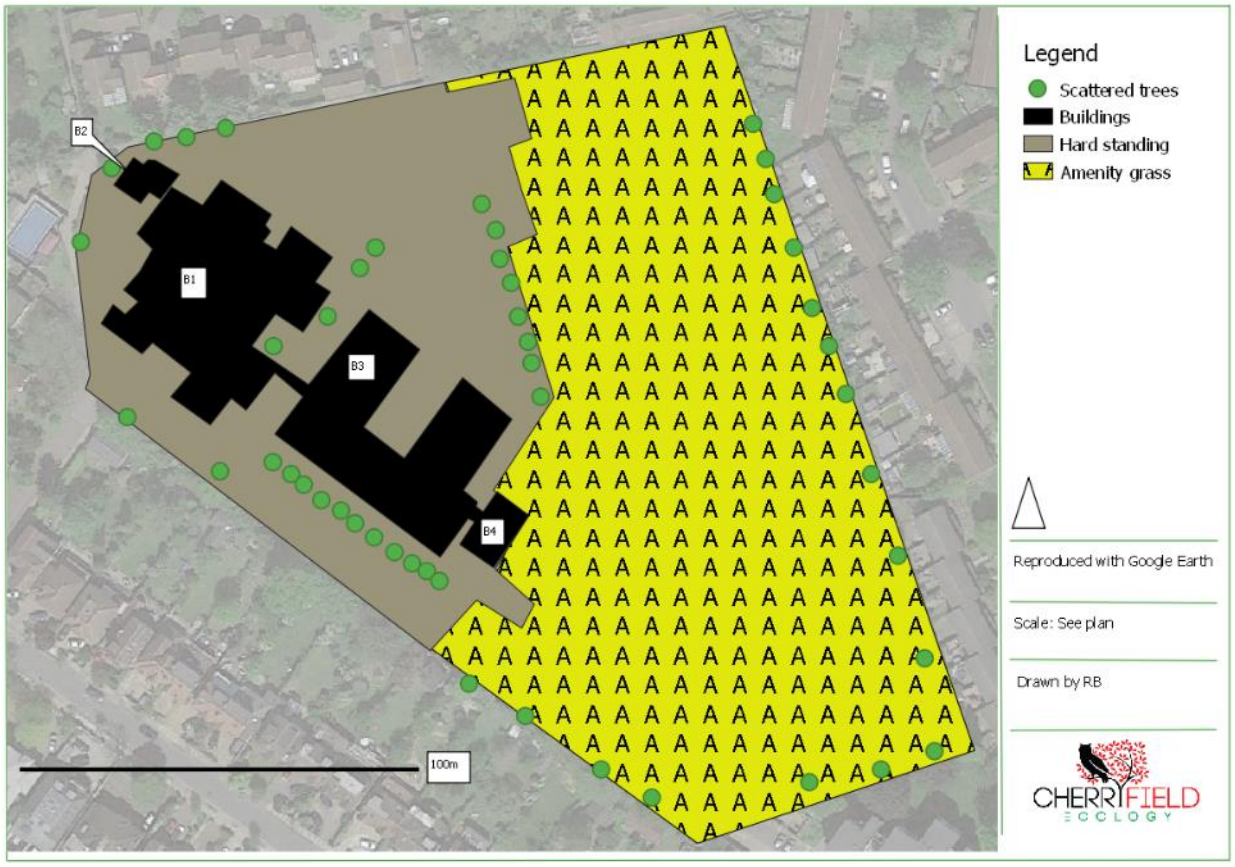

Figure 16: Site plan.

3.7 Evidence or Likelihood of Species Presence

This section details the evidence located and likelihood of species presence.

3.7.1 Bats

Table 5: Bats, evidence or the potential for the species.

Bats found	No bats found.
Evidence of bat use	No evidence found.
Potential for bat use	Level of likelihood of presence – negligible. There were two small gaps found on the wall plate of B1 however these gaps did not provide suitable roosting potential as the gaps provided no cavity in which bats could roost. Buildings B2, B3 and B4 did not exhibit any suitable roosting features. This is in line with the 2018 PRA findings and there has been no material change since then.

3.7.2 Badgers

Table 6: Badgers, evidence or the potential for the species

Badgers found	No badgers found.
Evidence of badger use	No evidence found.
Potential for badger use	Level of likelihood of presence – negligible.

3.7.3 Breeding Birds

Table 7: Breeding birds, evidence or potential for the species

Breeding birds found	No breeding birds found.
Evidence of breeding bird use	No evidence found.
Potential for breeding bird use	Level of likelihood of presence – High. The scattered trees that are found across the site have nesting potential for breeding birds to utilize.

3.7.6 Amphibian

Table 8: Amphibians, evidence or potential for species use.

Amphibians found	No amphibians found.
Evidence of amphibian use	No evidence found.
Potential for amphibian use	Level of likelihood of presence – Negligible. No water bodies were found on site, the nearest water body is found over half a kilometer approx. 700m to the east.

3.7.7 Reptile

Table 9: Reptiles, evidence or potential for species use.

Reptiles found	No reptiles found.
Evidence of reptile use	No evidence found.
Potential for reptile use	Level of likelihood of presence – Negligible. No suitable habitat is found on site.

3.7.8 Other Species e.g. dormouse

Table 10: Other protected species, evidence or potential for species use.

Species found	No other protected species found.
Evidence of species use	No evidence found.
Potential for species use	Level of likelihood of presence – Negligible.

3.7.9 Invasive none/native

N/A

4.0 Conclusions, Discussion, Impacts and Recommendations

The following section details the conclusions, discussion, impacts and recommendations in the context of the proposed works.

4.1 Conclusion and Discussion

The development will involve carrying out the demolition of selected school buildings B1 (EFAA & EFAF) and B2 (EFAD) and the construction of a new school building. Buildings B3 (EFAB) and B4 EFAE are to remain and will not be affected by the development. No bats, evidence or suitable roosting features were found. All buildings were found to be negligible for bats. No further action is necessary. There is suitable nesting habitat to support breeding birds in the scattered trees that are found on site. It is currently understood these trees will remain and will not be affected by the development. If this were to change at a later date checks by an ecologist will be required if they are to be removed during the bird nesting season of March to August.

4.2 Potential Impacts

Impact assessments must be proportionate to the scale of the development (CIEEM, 2018) and the following Table 5 details a proportionate impact assessment based on current information –

Table 11: Impact assessment

Impact	**Birds**: Potential loss of habitat and/or Disturbance whilst works are occurring.
Characterisation of unmitigated impact on the feature	**Birds**: Potential destruction of nests and/or potential abandonment of in use nests.
Effect without mitigation	**Birds**: Disturbance.
Mitigation and/or potential enhancement	See table 6.
Significance of effects of residual impacts (after mitigation)	Assuming the mitigation and compensation is followed, there would be a minimum of a maintenance of the species on site (assumed to be found) and a net gain by including simple cheap enhancements.

4.3 Recommendations

If any of the scattered trees that are found across site presently, are to be removed at a later date it is recommend that this be performed outside of the breeding season for birds which is between March and August. If this isn't achievable, nest checks by an Ecologist would be required. If nests are found a buffer zone would be required around said nest(s) and works could then resume once the nest has been used.

4.4 Suggested Enhancements

The local authority has a duty to enhance biodiversity in its day to day duties, the following are suggested enhancements that are easily installed into a development and can be cost effective whilst ensuing a gain for local wildlife.

Table 12: Recommended enhancements.

Work	Specification
Bat, bird and insect box enhancement.	Bat tubes can be installed into the new dwellings. A minimum of two Schweglar 1FF boxes (see Figure 17) could be installed onto the trees found on site.  Figure 17: Schweglar 1FF bat box Bird boxes for a variety of different species could also be installed. A selection of open fronted boxes, and song bird boxes can be installed (see Figures 18 and 19) it is recommended that a minimum of two of each of the boxes are installed.

Figure 18: Robin box

Figure 19: Song bird box

A variety of insect boxes can be installed in the area, a minimum of one box is recommended (see Figures 20 and 21).

Figure 20: Urban bee nesting box, used for solitary bees and wasps

	 Figure 21: Bug biome, ideal for ladybirds, lacewings and bees
Swifts *Apus apus*	Swift nest boxes are recommended due to the increased lack of nesting opportunities swifts are finding in modern built dwelling homes. Information is adapted from the RSPB https://www.rspb.org.uk/our-work/rspb-news/news/stories/swift-advice-for-ecologists/ and http://actionforswifts.blogspot.com The following will be undertaken – • **Wherever possible**, swift bricks could be installed in new or restored buildings to increase the overall availability of nest sites for swifts and other species. Birds such as house sparrow can use swift bricks, but swifts cannot use house sparrow nest bricks. • Try to ensure swift bricks have a minimum of 5m clearance beneath and in front. Always avoid locating them above doors and windows, to help prevent a disturbance issue to both the birds and human users/owners. • Alternatively, swift boxes can be placed on the external walls of a building when a restoration or opportunities don't exist to build in the boxes. 

	Figure 22: Example of swift bricks, that can be built into a dwelling, *Source: https://www.birdbrickhouses.co.uk/brick-nesting-boxes/*  Figure 23: Swift box, *source: http://actionforswifts.blogspot.com/p/diy-swift-box-designs.html*
Lighting	Any lighting near or shining onto any trees, especially those with bat boxes in should be designed to minimize the impact it has on potential bat roosting and commuting. Lighting should be in-line with the BCT lighting guidelines (Bats and Lighting in the UK (Bat conservation trust, 2008) *http://www.bats.org.uk/publications_download.php/1136/guidance_notes_light_pollution_20111.pdf*. This lighting should be of low level, be on downward deflectors and ideally be on PIR sensors. Using LED directional lighting can also be a way of minimizing the light spill affecting the habitat. No up-lighting should be used. This will ensure that the roosting and commuting resources that the bats are likely to be using is maintained.
Hedgehog highways and small mammal connectivity.	In order to allow hedgehogs and other small mammals a continuous corridor across the site, thus linking the garden and green spaces. • A 13cm by 13cm is sufficient for any hedgehog to pass through. This will be too small for nearly all pets (Figure 24). • Remove a brick from the bottom of the wall, creating a 13cm by 13cm hole. • Cut a small hole in your fence if there are no gaps. • Dig a channel underneath your wall, fence or gate. • Ideally, rather than walls or fences a hedge will provide foraging, shelter and a route along as well as through the site.

Figure 24: Hedgehog Highway, *Source – Wildlife Trust - http://7474fab53f1b6ee92458-8f3ac932bad207a00c83e77eaee8d15c.r12.cf1.rackcdn.com/Hedgehog%20Highway.jpg*

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