



Survey to Inform
BREEAM New Construction 2018
Pre Assessment of
Greyfriars Church, Reading

February 2019



Document title	Greyfriars Church, BREEAM Pre Assessment Survey
Revision number	0.1

Table of Contents

1	Introduction	1
1.1	Background.....	1
1.2	Purpose of this document	1
2	Methodology.....	2
2.1	Phase 1 habitat survey	2
2.2	BREEAM ecological calculation	2
2.3	Surveyor	2
2.4	Survey limitations.....	2
3	Baseline Conditions	3
3.1	Statutory Designated Sites	3
3.2	Zone of influence.....	3
3.3	Habitats	3
3.4	Protected, rare or notable species	6
3.5	Relevant planning policy	6
4	Proposed development.....	7
4.1	Pre and post construction habitat resources	8
5	Assessment	10
5.4	Legislative compliance.....	10
5.5	Recommendations and opportunities.....	10
6	References	12
7	Appendices.....	13
7.1	Species list	13
7.2	Site photos.....	14
7.3	BREEAM Pre Assessment notes.....	15
	LE01 Site selection.....	15
	LE02 Identifying and understanding the risks and opportunities for the project	16
	LE03 Managing negative impacts on ecology	16
	LE04 Change and enhancement of ecological value	16
	LE05 Long-term ecological management and maintenance	17

Table of Tables

Table 4.1	Phase 1 habitat survey target notes	5
-----------	---	---

1 Introduction

1.1 Background

- 1.1.1 In January 2019, JBKS Architects commissioned MPEcology to undertake an ecological survey intended to inform a BREEAM pre-assessment of land connected with the re-development of Greyfriars Church, Reading. This followed on from earlier work involving a preliminary bat roost assessment at the site¹. Greyfriars Church (hereafter referred to as 'the site'), is located close to the A329 in the centre of the city of Reading (National Grid Reference SU 7117 7358).

The Church plan to modernise the site using a phased approach to facilitate its use by worshippers and the local community. This will involve the demolition and rebuilding of some structures.

Figure 1. Site location



Contains Ordnance Survey data © Crown copyright and database right 2017.

1.2 Purpose of this document

- 1.2.1 The purpose of the report is to inform a *BREEAM New Construction 2018*² pre-assessment by evaluating features of potential ecological interest within the development footprint.

¹ MPEcology (2017). Preliminary Roost Assessment, Greyfriars Church, Reading – October 2017.

² BRE (2018). BREEAM UK New Construction – Non-domestic Buildings (England) – Technical Manual SD5078: BREEAM UK New Construction 2018 2.0. BRE Global Ltd 2018.

2 Methodology

2.1 Phase 1 habitat survey

2.1.2 An extended Phase 1 habitat survey of the site following standard methodology³ was undertaken by MPEcology on the 24th January 2019. During the site visit, each distinct habitat type was mapped and target noted according to categories set out by the Joint Nature Conservation Committee⁴.

2.1.3 Incidental observations of plant and animal species were made during the site visit. Appendix 1 presents a list of plant species recorded during the survey.

2.2 BREEAM ecological calculation

2.2.2 The ecological value calculation methodology set out by the GN36 guidance note⁵ was used to establish pre and post development values.

2.3 Surveyor

2.3.1 The surveyor and author of this report was Matthew Pickard (BSc., MSc.), an ecologist with over 15 years environmental consultancy experience, a Chartered Environmentalist (CEnv), full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and a licensed bat and great crested newt surveyor. Under BREEAM criteria, the author is deemed a Suitably Qualified Ecologist (SQE).

2.4 Survey limitations

2.4.1 Seasonal timing posed a constraint to identification of some plant groups during the visit, however, given the character of habitats present timing was not considered to be a constraint to ecological assessment of the site.

³ Institute of Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment. Chapman and Hall, London.

⁴ Joint Nature Conservation Committee (2010). Handbook for Phase 1 Habitat Survey: a technique for environmental audit. JNCC, Peterborough.

⁵ BRE (2018). GN36 BREEAM, CEEQUAL and HQM Ecology Calculation Methodology – Route 2. Version 0.0 PN343. BRE Global Ltd.

3 Baseline Conditions

3.1 Statutory Designated Sites

- 3.1.1 No statutory designated sites were identified in close proximity to Greyfriars Church. The nearest designated site being Lodge Wood and Sandford Mill Site of Special Scientific Interest (SSSI), located approximately 6.5km to the east.
- 3.1.2 A small number of Local Wildlife Sites (LWS) were identified, all associated with the River Thames or Kennet floodplains or tributaries, the nearest located immediately east of Cow Lane approximately 600m from Greyfriars. No impact pathways connect the LWS to Greyfriars.

3.2 Zone of influence

No significant zone of influence is considered to be applicable to the site. The site forms a pocket of green space within an urban context but lacks impact pathways to any neighbouring features of biodiversity value.

3.3 Habitats

Scrub (Introduced shrubs)

- 3.3.1 A small area of scrubby introduced shrub cover was noted beside a retaining wall at the western end of Friar Street. The scrub comprised a small Bay (*Laurus nobilis*) flanked by planted shrubs of Barberry (*Berberis* sp) and Firethorn (*Pyrocantha* sp) as well as Elder (*Sambucus nigra*) and Ivy (*Hedera helix*).

Amenity grassland

- 3.3.2 Only small areas of amenity grassland are present within the Greyfriars site although a larger stand occurs beneath London Plane (*Platanus x hispanica*) trees at the western end of Friar Street.
- 3.3.3 Grassland associated with the site was found to be of improved character. The dominant species were Annual Meadow-grass (*Poa annua*), Perennial Ryegrass (*Lolium perenne*), Creeping Bent (*Agrostis stolonifera*), Wall Barley (*Hordeum murinum*) and Yorkshire-fog (*Holcus lanatus*). Herbs included Creeping Buttercup (*Ranunculus repens*) as well as Daisy (*Bellis perennis*) and Dandelion (*Taraxacum officinale* agg).

Planting beds

- 3.3.4 Flower beds were found outside the Greyfriars Centre at the western end of the site as well as within the garden of the Sackville Street property. The beds were found to be largely neglected and overwhelmingly dominated by aggressive garden plants including Lampwick Plant (*Phlomis* sp), Green Alkanet (*Pentaglottis sempervirens*), Greater Periwinkle (*Vinca major*), Ivy and Geranium.

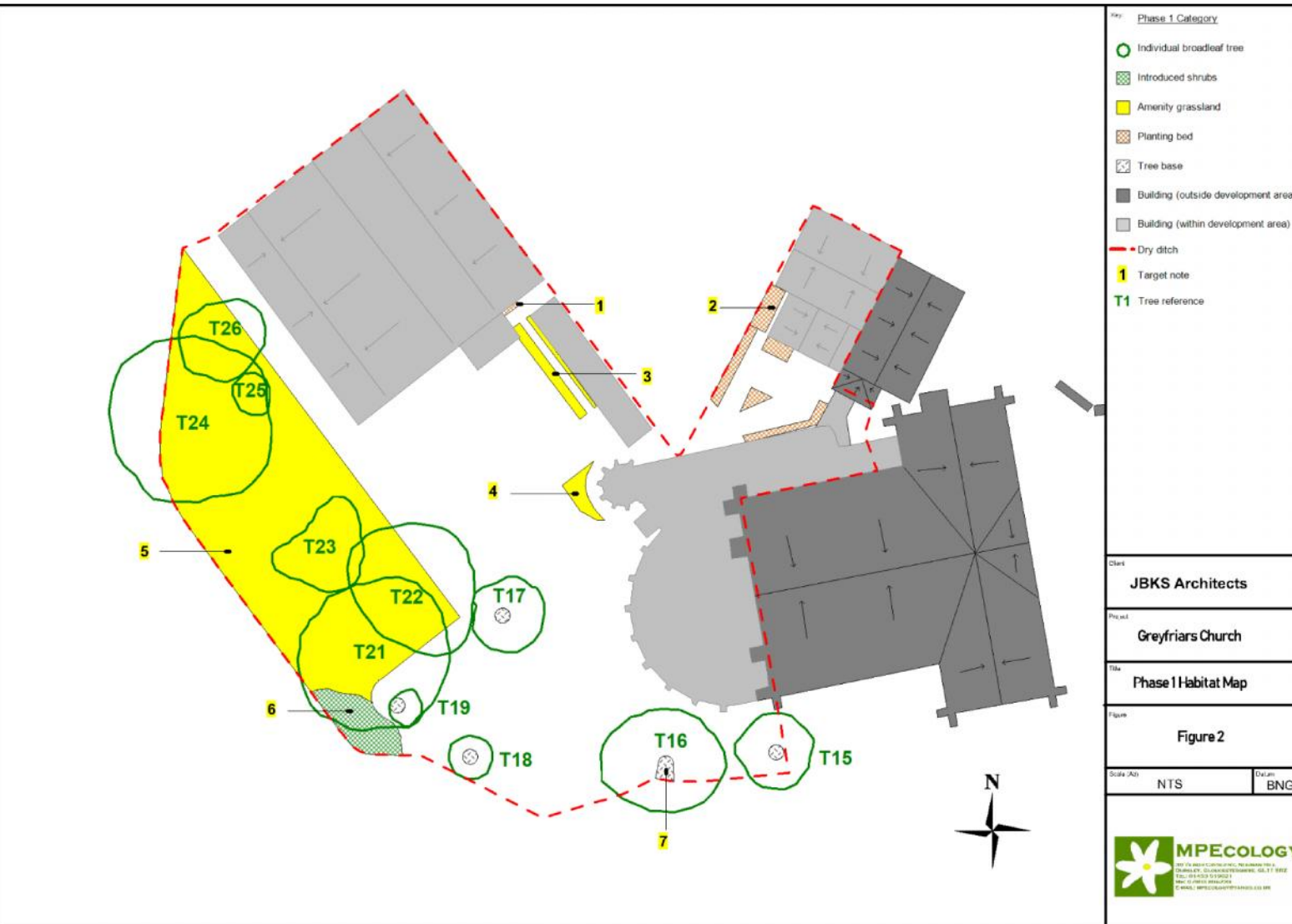


Table 3.3 Phase 1 habitat survey target notes

Target note (TN)	Description
1	Planting bed. Flower bed near the entrance to the Greyfriars Centre supporting bedding plants such as <i>Cyclamen</i> and small shrubs including <i>Euonymus</i> as well as opportunistic weeds. Opportunists included Sorrel (<i>Oxalis</i> sp), Annual Meadow-grass, Pellitory-on-the-wall (<i>Parietaria diffusa</i>) and Herb-robert (<i>Geranium robertianum</i>).
2	Planting beds. Neglected flower beds associated with the rear garden of the Sackville Street property. The beds were overwhelmingly dominated by aggressive garden plants including a species of Geranium, Lampwick Plant (<i>Phlomis</i> sp), Greater Periwinkle (<i>Vinca major</i>) and Green Alkanet (<i>Pentaglottis sempervirens</i>) punctuated by occasional plants of Rose and Honeysuckle (<i>Lonicera nitida</i>). Self-seeded colonists included Herb-robert, Cleavers (<i>Galium aparine</i>), Nipplewort (<i>Lapsana communis</i>), Feverfew (<i>Chrysanthemum parthenium</i>), Fleabane (<i>Conyza</i> sp) and Ivy-leaved Toadflax (<i>Cymbalaria muralis</i>).
3	Amenity grassland. A narrow strip of amenity grassland dominated by Annual Meadow-grass, Perennial Ryegrass (<i>Lolium perenne</i>), Cock's-foot (<i>Dactylis glomerata</i>), Yorkshire-fog (<i>Holcus lanatus</i>) and Wall Barley (<i>Hordeum murinum</i>) with Ribwort Plantain (<i>Plantago lanceolata</i>) and Creeping Buttercup (<i>Ranunculus repens</i>). Opportunistic species as well as the remnants of formerly planted species were noted including Petty-spurge (<i>Euphorbia peplus</i>), Field Forget-me-not (<i>Myosotis arvensis</i>), Bristly Ox-tongue (<i>Helminthotheca echioides</i>), Chickweed (<i>Stellaria media</i>), Crocus and <i>Nicotiana</i> sp.
4	Amenity grassland. A crescent of grassland above a low wall supported a similar mix of species to TN3.
5	Amenity grassland. Mown grassland managed by the local authority. London Plane (<i>Platanus x hispanica</i>) trees are a focal point within the grassland plot and leaf litter smothers the grassland in places. The grassland sward supported a species-poor mix dominated by Perennial Ryegrass, Creeping Bent (<i>Agrostis stolonifera</i>), Annual Meadow-grass and Wall Barley. Occasional herbs included Dandelion (<i>Taraxacum officinale</i> agg), Chickweed, Daisy (<i>Bellis perennis</i>), Yarrow (<i>Achillea millefolium</i>). Dove's-foot Crane's-bill (<i>Geranium molle</i>) and Shepherd's-purse (<i>Capsella bursa-pastoris</i>) were noted beside the footpath. A small patch of Remote Sedge (<i>Carex remota</i>) and Lesser Celandine (<i>Ficaria verna</i>) were found towards the western edge of the plot.
6	Scrub. A Bay tree (<i>Laurus nobilis</i>) with planted shrubs of Barberry (<i>Berberis</i> sp), Firethorn (<i>Pyrocantha</i> sp) form the bulk of a scrubby patch beside the retaining wall of the roundabout at the western end of Friar Street. Elder (<i>Sambucus nigra</i>) and Ivy (<i>Hedera helix</i>) are also present. Leaf litter from the Plane trees forms a blanket at the base of the scrub cover.
7	Tree base. A number of circular tree bases are present within the carpark of Greyfriars Church. The bases comprise a mix of compacted soil and fine aggregate with occasional plants of Dandelion, Chickweed and grasses such as Wall Barley.
T15	Holly – approximately 20cm diameter at breast height (DBH)
T16	Silver Birch – 30cm DBH – Scheduled for felling as part of the redevelopment

T17	Lime – 30-40cm DBH - Scheduled for felling as part of the redevelopment
T18	Silver Birch – 15cm DBH - Scheduled for felling as part of the redevelopment
T19	Silver Birch – 10-15cm DBH
T21	London Plane – 45-50cm DBH
T22	London Plane - 45-50cm DBH - Scheduled for felling as part of the redevelopment
T23	London Plane – 25-30cm DBH
T24	London Plane - 45-50cm DBH
T25	London Plane – 40-45cm DBH
T26	London Plane – 40-45cm DBH

3.4 Protected, rare or notable species

- 3.4.1 No protected, rare or notable species were encountered or expected to occur within the habitat found at Greyfriars Church.
- 3.4.2 Habitat associated with the site was found to be limited in extent and of relatively poor quality. Habitats appeared to be subject to intermittent management in order to maintain a tidy appearance. The only potential sensitivities relate to the presence of trees. All of the tree species recorded during the survey have been planted. However, in an urban context all trees provide some environmental benefit. None of the trees had potential for roosting bats.
- 3.4.3 Although no sign of nesting birds was found during surveys, it is possible common breeding bird species could use trees, shrubs or buildings within the site.

3.5 Relevant planning policy

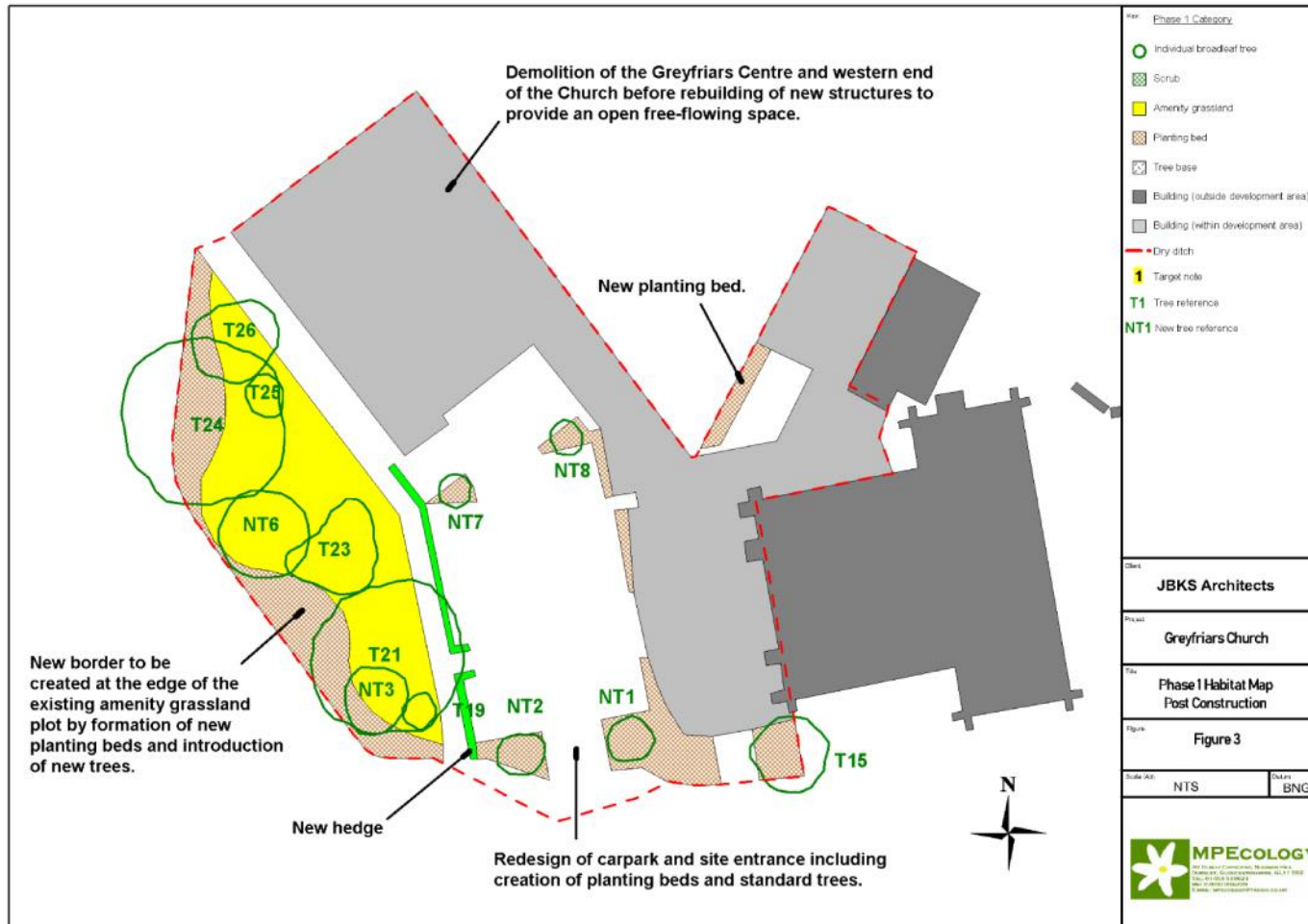
- 3.5.2 The key policy of relevance to the site is CS38: Trees, hedges and woodland of the Reading Core Strategy⁶; namely:

“...the Borough’s network of trees and hedgerows making up green corridors make a significant contribution to Reading’s urbanised character, as well as contributing to the wider landscape, amenity, recreation and historical values. The continued protection of woodlands and trees will be sought”.

Although the trees at Greyfriars remain relatively isolated in the landscape, they do provide a potential stepping stone for more mobile species.

⁶ Reading Borough Council (2015). *Reading Borough Local Development Framework – Core Strategy – Adopted January 2008 with alteration adopted 27th January 2015.*

4 Proposed development



4.1 Pre and post construction habitat resources

- 4.1.2 Habitats associated with the site were found to be limited in extent and poor in quality. Existing habitats included areas of mown amenity grassland, planting beds and landscape trees. In terms of nature conservation interest, these areas were unremarkable although given the location of the site in an urban setting, the presence of green space including trees was considered of local value.

Table 4.3 Comparison of habitat resources

Habitat resource	Pre-construction	Post-construction
Amenity grassland	550.60 m ²	394.70 m ²
Planting beds	28.18 m ²	313.80 m ²
Introduced shrubs	28.70 m ²	19.69 m ² (hedge)
Tree bases	9.32 m ²	-
Buildings / Hard-standing	2107.20 m ²	1995.81 m ²
Total	2724 m²	2724 m²
Tree canopy*	750.30 m ²	625.70 m ²

* Area calculation based on the canopy of each tree. Where a smaller tree is located beneath the canopy of a larger tree both areas are counted.

- 4.1.3 The proposed development is centred upon the footprint of existing buildings. Drawings setting out the proposals suggest a reduction in the cover of buildings and hardstanding by approximately 5%. In comparison, the area supporting amenity grassland and planting beds would increase although proportions of each would change. Planting beds in the new development will support introduced shrubs as well as bedding plants.
- 4.1.4 The removal of trees to accommodate the work will lead to a reduction in tree canopy cover.

Table 4.2 Pre-construction biodiversity unit calculation

Habitat	Distinctiveness	Condition	Area	Biodiversity unit value
Amenity grassland	2	1	550.60 m ²	1101.2
Planting beds	2	1	28.18 m ²	56.36
Introduced shrubs	2	1	28.70 m ²	57.4
Tree bases	2	1	9.32 m ²	18.64
Buildings / Hard-standing	0	0	2107.20 m ²	0
Canopy	2	2	750.30 m ²	3001.2
Total				4234.8

Table 4.3 Post-construction biodiversity unit calculation – Habitat loss

Habitat	Distinctiveness	Condition	Area	Biodiversity unit value
Amenity grassland	2	1	192.89 m ²	385.78
Planting beds	2	1	28.18 m ²	56.36
Introduced shrubs	2	1	28.7 m ²	57.4
Tree bases	2	1	9.32 m ²	18.64
Buildings / Hard-standing	0	0	111.39 m ²	0
Canopy	2	2	124.6 m ²	498.4
Total				997.94

Table 4.4 Post-construction biodiversity unit calculation – Habitat creation

Habitat	Distinctiveness	Condition	Area	Distinctiveness x Condition x Area
Amenity grassland	2	1	36.93 m ²	73.86
Planting beds	2	1	313.8 m ²	627.6
Introduced shrubs	2	1	19.69 m ²	39.38
Buildings / Hard-standing	0	0	1995.81m ²	0
Canopy	2	2	125.2 m ²	500.8

Habitat	Distinctiveness x Condition x Area	Delivery risk	Temporal risk	Spatial risk	Biodiversity unit value*
Amenity grassland	73.86	1	0.84	1	62.04
Planting beds	627.6	1	0.84	1	527.18
Introduced shrubs	39.38	1	0.84	1	33.08
Buildings / Hard-standing	0	1	0.84	1	0
Canopy	500.8	1	0.71	1	355.57

*Biodiversity unit = (Distinctiveness x Condition x Area) x Delivery risk x Temporal risk x Spatial risk

Table 4.5 Total post-construction biodiversity units and percentage change

Habitat	Pre-development	Lost	Created	Biodiversity unit value*	% change
Amenity grassland	1101.2	385.78	62.04	777.46	
Planting beds	56.36	56.36	527.18	527.18	
Introduced shrubs	57.4	57.4	33.08	33.08	
Tree bases	18.64	18.64	0	0	
Buildings / Hard-standing	0	0	0	0	
Canopy	3001.2	498.4	355.57	2858.37	
Total	4234.8			4196.09	-0.91%

*Biodiversity unit = (Predevelopment – Lost) + Created

- 4.1.5 In terms of significance, the impact of nature conservation interest is considered to be negligible. Although a slight (less than 1%) decrease in biodiversity unit value is recorded, the redevelopment at Greyfriars Church will result in an 5% increase in green space.

5 Assessment

5.4 Legislative compliance

- 5.4.1 Ecological assessment of the Greyfriars site has taken place on two occasions: in October 2017 (Preliminary bat roost assessment); and January 2019 (Extended phase 1 habitat survey to inform BREEAM pre-assessment). No evidence to suggest the presence of protected species or notable habitats was found during visits and as such, redevelopment of the site would be expected to be compliant with legislation relating to the protection of species and habitats.
- 5.4.2 Notwithstanding this, pre-construction checks would be required to ensure the absence of groups, such as breeding birds, during site preparation activities including vegetation clearance.

5.5 Recommendations and opportunities

- 5.5.2 **Protection of existing ecological interest** – The site largely consists of buildings and areas of hardstanding. Soft landscaping in terms of flowers beds and grassland is very limited in extent and was considered of negligible biodiversity value. However, trees are present within and adjacent to the site and a small number will be lost in order to accommodate the proposed development plans. The safeguarding of trees scheduled for retention will be

important during development and it is recommended that good practice guidance provided by BS 5837⁷ is followed.

- 5.5.3 A reduction in the overall impact of the scheme could be reduced if the London Plane T22, is retained. Retention of this tree would result in a 10% increase in biodiversity value units rather than a 0.91% reduction with the current scheme.
- 5.5.1 **Planting scheme to encourage invertebrates** – Existing habitats at the Greyfriars site have limited potential for invertebrates. Opportunities could be increased by planting native bedding plants, shrubs and trees as well as creating places for refuge. The provision of flowering plants within urban environments can also provide an important resource for foraging bees.
- 5.5.2 **Bird boxes** – Although no field sign suggesting use of the existing site by nesting birds was found during surveys, an opportunity exists to introduce nest boxes on new or existing buildings. This could include purpose designed for boxes for swifts, sparrows or even black redstart.
- 5.5.3 **Creation of a water feature** – Water features provided an important resource for wildlife, providing a source of drinking water, bathing opportunities for birds and habitat for aquatic invertebrates. An opportunity exists to install a small feature in the garden of the Sackville Street property.
- 5.5.4 **Green walls or roof** – Additional habitat could be created by through the installation of green wall or roof sections. These habitats can provide a valuable resource for bryophytes, plants, invertebrates and birds.

⁷ BS 5837:2012 Trees in relation to design, demolition and construction

6 References

BRE (2018). BREEAM UK New Construction – Non-domestic Buildings (England) – Technical Manual SD5078: BREEAM UK New Construction 2018 2.0. BRE Global Ltd 2018.

BRE (2018b). GN36 BREEAM, CEEQUAL and HQM Ecology Calculation Methodology – Route 2. Version 0.0 PN343. BRE Global Ltd.

BS 5837:2012 Trees in relation to design, demolition and construction

Institute of Environmental Assessment (1995). *Guidelines for Baseline Ecological Assessment*. Chapman and Hall, London.

Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey: a technique for environmental audit*. JNCC, Peterborough.

MPEcology (2017). *Preliminary Roost Assessment, Greyfriars Church, Reading – October 2017*. An unpublished report in support of planning.

Reading Borough Council (2015). *Reading Borough Local Development Framework – Core Strategy – Adopted January 2008 with alteration adopted 27th January 2015*.

7 Appendices

7.1 Species list

Latin name	Common name
<i>Achillea millefolium</i>	Yarrow
<i>Agrostis stolonifera</i>	Creeping bent
<i>Anthriscus sylvestris</i>	Cow parsley
<i>Bellis perennis</i>	Daisy
<i>Berberis sp</i>	Barberry (Garden variety)
<i>Betula pendula</i>	Silver birch
<i>Buddleja davidii</i>	Butterfly-bush
<i>Capsella bursa-pastoris</i>	Shepherd's-purse
<i>Cardamine hirsuta</i>	Hairy bittercress
<i>Carex remota</i>	Remote sedge
<i>Cirsium vulgare</i>	Spear thistle
<i>Conyza sp</i>	Fleabane
<i>Crocus sp</i>	Crocus
<i>Cyclamen hederifolium</i>	Sowbread
<i>Cymbalaria muralis</i>	Ivy-leaved toadflax
<i>Dactylis glomerata</i>	Cock's-foot
<i>Echinochloa crus-galli</i>	Cockspur
<i>Euonymus sp</i>	Spindle (garden shrub)
<i>Erophila verna</i>	Common whitlowgrass
<i>Euphorbia peplus</i>	Petty spurge
<i>Festuca rubra</i>	Red fescue
<i>Ficaria verna</i>	Lesser celandine
<i>Galium aparine</i>	Common cleavers
<i>Geranium molle</i>	Dove's-foot crane's-bill
<i>Geranium robertianum</i>	Herb-robert
<i>Hedera helix</i>	Ivy
<i>Helminthotheca echioides</i>	Bristly oxtongue
<i>Holcus lanatus</i>	Yorkshire fog
<i>Hordeum murinum</i>	Wall barley
<i>Ilex aquifolium</i>	Holly
<i>Lamium album</i>	White dead-nettle
<i>Lamium purpurea</i>	Red dead-nettle
<i>Lapsana communis</i>	Nipplewort
<i>Laurus nobilis</i>	Bay
<i>Leontodon autumnalis</i>	Autumn hawkbit
<i>Lolium perenne</i>	Perennial rye-grass
<i>Lonicera nitida</i>	Wilson's honeysuckle
<i>Medicago lupulina</i>	Black medick
<i>Myosotis arvensis</i>	Field forget-me-not
<i>Narcissus sp</i>	Daffodil
<i>Nicotiana sp</i>	Cultivated tobacco
<i>Oxalis sp</i>	Sorrel (Garden plant)
<i>Parietaria judaica</i>	Pellitory-of-the-wall
<i>Pentaglottis sempervirens</i>	Green alkanet
<i>Phlomis sp</i>	Lampwick plant
<i>Plantago lanceolata</i>	Ribwort plantain
<i>Platanus x hispanica</i>	London plane
<i>Poa annua</i>	Annual meadow-grass
<i>Polygonum aviculare</i>	Knotgrass

<i>Pyracantha</i> sp	Firethorn
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rosa</i> sp	Rose
<i>Rubus fruticosus</i> agg.	Bramble
<i>Sambucus nigra</i>	Elder
<i>Senecio jacobaea</i>	Common ragwort
<i>Senecio vulgaris</i>	Groundsel
<i>Sonchus oleraceus</i>	Smooth sow-thistle
<i>Spiraea</i> sp	Bridewort
<i>Stellaria media</i>	Common chickweed
<i>Tanacetum parthenium</i>	Feverfew
<i>Taraxacum officinale</i> agg.	Dandelion
<i>Tilia x europaea</i>	Lime
<i>Veronica persica</i>	Common field-speedwell
<i>Vinca major</i>	Greater periwinkle

7.2 Site photos

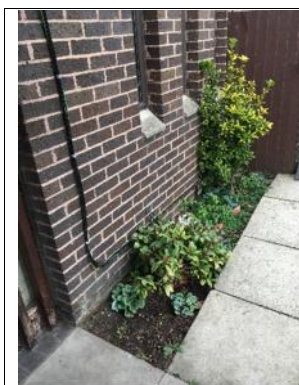


Photo 1: Planting bed (TN1).



Photo 2: Garden of Sackville Street property (TN2).



Photo 3: Amenity grassland (TN3).



Photo 4: Amenity grassland (TN4).

	
Photo 5: Local authority managed grassland and ornamental trees (TN5).	Photo 6: Grassland and London Plane trees (TN5).
	
Photo 7: Introduced shrubs (scrub) (TN7).	

7.3 BREEAM Pre Assessment notes

LE01 Site selection

- 7.3.1 **Aim:** *Recognising the reuse of previously developed and contaminated land where appropriate remediation has taken place.*
- 7.3.2 Credits are available when at least 75% of the proposed development's footprint is on an area of land which has previously been occupied. Calculations suggest that buildings and hard-standing constitute approximately 77% of the pre-construction site and would actually reduce to 73% post-construction.
- 7.3.3 **Credits available:** Previously occupied land (1 credit) and Contaminated land (1 credit)
- 7.3.4 **Pre Assessment:** The site is considered to qualify for the previously occupied land award of 1 credit.

LE02 Identifying and understanding the risks and opportunities for the project

- 7.3.1 **Aim:** *To determine the ecological baseline and zone of influence of the site and identify risks and opportunities for achieving optimum outcomes.*
- 7.3.2 The element comprises two parts, one relating to survey and evaluation and the other relating to determination of the ecological outcome. An assessment route is chosen using determined using *Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist*.
- 7.3.3 **Credits available:** Survey and evaluation (1 credit), determining ecological outcome (1 credit) and exemplary criteria (1 credit).
- 7.3.4 **Pre Assessment:** The site is considered to qualify for the award of 1 credit. Further credits may be available if evidence, such as consultation with stakeholders, is provided.
- 7.3.5 Although the route 2 assessment methodology has been chosen, the site does not represent a complex ecological system but does meet the criteria for this assessment route on the basis of the size of the development area.
- 7.3.6 The ecological outcome for the site is determined by identifying, appraising and selecting specific solutions and measures. The solutions and measures must be identified sufficiently early in the project to influence key project planning decisions and must look to avoid, protect and limit negative impacts on ecological features as well as compensate or enhance site ecology.

LE03 Managing negative impacts on ecology

- 7.3.7 **Aim:** *To avoid, or limit as far as possible, negative impacts on the ecology of the site and its zone of influence arising as a result of the project.*
- 7.3.8 This issue is split into three parts including identification and understanding the risks and opportunities for the site (prerequisite), planning, liaison and implementation plus managing negative impacts of the project.
- 7.3.9 **Credits available:** Planning, liaison and implementation (1 credit) where potential impacts are identified and role and responsibilities for managing negative impacts are clearly defined. If this is achieved, then further credits can be gained for managing impacts and ensuring no net loss of ecological value (2 credits) or minimising loss (1 credit).
- 7.3.10 **Pre Assessment:** The site is considered to qualify for the award of 2 credits if evidence can be provided of planning, liaison and management of ecological impacts.

LE04 Change and enhancement of ecological value

- 7.3.11 **Aim:** *To enhance the ecological value of the site and areas within its zone of influence in support of local, regional and national priorities.*
- 7.3.12 This issue is split into three parts including identifying and understanding the risks and opportunities for the site (prerequisite), planning, liaison, implementation and data collation (up to one credit) as well as change and enhancement of ecology (up to three credits)
- 7.3.13 **Credits available:** Project team liaison and collaboration with representative stakeholders (1 credit) and no net loss of ecological value (2 credits).

- 7.3.14 **Pre Assessment:** A further credit could become available with changes to the scheme including retention of tree T22 and implementation of other enhancement measures (net gain of ecological value by a percentage score of 105-109).

LE05 Long-term ecological management and maintenance

- 7.3.15 **Aim:** *To secure ongoing monitoring, management and maintenance of the site and, its habitats ecological features to ensure intended outcomes are realised for the long term.*
- 7.3.16 This issue is split into three parts including confirmation that statutory obligations have been met (prerequisite) and that ecological outcomes that have been planned are monitored and reviewed. In addition, a post-construction landscape and ecological management plan of at least five year's duration is provided.
- 7.3.17 **Credits available:** Planning, liaison, data, monitoring and review (1 credit) and landscape ecological management planning (1 credit).
- 7.3.18 **Pre Assessment:** Further information is required as prerequisites have still not been achieved.