



Bishop Auckland Bus Station and MSCP

ECOLOGICAL APPRAISAL

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 Project Manager: Dominic Brown
 Author: Phil Ankers
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Jacobs U.K. Limited

1 City Walk
 Leeds
 LS11 9AR
 T +374 6050 1920

www.jacobs.com

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Document history and status

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Contents

Executive Summary	5
1. Introduction	6
1.1 Proposed Scheme background	6
1.2 Aims and objectives	6
1.3 Definitions.....	6
1.4 Legislative, policy, and regulatory context.....	6
1.5 Planning policy	7
The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2021) and accompanying National Planning Practice Guidance (NPPG) have identified that developments in England should deliver a net gain for biodiversity.	7
1.6 Local Planning Policy	7
1.7 UK Post-2010 Biodiversity Framework.....	7
2. Methodology	8
2.1 Desk Study.....	8
2.2 Field Survey.....	8
2.2.1 UK Habitat Classification survey	8
2.2.2 Bat Roost Potential Survey.....	8
2.3 Limitations.....	9
3. Results	11
3.1 Site Context.....	11
3.2 Desk study	11
3.2.1 Bats.....	11
3.2.2 Amphibians	11
3.2.3 Protected Mammals	11
3.2.4 Invasive species	11
3.2.5 Statutory and Non-statutory sites.....	11
3.3 Field Survey.....	12
3.3.1 UK Habitat Classification survey	12
3.3.1.1 u1b5 Buildings.....	12
3.3.1.2 u1b Developed land; sealed surface	12
3.3.1.3 Trees	12
3.3.1.4 Ornamental planting.....	12
3.3.1.5 Invasive species	12
3.3.2 Bat Roost Potential survey	13
3.3.2.1 Structures.....	13
3.3.2.2 Trees	13

4.	Evaluation and Recommendations	15
4.1	Habitats.....	15
4.2	Biodiversity net gain	15
4.3	Protected species (bats).....	16
4.4	General precautions.....	16
5.	References.....	17
6.	Photographs	18
Appendix A: Survey Red-Line Boundary		21
Appendix B: Landscape Design Overview		22
Appendix C: Planting List		23

Executive Summary

Jacobs UK Ltd (Jacobs) was commissioned by Durham County Council to undertake an ecological appraisal and bat roost potential survey of the existing Bishop Auckland bus station site and associated buildings in Bishop Auckland, to support the planning application for a new bus station facility.

An extended Phase 1 habitat survey and bat roost potential survey were undertaken using standard methodology during fine weather by a team of two ecologists on 7th February 2022.

The site provides negligible opportunities for wildlife, being a primarily built/hard standing area. The only vegetation includes immature trees located in a stand of the central pedestrianised area of the site, as well as singular trees close to one of the existing buildings.

The three buildings within the site have negligible suitability for roosting bats, due to a lack of potential roosting features and high baseline levels of disturbance in close proximity. The site is well-lit, with a high density of high-powered streetlamps illuminating the bus concourse. The site contains negligible opportunities for foraging and commuting bats due to the lack of suitable habitat and high levels of artificial lighting. No bat roost suitability were noted on any of the trees. Therefore, no further bat surveys are recommended as a result of the findings in this report.

It is deemed that the landscape design will result in a biodiversity net gain for the site. Details of the planting and their management area provided. Planting includes replacement trees, flower-rich lawn, shrub planting, tall grasses, and a brown roof.

1. Introduction

1.1 Proposed Scheme background

Jacobs was commissioned by Durham County Council to undertake an ecological appraisal including a bat roost potential survey of the existing Bishop Auckland bus station site in Bishop Auckland (NZ 20929 29973). A site location plan is presented in Appendix A.

The proposed works package (“the Proposed Works”) is to demolish the existing bus station site, ready for the construction of a new modernized station, within the footprint of the existing site. This includes the construction of a large multi-storey carpark, new bus station with a brown roof, tree planting, flower-rich lawn and shrub planting.

1.2 Aims and objectives

This ecological appraisal relates to the entire area within the scope of the Proposed Works (referred to as the red line boundary) as of February 2022. This report represents the baseline data for the ecological features of the site as collected in February 2022.

The key objectives of the ecological appraisal and this report are to:

- Present an accurate baseline of ecological features within the survey area and determine the importance of the habitats and features impacted by the Proposed Works.
- Provide sufficient field data to inform design options for the Proposed Works.
- Inform any mitigation or licensing requirements for the Proposed Works.

1.3 Definitions

The red line boundary is the extent of the Proposed Works including land required to facilitate its construction. This area is shown in full in Appendix A. This is the area in which the planning application would apply.

The study area relates to a 2 kilometre buffer around the red line boundary in which a desk study has been completed from online and third-party sources.

The survey area refers to the area within which the ecological appraisal and bat roost potential survey were completed. This area encompasses the area within the red line boundary.

1.4 Legislative, policy, and regulatory context

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

- The Environment Act 2021
- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Hedgerow Regulations 1997;
- Natural Environment and Rural Communities (NERC) Act (2006); and
- The Conservation of Habitats and Species Regulations 2017 (as amended).

Where relevant, the ecological appraisal takes account of the legislation protection afforded to specific habitats and species.

1.5 Planning policy

The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2021) and accompanying National Planning Practice Guidance (NPPG) have identified that developments in England should deliver a net gain for biodiversity.

The NPPF, published in July 2021, states (paragraph 174) that: "Planning Policies and decisions should contribute to and enhance the natural and local environment by... minimizing impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures." Paragraph 180(d) also states that "opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity. The NPPF is a material planning consideration.

1.6 Local Planning Policy

The scheme is located within the wider area covered by Durham County Council. The Durham Habitat and Species Biodiversity Action Plan was set forth up until 2013, where it was then devolved into the Durham Lowland Priority Habitats and Durham Priority Species lists (North East England Nature Partnership, 2016).

Species and habitats included in the priority lists include:

- Great Crested Newt *Triturus cristatus*
- Bats
- European otter *Lutra lutra*
- Water vole *Arvicola amphibius*
- Reptiles
- Habitats of Principal Importance (HPI)

1.7 UK Post-2010 Biodiversity Framework

The 'UK Post-2010 Biodiversity Framework' succeeded the UK Biodiversity Action Plan (UKBAP) in July 2012. The post-2010 framework is underpinned by the biodiversity and environment strategies of the four countries of the UK and sets out their common purpose and shared priorities. The UKBAP list of priority species, however, remains as a reference source and has been used to help draw up statutory lists of priorities.

'Biodiversity 2020: A strategy for England's wildlife and ecosystem services', published in 2011, is the most recent biodiversity strategy for England, and has as its mission to halt overall biodiversity loss, support healthy well-functioning ecosystems, and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.

2. Methodology

2.1 Desk Study

A data search was undertaken in February 2022 for protected species records plus statutory and non-statutory designated sites, within the study area of the Proposed Works. Records within the study area will help to assess the ecological value of the site in relation to its surroundings.

The data search includes consultations with national and regional record holders, including the Environmental Records Information Centre North East (ERIC NE), and Durham bat group. Records returned that pre-date 2011 were classified as historical and therefore discounted.

Aerial photography was studied prior to the site visit. This enabled the ecologists to understand the context of the site within the wider landscape and identify any potential ecological features that would be less evident on the ground during the survey.

2.2 Field Survey

2.2.1 UK Habitat Classification survey

A UK Habitat Classification (UKHab) survey of the site was undertaken by experienced ecologists on the 7th February 2022. The assessment followed UK Habitat Classification User Manual (Butcher *et al.*, 2020). This involved walking the extent of the site and recording vegetation and habitats present. Nomenclature for plant species follows that of Stace (2010).

Any evidence or potential for protected and/or notable species were noted and where appropriate, marked as target note. This modified approach to UKHab survey is in accordance with the approach recommended by Guidelines for Preliminary Ecological Appraisal 2nd edition (CIEEM, 2017).

The weather conditions during survey were cloudy, still, and with temperatures of approximately 6-7°C.

2.2.2 Bat Roost Potential Survey

All structures and trees within the red line boundary were assessed for their potential to support roosting bats, following the methodology of the Bat Conservation Trust – Good Practice Guidelines (BCT, 2016).

A thorough daytime inspection of the site was carried out on the 7th February 2022 in order to look for evidence of bats and assess the bat roosting potential of any identified features. Evidence of bats may take the form of droppings, feeding remains, live/dead bats and occasionally stains (from oils in the fur) or claw marks made by bats regularly roosting in the same location.

Bat roost potential of each structure and tree was classified according to criteria set out in table 1, developed with reference to the Bat Mitigation Guidelines (2004), Bat Workers Manual (2004), the Bat Conservation Trust Good Practice Guidelines (2016) and BS8596:2015 – Surveying for bats in trees and woodland (2015.)

Table 1: Bat roosting potential categories in structures and trees

Roosting Potential	Criteria
None/Negligible	<p>Buildings with a clear lack of roosting spaces due to the absence of any potential crevices or voids.</p> <p>Trees with a clear lack of roosting spaces due primarily to their young stature (size, age, and lack of complexity).</p>
Low	<p>Potential roost feature (PRF) on a building which could support solitary bats but are not suitable for larger roosts or rarer bat species. Generally only suitable for a small number of crevice dwelling bats.</p> <p>Trees of sufficient size and age to contain PRF but there are no suitable features visible from the ground.</p>
Moderate	<p>Buildings and trees which support features which could potentially be attractive to bats and may support larger roosts but are unlikely to support a roost of high conservation status.</p> <p>The limited variety/number of PRF or proximity to valuable foraging habitat may influence assessment.</p>
High	<p>Buildings and trees presenting numerous roosting features suitable for larger numbers of bats on a regular basis, due to their size, condition, shelter, and proximity to valuable foraging habitat. These features are likely to support a bat roost.</p> <p>Buildings and trees with a high roost potential could be used for a whole range of roost types, including maternity roosts.</p>
Confirmed	<p>Buildings or trees where the presence of bats has been confirmed. Further surveys may be required to assess the species of bat and/or roost type.</p>

2.3 Limitations

The walkover was completed in February, which is a sub-optimal time of year to undertake a UKHab survey as many species are not active or visible. The site is dominated by built/hard standing areas, and there was no ambiguity in the identification of habitat types or any species present. Therefore, this limitation is not deemed significant.

Some bat records from the data consultation had exclusively high level (four figure) grid references attached, and as such the distance of these records from the Proposed Works cannot be confirmed. This is not deemed to be a significant limitation, as the ground level bat roost potential surveys did not identify any features within the site suitable for bat roosts.

Durham bat group were contacted as part of the data consultation for local records of bats within the study area, but no response was received at time of writing. This is not considered a significant limitation as ERIC NE provided

records of bat species and the bat roost potential surveys did not identify any features within the site suitable for bat roosts.

3. Results

3.1 Site Context

The site is located within the urban setting of Bishop Auckland. The site is immediately surrounded by area dominated by developed land and hard standing in the form of roads and buildings. Some limited habitat is present including street trees and small patches of amenity grassland. The closest semi-natural habitat to the site is grassland and trees surrounding the River Wear approximately 170 metres to the north of the site. However, this is separated by a busy pedestrian area and roads which likely act as a barrier to movement for most species.

3.2 Desk study

3.2.1 Bats

The data consultation request returned a large number of bat records within the survey area, of which there were 41 roosts, and 40 flight/other records¹. The desk study returned records for a variety of species, including brown long-eared bat *Plectotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, Nathusius' pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, whiskered bat *Myotis mystacinus*, and some further unidentified *Myotis sp.* The closest accurate record is 255 metres east of the Proposed Works. Other records with higher level grid references were collected, though exact locations cannot be confirmed (see 2.3).

3.2.2 Amphibians

The data consultation returned two records of amphibians, common toad *Bufo bufo*, and common frog *Rana temporaria*. The closest of these records was 1635 metres from the Proposed Works. The area within the red line boundary does not contain any suitable habitat for amphibians, nor is there any suitable habitat connections between the site and the location of the nearest records. Therefore, amphibians are not considered further in this report.

3.2.3 Protected Mammals

Data consultation returned a number of records for European otter, wholly confined to riverways within 2km of the Proposed Works. The closest record for otter was 435 metres away from the Proposed Works on the River Wear. The area within the red line boundary does not contain any suitable habitat for protected mammals, nor is there any suitable habitat connections between the site and the location of the nearest records. Therefore, protected mammals are not considered further in this report.

3.2.4 Invasive species

Data consultation returned four records of japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzium*, all of which were in proximity to the River Wear to the north of the Proposed Works. The closest record, for japanese knotweed was 200 metres from the Proposed Works.

3.2.5 Statutory and Non-statutory sites

There were no statutory or non-statutory sites within the study area. Therefore, designated sites are not considered further in this report.

¹ Other records included DNA, Hibernacula, and unspecified behaviour records

3.3 Field Survey

3.3.1 UK Habitat Classification survey

The following habitats were present within the red line boundary of the Proposed Works, listed in order of size:

- u1b5 Buildings
- u1b Developed land; sealed surface
- Trees
- Ornamental planting

3.3.1.1 u1b5 Buildings

The red line boundary comprises three buildings/structures: a small coffee shop, public toilet block, and office building. All three buildings are due to be demolished and replaced and are discussed in more detail in 3.3.2.

3.3.1.2 u1b Developed land; sealed surface

Hard standing area dominates the site, with a pedestrianized plaza to the east, a supermarket car park to the south and west, and the main bus concourse covering the rest of the site. These areas may only support minimal ephemeral vegetation in warmer months, and present negligible wildlife value.

3.3.1.3 Trees

There are a total of 19 trees within the red line boundary, separated into a denser main stand (16 trees) (Photographs 1- 5) in the plaza area, and three scattered individual trees around the car park in between the plaza area and the office building (Building C) (photographs 14-17). The main stand was comprised of a mix of lime *Tilia sp.* and wild cherry *Prunus avium*, all of similar age (circa 20 years). All three scattered individual trees were identified as rowan *Sorbus aucuparia* and were of a younger age than those in the main stand.

Tree growth in this area will likely be stunted by confined root ball space, being immediately surrounded completely by hard standing. It is unlikely these trees would grow into mature specimens. The trees have some potential to support nesting birds although this is limited due to the lack of structure within the trees and the high levels of disturbance surrounding the trees.

3.3.1.4 Ornamental planting

Raised planter beds were present in the pedestrianized plaza area (Photographs 5 and 6) to the east in the red line boundary. These planters were sparsely vegetated at the time of survey, though it could be seen that bare ground and stubble made up the majority of the planted area. Small shrubs of Franchet's Cotoneaster *Cotoneaster franchettii* were also present, notably there was evidence of recent active management to limit the shape and size of these shrubs.

3.3.1.5 Invasive species

No invasive species were found to be present within the red line boundary.

3.3.2 Bat Roost Potential survey

3.3.2.1 Structures

There were three buildings identified within the survey area. All three buildings appeared to be of the same age, likely constructed at the same time as the rest of the current bus station site. Each structure has been labelled based upon the order in which they were surveyed.

Habitat immediately next to the buildings, including street trees, may present some foraging opportunities for bats. However they are isolated within an urban surrounding and the trees and the buildings are well-lit by a high level of street lighting. This is likely to deter bats from using this area and act as a barrier for bats to the buildings.

3.3.2.1.1 Building A

Building A is a small coffee shop, constructed almost wholly of brick, with a uniform construction on each side (Photographs 7 and 8). The structure is in active, regular use, and is well maintained. There are vents along each of the walls, which suggests a cavity wall is present, though there are no obvious points of entry to this. The roof structure is sealed by lead flashing, which is all in good condition with no lifting or gaps. The solid brick walls and well-maintained roof present no suitable voids or crevices for bats to access. This building presents negligible suitability for roosting bats.

3.3.2.1.2 Building B

Building B is a public toilet block, constructed wholly of brick, with a pyramidal brick formation making up the roof structure. The building is in reasonable condition and well maintained, being in active public use. The structure is almost wholly intact, with the notable exception of some of the roof structure. There are areas of brickwork that have received damage or come away over time, leaving small and superficial exposed gaps (Photographs 9 - 12). In some areas, vegetation has grown in these gaps.

The construction of the building is such that a roof void is not present, and instead a solid pyramidal structure is in place; the solid construction of this structure continues internally and can be seen in Photograph 13. Therefore, any gap present did not extend into crevices or voids suitable for roosting bats, and it was evident from the inspection that the gaps present were superficial and easily permeated by weather. Therefore, this building presents negligible suitability for roosting bats.

3.3.2.1.3 Building C

Building C is a small office, presently utilized as an operations centre. It is constructed almost wholly of brick, with the exception of the roof pitch, which is constructed of roof tile. The building is in good condition and well maintained, being in constant active use (see photographs 14-17). There are signs of repair to the roof on the western aspect, including new tiles (Photograph 14), and repairs to the flashing sealing the apex of the roof structure.

There was a small gap in between two of the new tiles, however the gap appeared superficial and exposed. Building C is situated directly adjacent to the active exit road utilized by buses leaving the station and would therefore be subject to a high level of disturbance regularly. Therefore, this building presents negligible suitability for roosting bats.

3.3.2.2 Trees

No potential roost features were noted on trees within the red line boundary. Trees were in good condition, notably however those in the main stand of trees closest to the nearby shopping centre had obvious deliberate damage

including cuts and scratches to the bark. No natural damage was noted that might have created suitable roosting features.

4. Evaluation and Recommendations

4.1 Habitats

The site represents very limited ecological value, both in terms of habitat and protected species. The area within the red line boundary has a lack of habitat diversity, being dominated by built/hard standing area, with the exception of a small number of trees. Given standard precautions, the Proposed Works would not be contrary to conservation legislation or guidance.

Species recorded in the raised planters were wholly ornamental, heavily managed and are negligible in size. As such offer negligible biodiversity value to the site.

4.2 Biodiversity net gain

The current site has limited biodiversity value due to a lack of habitats. However, through the loss of 19 trees, the Proposed Works would result in a small net loss of biodiversity in the absence of additional landscaping and ecological enhancements. The proposed landscape plan is shown in Appendix B and planting list is shown in Appendix C. Durham County Council will be responsible for the management of new landscape features in perpetuity. A summary of the new features and their management requirements is provided below. The newly planted features should be monitored by Durham County Council and where any failures occur, remedial measures should be undertaken including additional planting where necessary.

Replacement tree planting will include approximately 43 trees consisting of *Betula*, *Prunus* and *Pyrus* species. *Prunus* and *Pyrus* species are flowering and fruiting and therefore will provide a food source to wildlife which will be of additional benefit for biodiversity. Although there will be a greater number of trees present post construction, replacement trees will be immature and take years to return biodiversity to the site. Trees will be managed as standard street trees. This will involve regular management including pruning to ensure the health of the trees and safety to the public.

Trees to the east of the site will be set within sustainable drainage areas planted will tall grasses. The tall grasses will require minimal management and should be self-sustaining.

Areas of lawn with shrub planting will be provided in the west of the site. The lawn mix chosen is a flower rich mix to provide additional benefit to wildlife. Flowering species in the lawn and shrubs and fruiting species in the shrubs will provide additional food source for wildlife including birds and invertebrates. The lawn should be maintained at a short sward height (25-40 millimetres) during the first year of management. Regular mowing should be done in subsequent years, with periods of relaxation of 4-6 weeks during May – July to allow flowers to bloom. Cuttings from mowing should be removed to avoid nutrient enrichment of the lawn areas. Any pruning of shrub species should undertaken outside of nesting bird season (1st March – 31st August inclusive) and avoid times when species are in flower or fruit.

A brown roof is being provided over the new bus station and will comprise a standard sedum mix. At the time of writing the details of the planting mix for the brown roof have not been confirmed. The brown roof will require minimal to no maintenance and should be self-sustaining.

Although the replacement planting of trees is not likely to offset the impact of the loss of existing trees on its own, it is anticipated that the significant increase in green space within the landscape design will result in a biodiversity net gain for the site.

4.3 Protected species (bats)

Bat roost potential surveys indicated that there were negligible opportunities offered by the built area within the red line boundary. Existing buildings contained small areas of lifting brickwork and small gaps in repaired tilework. These gaps, however, were deemed to be superficial, with a lack of a substantial space behind any point of entrance; in addition, gaps in Building B were exposed to weather.

However, any potential for bat roosts in these features would be significantly diminished due to a pre-existing high baseline of disturbance; from near-constant anthropogenic activity, a high amount of light-spill from nearby high-powered streetlamps, and an absence of suitable commuting and foraging habitat within the site.

4.4 General precautions

To prevent the Proposed Works impacting on nesting birds, any clearance of vegetation should be taken outside of the breeding bird season (1st March – 31st August inclusive). Any clearance that is required during the breeding bird season should be preceded by a nesting bird survey, to ensure that the Wildlife and Countryside Act (1981) is not contravened through the destruction of nests, and that any active nests are identified and adequately protected during the construction phase of the development. This includes nesting bird checks prior to felling of any trees on site.

5. References

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- Stace C (2010) *New Flora of the British Isles*. Third Edition. Cambridge University Press

6. Photographs

<p>Photo 1 – Part of the main stand of trees in the pedestrianized plaza area</p>	<p>Photo 2 – Wild cherry tree in the main stand of trees in the pedestrianized plaza area</p>
<p>Photo 3 – Wild cherry tree in the main stand of trees in the pedestrianized plaza area</p>	<p>Photo 4 – Rowan tree individual near supermarket car park</p>
<p>Photo 5 – Raised planter bed in pedestrianized plaza area.</p>	<p>Photo 6 – Raised planter bed in pedestrianized plaza area.</p>

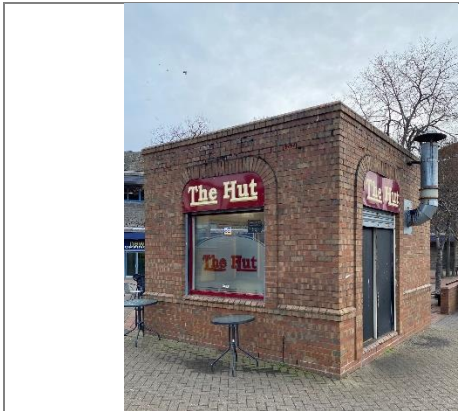


Photo 7 – Building A southern aspect



Photo 8 – Building A northern aspect



Photo 9 – Building B southern aspect



Photo 10 – Building B northern aspect



Plate 11 – Building B western aspect



Photo 12 – Building B eastern aspect

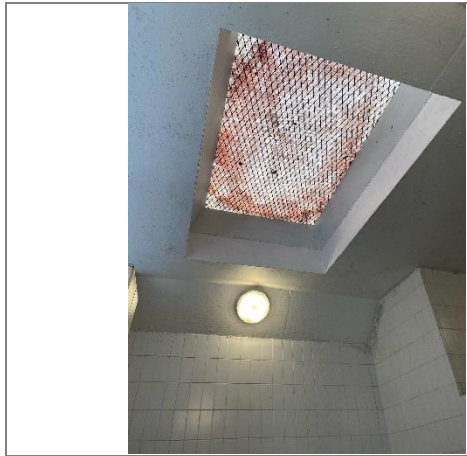


Photo 13 – Building B internal roof structure



Photo 14 – Building C replacement tiles



Photo 15 – Building C southern aspect

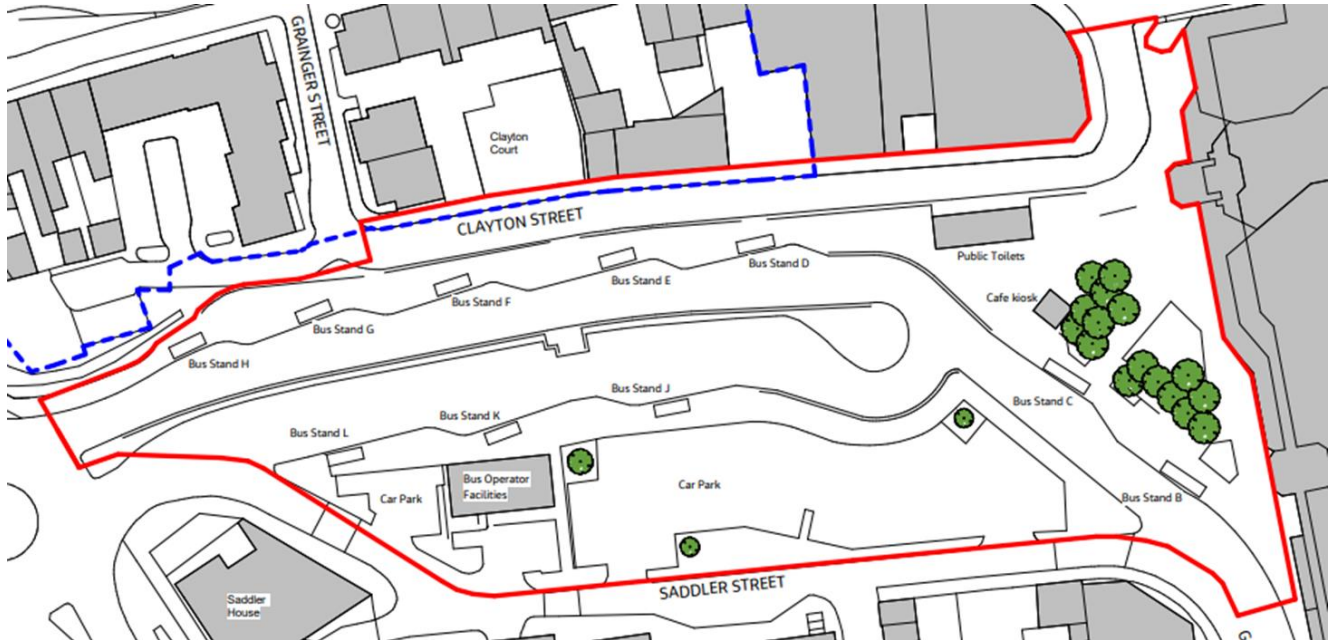


Plate 16 – Building C western aspect

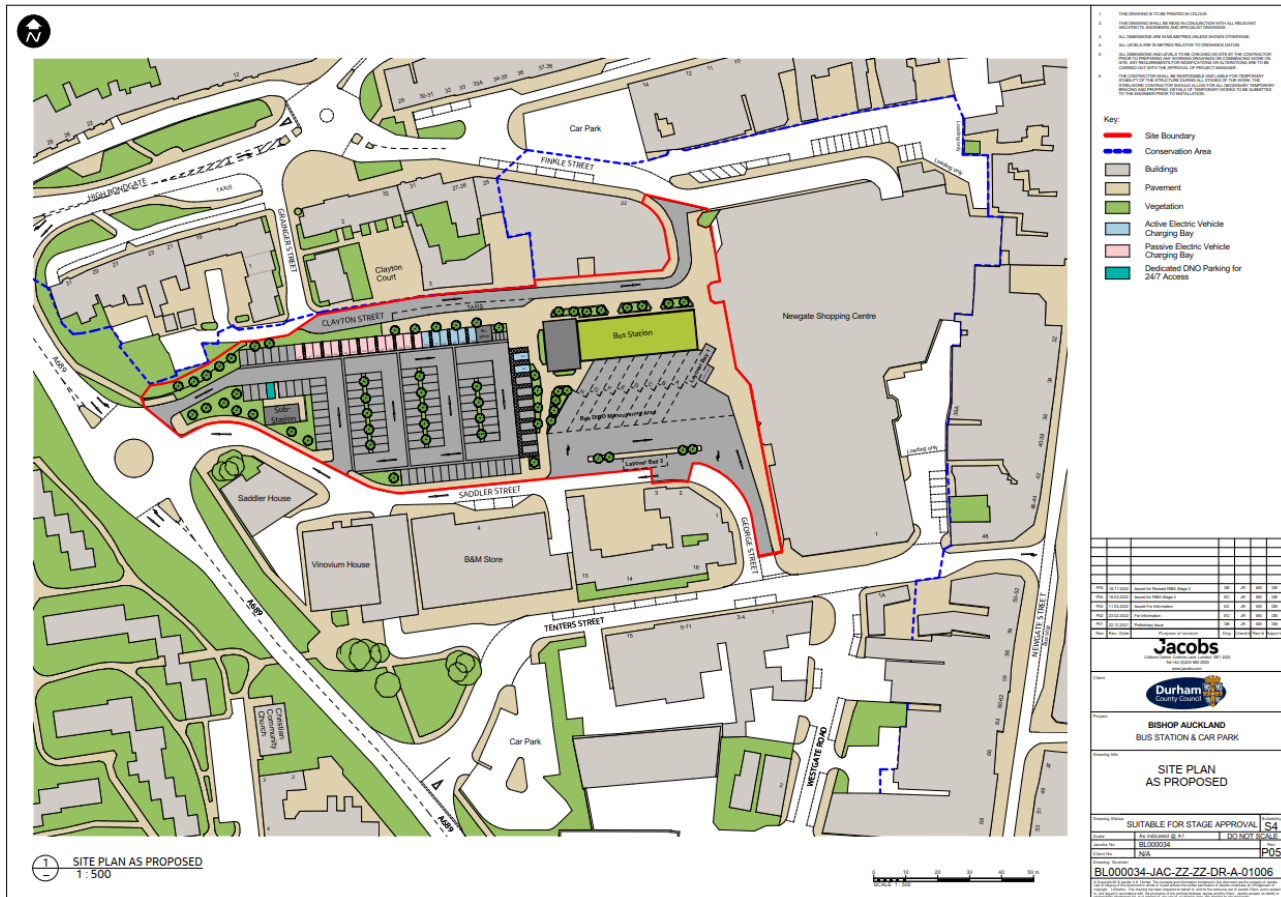


Plate 17 – Building C eastern aspect

Appendix A: Survey Red-Line Boundary



Appendix B: Landscape Design Overview



Appendix C: Planting List

Flowering lawn Mix		
%	Latin name	Common name
4	<i>Galium verum</i>	Lady's bedstraw
0.5	<i>Leontodon hispidus</i>	Rough hawkbit
1	<i>Leucanthemum vulgare</i>	Oxeye daisy
3.7	<i>Lotus corniculatus</i>	Birdsfoot trefoil
3	<i>Primula veris</i>	Cowslip
4	<i>Prunella vulgaris</i>	Selfheal
3.5	<i>Ranunculus acris</i>	Meadow buttercup
0.3	<i>Trifolium pratense</i>	Wild red clover
8	<i>Agrostis capillaris</i>	Common bent
40	<i>Cynosurus cristatus</i>	Crested dogtail
28	<i>Festuca rubra</i>	Red fescue
4	<i>Phleum bertolonii</i>	Smaller cat's-tail
SuDs planting		
	Latin name	Common name
	<i>Miscanthus sinensis</i>	Eulalia
	<i>Juncus sp.</i>	Rush
	<i>Carex pendula</i>	Sedge
	<i>Iris pseudacorus</i>	Yellow iris
Shrub planting		
	<i>Ruscus aculeatus</i>	Butcher's-broom
	<i>Vinca minor f. Alba</i>	Periwinkle
	<i>Thymus pulegioides</i>	Foxley

	<i>Salix reticulata</i>	Net-leaved willow
	<i>Achillea sp.</i>	Yarrow
	<i>Betonica officinalis</i>	Common hedgenettle
	<i>Sarcococca hookeriana</i>	Sweetbox
Tree planting		
	<i>Betula pedula</i>	Silver birch
	<i>Pyrus Chanticleer</i>	Callery pear
	<i>Prunus padus</i>	Bird cherry
	<i>Prunus serrula</i>	East Asian cherry