Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

3 Europa Court, Sheffield Business Park, Sheffield, South Yorkshire, S9 1XE

Prepared by:

SLR Consulting Limited

Unit 2, Newton Business Centre, Thorncliffe Park Estate, Newton Chambers Road, Chapeltown, Sheffield, S35 2PH

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Basis of Report

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Acronyms and Abbreviations

BEMP	Biodiversity Enhancement Management Plan
CEMP	Construction Environmental Management Plan
ECoW	Ecological Clerk of Works
POS	Public Area of Open Space
PRF	Potential Roosting Feature
RPA	Root Protection Area
SuDS	Sustainable Urban Drainage System

1.0 Introduction and Background

Planning permission (ref 2021/1171) has been obtained from Barnsley Metropolitan Borough Council for the construction of up to 125 dwellings at Lockwood Road, located on the north-eastern outskirts of the village of Goldthorpe, South Yorkshire (approximate OS central grid reference: SE464046).

This report seeks to address the associated planning conditions that relate to ecology, specifically:

Condition 31: *"Notwithstanding the submitted details, no development shall take place (including demolition, ground works and vegetation clearance) until a Construction Environmental Management Plan - Biodiversity (CEMP-B) has been submitted to and approved in writing by the local planning authority. The CEMP-B shall include, but not necessarily be limited to, the following:*

- Risk assessment of potentially damaging construction activities;
- Identification of 'biodiversity protection zones';
- Detail of pre-commencement surveys required;
- Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements);
- The location and timing of sensitive works to avoid harm to biodiversity features (e.g. daylight working hours only starting one hour after sunrise and ceasing one hour before sunset);
- Use of protective fences, exclusion barriers and warning signs, including advanced installation and maintenance during the construction period;
- The times during construction when specialist ecologists need to be present on site to oversee works;
- Responsible persons and lines of communication; and
- The role and responsibilities on site of an Ecological Clerk of Works (ECoW) or similarly competent person(s)."

Condition 32: "*Prior to commencement of the development, an appropriately experienced and qualified Ecological Clerk of Works (ECoW) shall be appointed by the applicant/ developer. The ECoW shall be in post during appropriate stages of the development, as agreed in writing with the Local Planning Authority. The ECoW's scope of work shall include monitoring compliance with the mitigation measures as detailed within the Report, and the conditions of the planning permission."*

Condition 33: "*A Biodiversity Enhancement Management Plan (BEMP) for on-site habitats, completed by a suitably qualified ecologist will be submitted to the Local Planning Authority prior to the commencement of works on site. The BEMP will include the following:*

- *A recent landscape plan detailing the location of mitigation works and the size of each habitat area to be enhanced and/or created;*
- *Management aims and prescriptions detailing the methods required to create and/ or enhance each habitat at the required quality for a period of 30 years;*
- *A timetable of delivery for each habitat created and/ or enhanced;*

- *A schedule of ecological monitoring for a minimum 30 year period, identifying when key indicators of habitat maturity should be achieved;*
- *Details on the monitoring of habitats and the provision of a report, which shall be provided to the LPA on the 1st November of each year of monitoring (years one-three after creation, years five, and ten and every ten years thereafter), which will assess the condition of all habitats created and/ or enhanced and any necessary management or replacement/ remediation measures required to deliver the Net Gain values set out in the BEMP for each habitat;*
- *A schedule of actions to be undertaken in case signs of failing are identified; the schedules must include details of technique(s) to be used, equipment to be used, roles and relevant expertise of personnel and organisations involved and timing of actions including submission of monitoring report to the Council.*

The BEMP will also include a scheme for biodiversity enhancement such as the incorporation of permanent bat roosting feature(s) and nesting opportunities for birds (in 50% of proposed units) and access for hedgehogs. The approved details thereafter shall be implemented, retained and maintained for their designed purpose in accordance with the approved scheme.

The scheme shall include, but not limited to, the following details:

- *Description, design or specification of the type of feature(s) or measure(s) to be undertaken;*
- *Materials and construction to ensure long lifespan of the feature/measure;*
- *A drawing(s) showing the location and where appropriate the elevation of the features or measures to be installed or undertaken; and,*

When the features or measures will be installed within the construction, occupation, or phase of the development."

Condition 34: "*Notwithstanding the submitted details, before above ground works commence, details of external/ internal lighting shall be submitted to and approved in writing by the Local Planning Authority. The details shall be provided by a suitably qualified ecologist and clearly demonstrate that lighting will not adversely impact wildlife using key corridors, foraging and commuting features and roosting sites. The details shall include, but are not limited to, the following:*

- *A drawing showing sensitive areas, dark corridors and buffer areas;*
- *Technical description, design or specification of external lighting to be installed including shields, cowls or blinds where appropriate;*
- *A description of the luminosity of lights and their light colour;*
- *A drawing(s) showing the location and where appropriate the elevation and height of the light fixings;*
- *Methods to control lighting control (e.g. timer operation, Passive Infrared Sensors (PIR)); and*
- *Lighting contour plans, both horizontal and vertical where appropriate, taking into account hard and soft landscaping."*

In addressing conditions 31-34, SLR has produced this CEMP and a BEMP report.

2.0 Construction Environmental Management Plan (CEMP) – Biodiversity

The details described in section 2.0 address planning conditions 31 and 32.

2.1 Risk Assessment of Potentially Damaging Operations

Site mobilization and/ or construction activities have the potential to harm or disturb the following protected/ notable species and ecological receptors:

- Vegetation to be retained;
- Invasive Plant Species (Japanese Knotweed);
- Nesting birds;
- Tree roosting bats;
- Badgers (if setts are present); and
- Hedgehogs.

Therefore, the following measures, detailed in Sections 2.2 onwards, shall be employed prior to the commencement of the construction of each phase, to safeguard protected/ notable species and ecological receptors.

In addition, in line with commitments made within the EcIA[1] and planning condition 32, a suitably qualified Ecological Clerk of Works (ECoW) would be appointed for the construction period, to ensure that ecological features are safeguarded. The role of the ECoW would include the following tasks:

- to give toolbox talks to construction staff, e.g. an ecological induction, so staff are aware of the ecological sensitivities on the Site and the legal implications of not complying with the agreed working practices;
- to undertake any necessary pre-construction surveys (as detailed in Section 2.3); and
- to oversee any ecologically sensitive works and advise on any arising ecological issues as required throughout the construction period.

2.2 Biodiversity Protection Zones

There will be a loss of a small number of trees, some scattered and dense scrub habitat in the north-east of the Site, and the majority of boundary hedgerows will be lost, however Hedgerow H4 and 30 metres of Hedgerow H5 (see EcIA[2]) will be retained, the majority of the broad-leaved woodland along the northern margin of the Site will be retained, as will the majority within the north-eastern corner of the Site.

To protect retained and bordering vegetation during construction, sturdy protective fencing would be erected around retained/ bordering vegetation for the duration of construction, including the Root Protection Area (RPA), as directed by an arboriculturist,

[1] SLR (2023) Lockwood Road, Goldthorpe, Updated Ecological Impact Assessment (EcIA) v7, SLR ref 424.03044.00188

[2] SLR (2023) Lockwood Road, Goldthorpe, Updated Ecological Impact Assessment (EcIA) v7, SLR ref 424.03044.00188

and in accordance with the British Standard BS 5837:2012 specification.

This fencing shall typically comprise two metre tall welded mesh panels on rubber or concrete feet; panels shall be joined together using a minimum of two anti-tamper couplers, or fixed to posts, such that they can only be removed from inside the Site (Plate 1); fencing should also have CEZ signage (Plate 2), laminated and sited every 10 metres. The protected area shall be regarded as sacrosanct, and, once installed, barriers and ground protection shall not be removed or altered without due consideration to the potential impact upon the rooting zone.

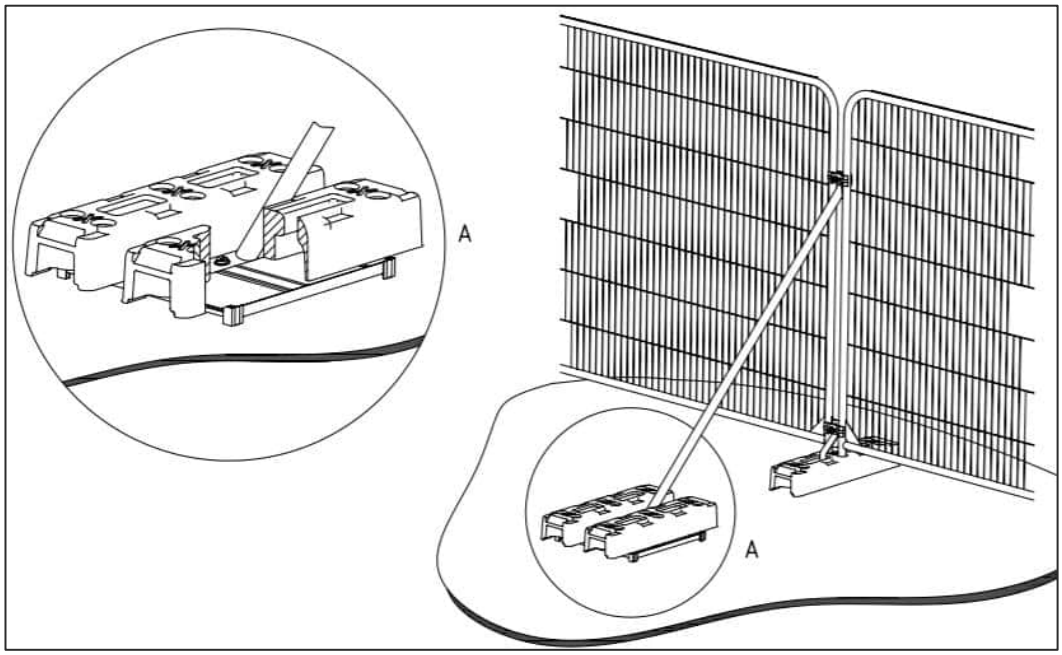


Plate 1: Specifications for CEZ Protective Fencing

Plate 2: Example of appropriate signage, to be erected on the fencing every 10 metres

Furthermore, the following general precautions will also be adhered to within the RPA of the hedgerows and trees:

- No soil disturbance, including compaction;
- No change in the soil level, by stripping or filling;
- No excavation, without prior discussion with the Local Planning Authority;
- No redirection of surface water runoff into or out of the RPA;
- No temporary buildings, sheds, or offices, without prior discussion with the Local Planning Authority;
- No storage of materials or fuel;
- No dumping of materials, whether into a skip or onto the ground;
- No refuelling of mechanical equipment;
- No storage or mixing of cement;
- No washing of cement mixers within or uphill of the RPA; and
- Comply with the guidance contained within the National Joint Utilities Group Volume 4 (Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2, 2007): www.njug.org.uk) when installing underground services within the RPA.

2.3 Pre-commencement Surveys and Checks

2.3.1 Invasive Plant Species (Japanese Knotweed)

An area of Japanese Knotweed present within the south of the Site shall be treated prior to construction and removed by a specialist contractor, to avoid spreading this invasive species.

An invasive species management plan has been produced for the Site which is provided in Appendix D, which gives two method options for Japanese Knotweed removal, using Enivoscreen 20-20 or off-site removal.

Invasive species can change their distribution quickly, therefore as a precaution, a pre-construction check for invasive species shall be undertaken by the ECoW, ideally within the growing season (April – September) prior to construction, and any new stands, if present, would be identified such that they can also be eradicated by a specialist contractor.

During construction, operators will need to follow standard biosecurity procedures when working in the south of the Site, to prevent the spread of Japanese Knotweed further into Site, and off-site. This would typically include (but not be limited to):

- Briefing of Site staff to alert them to the presence of Japanese Knotweed and the requirements of the biosecurity protocol;
- No potentially contaminated soil from the affected areas shall be transported off site or used in other areas of the Site;
- Plant tyres and tracks must be cleaned after being used in an affected area, to involve spreading plant matter or seeds within the soil off-site or to other areas on-Site; and

- Site staff working in the affected areas shall check and clean their footwear before leaving Site or working in other areas.

2.3.2 Nesting Birds

Vegetation clearance will, if feasible, take place outside of the bird nesting season which broadly extends between March and September inclusive. If this is not possible, and the removal of vegetation needs to take place within the March to September period, then a pre-commencement survey shall be undertaken by a suitably qualified ecologist immediately prior to the removal of the vegetation concerned (ideally within 24 hours of the vegetation removal taking place). If active bird nests are present these will be retained, along with a suitable buffer (typically five metres around the nest), until the young have fledged, or the nesting attempt is otherwise complete.

2.3.3 Tree Roosting Bats

The proposals would result in the loss of one willow tree, T1 in the EcIA report[3], with low bat roosting potential which is located within the north-east of the Site (location shown in Appendix E, Plate 3). Tree T1 would be felled using a sensitive felling protocol under the direction of an ecologist, in accordance with BCT guidelines[4]. The protocol would involve avoiding severing through any Potential Roosting Features (PRFs), but lowering the sections of the tree with the intact PRFs to the ground, and leaving them on the ground for at least 24 hours. Alternatively, the tree will be subject to a dusk emergence or dawn re-entry bat detector survey immediately prior to its removal, as a precaution. If any bat roosts are identified, then a mitigation licence would be obtained from Natural England, and a suitable mitigation package implemented in agreement with Natural England.

Plate 3: Tree T1 with low bat roosting potential

[3] SLR (2023) Lockwood Road, Goldthorpe, Updated Ecological Impact Assessment (EcIA) v7, SLR ref 424.03044.00188

[4] Collins, J. (2023) *Bat Surveys for Professional Ecologists. Good Practice Guidelines. (4th edition)*. The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6.

2.3.4 Badgers

A pre-construction badger survey would be undertaken within three months of the commencement of construction by a suitably qualified ecologist, to check for any new setts or badger activity. If a new sett is identified, works within 30m of the sett would be avoided. If this is not possible, a sett closure or disturbance licence would be obtained from Natural England if required.

If the pre-construction survey records any fresh field evidence of badger (for example latrines, foraging signs or pathways), but no setts are present, the following good practice measures would be followed during construction to reduce the risk of inadvertently injuring/ trapping a badger:

- Open excavations/ trenches would be covered over at night if possible. If this is not possible, sloping escape ramps shall be created for badgers at all excavations deeper than 30cm which are left open overnight. This will be achieved either by edge profiling of trenches/ excavations or by using planks placed into excavations at the end of each working day to provide a means of escape;
- Open pipework greater than 150mm diameter shall be blanked off at the end of each working day; and
- Materials and chemicals shall be stored safely, to avoid the risk of badgers coming into contact with chemicals.

2.3.5 Hedgehogs

Piles of cleared vegetation, including felled trees and scrub, will be chipped or removed from Site immediately to prevent them from potentially attracting/ providing shelter for hedgehog, which may subsequently be harmed. Piles of existing vegetation and other potential refuges, including those associated with the former allotments, will be hand searched, prior to removal from Site.

2.4 Sensitive Lighting – Construction

No lighting which illuminates the urban dark corridor on the northern Site boundary, identified within Figure 3, shall be used before or during construction. This will minimise disturbance to nocturnal wildlife using these features as a habitat corridor. Section 5.0 of this report details the sensitive lighting scheme post-construction.

3.0 Biodiversity Enhancement Management Plan (BEMP)

The details described in Section 3.0 address planning condition 33.

3.1 Proposed Biodiversity Enhancements

Proposed biodiversity enhancements included as part of the scheme are described below and illustrated in the Landscape Plan (Appendix B) for habitats, the Bird and Bat Box Plan (Figure 1) and the Hedgehog Highway Location Plan (Figure 2).

Details on quantities, planting and aftercare for each habitat are included within the Landscape Plan.

The following habitat enhancements shall be created:

- Native hedgerow planting;
- Native scrub planting;
- Urban tree planting;
- Wildflower grassland seeding;
- SuDS attenuation basin; and
- Habitat piles.

The ecological conditions that the newly created habitats shall attain are provided in Sections 3.1.1 to 3.1.5, and the management prescriptions to ensure the habitats will achieve these conditions are provided in Section 3.2

3.1.1 Hedgerows

New native species-rich hedgerows shall be planted throughout the development, particularly focused around the Site boundaries, where they will form part of ecological corridors, totalling 239 linear metres. Species composition of the hedgerow planting is provided in Table 3-1 below.

Table 3-1: Native Hedgerow Composition

Species	Height	Percentage (%)
Field maple – *Acer campestre*	80-100cm	5
Hazel – *Corylus avellana*	80-100cm	20
Hawthorn – *Crataegus monogyna*	80-100cm	30
Holly – Ilex aquifolium	80-100cm	10
Blackthorn – Prunus spinosa	80-100cm	20
Goat willow – Salix caprea	80-100cm	10
Guelder rose – Viburnum opulus	80-100cm	5

In addition, a total of 239 linear metres of beech (*Fagus sylvatica*) and hawthorn hedgerows shall be planted, which are likely to attain Poor ecological condition. In order to attain Poor condition, the hedgerow planting will need to fail four or more of the below criteria.

The native species-rich hedgerows shall attain Good ecological condition. In order for the native species-rich hedgerow to attain Good condition, no more than two of the following eight attributes shall fail. In addition, no more than one attribute can be failed in a function group (cannot fail both A1 and A2, for example).

Hedgerow Condition Criteria
A1: >1.5m high
A2: >1.5m wide at the widest point of the canopy
B1: <0.5m gap between the ground and the base of the canopy
B2: Gaps make up <10% of the total length, and no individual gaps are >5m
C1: >1m of undisturbed ground at base of hedge supporting perennial herbaceous vegetation on 1 or both sides
C2: Plant species indicative of nutrient enrichment dominate <20% of the herbaceous vegetation at base of hedge
D1: >90% of hedge and undisturbed ground at base is free of invasive non-native species or neophyte species
D2: >90% of hedgerow is free of damage caused by human activities

3.1.2 Scrub

The trees on the northern boundary shall be retained, and to enhance the northern boundary, 0.135ha of species-rich native scrub shall be planted. Species composition of the scrub planting is provided in Table 3-2 below.

Table 3-2: Native Scrub Composition

Species	Height	Percentage (%)
Hazel – *Corylus avellana*	80-100cm	30
Hawthorn – *Crataegus monogyna*	80-100cm	20
Holly – Ilex aquifolium	80-100cm	10
Blackthorn – Prunus spinosa	80-100cm	20
Goat willow – Salix caprea	80-100cm	10
Guelder rose – Viburnum opulus	80-100cm	10

An additional 0.054ha of ornamental shrubs shall be planted within gardens.

The planted scrub shall attain Moderate ecological condition. In order to achieve this, at least three of the following five criteria will need to have been met.

Mixed Scrub Condition Criteria
There are at least three woody species, with no one species accounting for >75% of the total cover.
There is a good age range, with seedling and established shrubs being present.
There is an absence of invasive non-native species (listed in Schedule 9 of the Wildlife and Countryside Act (1981), and that species indicative of a sub-optimal condition (such as creeping thistle and common nettle) make up <5% of the overall area.
The scrub has a well-developed edge, with scattered scrub and tall grassland and/ or herbs present between the scrub and adjacent habitats.
There are clearings, glades or rides present within the scrub, providing sheltered edges. In this case the clearings are likely to form naturally, perhaps as some areas of scrub fail to establish; it is recognised that sizeable glades do not form part of the planting regime.

3.1.3 Trees

A total of 125 'urban trees' shall be planted, within areas of POS, gardens and Site oundaries. Species composition of the urban trees is provided in Table 3-3 below.

Table 3-3: Urban Tree Composition

Species	Height	Girth	Number
Field maple – *Acer campestre*	1.8-2m	8-10cm	6
Alder – *Alnus glutinosa*	1.8-2m	8-10cm	11
Snowy Mespilus - *Amelanchier lamarckii*	1.8-2m	8-10cm	9
Silver birch - *Betula pendula*	1.8-2m	8-10cm	18
Hornbeam - *Carpinus betulus*	1.8-2m	8-10cm	3
Hawthorn – *Crataegus monogyna*	1.8-2m	8-10cm	7
Beech – *Fagus sylvatica*	1.8-2m	8-10cm	2
Copper beech – Fagus sylvatica 'purpurea'	350-400cm	12-14cm	2
Crab apple - *Malus 'John Downie'*	1.8-2m	8-10cm	4
Wild cherry – *Prunus avium*	1.8-2m	8-10cm	21
Oak – *Quercus robur*	1.8-2m	8-10cm	6
Rowan - *Sorbus aucuparia 'Joseph Rock'*	1.8-2m	8-10cm	6
Whitebeam – *Sorbus aria*	1.8-2m	8-10cm	10
Rowan - *Sorbus aucuparia*	1.8-2m	8-10cm	17
Lime – *Tilia cordata*	1.8-2m	8-10cm	3

The planted trees shall attain Moderate ecological condition. In order to achieve moderate condition at least two of the four following criteria should be met.

Urban Tree Condition Criteria
The tree is a native species.
There is little or no evidence of an adverse impact on tree health by anthropogenic activities, such as vandalism or herbicide use; also that there is no regular pruning regime so that trees retain at least 75% of their expected canopy spread for their age range and height
Micro-habitats for birds, mammals and insects are present e.g. the presence of deadwood, cavities, ivy or loose bark.
>20% of the tree canopy area is oversailing vegetation beneath

3.1.4 Wildflower Grassland

Wildflower grassland shall be created within the POS, using a suitable species-rich seed mix such as Emorsgate Seeds EM3 Special General Purpose Meadow Mixture[5], or similar, (0.225ha) and Emorsgate Seeds EC1 Standard Cornfield Mix[6], or similar (0.041ha). The areas shall be cultivated annually, and resown with fresh seed mix if necessary, to maintain this ecological value.

[5] EM3 - Emorsgate Seeds (wildseed.co.uk)

[6] Standard Cornfield Mixture EC1 - Emorsgate Seeds (wildseed.co.uk)

Other areas of POS would be seeded with a flowering lawn mix (0.097ha). The Landscape Plan suggests Emorsgate EL1 Flowering Lawn Mix[7], although Naturescape N14 Flowering Lawn[8] would also be a suitable alternative; the composition of which is detailed within Table 3-6. The flowering lawn mix shall attain Moderate ecological condition.

Table 3-4: EM3 Seed Mix Composition

Meadow grassland EM3 indicative species composition (%)	
Wildflowers Yarrow – *Achillea millefolium* (1.2) Agrimony – Agrimonia eupatoria (0.2) Kidney vetch – *Anthyllis vulneraria (0.4)* Betony – *Betonica officinalis (0.1)* Greater knapweed – *Centaurea scabiosa (0.4)* Knapweed - *Centurea nigra* (1.5) Rough chervil – *Chaerophyllum temulum* (0.5) Crosswort – *Cruciata laevipes* (0.2) Wild carrot – *Daucus carota* (0.4) Viper's bugloss – *Echium vulgare (0.4)* Meadowsweet - *Filipendula ulmaria* (0.2) Hedge bedstraw – *Galium album (0.8)* Hedgerow crane's-bill – *Geranium pyrenaicum (0.1)* Field scabious – *Knautia arvensis* (0.2) Meadow vetchling – *Lathyrus pratensis* (0.2) Oxeye daisy – *Leucanthemum vulgare* (0.4)	Meadow buttercup – *Ranunculus acris* (1.0) Yellow rattle – *Rhinanthus minor (1.0)* Red campion – *Silene dioica* (1.4) Ragged robin – *Silene flos-cuculi (0.5)* Lady's bedstraw – *Galium verum* (1.2) Birdsfoot trefoil – *Lotus corniculatus (0.1)* Musk mallow – *Malva moschata* (2.4) Ribwort plantain – *Plantago lanceolata* (2.0) Hoary plantain – *Plantago media (1.0)* Salad burnet – *Poterium sanguisorba* (2.0) Cowslip – *Primula veris* (0.2) **Grasses** Common bent – *Agrostis capillaris* (8.5) Crested dogstail – *Cynosurus cristatus* (28.0) Red fescue – *Festuca rubra* (24.0) Smaller cat's-tail – *Phleum bertolonii* (4.0) Smooth meadow grass – *Poa pratensis* (16.0)

Table 3-5: EC1 Seed Mix Composition

Meadow grassland EC1 indicative species composition (%)
Wildflowers Corncockle – *Agrostemma githago* (45.0) Cornflower – *Centaurea cyanus* (29.0) Corn chamomile – *Cota austriaca* (10.0) Corn marigold – *Glebionis segetum* (20.0) Common poppy – *Papaver rhoeas* (5.0)

[7] EL1 Flowering Lawn Mixture - Emorsgate Seeds (wildseed.co.uk)

[8] N14 Flowering Lawn Mixture | Naturescape Wildflower Farm

Table 3-6: N14 Seed Mix Composition

Flowering Lawn Mix N14 indicative species composition (%)	
Wildflowers Yarrow – *Achillea millefolium* (4.0) Kidney vetch – *Anthyllis vulneraria* (4.0) Lady's bedstraw – *Galium verum* (12.0) Cat's ear – *Hypochaeris radicata* (3.0) Rough hawkbit – *Leontodon hispidus* (4.0) Oxeye daisy – *Leucanthemum vulgare* (8.0) Bird's-foot trefoil – *Lotus corniculatus* (10.0) Ribwort plantain – *Plantago lanceolata* (8.0) Cowslip – *Primula veris* (7.0)	Self-heal – *Primula vulgaris* (16.0) Meadow buttercup – *Ranunculus acris* (12.0) Common sorrel – *Rumex acetosa* (12.0) **Grasses** Common bent – *Agrostis capillaris* (5.0) Crested dogstail – *Cynosurus cristatus* (15.0) Red fescue (slender and strong creeping) – *Festuca rubra* spp. (40.0) Smooth meadow grass – *Poa pratensis* (20.0)

Seeding will take place during suitable conditions (i.e. when the ground is moist but not waterlogged) and the area rolled to ensure good ground to seed contact. Seeding could, potentially, take place at any time of year, including within the summer, if the ground is damp. However, the optimal sowing season is Autumn (August - October) or Spring (late March to May).

The areas to be sown, shall, if desirable, be disc harrowed (to a depth of 30 cm), where necessary, to create a medium tilth. This would then be followed by the application of the seed, which would be scattered onto the surface, and then rolled, rather than 'drilled' into the ground.

Rolling may be undertaken, as appropriate, to level the ground, press in smaller stones, encourage tillering and flatten molehills, during suitably dry conditions and timed to avoid potential damage to ground-nesting birds (i.e. generally not between mid-March and start of August, subject to assessment).

A final decision on when to prepare the ground and how to prepare the seedbed, and then to broadcast and roll the seed, will be made once construction works are complete.

The areas sown with EM3 and EC1 seed mixes shall attain Moderate ecological condition. In order to achieve this, at least three of the following criteria will need to have been met, including 'essential' criterion 1:

Criterion	Other Neutral Grassland Condition Criteria
1	The appearance and composition of the vegetation resembles that of the specific grassland type
2	At least 20% of the sward is greater than 7cm tall and 20% is less than 7cm tall
3	Cover of bare ground s between 1% and 5%
4	Cover of bracken is less than 20%
5	There is an absence of invasive non-native species listed in Schedule 9 of the Wildlife and Countryside Act (1981)
6	There are > 9 plant species/ m^2

3.1.5 Attenuation Basin

The large SuDS attenuation basin to be created in the northern part of the Site shall be designed and managed to maximise its biodiversity value, by seeding it with a pond edge mix such as Emorsgate EP1 Mix[9] or similar, (0.264ha) which shall attain Moderate ecological condition. In order to achieve this, at least three of the following criteria will need to have been met, including 'essential' criterion 1 above.

Table 3-7: EP1 Seed Mix Composition

Attenuation basin 'pond edge' EP1 indicative species composition (%)	
Wildflowers	Yellow rattle - *Rhinanthus minor* (0.5)
Common knapweed - *Centurea nigra* (2.0)	Red campion - *Silene dioica* (2.6)
Crosswort - *Cruciata laevipes* (2.0)	Ragged robin - *Silene flos-cuculi* (3.0)
Wild teasel - *Dipsacus fullonum* (0.4)	**Grasses, sedges, and rushes**
Meadowsweet - *Filipendula ulmaria* (2.0)	Common bent - *Agrostis capillaris* (2.0)
Hedge bedstraw - *Galium album* (0.5)	Sweet vernal-grass - *Anthoxanthum odoratum* (2.0)
Hedge crane's-bill - *Geranium pyrenaicum* (1.0)	Quaking grass - *Briza media* (4.0)
Water avens - *Geum rivale* (0.3)	Crested dogstail - *Cynosurus cristatus* (48.0)
Yellow iris - *Iris pseudacorus* (2.6)	Tufted hair-grass - *Deschampsia cespitosa* (2.0)
Gypsywort - *Lycopus europaeus* (0.4)	Red fescue - *Festuca rubra* (22.0)
Corky-fruited water-dropwort - *Oenanthe pimpinelloides* (0.2)	Grey sedge - *Carex divulsa ssp divulsa* (2.0)
Selfheal - *Prunella vulgaris* (0.1)	Pendulous sedge - *Carex pendula* (0.4)

3.1.6 Habitat Piles

Habitat piles would be created in the woodland and scrub habitat at the eastern end of the Site, using logs and brash, to provide refugia habitat for invertebrates, small mammals (such as hedgehog) and herpetofauna. Some of these logs would have holes drilled in them to provide immediate opportunities for burrowing bees and wasps, and other invertebrates (refer to Plate 4).

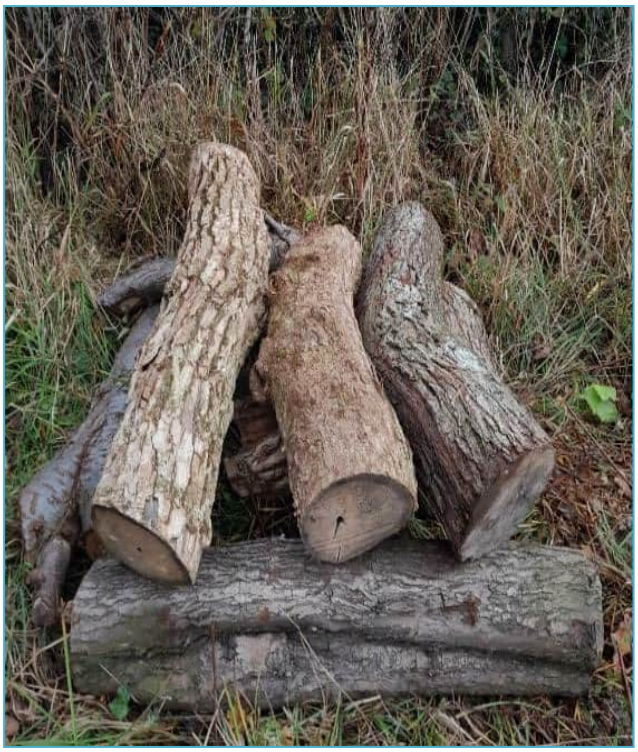
3.1.7 Bird and Bat Boxes

Bird and bat boxes shall be integrated into 50% of new residential properties, using designs that are built into the fabric of the buildings as they are constructed, for longevity. Bird box designs will be targeted towards species of conservation concern that are likely to occupy such boxes. Specifically, boxes for swift (*Apus apus*), house sparrow (*Passer domesticus*) and starling (*Sturnus vulgaris*) shall be provided. Bat boxes shall be suitable for a range of locally occurring bat species, such as common pipistrelle (*Pipistrellus pipistrellus*).

A bird and bat box schedule plan, illustrating the location of the proposed bird and bat boxes is provided as Figure 1. In addition to boxes integrated into houses, five bird and five

[9] Pond Edge Mixture EP1 - Emorsgate Seeds (wildseed.co.uk)

bat boxes shall be installed onto retained trees in the north-eastern corner of the Site, to mitigate for the loss of on-site trees, and to deliver alternative roosting/nesting provision.



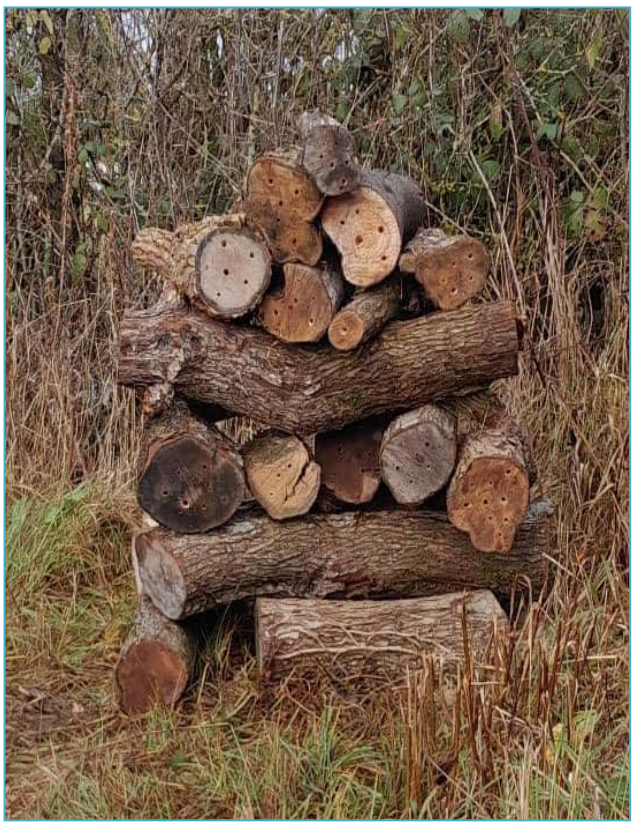


Plate 4: The trunks from a proportion of the felled trees shall be used to create log piles, the core of which shall have a void suitable for hibernating hedgehog (as illustrated above). Holes will also be drilled into a proportion of the logs, to provide egg-laying opportunities for burrowing bees and wasps, and other invertebrates

3.1.7.1 Bat boxes

A total of 35 Ibstock enclosed bat boxes shall be incorporated within the fabric of 35 dwellings as they are constructed, equating to 25% of properties.

The bat boxes shall face south, south-west or south-east and will be positioned in properties across the development Site which are close to existing and proposed good bat foraging habitat and commuting routes, thereby increasing the likelihood of them being occupied. Properties which shall include bat boxes are illustrated in Figure 1.

Furthermore, a total of five tree mounted bat boxes shall be erected on retained trees in the north-eastern corner of the Site, facing south-east, to provide roosting opportunities for a range of crevice and cavity dwelling species.

Bat box specification and positioning of integrated and tree mounted boxes is provided in Table 3-8 below. If the below models are not available, suitable alternatives shall be selected by consultation with a suitably qualified ecologist.

Table 3-8: Integrated and tree mounted bat box specification and installation

Type	Specification
Bat boxes intergated into buildings	
IBSTOCK ENCLOSED BAT BOX C (or similar) Quantity: 35	 Available from https://www.nhbs.com/ibstock-enclosed-bat-box-c
	Further information and installation instructions: • The bat box model is available in two colour variations, smooth red and smooth cream which allow integration with the colouring of the building brickwork; • Boxes shall be integrated into building brickwork at a height of at least three metres and not directly above any doors or windows; • Bat boxes shall be installed upright with the entrance slot at the base (as pictured above), and facing south, south-east or south-west;

Type	Specification
	• These boxes are designed for a range of crevice-dwelling bat species including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) (a NERC Act 2006 species of principal importance) and Nathusius' pipistrelle (*Pipistrellus nathusii);* • The interior contains several roosting zones, offering different conditions, allowing bats to alter their position in accordance with the weather conditions prevalent at the time; and • The boxes are designed to only be attractive to bat species and are designed to be maintenance free.
Tree mounted bat boxes	
VIVARA PRO LARGE MULTI-CHAMBERED WOODSTONE BAT BOX (or similar) Quantity: 2	 Available from: https://www.nhbs.com/large-multi-chamber-woodstone-bat-box
	Further information and installation instructions: • Bat boxes shall be installed on trees at a height between 4-6m, facing south, south-east or south-west; • These boxes contain two entrances and internal dividers with a large roosting space; and • When mounted on trees, these boxes are suitable for a range of species including brown-long eared bat (*Plecotus auritus*), all three *Pipistrellus* species, noctule (*Nyctalus noctula*), Leisler's (*Nyctalus leisleri*), and Natterer's bats (*Myotis nattereri*).

Type	Specification
SCHWEGLER 2FN BAT BOX (or similar) Quantity: 3	 Available from: https://www.nhbs.com/2fn-schwegler-bat-box
	Further information and installation instructions: • Bat boxes shall be installed on trees at a height between 4-6m, facing south, south-east or south-west; • Contains two entrances and cavity roosting space with a domed roof; and • When mounted on trees, these boxes are suitable for a range of both cavity and crevice roosting bat species, such as noctule and Bechstein's (*Myotis bechsteinii*) bats.

3.1.7.2 Bird Boxes

In order to provide enhanced nesting opportunities for birds, 35 bird boxes, involving 15 swift nest boxes, 10 sparrow terraces and 10 starling boxes, shall be incorporated the fabric of 35 new dwellings as they are constructed, equating to 25% of properties.

The bird boxes shall face east, south-east or north-east and will be positioned in properties across the development Site which are close to existing and proposed habitat features suitable for birds, thereby increasing the likelihood of them being occupied. Properties which shall include bird boxes are illustrated in Figure 1.

As swifts and house sparrows favour communal nesting, swift boxes shall be positioned on properties which are near each other, and sparrow terraces shall be positioned on properties which are near other properties with sparrow terraces. In addition, all sparrow terraces shall be, at minimum, double chambered.

Furthermore, a total of five tree mounted bird boxes shall be erected on retained trees in the eastern end of the Site, facing east or north-east, to provide nesting opportunities for a range of small birds.

Bird box specification and positioning of integrated boxes is provided in Table 3-9 below. If the below models are not available, suitable alternatives shall be selected through consultation with a suitably qualified ecologist.

Table 3-9: Integrated and tree mounted bird box specification and installation

Type	Specification
IBSTOCK ECO HABITAT FOR SWIFT NEST BOX (or similar) **Quantity: 15**	 Available from https://www.nhbs.com/ibstock-eco-habitat-for-swifts
	Further information and installation instructions: • The swift box model is available in three colour variations: red brick, buff brick and blue brick which allow integration with the colouring of the building brickwork; • The boxes shall be built into the fabric of the walls as close to the eaves as possible, facing east, north-east or south-east (away from prevailing winds); • The boxes shall be installed with the entrance slot at the bottom, as pictured; and • The boxes shall be erected with a clear flight path below, at a minimum height of 3-4m.

Type	Specification
VIVARA PRO WOODSTONE HOUSE SPARROW NEST BOX, DOUBLE CHAMBERED **OR** **SCHWEGLER 1SP SPARROW TERRACE** (or similar) **Quantity: 10**	 Available from https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box  Available from https://www.nhbs.com/1sp-schwegler-sparrow-terrace
	Further information and installation instructions: • The boxes are available in three colour variations: cream (Vivara Pro), brown brick (Schwegler) and stone (Schwegler), which allow integration with the colouring of the building brickwork; • The boxes shall be built into the fabric of the walls as close to the eaves as possible, facing east, north-east or south-east (away from prevailing winds); • The boxes shall be installed with the entrance slots at the top, as pictured; and • The boxes shall be erected with a clear flight path below, at a minimum height of 1.5m.
STARLING NEST BOX (or similar) **Quantity: 10**	  Available from: https://www.nhbs.com/starling-box-smooth-brick
	Further information and installation instructions:

Type	Specification
	• The starling nest box model is available in four colour variations: red brick, blue brick, buff brick and unfaced, which allow integration with the colouring of the building brickwork. • The boxes shall be built into the fabric of the walls as close to the eaves as possible, facing east, north-east or south-east (away from prevailing winds); • The boxes shall be installed with the entrance slot at the top, as pictured; and • The boxes shall be erected with a clear flight path below, at a minimum height of 3m.
1B Schwegler Nest Box (or similar) **Quantity:** **5**	 Available from: https://www.nhbs.com/1b-schwegler-nest-box
	Further information and installation instructions: • Boxes shall be installed on trees at a height between 2-4m, facing east or north-east. Boxes are available in two sizes, a mix of both sizes is recommended: • 32mm: great, blue, marsh, coal and crested tit, redstart, nuthatch, collared and pied flycatcher, wryneck, tree and house sparrow (and bats) • 26mm: blue, marsh, coal and crested tit and possibly wren. All other species are prevented from using the nest box due to the smaller entrance hole.

3.1.8 Hedgehog Highways

The proposed layout (Appendix A) shows that some internal fences will be post and wire, therefore already allowing hedgehog access, however where fences are 1.8m high timber fences to the ground, hedgehog highways would be created. These would comprise of minimum 15cm x 15cm gaps at the base of fencing, to allow hedgehog (*Erinaceus europaeus*) unimpeded access across the Site and between gardens. Figure 2 shows the locations of hedgehog highways across the Site, which are focussed around the northern boundary of the Site and adjacent to the POS.

The access gaps shall be appropriately labelled with signs on both sides, to deter householders from blocking the purpose made gaps. An example of a hedgehog highway gap with appropriate labelling is shown in Plate 4 below. Hedgehog highway signs can be

purchased from a number of manufacturers, such as The British Hedgehog Preservation Society.

Plate 4: Example of a hedgehog highway fence label.

3.2 Management of Biodiversity Enhancement Features

A summary of the management of biodiversity enhancement features is provided in section 3.2.1 – 3.2.5 below. Additional information on planting specification and ongoing management can be found within the Landscape Plan in Appendix B.

3.2.1 Hedgerows and Scrub

Native hedgerow plants shall be planted in a double staggered row, within 800mm wide and 450mm deep trenches, and mulched with fine bark compost. Ornamental hedgerows shall comprise of a single row of plants, within a 400mm wide and 400mm deep trench.

Native scrub shall be planted in a soil depth of 300mm of topsoil and 600mm of subsoil, in pits of 300 x 300 x 400mm depth, and the backfill shall include 3 litres of peat-free tree and shrub compost.

Bare-root shrubs shall be planted between mid-November to mid-March dependent upon the planting season.

New hedgerow and shrub plants shall be protected by Green-tech Bio-earth tree shelters, which are made from 100% biodegradable, recyclable and compostable material, which last approximately 3 years. Once the tree/shrub has established enough to no longer require it, the shelter can be left to safely biodegrade.

The need for replacement planting of failed saplings will be assessed annually during establishment, and any plants replaced the following autumn/winter.

Once established, hedgerows shall be cut on alternate sides annually. This ensures that in any one season at least one hedgerow side remains uncut, providing continual foraging and nesting opportunities for birds. Any pruning or management of hedgerows shall be undertaken outside of the bird nesting season which broadly extends between March and September, and ideally within the late winter (February) to maximise the provision of berries, fruit and nuts to winter thrushes and other species.

3.2.2 Trees

Standard trees shall be planted in pits 800 x 800 x 450mm or the dimensions of the rootball, whichever is greater. Heavy and Extra Heavy standards shall be planted in pits 1000 x 1000 x 600mm or the dimensions of the rootball, whichever is greater.

Alginure soil improver and 150mg of Enmag (or equivalent) shall be incorporated into the soil of new tree pits. Trees shall be planted centrally within the pit.

Tree stakes shall be of hazel, chestnut or other timber. Details of the dimensions of the stakes can be found in the Landscape Plan in Appendix B.

All tree ties shall be Green-Tech Holdfast Natural Tree Ties, which are made of natural fibres and will biodegrade once the tree has established itself.

Trees shall be planted between mid-November to mid-March dependent upon the planting season.

The need for replacement planting of failed saplings will be assessed annually during establishment, and any plants replaced the following autumn/winter.

3.2.3 Wildflower Grassland

3.2.3.1 First Year Management

Wildflower grassland (EM3 & EC1)

Seeding of wildflower grassland should be undertaken in spring (late March to May) or autumn (August to October) and sown at a rate of 4g/m^2.

In line with the supplier's guidance[10], during the first year following sowing, any influx of vigorous weeds, such as dock, should be controlled and the grassland should be cut in August, with cuttings removed.

Flowering Lawn (EL1 or N14)

Amenity grassland areas shall be sown with Emorsgate Seeds EL1 or Naturescape N14 Flowering Lawn mix (or similar), in spring (late March to May) or autumn (August to September) at a rate of 4g/m^2.

In line with the supplier's guidance, during the first year following sowing, the flowering lawn should be cut regularly during the growing season, to encourage a balance between rapidly growing grasses and slower to germinate wildflowers to establish. Vigorous weeds, such as dock, should be removed.

3.2.3.2 Ongoing Management

Wildflower grassland (EM3 & EC1)

From the second year onwards, wildflower grassland areas should be subject to a single late summer cut only, ideally in September, to a minimum height of 15cm, or taller. Cutting should be left in place to shed seeds for a maximum of five days, and then removed to reduce nutrient input into the soil and encourage wildflowers to persist.

[10] https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/standard-general-purpose-meadow-mixture/

If during monitoring surveys (refer to Section 4.0) the ecologist finds that the resulting sward contains few forbs and is not on track to meet the target condition (Moderate), additional seeding/ re-seeding of areas may be required.

Flowering Lawn (EL1 or N14)

From the second year onwards, flowering lawn amenity areas shall be cut regularly throughout the year, cut to a minimum height of 25-40mm. Mowing shall be suspended from mid-June for a minimum period of 8 weeks, to allow wildflowers within the mix to flower and set seed, encouraging wildflowers to persist within the grassland; mowing shall therefore resume in mid-August.

3.2.4 Attenuation Basin

Aquatic and marginal vegetation within, and at the edges of, the base of the attenuation basin shall be sown into nutrient poor subsoil, with no fertiliser added, to encourage the establishment of target species. Following sowing, aquatic and marginal vegetation shall be inspected annually, and any litter, weeds and leaflitter removed from this area. Any leaflitter and plants removed from the basin, will be left on the side of basin for 24 hours to allow any wildlife to escape and return to the basin, before being removed.

3.2.5 Bird and Bat Boxes and Hedgehog Highways

Bird and bat boxes shall be integrated into the fabric of the properties as they are constructed in location specified in Figure 1. Hedgehog highways shall be integrated into fencing around plots as they are constructed, in locations specified in Figure 2.

Following construction, and prior to first occupation, a check for the presence and suitable positioning of bird and bat boxes within dwellings, as well as a check for the presence and suitable siting of hedgehog highway fence gaps shall be undertaken by a suitably qualified ecologist. Following this, ongoing management of these features is not required.

Tree mounted bird and bat boxes shall be inspected for presence, condition and use, by a suitably qualified ecologist, in Years 1, 2 and 3, Year 5, Year 10, Year 20 and Year 30 post-construction. If any boxes are found to be missing or in poor condition, this shall be noted within the monitoring report (refer to Section 4.0) and boxes replaced where necessary.

3.3 Five Year Biodiversity Enhancements Programme

An annual biodiversity enhancements management programme covering the initial five-year period has been provided as Table 3-10 overleaf, summarising the management actions required to maintain the biodiversity enhancements described within this BEMP.

Based on the findings of the Year 5 monitoring survey (Section 4.0), a new biodiversity management schedule shall be produced for the 5–30-year period. This may involve, for example, the introduction of additional seeds or plants, and any alterations to the habitat management regime of areas needed to ensure that the biodiversity enhancement features achieve the target condition.

Table 3-10: Five Year Biodiversity Management Schedule

Management Action	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Year 1												
Wildflower Grassland Seeding												
Weed management and initial cutting of grassland and attenuation basin												
Tree, scrub and hedgerow planting												
Installation of bird and bat boxes												
Introduction of deadwood logs/branches to create habitat piles												
Year 2												
Wildflower grassland cutting and removal of cuttings												
'Flowering Lawn' amenity grassland cutting												
Attenuation basin grassland cutting – banks only												
Weed management of grasslands												

Management Action	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Replacement of any failed tree, scrub and hedgerow saplings												
Years 3 - 5												
Wildflower grassland cutting and removal of cuttings												
'Flowering Lawn' amenity grassland cutting												
Attenuation basin grassland cutting – banks only												
Replacement of any failed tree, scrub and hedgerow saplings												

4.0 Ecological Monitoring

Monitoring actions to assess the success and condition of biodiversity enhancement features are outlined below. A monitoring schedule for these actions is provided in Table 4-1 overleaf.

4.1 Habitat Features

The creation, establishment and condition of each habitat feature shall be assessed annually between Years 1- 3, Year five, and Year ten and every ten years thereafter until (and including) Year 30 post-construction. Monitoring of habitat features should take place in late spring/summer (May-September).

Each assessment shall comprise a 'UKHab' habitat survey with Metric 4.0 condition assessments undertaken by a suitably qualified ecologist. The species composition of each habitat feature shall also be recorded using the DAFOR scale (as below) to allow comparison between years, which will help to determine the success of the management actions and any subsequent requirement to alter the management. Each survey shall include a check for invasive non-native species to assess the success of eradication measures.

D = Dominant
A = Abundant
F = Frequent
O = Occasional
R = Rare

4.2 Bird and Bat Boxes and Hedgehog Highways

A check for the presence and suitable positioning of bird and bat boxes within the walls of dwellings, as well as a check for the presence and suitable siting of hedgehog highway fence gaps shall be undertaken in Year 1, prior to the first occupation of the dwellings.

The presence, condition and occupation of tree mounted bird and bat boxes shall be inspected by a suitably qualified ecologist annually between Years 1- 3, Year five, and Year ten and every ten years thereafter) until (and including) Year 30 post-construction.

4.3 Monitoring Report

An ecological monitoring report shall be produced and submitted to the Local Planning Authority annually between Years 1- 3, Year five, and Year ten and every ten years thereafter), with a final monitoring survey undertaken at Year 30 post-construction. The monitoring report shall be written by a suitably qualified ecologist and shall report on the results of the above monitoring surveys. The report shall assess the success of the creation and establishment of the biodiversity enhancement features, detail any remedial actions needed, and suggest any ongoing management recommendations needed to ensure that the biodiversity enhancement features achieve the target condition.

Based on the findings of the Year 3 survey, a new biodiversity management schedule shall be produced for the 5–30-year period. This may involve, for example, the introduction of additional seeds or plants, and any alterations to the management schedule needed to ensure that the biodiversity enhancement features achieve the target condition.

Table 4-1: Ecological monitoring schedule

Monitoring Action	Monitoring Schedule						
	Initial 3-Years			Years 5-30			
	Yr 1	Yr 2	Yr 3	Yr 5	Yr 10	Yr 20	Yr 30
UKHab habitat survey with Metric 4.0 condition assessments, and DAFOR species composition							
Invasive species check							
Check for presence of bird and bat boxes in dwellings (prior to first occupation)							
Check for presence of hedgehog highway gaps (prior to first occupation)							
Tree mounted bird & bat boxes initial check and ongoing monitoring							
Production of monitoring report by a suitably qualified ecologist							

5.0 Sensitive Lighting

Street lighting will comprise a combination of warm white 727, warm white 730 and neutral white 740, with an upward light output of 0%. This meets the IDA Dark Sky requirements when fitted with LEDs of 3000K or less[11].

Development has been set back from the wooded northern Site boundary, such that potential bat commuting and foraging corridor remains undisturbed, and is not subject to excessive light spill.

A street lighting design plan is found in Appendix C. Sensitive lighting will be provided in areas of potential importance to nocturnal wildlife, particularly bats. An indicative plan for sensitive lighting zones is illustrated in Figure 3 and includes:

- An 'urban dark corridor' created alongside the northern Site boundary, adjacent to the off-site woodland and encompassing the new POS area. This area will not contain any street lighting and is subject to minimal light spill from neighbouring areas, to allow nocturnal wildlife to continue benefiting from this habitat.
- A sensitive lighting zone created alongside the retained hedgerows on the western Site boundary. No specific street lighting is proposed on these boundaries, although there may be minimal spill from internal lighting within the houses.

The details described above address planning condition 34.

[11] Outdoor lighting solution is designed to enhance the user experience | Schréder (schreder.com)

6.0 Closure

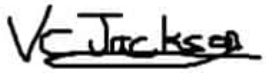
Outline planning permission has been obtained for up to 125 dwellings at Lockwood Road, located on the north-eastern outskirts of the village of Goldthorpe, South Yorkshire (approximate OS central grid reference: SE464046).

A number of planning conditions were attached to outline planning permission 2021/1171.

This report, in combination with the documents it makes reference to, has been designed to wholly or partially discharge ecology specific conditions 31-34 of the planning permission.

Regards,

SLR Consulting Limited



Vanessa Jackson, BSc (Hons), MSc, ACIEEM
Senior Ecologist – Ecology & Biodiversity

Gary Oliver, BSc (Hons) MSc, MCIEEM, CEnv
Principal Ecologist – Ecology & Biodiversity

Appendix A Proposed Layout

Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023

Schedule of Accommodation
To be read in conjunction with drawing no. 3228-1-001-LL

OMS										
Kenmare	252	2	2	Semi	753	69.96	2	2%	1506	139.91
Glin	350	2	3	Semi	904	83.98	26	21%	23504	2183.57
Lucan	352	2	3	Semi	904	83.98	8	6%	7232	671.87
Strade	354	2	3	Detached	904	83.98	14	11%	12656	1175.77
Neale	355	2	3	Semi	904	83.98	9	7%	8136	755.85
Sandyford	358	2	3	Semi	984	91.42	4	3%	3936	365.66
Clifden	359	2	3	Detached	984	91.42	8	6%	7872	731.33
Milford	360	2	3	Detached	919	85.38	11	9%	10109	939.15
Dalkey	450	2	4	Detached	1156	107.40	19	15%	21964	2040.51
Grange	451	2	4	Detached	1071	99.50	4	3%	4284	397.99
Lanesborough	452	2	4	Detached	1211	112.50	7	6%	8477	787.53
						Total	112	90%	109676	10189.15
Affordable										
Greystones	250	2	2	Semi	753	69.96	3	2%	2259	209.87
Kenmare	252	2	2	Semi	753	69.96	2	2%	1506	139.91
Tallow	253	2	2	Semi	753	69.96	3	2%	2259	209.87
Glin	350	2	3	Semi	904	83.98	3	2%	2712	251.95
Lucan	352	2	3	Semi	904	83.98	1	1%	904	83.98
Sandyford	358	2	3	Semi	984	91.42	1	1%	984	91.42
						Sub-total	13	10%	10624	986.99
						Total	125	100%	120300	11176.14

N
S

LEGEND:

- 1.8m (h) TIMBER FENCE
- POST & WIRE FENCE
- 0.45m (h) TIMBER KNEE RAIL
- 2.0m (h) CLOSE BOARDED FENCE
- 6m EXISTING EASEMENT
- EXISTING TREES
- PROPOSED TREES
- BIN COLLECTION POINT
- RAISED TABLE TO ENGINEER'S DESIGN & SPECIFICATION

SCALE BAR 1:500 @ A1 — 10m

NOTE
All plots are to be "Urban 21 Elevations"

revision	date	content	initials
LL	15.06.23	GARAGES REMOVED FROM PLOTS 46, 52, 53, 76, 85, 102, 103, 104 & 105.	PG
KK	19.05.23	REARRANGED POSITION OF L.E.A.P DUE TO HEDGES TO BE RETAINED.	SM
JJ	03.05.23	PLOTS 67 - 68 & PRIVATE DRIVE TO PLOTS 69-73 UPDATED. VEHICLE SWEPT PATHS ADDED FOR PLOTS 69 & 118. RAISED TABLE RAMP AT PLOTS 418 61 MOVED. 2m HIGH CLOSE BOARDED FENCE ADDED	PG
II	27.04.23	L.E.A.P. EQUIPMENT ADDED. BOUNDARY UPDATES TO PLOTS 12, 69, 70, 71, 81 & 82	PG
HH	24.04.23	DRAFT LAYOUT FORMALISED IN CAD. ALL 357 HOUSE TYPES REPLACED WITH 350 HOUSE TYPES. RAISED TABLES ADDED	PG
GG	03.04.23	DRAFT SKETCH OVERLAY - MIX ADJUSTMENT TO ACCOMMODATE SALES REQUIREMENT / POS DETAIL ADDED	SN
FF	03.04.23	DRAFT SKETCH OVERLAY - SITE REDRAW	SN
EE	20.03.23	PLOT 96 POSITION REVISED	ED
DD	14.03.23	ADDITION OF NOTE, ALL PLOTS TO BE URBAN 21 ELEVATIONS	SM
CC	07.03.23	REVERTED TO SWEPT PATH ANALYSIS REV A TRACKING. AMENDED PLOT 96 GARDEN BOUNDARY AND PARKING ARRANGEMENT	SM
BB	06.03.23	FENCE LINE AND PARKING AMENDED TO PLOT 96.	SM
AA	06.03.23	ROAD DIMENSION AMENDED OUTSIDE PLOT 95.	ED
Z	03.03.23	ROAD WIDTHS REVISED FOLLOWING DISCUSSIONS WITH HIGHWAYS CONSULTANT.	ED
Y	22.02.23	SUBSTATION LOCATION REVISED. GARAGE TO PLOTS 64/65 REPOSITIONED. VISITOR SPACES INCREASED. TREE DETAILS ADDED TO LAYOUT.	ED
X	17.02.23	ROAD WIDENED FOLLOWING DISCUSSIONS WITH HIGHWAYS OFFICER. PLOT 71 REPLACED WITH 357	ED

PLANNING
subject to structural review
subject to accurate measured survey

project: PROPOSED RESIDENTIAL LOCKWOOD ROAD GOLDTHORPE

client: GLEESON DEVELOPMENTS

title: PROPOSED SITE LAYOUT

date: 02.03.21 | scale: 1:500@A0 | drawn: SN

drawing number: 3228-1-001 LL | checked:

Niemen Architects
Deck 2 The Waterscape
42 Leeds & Bradford Road
Kirkstall Leeds LS5 3EG
Tel: 0113 239 5400
Fax: 0113 239 5401
office@niemen.co.uk
www.niemen.co.uk

Lockwood Road, GOLDTHORPE

Appendix B Landscape Plan

Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023

Planting Notes

Topsoil shall be a minimum of 400mm depth over planting beds and graded to fall. Imported topsoil must be BS3882:2015 compliant and existing topsoil must be cultivated in accordance with BS3882: 2015. No cultivation should take place in wet/ waterlogged conditions.

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Tree ties: All tree ties to be Green-Tech Holdfast Natural Tree Ties. Natural tree tie is made entirely of natural fibres and is fully bio-degradable. A spacer by formed using the Natural tree tie itself. It will not strangle the tree and will bio-degrade as the tree establishes itself.

Native Woodland / Shrub areas: Soil depth shall consist of 300mm topsoil and 600mm subsoil (in accordance with BS3882: 2015).

Container grown shrubs, transplants and whips: Shrubs and transplants shall be planted in pits 300x300x400mm depth), and the backfill shall include 3 litres of peat-free tree and shrub compost. Where two or more shrub species are indicated within a single bed each species shall be randomly mixed throughout the bed in groups of 3/5.

Herbicide: Spot treat with herbicide throughout the maintenance period in accordance with the manufacturer's instructions.

Mulch: Planting beds to receive 75mm depth pulverized ornamental bark mulch. Native woodland / shrub / hedgerow plants to be planted with Greenfix Mulch Mat - Type 11. Mulch Mats are 100% biodegradable with an approximate three year lifespan. Mulch Spats are ready-cut for individual plant production with a centre hole for plant protection. Mats pinned to soil.

Plant position: Final position of trees and shrubs subject to confirmation of service location and approval of statutory undertakers.

Protection to planting: Native hedgerow plants, trees and shrubs within mixes to be protected by Green-tech Bio-Earth Tree Shelter. The Bio-Earth Tree Shelter is made from a special water-proof FSC-approved cardboard which is 100% biodegradable, recyclable, and compostable. Lifespan is typically 3 years. Once the tree / shrub has established enough to no longer need it, the Bio-Earth Tree Shelter can be left to safely biodegrade.

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Grass: All turf/seeded areas to be cultivated and levelled as required removing any stones, rubble, subsoil, general construction waste.

Planting Season: Bare-root shrubs to be planted between mid-November and mid-March dependant upon the planting season.

LEGEND

- Site boundary
- Existing vegetation to be retained
- Existing vegetation to be removed
- Cut back vegetation
- Proposed tree Heavy (Standard)
- Proposed tree Selected (Standard)
- Proposed Native Hedge Mix
- Proposed hedge
- Proposed shrub bed
- Proposed grass
- Proposed wildflower mix Emorsgate EM3 'Special general purpose meadow Mix' @ 4g/m²
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- Proposed Native Shrub Mix

Note: Full planting schedule on drawing 3710/4J

This drawing has been prepared for the purpose of planning approval.

Rev J: Revised to Niemen Architects 'Proposed Site Layout' 3228-1-001-KK 22may23 (BP)

Rev I: Not used

Rev H: Revised to new layout Niemen Architects 'Proposed Site Layout' 3228-1-001-JJ 04may23 (RP)

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Rev F: Revised to 3228-1-001-V - 20Feb23 (BP)

Rev E: Revised to show amended planting schedule - 12Dec22 (BP)

Rev D: Revised to client comments - 21Novt22 (RP)

Rev C: Revised to ecology comments - 31Oct22 (RP)

Rev B: Revised to 3228-1-001 Rev T - 11Oct22 (BP/rp)

Rev A: Revised to 3228-1-001 Rev N received 22Mar22 - 28Mar22 (MP/jr)

Base: Niemen Architects 'Proposed Site Layout' 3228-1-001 Rev E

PROJECT	Lockwood Road, Goldthorpe		
TITLE	Detailed Landscape Proposals (1 of 3)		
CLIENT	Gleeson Homes and Regeneration		
DATE	16 Aug 21	SCALE 1 : 250	SHEET A0
DRAWN	MP/jr	DRAWING NO	3710/2
CHECKED	MP	REVISION	J

ROSETTA LANDSCAPE DESIGN
Landscape Architects
Swallow's Nest, Main Street
Askham Richard, York, YO23 3PT
Telephone +44 (0)1904 500410
Email design@rosettalandscape.co.uk
Web www.rosettalandscape.co.uk

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Plant position: Final position of trees and shrubs subject to confirmation of service location and approval of statutory undertakers.

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Planting Season: Bare-root shrubs to be planted between mid-November and mid-March dependant upon the planting season.

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- Proposed tree Heavy (Standard)
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Note: Full planting schedule on drawing 3710/4J

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PROJECT	Lockwood Road, Goldthorpe		
TITLE	Detailed Landscape Proposals (2 of 3)		
CLIENT	Gleeson Homes and Regeneration		
DATE	16 Aug 21	SCALE 1 : 250	SHEET A0
DRAWN	MP/jr	DRAWING NO	3710/3
CHECKED	MP	REVISION	J

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Planting Schedule

Proposed Trees

Nr	Code	Tree Name	Specification	Girth	Height
6 -	Ac	Acer campestre	RB :Standard	8-10cm	1.8-2.0m
11 -	Ag	Alnus glutinosa	RB :Light Standard	8-10cm	1.8-2.0m
9 -	Al	Amelanchier lamarckii	RB :Standard	8-10cm	1.8-2.0m
18 -	Bpe	Betula pendula	RB :Light Standard	8-10cm	1.8-2.0m
3 -	Cb	Carpinus betulus	RB :Standard	8-10cm	1.8-2.0m
7 -	Cm	Crataegus monogyna	RB :Standard	8-10cm	1.8-2.0m
2 -	Fs	Fagus sylvatica	RB :Standard	8-10cm	1.8-2.0m
2 -	FsP	Fagus sylvatica 'Purpurea'	Heavy Standard :Clear Stem 175-200 :RB	12-14cm	350-400cm
4 -	MJD	Malus 'John Downie'	RB :Standard	8-10cm	1.8-2.0m
21 -	Pa	Prunus avium	RB :Standard	8-10cm	1.8-2.0m
6 -	Qr	Quercus robur	RB :Standard	8-10cm	1.8-2.0m
6 -	SaJR	Sorbus aucuparia 'Joseph Rock'	RB :Standard	8-10cm	1.8-2.0m
10 -	Sar	Sorbus aria	RB :Standard	8-10cm	1.8-2.0m
17 -	Sau	Sorbus aucuparia	RB :Standard	8-10cm	1.8-2.0m
3 -	Tc	Tilia cordata	RB :Standard	8-10cm	1.8-2.0m
Total :125 -					

Proposed Hedges (4/m)

Nr	Code	Tree Name	Specification	Height
629 -	Cb	Carpinus betulus	C	60-80cm
964 -	Fs	Fagus sylvatica	C	60-80cm
Total :1593 -				

Proposed Shrubs

Nr	Code	Plant Name	Height	Cntr (l)	Nr/m2
162 -	Bg	Brachyglottis greyi	30-40cm	5L	3/m²
201 -	BtA	Berberis thunbergii 'Atropurpurea'	30-40cm	5L	3/m²
118 -	Ct	Choisya ternata	30-40cm	5L	3/m²
122 -	EEG	Euonymus fortunei 'Emerald Gaiety'	30-40cm	5L	4/m²
157 -	EfEG	Euonymus fortunei 'Emerald 'n' Gold'	30-40cm	5L	4/m²
171 -	Hca	Hypericum calycinum	30-40cm	5L	4/m²
176 -	Hs	Hebe 'Sutherlandii'	30-40cm	5L	4/m²
59 -	LaH	Lavandula angustifolia 'Hidcote'	30-40cm	5L	4/m²
140 -	LnBG	Lonicera nitida 'Baggesen's Gold'	30-40cm	5L	4/m²
196 -	LnMG	Lonicera nitida 'May Green'	30-40cm	5L	3/m²
8 -	PSR	Pyracantha saphyr 'Red'	40-60cm	5L	3/m²
213 -	Vd	Viburnum davidii	30-40cm	5L	4/m²
35 -	Vmi	Vinca minor	30-40cm	5L	4/m²
76 -	Vt	Viburnum tinus	30-40cm	5L	3/m²
Total :1834 -					

Native Hedge Mix (5/m)

Nr	Code	Plant Name	Height	Root	%
57 -	Ac	Acer campestre	80-100cm	BR	5%
217 -	Cav	Corylus avellana	80-100cm	BR	20%
324 -	Cm	Crataegus monogyna	80-100cm	BR	30%
110 -	Ia	Ilex aquifolium	80-100cm	BR	10%
217 -	Ps	Prunus spinosa	80-100cm	BR	20%
110 -	Sc	Salix caprea	80-100cm	BR	10%
57 -	Vo	Viburnum opulus	80-100cm	BR	5%
Total :1092 -					

Native Shrub Mix (1/m)

Nr	Code	Plant Name	Height	Root	%
409 -	Cav	Corylus avellana	80-100cm	BR	30%
273 -	Cmo	Crataegus monogyna	80-100cm	BR	20%
137 -	Ia	Ilex aquifolium	80-100cm	BR	10%
273 -	Ps	Prunus spinosa	80-100cm	BR	20%
137 -	Sc	Salix caprea	80-100cm	BR	10%
137 -	Vo	Viburnum opulus	80-100cm	BR	10%
Total :1366 -					

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Rev B: Revised to 3228-1-001 Rev T - 11Oct22 (BP/rp)

Rev A: Revised to 3228-1-001 Rev N received 22Mar22 - 28Mar22 (MP/jr)

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PROJECT	Lockwood Road, Goldthorpe		
TITLE	Detailed Landscape Proposals (3 of 3)		
CLIENT	Gleeson Homes and Regeneration		
DATE	16 Aug 21	SCALE 1 : 250	SHEET A0
DRAWN	MP/jr	DRAWING NO	3710/4
CHECKED	MP	REVISION	J

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LEGEND

- Site boundary
- Existing vegetation to be retained
- Proposed crown reduction
- Existing vegetation to be removed for arboricultural reasons
- Existing vegetation to be removed to accommodate development
- Root Protection Area BS5837 - 2012

Rev C:Revised to Niemen Architects 'Proposed Site Layout' 3228-1-001-KK 22may23 (BP)

Rev B:Revised to new layout Niemen Architects 'Proposed Site Layout' 3228-1-001-JJ 04may23 (RP)

Rev A:Revised in line with new layout received 27apr23 Niemen Architects 'Proposed Site Layout' 3228-1-001-II

Base: Niemen Architects 'Proposed Site Layout' 3228-1-001-V received 20Feb23

PROJECT	Lockwood Road, Goldthorpe		
TITLE	Trees in Relation to Development		
CLIENT	Gleeson Homes and Regeneration		
DATE	21 Feb 23	SCALE 1 : 500	SHEET A0
DRAWN	BP	DRAWING NO	3710/5
CHECKED	BP	REVISION	C

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Appendix C Street Lighting Design

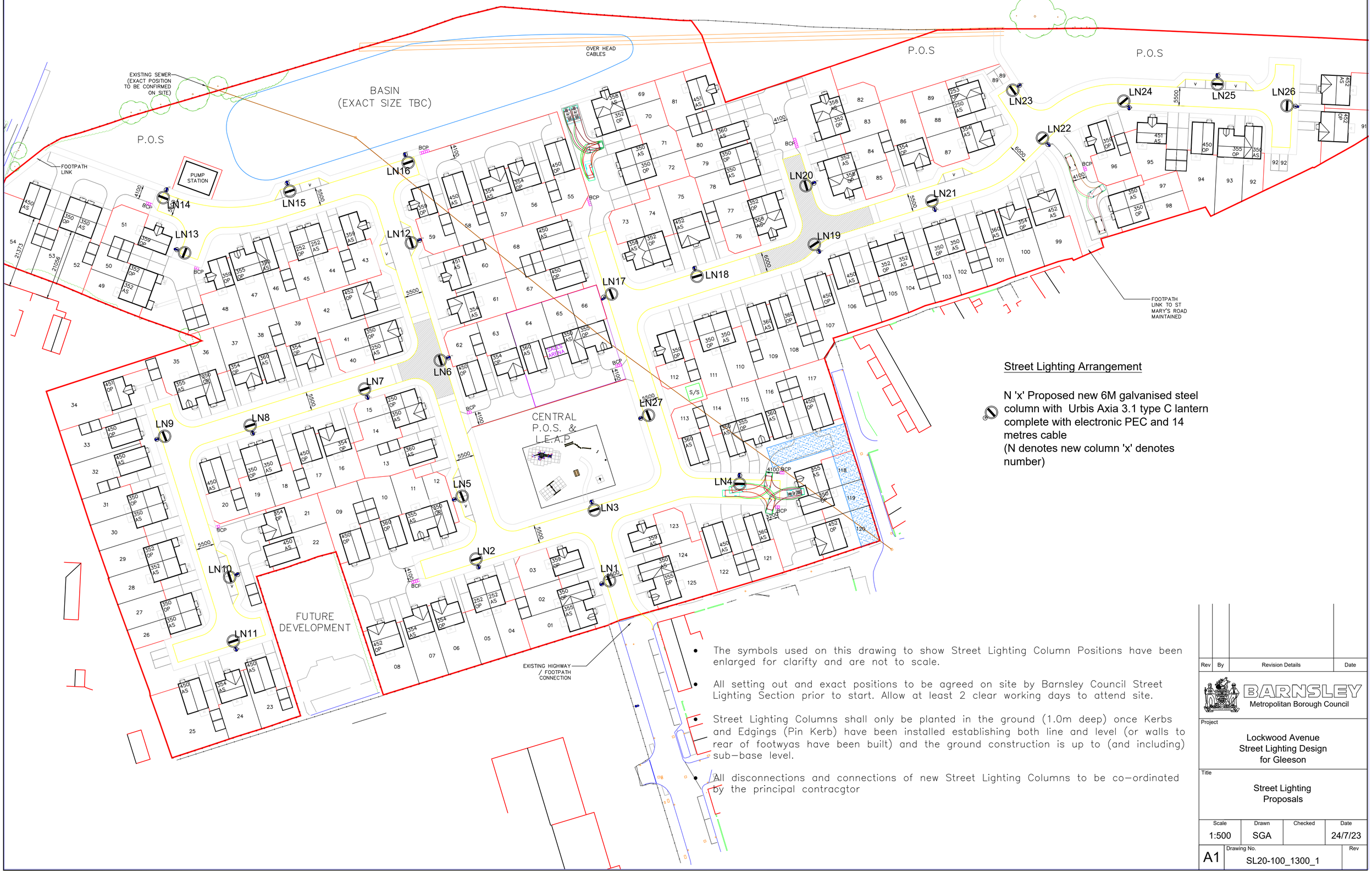
Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023



Street Lighting Arrangement

N 'x' Proposed new 6M galvanised steel column with Urbis Axia 3.1 type C lantern complete with electronic PEC and 14 metres cable
(N denotes new column 'x' denotes number)

- The symbols used on this drawing to show Street Lighting Column Positions have been enlarged for clarifty and are not to scale.
- All setting out and exact positions to be agreed on site by Barnsley Council Street Lighting Section prior to start. Allow at least 2 clear working days to attend site.
- Street Lighting Columns shall only be planted in the ground (1.0m deep) once Kerbs and Edgings (Pin Kerb) have been installed establishing both line and level (or walls to rear of footwyas have been built) and the ground construction is up to (and including) sub-base level.
- All disconnections and connections of new Street Lighting Columns to be co-ordinated by the principal contracgtor

Rev	By	Revision Details	Date

BARNSLEY
Metropolitan Borough Council

Project

Lockwood Avenue
Street Lighting Design
for Gleeson

Title

Street Lighting
Proposals

Scale	Drawn	Checked	Date
1:500	SGA		24/7/23

	Drawing No.	Rev
A1	SL20-100_1300_1	

Appendix D Invasive Species Management Plan

Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023

Invasive Species Management Plan
Lockwood Road, Goldthorpe

1st June 2023
3991

Ebsford
Environmental

Introduction

Ebsford Environmental Ltd are a consulting and contracting business specialising in the management of invasive species. We lead the way in delivering efficient, environmentally sustainable and cost-effective projects to a varied client base nationwide, with a unique service offered through a range of bespoke solutions. Our work is accredited by the two leading industry governing bodies: The Invasive Non-Native Specialist Association (INNSA) and the Property Care Association (PCA). We were the first UK company to obtain dual membership of these professional bodies that set standards and ensure projects are in line with current best practice. Our delivery of projects was recognised in 2019 when we were awarded the Contractor of the Year Award by the Property Care Association.

PROJECT SUMMARY

Client:	Gleeson Homes
Date Prepared:	1st June 2023
Prepared By:	Ray Holderness, Senior Consultant M: 07415 620807 E: rayholderness@ebsford.co.uk
Job Number:	3991

PROPOSED END USE:
Residential development

TARGET COSTS: £38,500+VAT

TIMESCALES FOR ERADICATION:
1 week

LOCATION: Goldthorpe

INFESTATION WITHIN DEVELOPMENT FOOTPRINT:

Yes ✓ No

OPTIONS CONSIDERED:
Enviroscreen 20/20
Off-site disposal

PROJECT OVERVIEW

Introduction

Ebsford Environmental Ltd were commissioned by Michael Boot at Gleeson Homes to undertake an invasive species walkover survey on a large parcel of land earmarked for development at Lockwood Road in Goldthorpe. The original survey was carried out in April 2021; a re-survey was carried out in May 2022 and again in May 2023. The objective of this document is to provide an updated document including the visible baseline location and extent of the invasive non-native species (INNS) that are listed under Schedule 9 of the Wildlife and Countryside Act. Ebsford will assess the impact, risk and barriers to the site and provide fully costed options available whilst covering the client's duty of care.

The objectives are outlined below:

- ✓ Determine locations, quantity and condition of any invasive non-native species present
- ✓ Based on the survey provide recommendations based on the current best practice in the industry

Japanese knotweed (*Fallopia japonica*) is covered under the Wildlife and Countryside Act 1981, rev. 2, meaning that it is an offence to plant or otherwise cause to grow in the wild. Japanese knotweed infamously spreads laterally via its underground rhizome (root) network, as in the UK only the female plant is present, therefore growth is facilitated by vegetative spread rather than through germination. In fact, it is believed all instances in the UK are the clone of a singular female genotype.

Survey Method

Our surveyors are all Property Care Association (PCA) qualified surveyors for Japanese knotweed (JK) and have extensive experience regarding the identification of the relevant species at all times of year. This includes the three species of Japanese knotweed: *Fallopia japonica*, *Fallopia japonica x sachalinensis* & *Fallopia sachalinensis* and all other species as listed within Schedule 9 Part II of the Wildlife & Countryside Act 1981 (as amended)[1]. Any material that could be considered a controlled waste under the Environmental Protection Act 1990 (as amended)[2].

Ebsford follow the INNSA Code of Practice which has been produced by experts within the field at the request of the Environment Agency to replace the withdrawn Code of Practice for Developers. It demonstrates the current best practice for the management of Japanese knotweed in the industry. As a regulating body within the construction industry INNSA members subscribe to the Invasive Code of Practice to improve standards within the industry and offer peace of mind to clients. This dedication to high standards and working in line with best practice is entrenched in everything Ebsford does, not simply for Japanese knotweed.

[1] Wildlife & Countryside Act 1981: The legislation aims to prevent the planting of Schedule 9 listed plant material in the wild where it then poses a threat to our native biodiversity and ecosystems. With respect to the plants section 14(2) states: if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, shall be guilty of an offence.

[2] Environmental Protection Act 1990 (as amended): Places a "Duty of Care" on the producer and anyone they employ to dispose of soil or other material contaminated with Japanese knotweed or giant knotweed. The material then becomes a controlled waste which can only be taken to licensed landfill sites and dealt with appropriately.

Site observations

The site measures approximately 5.3-hectares and is located to the east of Lockwood Road and to the north of East Street in Goldthorpe.

The site can be described as three separate areas comprising of an open field to the north bounded by the A635 to the north and Lockwood Road to the west. The central part of the site is currently occupied by allotment gardens with associated sheds, outbuildings and caravans. A number of allotment plots that were inaccessible in 2021 and 2022 due to security measures were accessible at the latest survey. The southern section of the site is best described as scrubland with several areas of dense vegetation; Japanese Knotweed is located within this area, as per the site plans on pages 13, 14 & 15. Fly tipping is evident throughout the southern field. Access to the southern field was gained from East Street. An access track runs between the allotments and the southern field from Hamilton Road. The boundaries are typically formed by hedgerows and fencing. Mature and semi-mature trees and hedgerows are present within the southern field and allotment area.

Ebsford were issued with a number of relevant documents such as a red line boundary, proposed site plan, topographical survey and a geotechnical & geo-environmental site investigation produced by Eastwood and Partners dated 7th April 2021. The presence of Knotweed was flagged up in the Eastwood report. site plan dated February 2021 showing the approximate location of Japanese Knotweed. The aforementioned documentation should be read in conjunction with this report.

Japanese knotweed

Only one area of Japanese knotweed was GIS mapped across the site; the extent of all visible crowns, dead canes and visible Knotweed growth was mapped. A crown lies partially above and partially below the surface of the ground, connecting the upright stems to the below ground rhizome network. Each year new growth emerges from the crown and thrives throughout the growing season until it dies back for winter. When the Knotweed has died back for winter the dead stems are referred to as canes due to the brittleness and the brown appearance of the dead stems. The appearance of the Knotweed was as expected for the time of year surveyed; new season growth was observed as well as dead canes from previous years growth. The stand appears to be healthy meaning no herbicides have been applied recently nor has any ground been broken.in the footprint of the Knotweed area.

Site Pictures

Knotweed located within the southern area of site. Dead Knotweed canes can be seen from last season's growth; new season growth is relatively immature and is difficult to see due to the early season survey.

Highlighted areas show new season growth surrounded by previous years dead canes.

3.0 OPTION APPRAISAL

As the land is to be developed, the Japanese knotweed must be mechanically removed to allow the development to commence. Ebsford have prepared two methodologies for management, in order to allow the client to assess the most appropriate course of action, taking into consideration project programming and any site constraints. The two methodologies proposed are: Enviroscreen 20/20 and off-site disposal; both methods will allow the development to commence by removing the infestation in its entirety via a mechanical solution, thus removing the biosecurity risks associated with the potential spread of the species during construction activities, complying with the Wildlife and Countryside Act, as well as following best practice and satisfying mortgage lenders with a PCA and INNSA approved contractor.

When evaluating a mechanical solution, it is prudent that the volume to be managed takes into consideration the density and maturity of the species, drawing on previous experience in growth patterns and species establishment, as well as the volume quantification calculated on site. Based on the excavation, haulage and disposal off site, a total estimated volume of 250m^2 = 500m^3 = 900 tonnes based on a cubic metre weighing 1.8 tonnes and providing all Ebsford supervision, labour and warranty costs. By implementing biosecurity measures for the transportation of Japanese knotweed, this would result the management of approximately 50 eighteen tonne wagon loads to be removed to a licensed landfill if this is the preferred solution. Ebsford are always transparent with volumes, working with the client to ensure the most cost-efficient solution is implemented. Ebsford will submit waste transfer notes to verify the volume if disposed off site.

3.1 Enviroscreen 20-20

This option provides an on-site remediation strategy, mitigating the requirement for off-site disposal, and therefore providing greater flexibility in terms of the processing capacity in the time that the equipment is being utilised on site. Our Enviroscreen 20:20 technology is a revolutionary mechanical solution for the control of Japanese knotweed. The equipment was developed over ten years using experience gained from working on complex construction projects impacted by Japanese knotweed, such as the 2012 Olympic Games, and multiple solutions for housing developers, processing thousands of tonnes of material.

Prior to any works being undertaken, a full management plan is prepared, and the area of infestation is isolated to prevent access and disturbance by site traffic and operatives. A screening zone is also firmly established to avoid subsequent cross-contamination. We assume the site will be cleared of trees, vegetation and deleterious material before work commences. The infestations will be excavated via the method below, transported to this screening zone and managed accordingly.

Our trained and experienced supervisors will ensure that all visible Japanese knotweed contaminated material from within the development footprint is removed, no cross-contamination occurs, and all machinery used during the process will be clean on completion of the works. Material is always excavated under the Ebsford site manager's supervision – excavation proceeds to the extent of the rhizome network. Excavations commence from the furthest identified rhizome in 200mm layers to allow the sides and formation of each layer to be inspected by the Ebsford site manager. Our standard post excavation procedure is to ensure the excavation is safe following our works. This involves utilising site won material from the surrounding area, to reduce the angle of repose and allow access by foot.

Once the operation begins, the screened material will be split in to three separate stockpiles; the oversized and the mid-sized material explained below will remain on site in stockpiles upon completion and can be re-used anywhere on site by the client.

The final stockpile described below, the fines material, can be managed in the following ways, under Ebsford supervision:

- Burial in a POS area on site (an area that will not undergo ground-breaking activities) with a capping layer of a minimum of 600mm of clean material followed by monitoring and any spot treatment necessary
- Buried at depth outside of the footprint of any built structure; for which we recommend at least 2m of clean cover without the requirement for spot treatment
-

Ebsford will liaise with the client to review proposed layout and remediation requirements to ascertain the most appropriate location that works best for this site. This phase of the work is charged at a day rate for supervision of the relocation and will be discussed further with the client when necessary.

The method of re-use is detailed below:

Stockpile 1: Predominantly oversized material such as brick, large stones and concrete blocks. This stockpile may require crushing before reuse on site. Estimated quantity will be 15%-20% of the total volume screened. Once processed, this material can be reused anywhere on site without restriction.

Stockpile 2: Material varying in size up to 75-90mm (with small amounts of soil) which will have been handpicked to remove the rhizome material. This processed material will be stockpiled and can be reused on site in any location. Estimated quantity of 40-50% of volume screened material.

Stockpile 3: Material which will closely resemble topsoil <20mm in size. There will be small fragments of rhizome, smaller than a biro pen within this material. Estimated quantity of 30%-40% of volume screened.

For this particular site, working on a 30% ratio based on the worst case scenario of processed volumes of 500m³, we anticipate that the final volume of fines material requiring management will be a maximum of 150m³. As stated above, this will require careful management and a close working relationship.

Please note, this technology is dependent on weather conditions and we therefore recommend the optimum time for utilisation is March-October, due to precipitation levels that can impact the processing capacity.

*This recommendation is based on the assumption that all excavated material is suitable for screening; site investigation reports will be required before works commence. Although it is not possible to guarantee the information contained within these reports, should any material *not* referenced within SI reports be found on site that is either contaminated or unsuitable for screening (i.e. heavy clay), alternative solutions for management may be required.*

Due to mechanical screening being regarded as a remediation operation, this system is also likely to qualify for Land Remediation Tax Relief (LRTR) at the organisations prevailing rate. Further assistance/advice on this should be sought from your accountant.

Off-site disposal methodology

When evaluating a mechanical solution, it is prudent that the volume to be managed is carefully considered, taking into consideration the density and maturity of the species, and drawing on previous experience in growth patterns and species establishment. By implementing biosecurity measures for the transportation of Japanese knotweed, this would result in the management of a maximum of approximately 50 lorry loads to be removed to licensed landfill. Please see below specific methodology for off-site disposal.

Our trained and experienced supervisors would ensure that all visible Japanese knotweed contaminated material from within the development footprint is removed, no cross-contamination occurs, and all machinery used during the process will be clean on completion of the works. In order to reduce disposal volumes, material is always excavated under the Ebsford site manager's supervision – excavation proceeds to the extent of the rhizome network. A suitable pre-designated stockpile area will be utilised for the excavated material; excavations will proceed commencing from the furthest identified rhizome in 200mm layers to allow the sides and formation of each layer to be inspected by the Ebsford site manager.

Removal of material is always to a landfill site registered to accept such material. Ebsford will ensure all biosecurity measures are closely followed during all elements of the project, including the loading of wagons with contaminated material ready for disposal to landfill; all haulage routes will also be checked upon completion of the works. As discussed above, post-works, all documentation such as waste carriers licence and waste transfer notes can be issued to the client.

Our standard post excavation procedure is to ensure the excavation is safe following our works. This involves utilising site won material from the surrounding area, to reduce the angle of repose and allow access by foot.

BUDGET ANALYSIS

Please see below budget costs for the project:

4.1 Enviroscreen 20-20

Element Description	Unit	Number	Total
Ebsford site management for 1 week including; - Site set up and RAMS preparation - Hire of machinery, operator, fuel, delivery and collection - Ebsford labour and Japanese knotweed excavations - Biosecurity measures, such as appropriate fencing, signage, toolbox talk to other contractors, creation of transportation routes, machinery washes - Enviroscreen hire including labour, pickers, conveyors, incinerator hire, delivery and collection	Lump	1	£37,000
Issue of 10-year insurance backed guarantee with monitoring	Lump	1	£1,500
TOTAL (excluding VAT)			£38,500+VAT

Due to the estimated volumes present, we have anticipated a best case scenario of approximately 1 week of screening works. If a larger volume is excavated or delays out of our control occur, additional weekly charges would be required.

If welfare facilities are not available on site for the duration of the above works, Ebsford are happy to provide this at £700+VAT per week.

Screening of Japanese knotweed is covered under the revised Land Remediation Tax Relief (LRTR) rules. In this, any developer who is remediating material on site is able to claim an offset of between 50%-150% of the qualifying expenditure against corporation tax; this would need to be completed by the financial/legal department of the client authorising the works. Advice regarding this should be sought from a financial advisor.

Off site disposal

Element Description	Unit	Number	Total
Ebsford site management for 5 days including; - Biosecurity measures - Site set up and RAMS preparation - Hire of machinery including operators, fuel, collection and delivery - Off-site disposal of Japanese knotweed material including haulage costs, based on 50 loads	Lump	1	£58,550
Issue of 10-year insurance backed guarantee with monitoring	Lump	1	£1,350
TOTAL (excluding VAT)			£59,900

If larger volumes of material are excavated for removal than proposed, additional loads will be charged at 1,170+VAT per load.

If welfare facilities are required, Ebsford are happy to provide this at £700+VAT per week.

This offer is subject to the receipt of SI reports or soil tests being completed and the results showing excavated material will be otherwise inert, containing incidental (<5%) vegetation/knotweed rhizomes and being accepted at the receiving landfill site at the inactive/lower rate of taxation. Japanese knotweed is classified as non-hazardous controlled waste; if soil test results prove otherwise or the landfill site imposes taxation at the active/higher rate, delays may be necessary and extra costs may also be incurred. This can be conducted by Ebsford for a cost of £120+VAT, or alternatively the client can access previous resources if already completed.

Costs for landfill are based on the current rate; this price is valid for a three month period and is subject to review if the project progresses after this period, and are also subject to any change in environmental and/or landfill tax guidance or legislation..

SITE SURVEY DRAWINGS

Project: 3991 Lockwood Rd, Goldthorpe

Legend:

Japanese Knotweed

Prepared By: MS/RH

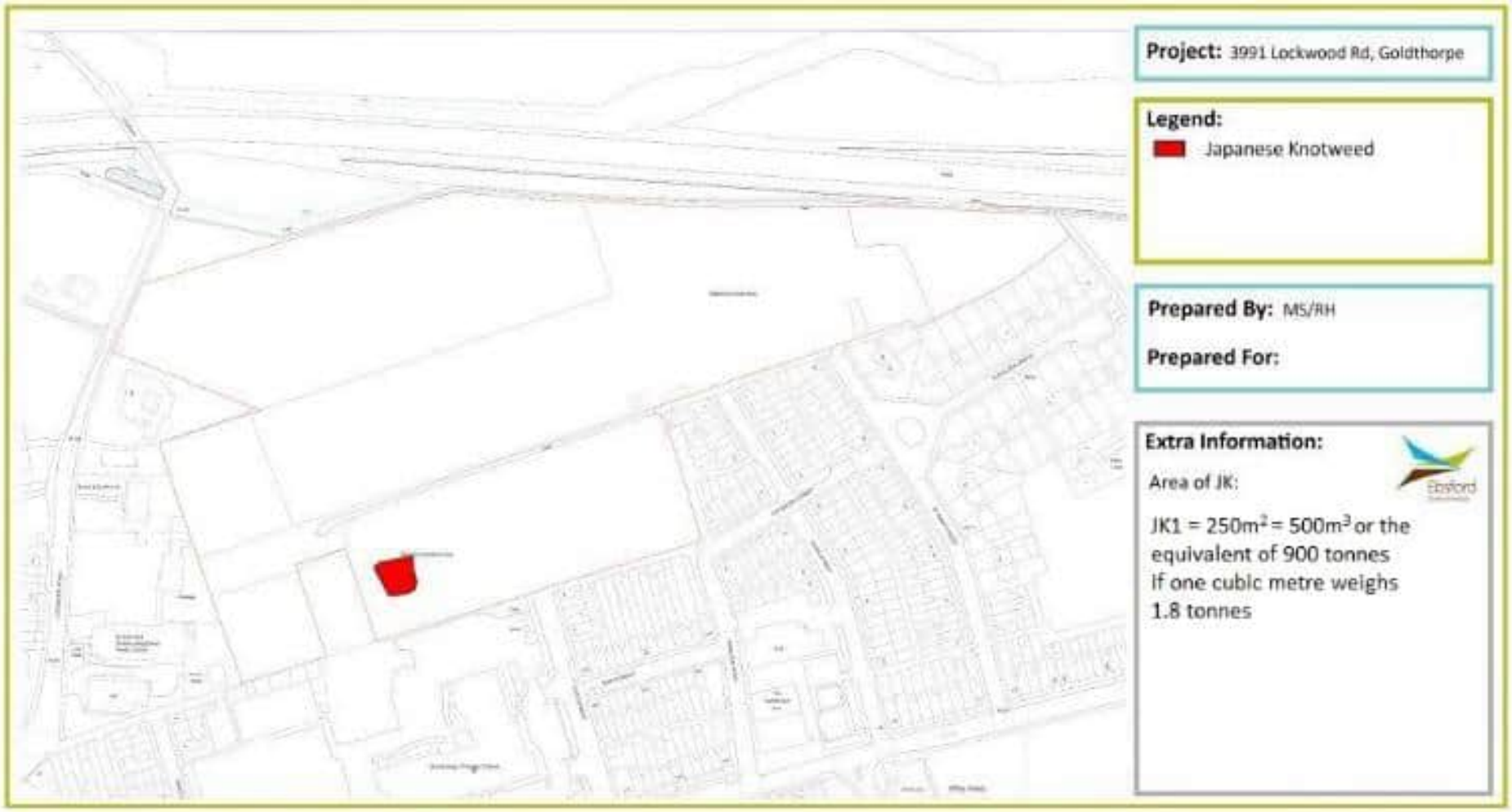
Prepared For:

Extra Information:

Area of JK:

JK1 = 250m^2 = 500m^3 or the equivalent of 900 tonnes
If one cubic metre weighs 1.8 tonnes

Ebsford


Project: 3991 Lockwood Rd, Goldthorpe
Legend:
Japanese Knotweed
Prepared By: MS/RH
Prepared For:
Extra Information:
Area of JK:
JK1 = 250m² = 500m³ or the equivalent of 900 tonnes
If one cubic metre weighs 1.8 tonnes

Project: 3991 Lockwood Rd, Goldthorpe

Legend:

Japanese Knotweed

Prepared By: MS/RH

Prepared For:

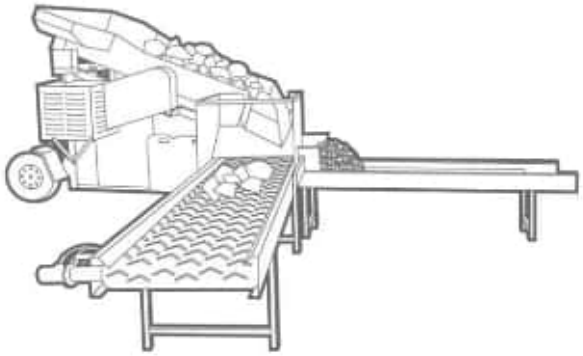
Extra Information:

Area of JK:

JK1 = 250m^2 = 500m^3 or the equivalent of 900 tonnes
If one cubic metre weighs 1.8 tonnes

SYSTEM OVERVIEW

6.1 Enviroscreen Overview



The Enviroscreen 20-20 family has been developed by Ebsford Environmental to mechanical remove Japanese knotweed (JK) from contaminated soil, allowing selective re-use of material within development sites.

Any suspected contaminated material is processed through a bespoke screening operation and separated into three grades of material that can be re-engineered within the site.

Any viable JK which is physically removed from the soil (typically <1%) can be buried, incinerated or removed from site depending on the specific sustainability goals of the project.

Due to mechanical screening being regarded as a remediation operation, this system is also likely to qualify for Land Remediation Tax Relief (LRTR) at the organisations prevailing rate.

SYSTEM FEATURES AND CONSTRAINTS

FEATURES

- Immediate solution
- Typically <50% of the cost of off-site disposal
- Offers sustainability benefits through BREEAM and carbon reduction

No requirement for importation of material

CONSTRAINTS

- Fines material (typically 30-40%) require burial under a 600mm clean cover
- Requires detail analysis of SI/GI reports, heavy clay and certain contaminants can impact suitability or effectiveness of system

Screening of Japanese knotweed is covered under the revised Land Remediation Tax Relief (LRTR) rules. In this, any developer who is remediating material on site is able to claim an offset of between 50%-150% of the qualifying expenditure against corporation tax; this would need to be completed by the financial/legal department of the client authorising the works.

Off-site disposal Overview

Off-site disposal offers the most robust and immediate system for the total eradication

of Japanese knotweed (JK) within development sites.

The JK is excavated under supervision in order to identify the contaminated areas and reduce disposal volumes. Contaminated material is then loaded into covered wagons and disposed of to a licensed facility that can accept JK material under the Ebsford Environmental waste carriers license (WCN).

As JK rhizome can extend 3m vertically, excavations require making safe, and in most instances, material will be required either externally or using suitable site won product in order to backfill the removal areas.

Typically waste produced under this system is classified as controlled non-hazardous with incidental JK, (<5%) however other contaminants and soil types can impact the disposal cost.

SYSTEM FEATURES AND CONSTRAINTS

FEATURES

- Immediate solution
- Removes the issue in its entirety
- Gives full peace of mind to potential purchasers of residential development plots
- Effective project management can reduce quantities up to 50% of EA guideline rates

CONSTRAINTS

- The most expensive solution for JK eradication
- Requires deep excavations and backfill
- Difficult to accurately assess volumes so large contingent sums can be required
- Detailed SI/GI and soil analysis required prior to accurate disposal costs being allocated

WARRANTY INFORMATION

This statement has been created in order to clarify the current position at Ebsford regarding the warranty products we offer on projects where we have been commissioned to undertake the treatment of Japanese knotweed.

STANDARD EBSFORD 10 YEAR WARRANTY:

This warranty is our standard warranty which is provided alongside the majority of the projects we undertake. It is provided via our Public Indemnity insurance and the exact wording of the statement from our broker is that:

"The intention of this policy is that it responds to claims against the insured for losses arising from their negligence in advising on Japanese knotweed and the project management of it's removal by the company and third party contractors."

This is simplistic and straightforward – if Japanese Knotweed comes back as a result of our negligence the insurance covers the treatment works. This is for each and every project rather than as a collective over the duration of the policy and includes two monitoring visits to the treatment site per year for the duration of cover. Extended cover can be added to this policy with a fee per year dependent upon the works undertaken. This policy is renewed each year at the end of September. We are often asked "what if you are not around to pay the premium next year" and the truth is the same as any other PI insurance – it ceases to exist.

EXTERNAL IBG WARRANTY:

This type of warranty is site specific and provided on the basis of the insurer assessing the risk to them dependent upon the work we have undertaken. This is a one off payment which gives protection for the client regardless of whether Ebsford Environmental exists of not. These products can be provided by our insurance provider or through our membership of either the Property Care Association (http://www.property-care.org/skill/invasive-weed- control/) or Invasive Non Native Specialist Association(http://www.innsa.org/)

Ebsford are not licensed by the FCA to give specific advice on each insurance policy as this can only be done by the insurance provider. We have summarised the main points of each policy below to assist with deciding which product to follow up.

INNSA IBG: This is issued by EVO, the main benefit of this warranty is that is covers the whole site for treatment of regrowth and is based on a like for like solution. The level of claim is only valid up to the contract value, this can be increased if required at an additional premium.

PCA Warranty: This is offered by GPI through our PCA membership. It is issued against individual plots and would be supplied directly to the potential purchasers. Secondly it covers treatment of knotweed as recommended by a third party contractor who, (in the event of regrowth and Ebsford are unable to honour the terms of the company warranty), would be requested by the insurers to visit site, prepare a methodology and quote. They would then appoint the company and complete works.

TERMS AND CONDITIONS

Interpretation

"Client" means the person named on the proposal document for whom the contractor has agreed to provide the specified service in accordance with these Terms. "Contract" means the contract provision of the specified service. "Contractor" means Ebsford Environmental Ltd. "Specified Service" means the service to be provided by the Contractor for the Client & referred to in the proposal.

Acceptance of Terms & Conditions

The client will be deemed to have accepted these terms & conditions on agreeing the contract, proposal, or any such agreement verbally, in writing or electronically.

The Contractor/Consultant

The Contractor/Consultant agrees to perform the work in a competent manner and in accordance with good practice and known science as applied to arboriculture and ecology, as specified in the proposal document, which forms part of this contract.

Payment

On completion of each stage of the contract an invoice will be submitted for the agreed sum. Unless otherwise agreed in writing, this invoice will fall due for immediate payment with full and final settlement required in 30 days from the date of invoice. Value Added Tax will be charged at the current rate where applicable. Any payments overdue by 60 days may result in suspension of services which would be of serious detriment to any continuous herbicidal treatment programme & an assessment will need to be made as to whether we can commit to the original eradication date. We reserve the right to pass any late payments to a 3rd party debt collection agency where further fees may apply.

Warranties

Where applicable our services are back up by either a 5 year or 10 year warranty issued on completion of the contract. All warranties come in to effect as of the eradication date. We reserve the right to revoke any warranty where the full contract value has not been paid.

Complaints

Any complaints arising from work performed under this contract must be made within 7 days from the date of invoice, unless otherwise agreed in writing.

Disputes

Any disputes arising under these terms & conditions shall be determined by English Law.

Expiry of Quotation

The contractor reserves the right to withdraw and re-price work if the client does not accept the quotation within 30 days of submission, unless otherwise agreed in writing

Cancellation

Any cancellation made outside of 7 days from acceptance of the terms & conditions, but prior to work commencing will be subject to a cancellation fee of 10% of the contract value. Where a contract has commenced & visits undertaken, a cancellation fee of 20% of the remaining contract value staged payments will be charged.

Visit Cancellation

Any cancellation made outside of 7 days from arrangements for access will be subject to a cancellation fee of £250.00 + VAT. Where a contract has commenced & visits are attempted but not possible, a cancellation fee of £500.00 + VAT will be charged.

Completion of Contract

Completion of contract is dependent on weather conditions. Work operations delayed by poor weather will be resumed as soon as conditions allow. Any addition expense incurred by the contractor for changes to the site conditions outside of our control will be charged at our cost price plus 15%. Details of such costs will be submitted in writing prior to work commencing. Any cancellation forced by these additional costs will be subject to the charges detailed in the "Cancellation" section of this document.

Forces Majeure

The contractor will not be liable in damages or otherwise for non-performance of contract because of adverse weather conditions, strikes, lockouts, war and civil commotion, or lack of adequately skilled labour due to causes beyond our control. Further, the contractor retains the right in such circumstances to cancel the Contract in whole or in part. Completion dates shall be contingent upon weather conditions.

Insurance Cover

The contractor will maintain a level of £5,000,000 Third Party and Public Liability Insurance & £10,000,000 Employers Liability Insurance throughout the contract period for any damages to persons or property resulting from the implementation of this contract.

Data Protection Act

The client's details will be held on the contractor's computer database. The information will not be made available to external companies.

Tree Preservation Orders & Conservations Areas

Any trees in close proximity to treatment areas on under this contract may be subject to a Tree Preservation Order or in a Conservation Area. It shall be the client's responsibility to notify Ebsford Environmental Ltd.

Private Covenants

Investigation of Private Covenants shall be the responsibility of the client and no liability is accepted by the contractor for a breach of any such Covenant.

Site Conditions

The contract price is based on the site conditions, existing at the time of the formation of the contract, remaining unchanged for the duration of the contract.

General

If any provision of these terms is held by any court or other competent authority to be invalid or unenforceable in whole, or in part, the validity of the other provisions of these terms and the remainder of the provision in question shall not be affected. Law shall apply to the contract, and the parties agree to submit to the non-exclusive jurisdiction of the courts.

Appendix E UK Habitats Plan

Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023

LEGEND

- Site Boundary
- Target Note
- Tree with low bat roosting potential: T1
- u1e - Built linear feature - fence
- u1e - Built linear feature - wall
- Ditch (D1 - letter)
- g4 - Modified grassland
- h2a - Hedgerow (Priority Habitat) - number
- h2b - Other hedgerows - number
- h3a - Blackthorn scrub
- h3d - Bramble scrub
- h3h - Mixed scrub
- u1 - Built-up areas and gardens
- u1b5 - Buildings - number
- u1b6 - Other developed land
- w1f7 - Other lowland mixed deciduous woodland
- w1g6 - Line of trees

Secondary Habitats

10	- Scattered Scrub	36	- Plantation
11	- Scattered Trees	910	- Allotments
16	- Tall herb		

homes by gleeson

SLR
4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
EH12 9DH
T: +44 (0)131 335 6830
www.slrconsulting.com

LOCKWOOD ROAD, GOLDTHORPE

ECOLOGICAL IMPACT ASSESSMENT

HABITAT PLAN

1

Scale 1:1,500 @ A3

Date APRIL 2021

03044.00188.0001.0 Drawing 1 - UKHab Habitat Plan

Figure 1 Bird and Bat Box Locations

Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023

446300 446400 446500 446600 446700

404800

404700

404600

N

LEGEND

Site Boundary

Site Layout

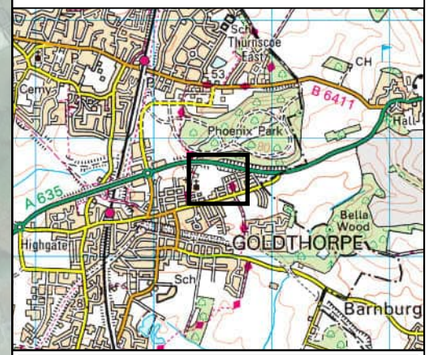
Box Type

Bat

House Sparrow

Starling

Swift



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SLR

4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
EH12 9DH

T: +44 (0)131 335 6830
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LOCKWOOD ROAD, GOLDTHORPE

BIRD AND BAT BOXES

BIRD & BAT BOX LOCATIONS

FIGURE 01

Scale 1:1,500 @ A3

Date AUGUST 2023

0 100

Metres

424.064929.00001.0001.0 Lockwood Road Figures

Figure 2 Hedgehog Highway Locations

Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023

446300 446400 446500 446600 446700

404800

404700

404600

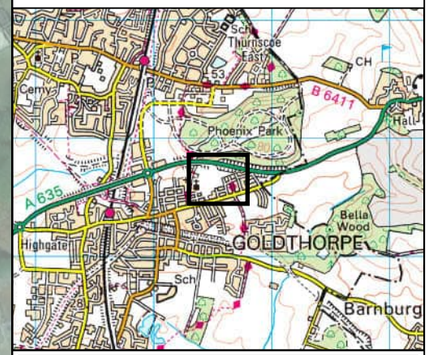
N

LEGEND

Site Boundary

Site Layout

Hedgehog Highway Locations



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SLR

4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
EH12 9DH

T: +44 (0)131 335 6830
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LOCKWOOD ROAD, GOLDTHORPE

HEDGEHOG ACCESS

HEDGEHOG HIGHWAY LOCATIONS

FIGURE 02

Scale 1:1,500 @ A3

Date AUGUST 2023

0 100

Metres

424.064929.00001.0002.0 Hedgehog Highway Locations

Figure 3 Indicative Sensitive Lighting Plan

Lockwood Road, Goldthorpe

Construction Environmental Management Plan (CEMP) and Biodiversity Enhancement Management Plan (BEMP) to Discharge Conditions 31-34

Gleeson Developments Ltd

SLR Project No.: 424.064929.00001

14 December 2023

446300 446400 446500 446600 446700

404800

404700

404600

N

LEGEND

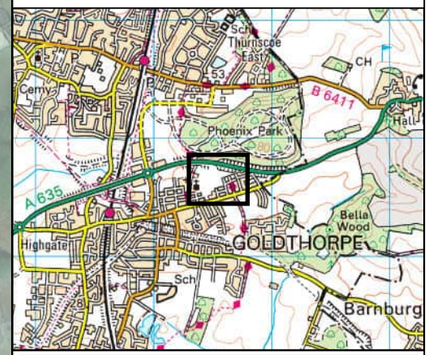
Site Boundary

Site Layout

Indicative Sensitive Lighting

Indicative Sensitive Lighting Zone

Indicative Urban Dark Corridor



homes by gleeson

SLR

4/5 LOCHSIDE VIEW
EDINBURGH PARK
EDINBURGH
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T: +44 (0)131 335 6830
www.slrconsulting.com

LOCKWOOD ROAD, GOLDTHORPE

INDICATIVE LIGHTING PLAN

INDICATIVE SENSITIVE LIGHTING PLAN

FIGURE 03

Scale 1:1,500 @ A3

Date AUGUST 2023

0 100

Metres

424.064929.00001.0003.0 Indicative Sensitive Lighting Plan

Making Sustainability Happen