SF 3387 | CMS ROCKINGHAM

LANDSCAPE AND ECOLOGY MANAGEMENT PLAN (LEMP)

June 2023 | For Planning
Revision A

SMEEDEN FOREMAN

Landscape Architecture • Ecology • Arboriculture

Quality Assurance

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1.0 INTRODUCTION

1.1.1 Smeeden Foreman Limited has been commissioned by Carnell Management Services Ltd. to produce a Landscape and Ecology Management Plan (LEMP) in regards to their site located off Kestrel Way, Birdwell, Barnsley (central grid reference SE3495 0052), hereafter referred to as the 'site'. The site is proposed for commercial development.

1.1.2 The purpose of the current report is to set out the measures that will be undertaken to address the landscape and ecological recommendations, enhancement and management regimes included within the corresponding ecological appraisal *(SF3387 Preliminary Ecological Appraisal, CMS Rockingham, March 2023)*, BREEAM assessment (*SF3387 CMS Rockingham GN40 Ecology Assessment Issues Report*), landscape proposals (*SF3387 LL02 Rev B and LL03 Rev B)* and biodiversity net gain assessment undertaken to Biodiversity Metric Version 3.1 *(SF3387 Biodiversity Net Gain Assessment, CMS Rockingham).*

1.1.3 Management operations are to be carried out for a period of 30 years as stipulated under the Environment Act 2021 (pending mandatory requirement as of November 2023). Such measures to be undertaken include the following:

- Details of habitats to be maintained, enhanced or created;
- A schedule of actions required to create or enhance and maintain habitats at the required quality for a period of 30 years;
- A schedule of ecological monitoring for the 30-year period identifying when key indicators of habitat maturity should be achieved, and;
- A schedule of actions to be undertaken in case signs of failure are identified.

1.1.4 The main contractor and subsequent maintenance contractors will be responsible for the implementation of the Landscape and Ecology Management Plan on behalf of CMS Rockingham Ltd. The contractors and consultants which have currently been appointed are listed in Table 01.

1.1.5 It is the responsibility of CMS Rockingham Ltd to ensure that the LEMP is implemented, with any required changes in management/remediation actions identified to ensure that the biodiversity net gain (BNG) target is met. Refer to *SF3387 Biodiversity Net Gain Assessment, CMS Rockingham* for further information.

Table 01: Contractors/consultants contact details

Works	Contractors/consultants	Contacts
DESIGN STAGE		
Ecological consultant	Smeeden Foreman Ltd. Somerset House, Low Moor Lane, Scotton, Knaresborough, N.Yorks HG5 9JB Jarred Johnson Ecologist	01423 863 369 jarred.johnson@smeedenforeman.co.uk
Landscape architect	Smeeden Foreman Ltd. Somerset House, Low Moor Lane, Scotton, Knaresborough, N.Yorks HG5 9JB Mark Smeeden Director	01423 438 964 mark@smeedenforeman.co.uk
Arboricultural consultant	Smeeden Foreman Ltd. Somerset House, Low Moor Lane, Scotton, Knaresborough, N.Yorks HG5 9JB Dan Robinson Arboricultural consultant	01423 863 369 dan@smeedenforeman.co.uk
CONSTRUCTION STAGE		
Ecological Clerk of Works (ECoW)	To be appointed by Carnell Management Services Ltd.	
Principal contractor		
Arboricultural Clerk of Works		
Tree works contractor		
Landscape supervision		
Landscape contractor		
POST DEVELOPMENT		
Maintenance contractor	To be appointed by Carnell Management Services Ltd.	
Arboricultural inspections/advice		
Ecological monitoring/advice		

2.0 SITE DESCRIPTION

2.1.1 The site is located to the east of Junction 36 of the M1, approximately 5.7km to the south of Barnsley town centre (refer to *Figure 01* below). The site itself is predominantly comprised of ruderal/ephemeral vegetation, with areas of mixed scrub, individual trees, hedgerows, bare ground and hardstanding.

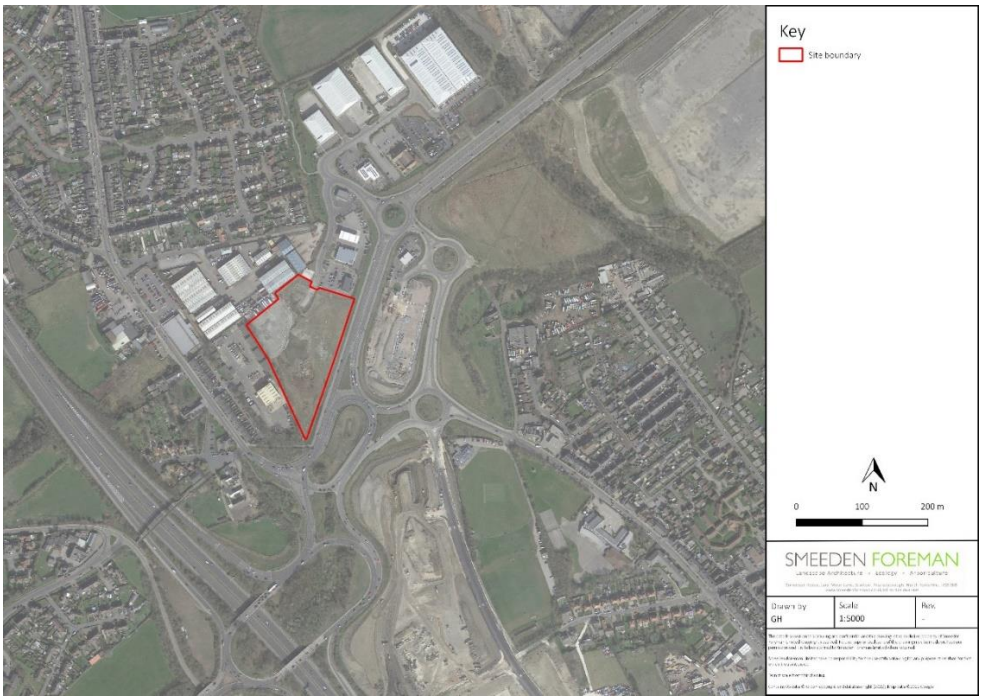


Figure 01: Aerial view of site location

2.1.2 Commercial and industrial units with associated access roads are adjacent to the north and west, with the A6195 Dearne Valley Parkway immediately adjacent to the east. An area of developing scrub/woodland is also located to the southwest of site.

2.1.3 Residential dwellings and commercial units are present within the surrounding landscape to the north, with additional areas of industrial/business development under construction, and occasional areas of farmland, woodland and tree belts to the south and east. The M1 is located approximately 0.3km west of site.

3.0 LANDSCAPE AIMS AND OBJECTIVES

3.1.1 There are several elements to the landscape and ecological mitigation/enhancement measures included within the development including:

- Management of existing trees and vegetation to be retained;
- Planting of trees and native shrubs known to be of wildlife value;
- New hedgerow planting;
- Seeding of areas with native wildflower/species-rich lawn mix;
- Bat box installation;
- Bird box installation; and
- Provision of gaps in fencing for hedgehogs.

3.1.2 The management of these elements is intended to fulfil the following aims and objectives:

- Integrate the development with its surroundings;
- Provide mitigation for lost habitat;
- Provide a pleasant environment within the development;
- Provide access to local nature and wildlife;
- Contribute to the biodiversity/ecological potential of the area, with the aim of achieving ecological gains for the site, and;
- Ensure that the biodiversity net gain (BNG) target for the site is met (refer to *SF3387 Biodiversity Net Gain Assessment, CMS Rockingham).*

3.1.3 These aims and objectives will be achieved through the strategies described in section 4.0 of this report and implemented by the management operations detailed in section 5.0.

3.1.4 Proposed post-development habitats are provided within Appendix 03 (*SF3387 LL02 Rev B and LL03 Rev B*) which indicates existing habitats to be retained, along with landscape and habitat creation to be implemented on-site. Note that an update to this LEMP will be required should any changes be proposed to the current landscape scheme.

4.0 STRATEGY

4.1 GENERAL

4.1.1 The potentially adverse environmental impacts resulting from any management operations on site should be minimised including the minimal use of herbicides and pesticides, and timing operations to avoid disturbance.

4.1.2 Vegetation management works should be avoided during the active bird nesting season (March – September, inclusive) and preferably only to be carried out during January and February when the majority of the berry crop of trees and shrubs has been utilised.

4.1.3 If vegetation clearance works are to be undertaken during the bird nesting season, a check for nesting birds will be carried out by a suitably qualified ecologist. These checks will be undertaken prior to any clearance works and within 24-48 hours of the proposed commencement date. If nesting birds are identified, the advising ecologist will issue guidance in relation to the protection of nesting birds in conjunction with the scheduled works. Measures such as applying a 'no-works' buffer around the nest site(s), until the ecologist has confirmed that the young birds have fledged may be necessary. The buffer distance would be species-specific and confirmed by the advising ecologist.

4.1.4 Herptiles, badger and hedgehog may utilise the site habitats post construction. When undertaking maintenance works which may affect these species the following precautionary working methods should be followed to avoid accidental harm or injury:-

- Cuttings from scrub/tree works to be removed from site/dismantled immediately following cutting unless used to form brash/log piles which are to be retained for biodiversity enhancement.
- Checking surveys to be undertaken if clearance works to be undertaken within dense scrub areas.
- Any open excavation or pipe ends to be covered or means of escape provided.

4.2 EXISTING TREES AND HEDGEROWS

4.2.1 Where existing trees and hedgerows are retained, they are to be managed to maximise their value to wildlife and initial works should be limited to those required for health and safety or those recommended by an arboriculturist.

4.2.2 Trees should be allowed to grow to their natural size and form to provide a closed canopy of mature trees. Selective thinning operations to be undertaken to provide space for trees to reach full size whilst retaining a varied age structure. Selected trees to be retained to include native species, standing/fallen dead wood and a variety of age classes. A shrub understorey should be allowed to form a dense thicket and ground flora be encouraged / protected during operations.

4.3 NEW TREES AND SHRUB PLANTING

4.3.1 New tree planting on site includes native and non-native tree species considered to be of value to wildlife (i.e. – high yields of pollen, fruits and/or berries).

4.3.2 Trees should be allowed to grow to their natural form and size with formative pruning only, to provide a canopy of attractive, well-shaped, healthy, mature trees.

4.3.3 Trees are to be pit planted at 2m centres, with areas fully mulched, and planted at 40-60cm heights. Trees will be planted bare root or within containers dependant on their planting period.

4.3.4 Shrub planting and street trees may be pruned to remove material encroaching over footpaths / roads and to encourage vegetative renewal. General pruning should be undertaken to preserve the natural form of plants and their propensity to bear flowers, fruits or exhibit winter stem colour.

4.3.5 Any pruning required will follow current best horticultural practice. Sympathetic management of existing and newly planted trees and shrubs should be undertaken to avoid disturbance to breeding birds.

4.3.6 Once established (five-ten years) management should be followed as per existing trees/hedgerow (section 4.2).

4.3.7 Condition target for individual tree planting is **moderate** as defined in **Table 02**, with the following anticipated to be achieved:

- Little/no evidence of an adverse impact on tree health by anthropogenic activities, such as vandalism/herbicide use. No current regular pruning regime so trees retain >75% of expected canopy for age range and height;
- Trees immediately adjacent to other vegetation, and tree canopies oversailing vegetation beneath.

4.3.8 Condition target for mixed scrub planting is **moderate** as defined in **Table 03**, with the following anticipated to be achieved:

- At least three woody species present, with no one species comprising more than 75% of the cover;
- Absence of invasive non-native species, and species indicative of sub-optimal condition make up less than 5% of ground cover;
- Scrub has a well-developed edge, with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).

Table 02: Condition Criteria: Urban trees habitat type

The Biodiversity Metric 3.1 Technical Supplement, April 2022, Natural England Condition Sheet 22 - Urban Trees		
Condition Assessment Criteria		Passed/Failed Criteria
1	The tree is a native species (or more than 70% within the block are native species).	Pass
2	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Pass
3	The tree is mature[2] or veteran[3] (or more than 50% within the block are mature[2] or veteran[3]).	Fail
4	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass
5	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark.	Fail
6	More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass
Number of Criteria Passed		4
Condition		Moderate
Assessment Result		Condition
Passes 5 or 6 of 6 criteria		Good (3)

Passes 3 or 4 of 6 criteria	Moderate (2)
Passes 0, 1 or 2 of 6 criteria	Poor (1)

Table 03: Condition Criteria: Scrub habitat type

The Biodiversity Metric 3.1 Technical Supplement, April 2022, Natural England Condition Sheet 19 – Scrub		
Condition Assessment Criteria		Passed/Failed Criteria
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Pass
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Fail
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition[1] make up less than 5% of ground cover.	Pass
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	Pass
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail
Number of Criteria Passed		3
Condition		Moderate
Assessment Result		Condition
Passes 5 of 5 criteria		Good (3)
Passes 3 or 4 of 5 criteria		Moderate (2)
Passes 0, 1 or 2 of 5 criteria		Poor (1)

4.4 HEDGEROW MANAGEMENT

4.4.1 New hedgerows will be managed to maintain a dense bushy growth to an eventual height of 2m. Each side of the hedgerow will be cut in alternate years, resulting in biennial cutting of each side of the hedgerow. They should be trimmed to an 'A' profile to encourage dense cover to be maintained at the base. The hedges may be laid in the long term should they become thin or gappy. Hedge cutting and any pruning operations required should take place during the winter period (i.e. October – February, inclusive) to avoid disturbance during the breeding bird season and ideally between January – February (inclusive), to allow any fruits to be utilised through the early winter.

4.4.2 Condition target for hedgerows is **moderate** as defined in **Table 04**, with the following anticipated to be achieved:

- hedgerows cut in 'A' frame to maintain dense base;
- any plant failures re-stocked to prevent gaps;
- located to provide undisturbed ground to one side (scrub or grassland) which will be subject to control of undesirable and invasive species.

Table 04: Condition Criteria: Hedgerow habitat type

The Biodiversity Metric 3.1 Technical Supplement, April 2022, Natural England Condition Sheet 8 – Hedgerow			
Condition Assessment Criteria			Passed/Failed Criteria
A1. Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height).	**Fail**
A2. Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice[4]).	**Fail**
B1. Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	**Pass**
B2. Gap - hedge canopy continuity	Gaps make up <10% of total length and · No canopy gaps >5 m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).	**Pass**
C1. Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. · Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. · This criterion recognises the value of the hedge base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	**Pass**
C2. Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (*Urtica spp.*), cleavers (*Galium aparine*) and docks (*Rumex spp.*). Their presence, either singly or together, should not exceed the 20% cover threshold.	**Pass**
D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.	**Pass**

D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedge cutting).	Fail
Number of Criteria Passed			5
Condition			Moderate
Assessment Result			Condition
Condition categories for hedgerows without trees			
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2		Metric Score
Good	No more than 2 failures in total; **AND** No more than 1 in any functional group.		3
Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).		2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (e.g., fails attributes A1, A2, B1 & B2 = Poor condition).		1

4.5 WILDFLOWER GRASSLAND AND SPECIES-RICH LAWN

4.5.1 Native wildflower seeding is proposed within on-site areas of the development, with a species-rich lawn mix to be seeded in association with built-up areas (car parking, office blocks etc). These areas will aim to be visually attractive as well as providing a botanically diverse, invertebrate rich and structurally varied habitat.

4.5.2 Following initial establishment after Year 1, wildflower areas should be cut twice-yearly, with a first cut in March/April and a second cut in September/October. Arisings should be removed to reduce nutrient build up and smothering. The cut shall also be made as high as possible (ideally 150mm) with a strimmer or brushcutter to avoid potential impacts on amphibians.

4.5.3 Public amenity grassland associated with car parking and offices will be seeded with a Flowering Lawn Mixture subject to more regular mowing / maintenance, to make the grassland more suitable for amenity use. Regular cutting will take place (to be carried out 18 times annually) to maintain the proposed nature of this habitat but where possible, prolonging the period between cuts is recommended to allow more species to flower and set seed.

4.5.4 Monitoring for non-native invasive species will be carried out during proposed maintenance walkovers at the site, with recommendations made for control/removal where applicable.

4.5.5 Condition target for wildflower grassland areas is **moderate** as defined in **Table 05,** with the following anticipated to be achieved;

- >9 species per m2 with wildflowers and sedges >30% clearly visible throughout the sward;
- an absence of invasive non-native species, and a combination of species indicative of sub-optimal condition / physical damage <5%;
- bracken <20% and scrub/bramble <5%.

4.5.6 Condition target for species-rich lawn mix areas is **good** as defined in **Table 06,** with the following anticipated to be achieved;

- >6-8 species per m2;
- scrub <20%, bracken <20%, physical damage <5%;

- an absence of invasive non-native species.

Table 05: Condition Criteria: Grassland (medium, high and very high distinctiveness) habitat type

The Biodiversity Metric 3.1 Technical Supplement, April 2022, Natural England Condition Sheet 6 - Grassland (Medium, High & Very High Distinctiveness)		
Condition Assessment Criteria		Passed/Failed Criteria
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. **NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.**	Pass
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
3	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Fail
4	Cover of bracken is less than 20% and cover of scrub (including bramble) is less than 5%.	Pass
5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition[1] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Pass
Additional Group (Non-acid types only)		
6	There are greater than 9 species per metre squared. **NB - This criterion is essential for achieving good condition (non-acid grassland types only).**	Pass
Number of Criteria Passed		4
Condition		Moderate
Assessment Result		Condition
Acid Grassland Types		
Passes 5 of 5 criteria		Good (3)
Passes 3 or 4 of 5 criteria		Moderate (2)
Passes 0, 1 or 2 of 5 criteria		Poor (1)
Non-acid Grassland Types		
Passes 5 of 6 criteria, including essential criterion 1 and 6		Good (3)
Passes 3 or 4 of 6 criteria, including essential criterion 1		Moderate (2)
Passes 0, 1, 2 criteria of 6 criteria; OR Passes 3 or 4 criteria excluding criterion 1 and 6		Poor (1)

Table 06: Condition Criteria: Grassland (low distinctiveness) habitat type

The Biodiversity Metric 3.1 Technical Supplement, April 2022, Natural England Condition Sheet 5 - Grassland (Low Distinctiveness)		
Condition Assessment Criteria		Passed/Failed Criteria
1	There must be 6-8 species per m^2. If a grassland has 9 or more species per m^2 it should be classified as a medium distinctiveness grassland habitat type. **NB - this criterion is essential for achieving moderate condition.**	Pass
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Pass
5	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
6	Cover of bracken is less than 20%.	Pass
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Number of Criteria Passed		6
Condition		Good
Assessment Result		Condition
Passes 6 or 7 of 7 criteria including passing essential criterion 1		Good (3)
Passes 4 or 5 of 7 criteria; OR Passes 4 or 5 of 7 criteria including passing essential criterion 1		Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of 7 criteria but failing criterion 1		Poor (1)

4.6 WILDLIFE FEATURES

Wildlife Boxes

4.6.1 To enhance the site in relation to roosting bats and breeding birds, and maintain connectivity for hedgehog, wildlife boxes and 'hedgehog highways' will be incorporated within the proposed development site. A total of 9 boxes will be installed within the initial development across the site, with the potential for additional boxes to be installed upon new trees planted once they have reached appropriate levels of maturity (to be assessed as part of the annual reviews of the site).

4.6.2 The following boxes (or similar approved, where stock is unavailable) are recommended for installation on-site, upon pole-mountings:

- 3 No. Schwegler General Purpose Bat Box 2F, and;
- 6 No. Schwegler General Purpose Nest Box 1B.

4.6.3 For further details on wildlife feature locations and specifications, refer to the landscape proposals drawings (SF3387 LL02 Rev F and LL03 Rev F) produced by Smeeden Foreman (2025).

5.0 MANAGEMENT OPERATIONS

5.1 PROGRAMME AND NOTIFICATION

5.1.1 The appointed landscaping contractor shall carry out management operations at suitable times and in suitable weather conditions.

5.1.2 The Contractor is required to produce a programme of intended management operations on a yearly basis, at the beginning of each year of the contract. Management operations are to be carried out for a period of 30 years as stipulated under the Environment Act 2021 (pending mandatory requirement as of November 2023).

5.1.3 Refer to tables 08-10 for recommended timings on when management works should be undertaken. The Contractor shall notify the Contract Supervisor before their intention to carry out any of the management operations in order that the work can be checked and approved if necessary.

5.2 GENERAL MAINTENANCE OF TREES AND PLANTED AREAS

5.2.1 Management and maintenance shall cover the following operations (where required), as described in detail in the following sections:

- Plant replacement.
- Tightening and repairing of ties; re-setting plants to proper grades or upright positions.
- Removal of tree ties/stakes and guards on establishment.
- Cultivation and weeding of planting areas, throughout or individual stations.
- Application of fertiliser.
- Formative pruning, removing epicormic growth and establishing well-formed trees and shrubs.
- Mulch application within the planting areas.
- Control insects, fungi or other diseases by means of spraying with an approved herbicide, insecticide, or fungicide to achieve establishment and proper growth of the plants. The minimum amount of herbicide etc. required shall be used.
- Wildflower grassland cutting and control of pernicious weeds.
- Litter control.
- Bat and bird box inspections.

5.3 PLANT REPLACEMENT

5.3.1 Trees/shrubs/hedgerows shall be inspected in late Summer or Autumn each year for a 5-year period, and where required, a schedule of replacement planting, for plants which have died or failed to thrive, will be prepared.

5.3.2 The replacement planting shall be carried out by the landscaping contractor during the next appropriate planting period following the inspection.

5.3.3 The procedure specified for the initial planting shall be followed by the landscaping contractor when re-planting.

5.4 TREE STAKE AND GUARD MANAGEMENT

5.4.1 An annual check of tree stakes/ties and guards should be undertaken to assess the requirement for and undertake any adjustments to ensure healthy growth of the plants, to include:

- Refirming of plants and stakes to proper grade and upright position.
- Repair/loosening/removal of ties to maintain support or prevent strangulation.
- Repair/replace/remove tree guards to maintain protection, prevent damage via rubbing and prevent littering of the site with damaged tree guards.

5.4.2 It is anticipated that all plants will have established to an extent to allow stakes and ties to be removed within 5 years of initial planting, however, this should be judged annually on an individual basis throughout the 30-year management period.

5.4.3 All removed stakes/ties and guards to be responsibly disposed of and stake holes to be in filled with topsoil.

5.5 HAND WEEDING AND HERBICIDE SPRAY

5.5.1 Existing individual trees and hedgerows should not require routine weed control.

5.5.2 Selective weed control of invasive perennials by hand or directed herbicide application (e.g. weed wipe) may be required and should be assessed on an individual basis as required. Any herbicide use (to be suitable for use and appropriately authorised) should be undertaken in accordance with the manufacturer's instructions, using appropriately qualified operatives.

Table 07: Recommended weed control by habitat

Planting/habitat type	Notes	Coverage
New ornamental shrubs	Weed control and removal by hand or herbicide spray.	Throughout the beds.
New native shrub planting	Weed control and removal by hand or herbicide spray.	1000mm dia. around each plant.
New hedgerow planting	Weed control and removal by hand or herbicide spray.	Throughout the hedge line.
Individual tree planting	Weed control and removal by hand or herbicide spray.	1000mm dia. around each plant
Wildflower grassland	Selective weed control of invasive perennials by hand or directed herbicide application (e.g. weed wipe).	Selective only.

5.6 FERTILISER APPLICATION

5.6.1 Where necessary, fertilisers may be used to assist with maintaining healthy habitat areas. However, use of fertilisers should be minimised and should only comprise natural/organic products (though not to be used within wildflower grassland areas).

5.7 TREE PRUNING/REMOVAL/THINNING

5.7.1 Trees are to be inspected on an annual basis for any dead, damaged, diseased or crossing wood and epicormic growth which would be detrimental to the health of the trees or could pose a health and safety risk.

5.7.2 Pruning of trees should be based on best practice for each species concerned and undertaken according to good horticultural practice. All pruning should be undertaken to preserve the natural form of plants and their propensity to bear flowers, fruits or exhibit winter stem colour.

5.7.3 Selective thinning operations to be undertaken following periodic inspections (3-5 years) to provide space for trees to reach full size whilst retaining a varied age structure. Selected trees to be retained to include native species, standing/fallen dead wood and a variety of age classes. Felled timber to be retained as dead wood habitat /brash piles.

5.7.4 Pruning of trees and shrubs should take place during the winter period (i.e. October – February, inclusive) to avoid disturbance during the breeding bird season and ideally between January – February (inclusive), to allow any fruits to be utilised through the early winter.

5.8 MULCH APPLICATION

5.8.1 Where mulch is provided to protect plants and suppress weed growth, this shall be maintained and reinstated on a yearly basis until the respective areas have achieved a closed canopy (anticipated 5 years from planting date).

5.9 RETAINED VEGETATION

5.9.1 Management of retained individual trees is to be limited to those works which are required for health and safety or those recommended by an arboriculturist.

5.9.2 Management should also seek to maximise their value to wildlife, allowing them to grow to their natural size and form and allow various structural layers to form within the woodland (e.g. well-developed understorey and groundcover).

5.10 WILDFLOWER GRASSLAND AND SPECIES-RICH LAWN

5.10.1 First year: Wildflower areas should be cut 4/5 times to reduce competition from grasses and control weeds. Cut to a height of 50mm every two months. Amenity areas sown with species-rich lawn mix are to be cut 18 times annually. All cut material to be removed to reduce nutrient build up and smothering.

For Autumn sowing: first cut to be March/April - final cut to be September/October.

For Spring sowing: first cut to be May – final cut to be September/October.

5.10.2 Subsequent years: Wildflower areas shall be cut twice a year in early spring (to reduce grass competition) and late summer (timing approximate to allow plants to set seed). All cuttings are to be collected and removed from site to reduce nutrient build up.

5.10.3 General: Vegetation shall be cut in the direction of unaffected sections of grassland habitat. The cut shall also be made as high as possible (150mm) and a strimmer or brushcutter shall be used.

5.10.4 Weeding: Selective/spot weeding can be undertaken by hand or with an appropriate and authorised herbicide by spot applicator (e.g. weed wipe) to remove aggressive/invading weed species.

5.10.5 Bare ground: bare ground may need to be created by hand raking or tine/chain harrow depending on extent of area to be applied.

5.11 WATERING (PROVISIONAL)

5.11.1 The Contractor shall water as necessary to ensure satisfactory growth. Water shall be applied slowly by hose with spray sufficient to soak the ground to field capacity (refer to guidelines below). This should be undertaken during initial establishment (year 1 and 2) and dry periods during subsequent years (years 3-5). It is anticipated that watering would no longer be required five years after initial planting but this should be assessed in respect to the prevailing conditions for the remainder of the 30 year management period.

5.11.2 The Contractor is to supply water in the following quantities per watering:

- Ornamental shrub beds: 20 litres per m2

- Transplants and whips: 30 litres per plant
- Standard and feathered trees: 40 litres per tree

5.12 LITTER COLLECTION

5.12.1 All planting and grassed areas shall be kept clear of litter and rubbish at all times. A monthly check should be undertaken for any litter/fly tipped waste, which should be removed immediately.

5.13 BAT AND BIRD BOXES

5.13.1 Bird and bat boxes will not require any maintenance; however, they should be replaced if they become damaged over time.

5.13.2 **Please note, once bat boxes are installed, they should only be subject to maintenance by or under the supervision of an appropriately licensed ecologist**.

5.13.3 Bird boxes installed may be cleaned annually, outside of the nesting bird period (i.e. avoiding March – September, inclusive). Where health and safety allows, old nesting material may be removed, and boxes cleaned if required. Bird box cleaning should be undertaken by the appointed landscape maintenance contractor or by an ecologist.

Table 08: Management Operations– Years 1-3

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Retained trees	Management limited to essential works (for health and safety or as advised by an arborist)											
Tree and shrub planting	Formative pruning only if required.			Fertiliser application and mulch reinstatement				Check for dead plants and adjust tree ties / stakes as required.			Replacement planting as required.	
Native hedgerow planting	Formative pruning only if required.			Fertiliser application and mulch reinstatement				Check for dead plants.			Replacement planting as required.	
Wildflower grassland (Year 1)			Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.			
Wildflower grassland (years 2-3)			Cut to suppress pernicious weeds. Cuttings to be removed from site.						Cut following seed set to 150mm. Cuttings to be removed from site.			
Species-rich lawn mix	Cut 18 times annually. Cut to suppress pernicious weeds. Cuttings to be removed from site.											
Bird nest boxes											Clean out old nest material if required.	
Bat boxes	No maintenance required – replacement / repairs to be carried out by licensed bat surveyor only (if required)											

Table 09: Management operations – Years 4-5

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tree and shrub planting	Formative pruning only if required.							Check dead trees and remove tree ties / stakes as trees become established.			Replacement planting as required.	
Wildflower grassland			Cut to suppress pernicious weeds. Cuttings to be removed from site.						Cut following seed set to 150mm. Cuttings to be removed from site.			
Species-rich lawn mix	Cut 18 times annually. Cut to suppress pernicious weeds. Cuttings to be removed from site.											
Native hedgerow planting	Bi-annual cutting. Cut to maintain a height of 2m.											
Bird nest boxes											Clean out old nest material if required.	
Bat boxes	No maintenance required – replacement / repairs to be carried out by licensed bat surveyor only (if required)											

Table 10: Management operations – post year 5 and to cover a 30-year period

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
New tree and shrub planting									Adjust tree ties / stakes as required, if still in place			
Native hedgerow (new and existing) planting	Bi-annual cutting. Cut to maintain a height of 2m.											
Wildflower grassland			Early season cut to suppress pernicious weeds. Cuttings to be removed from site.						Cut following seed set to 150mm. Cuttings to be removed from site.			
Species-rich lawn mix	Cut 18 times annually. Cut to suppress pernicious weeds. Cuttings to be removed from site.											
Litter	Annual checks for the removal of any flytipped waste.			Removal of litter during general maintenance visits.								
Bat boxes (at 5 year intervals)				Periodic inspection by licenced bat worker. (April OR October)						Periodic inspection by licenced bat worker. (April OR October)		
Bird boxes											Cleaning advised but not essential	

6.0 MONITORING

6.1.1 An annual site walkover by a suitably qualified ecologist or landscape architect/contractor will be undertaken for the first two years following completion of the development and in years 5, 10, 15, 20 and 30 thereafter to monitor the site and assess the establishment/management of proposed habitats.

6.1.2 The condition of the habitats will be evaluated against those set out within the Biodiversity Net Gain Assessment (*SF3387 Biodiversity Net Gain Assessment CMS Rockingham*), a summary of which is provided in Appendix 02. Where habitat types and/or conditions are not being met suggestions will be made for remediation works or alterations to the management programme.

6.1.3 The visit will make note of any ecological trends and constraints (i.e. nest/bat boxes in need of repair/replacement, scrub/tall grass over-shading new tree and shrub planting) and make note of any additional management recommendations needed to be carried out. This will also allow unforeseen changes to be taken into consideration as the habitats develop, allowing positive features to be incorporated and negative features to be removed.

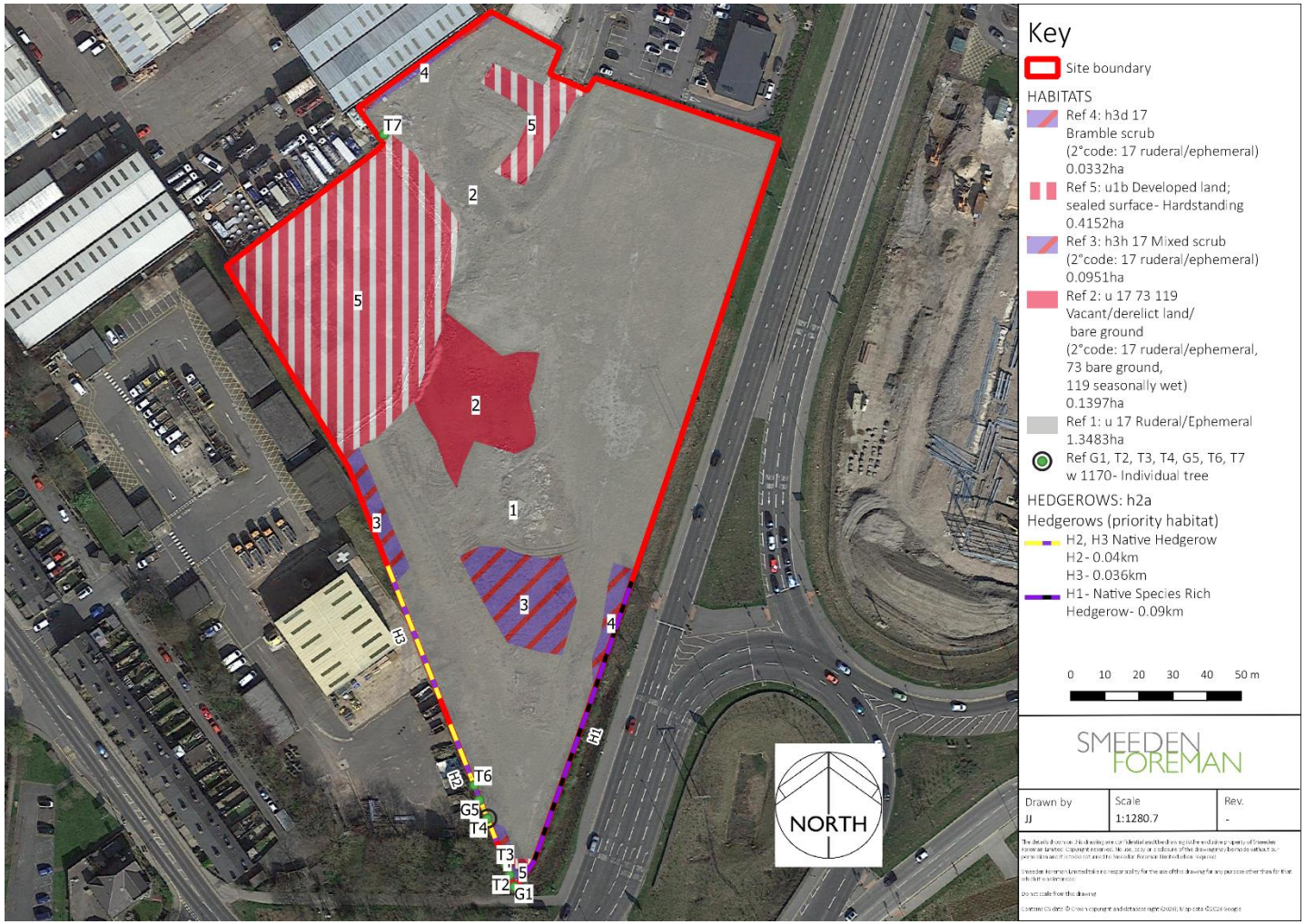
6.1.4 The results of the inspections will form the basis of a long-term progress report which will be submitted to the Local Planning Authority following each inspection; reporting on progress of the work schedule and any recommendations for the next work period.

6.1.5 The LEMP itself will be subject to review every 5-10 years, updated by a suitably qualified ecologist and implemented for a 30-year period. The review will be informed by the monitoring survey results and habitat appraisals undertaken prior to that date to assess where the implementation of the plan has been successful and to identify where management changes are required if target conditions are not being achieved.

YEAR	MONITORING SURVEYS	Reports submitted to the LPA	
		INTERIM REPORT	BEMP REVIEW AND UPDATE
1	√	√	
2	√	√	
5	√		√
10	√	√	
15	√		√
20	√	√	
30	√		√

FIGURES

FIGURE 02: EXISTING HABITATS PLAN



APPENDICES

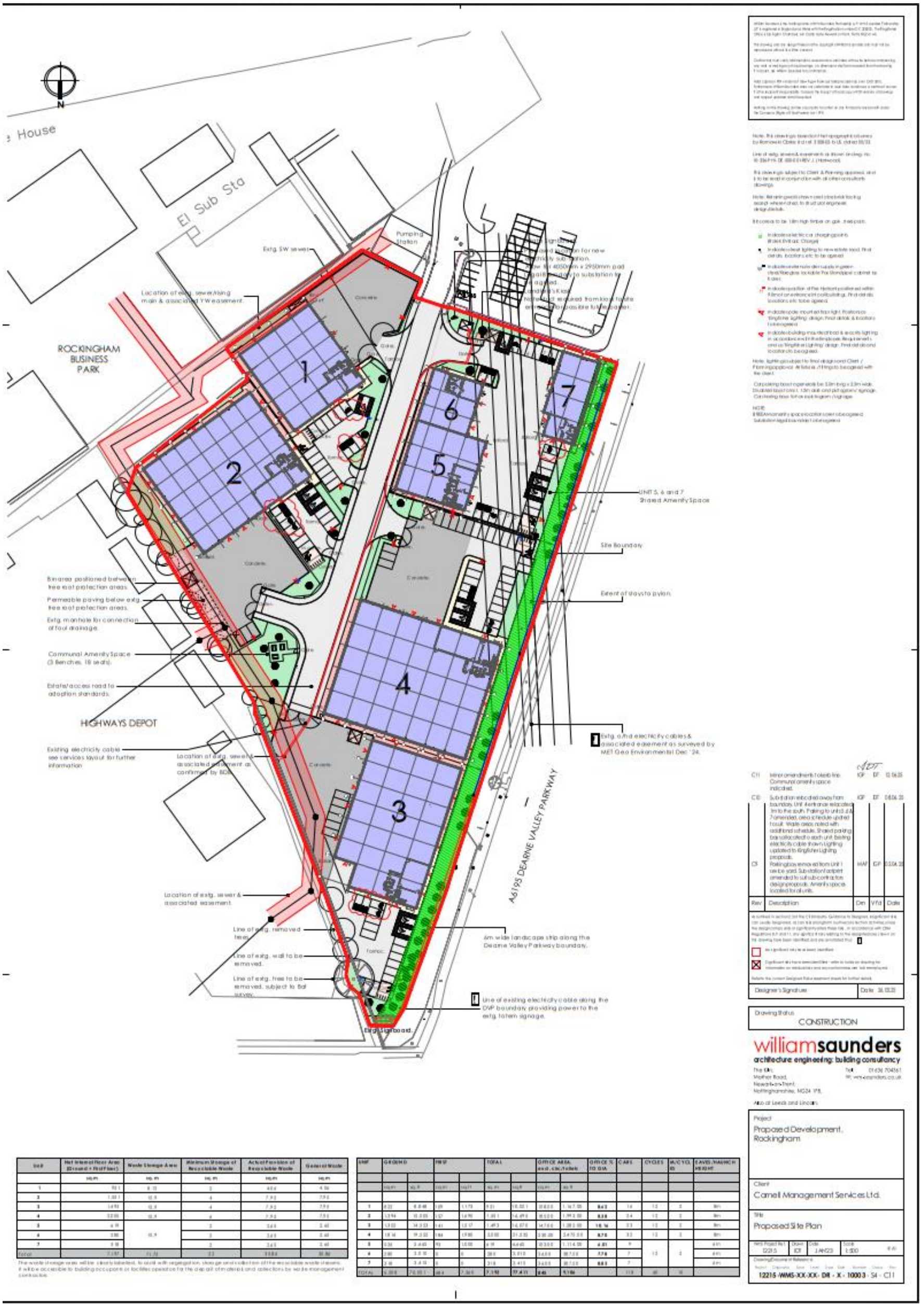
Appendix 01: Proposed site plan (12215-WMS-XX-XX-DR-X-10003-S4-C11-Site Plan-12.06.25, produced by William Saunders, June 2025)

Appendix 02: Area-based and linear habitat creation on/off site, with targeted condition status

Appendix 03: Landscape Proposals (SF3387 LL02 Rev B and LL03 Rev B)

Appendix 04: Protected Species Legislation

APPENDIX 01: PROPOSED SITE PLAN (12215-WMS-XX-XX-DR-X-10003-S4-C11-SITE PLAN-12.06.25, PRODUCED BY WILLIAM SAUNDERS, JUNE 2025)



Note: This drawing is based on Net topographical survey by Rombauer Clarke and ref. 3188-01 to 03, dated 05/03.

Line of ecology, levels & investments as shown on dwg. no. 10-336 P15 DE 0001 REV J. (Hollinwood)

This drawing is subject to Client & Planning approval, and is to be read in conjunction with all other consultants drawings.

Note: Retaining walls to have used stone brick facing around where exact, to be set out engineers design details.

Fences to be 1.8m high timber on gals. treated posts.

- In dicated electric car charging points (Rated 6 kW Fast Charge)
- In dicated street lighting to new estate road. Final details, locations etc. to be agreed
- In dicated weather resistant double socket supply in green steel/fiberglass lockable Pole Mounted cabinet to Kiosks
- In dicated position of Fire Hydrant positioned within 90m of centre access point of building. Final details, locations etc. to be agreed.
- In dicated pole mount action flood light. Positions as 'Simplified Lighting' design. Final details & locations to be agreed.
- In dicated building mounted bollard & security lighting in accordance with the external lighting layout drawing and as 'Simplified Lighting' design. Final details and location etc. to be agreed.

Note: lighting is subject to final design agreed Client / Planning approval. All fixtures / fittings to be agreed with the client.

Composting toilet in general dimensions be 3.0m long x 2.0m wide. Disabled toilet circa 1. 1.0m wide and pitch approx. signage. Connecting hose to be equi kingdom / signage.

NOTE:
If RBA Amendments / space allocation / cover to be agreed. Subdivision / legal boundaries / ownership / management

Rev	Description	Dm	Vfd	Date
C11	Minor amendments / labels inc. Communal amenity space indicated.	IGF	DT	13.06.25
C10	Substation relocated away from boundary. Unit 4 entrance relocated 1m to the south. Parking to units 3,4 & 7 amended, area schedule updated / tout. Waste areas noted with additional schedule. Shared parking bay allocated to each unit. Existing electricity cable shown. Lighting updated to 'Kingfisher Lighting' proposals.	IGF	DT	04.06.25
C9	Parking bays removed from Unit 1 service yard. Substation footprint amended to suit sub-contractors design proposals. Amenity spaces located for all units.	HMF	IGF	03.04.25

Designer's Signature | Date 28.03.25

Drawing Status: CONSTRUCTION

williamsaunders
architecture: engineering: building consultancy
The Old Mill, Mather Road, Newark-on-Trent, Nottinghamshire, NG24 1YB.
Tel: 01636 704561
W: www.wsanders.co.uk
Also at Leeds and Lincoln.

Project: Proposed Development, Rockingham

Client: Carnell Management Services Ltd.

Title: Proposed Site Plan

Work Project Ref.	Drawn	Date	Scale	@ A1
12215	IGF	JAN'25	1:500	

Drawing/Document Reference: 12215-WMS-XX-XX-DR-X-10003-S4-C11

Unit	Net Internal Floor Area (Ground + First Floor)	Waste Storage Area	Minimum Storage of Recyclable Waste	Actual Provision of Recyclable Waste	General Waste
	sq.m	sq.m	sq.m	sq.m	sq.m
1	911	8.13	3	4.84	4.56
2	1,381	12.3	4	7.92	7.92
3	1,493	12.3	4	7.92	7.92
4	2,200	12.3	4	7.92	7.92
5	419	12.3	2	3.63	3.48
6	380		2	3.63	3.48
7	518		2	3.63	3.48
Total	7,197	71.73	23	38.64	36.86

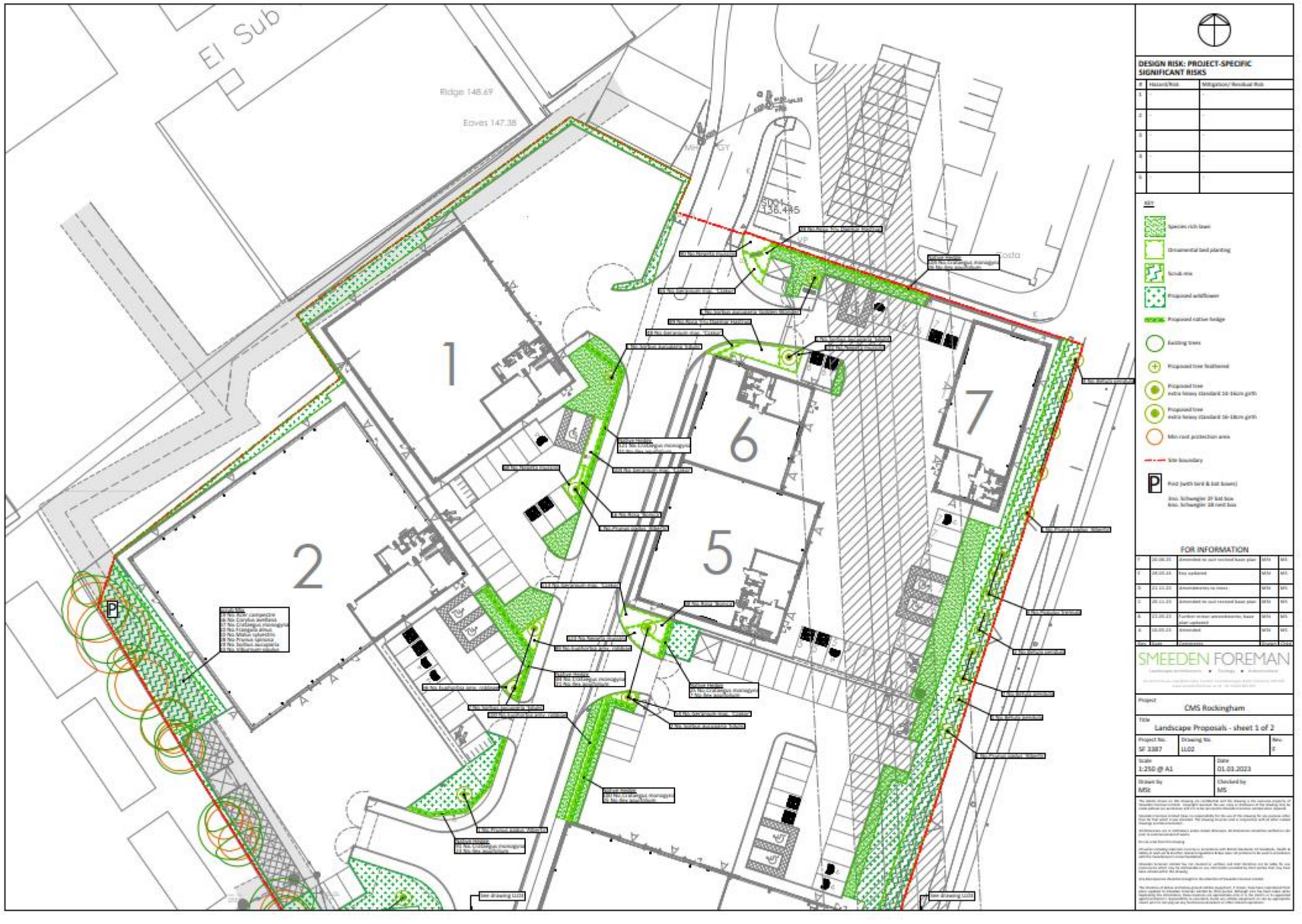
The waste storage areas will be clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams. It will be accessible to building occupants or facilities operatives for the disposal of materials and collection by waste management contractors.

Unit	GEA (sq.m)	GEA (sq.ft)	NIA (sq.m)	NIA (sq.ft)	TOTAL (sq.m)	TOTAL (sq.ft)	Office Area, incl. circ./toilets (sq.m)	Office Area, incl. circ./toilets (sq.ft)	Office % to GIA	Cars	Cycles	M/C/Cycles	Eaves/Haunch Height
1	8,331	8,848	1,109	1,170	9,331	10,018	1,000	10,764	10.7%	16	12	2	8m
2	13,194	13,200	1,371	1,476	14,565	14,676	1,393	14,993	9.6%	24	12	2	8m
3	13,200	14,203	1,411	1,517	14,611	15,720	1,393	14,993	9.5%	23	12	2	8m
4	18,141	19,530	1,784	1,920	19,925	21,450	2,000	21,528	10.0%	32	12	2	8m
5	4,039	4,348	393	423	4,432	4,771	1,000	10,764	22.6%	9	12	2	6m
6	3,530	3,800	343	369	3,873	4,169	1,000	10,764	25.8%	7	12	2	6m
7	4,811	5,179	468	504	5,279	5,683	1,000	10,764	18.9%	7	12	2	6m
TOTAL	65,255	70,255	6,345	6,830	71,600	77,085	8,393	90,356		118	96	16	

APPENDIX 02: AREA BASED AND LINEAR HABITAT CREATION ON/OFF SITE, WITH TARGETED CONDITION STATUS

On-site habitat creation				
Proposed habitat	**Area (hectares)**	**Distinctiveness**	**Condition**	**Condition Assessment Criteria to be met to achieve target condition.**
Grassland – Other neutral grassland (wildflower areas)	0.1142	Medium	Moderate	>9 species per m2 with wildflowers and sedges >30% clearly visible throughout the sward; an absence of invasive non-native species, and a combination of species indicative of sub-optimal condition / physical damage <5%; bracken <20% and scrub/bramble <5%. Moderate allowed for; potential to achieve good.
Grassland – Modified grassland (species-rich lawn)	0.0437	Low	Good	>6-8 species per m2; scrub <20%, bracken <20%, physical damage <5%; an absence of invasive non native species, and cover of bare ground between 1-10%.
Heathland and shrub – Mixed scrub (native tree planting)	0.1006	Medium	Moderate	At least three woody species present, with no one species comprising more than 75% of the cover; absence of invasive non-native species, and species indicative of sub-optimal condition make up less than 5% of ground cover; scrub has a well-developed edge, with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s). Moderate allowed for; potential to achieve good.
Urban – Urban trees (native individual tree planting)	0.2036	Medium	Moderate	Little/no evidence of an adverse impact on tree health by anthropogenic activities, such as vandalism/herbicide use. No current regular pruning regime so trees retain >75% of expected canopy for age range and height; trees immediately adjacent to other vegetation, and tree canopies oversailing vegetation beneath. Moderate allowed for; potential to achieve good.
On site linear habitat creation				
Proposed habitat	**Area (km)**	**Distinctiveness**	**Condition**	**Condition Assessment Criteria to be met to achieve target condition.**
Native hedgerow	0.132	Low	Moderate	Hedgerows cut in 'A' frame to maintain dense base; any plant failures re-stocked to prevent gaps; located to provide undisturbed ground to one side (scrub or grassland) which will be subject to control of undesirable and invasive species. Moderate allowed for; potential to achieve good.
Native species rich hedgerow	0.127	Medium	Moderate	

APPENDIX 03: LANDSCAPE PROPOSALS (SF3387 LL02 REV F AND LL03 REV F)




4
3
Hopper
DESIGN RISK: PROJECT-SPECIFIC SIGNIFICANT RISKS
KEY
FOR INFORMATION
SMEEDEN FOREMAN
CMS Rockingham
Landscape Proposals - sheet 2 of 2
Planting Schedule
Trees
Shrubs
Herbaceous
Native Hedge
Native Hedge (boundary)
Scrub Mix

APPENDIX 04: PROTECTED SPECIES LEGISLATION

Bats

Bats and their roosts are afforded full legal protection under both UK and European legislation. Conservation of Habitats and Species Regulations 2017 transpose the Habitats Directive into UK law, making it an offence to:

- deliberately disturb a bat;
- deliberately kill, injure or capture a bat;
- damage, destroy or obstruct access to a breeding site or resting place (note this applies to both deliberate and reckless actions).

The Wildlife and Countryside Act 1981 (as amended) (Schedule 5) made it an offence to:

- intentionally kill, injure or take a bat ;
- damage, destroy or obstruct a bat roost *;
- disturb a bat at a roost *;
- possess or control a bat or any part thereof;
- sell, offer for sale, possess or transport for sale any bat or part thereof;
- set traps for catching, killing or injuring bats;
- possess articles for the purposes of committing offences against bats;

[*= intentional and reckless offences covered].

Legal protection under the Habitats Directive applies to the animals and their breeding sites and resting places. This means that bat roosts are fully protected, whether they are in use at the time or not. Where roosts or resting/breeding sites are identified, any works which may contravene the protection afforded to them require derogation from the provisions of the legislation in the form of a licence from Natural England..

Great crested newts

The Wildlife and Countryside Act 1981 (as amended) transposes into UK law and the Convention on the Conservation of European and Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). The 1981 Act was amended by the Countryside and Rights of Way ['CRoW'] Act 2000.

The great crested newt is listed on Schedule 5 of the 1981 Act, and is therefore subject to the provisions of Section 9, which make it an offence to:

- Intentionally kill, injure of take a great crested newt [Section 9 (1)];
- Possess or control any live or dead specimen or anything derived from a great crested newt [Section 9 (2)];
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt [Section 9 (4)(a)];
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose [Section 9(4)(b)].

The Conservation of Habitats and Species Regulations 2017 transpose into the UK law Council Directive 92/43/EEC of 21st May 1992 on the conservation of Natural Habitats and of Wild Fauna and Flora (often referred to as the 'Habitats [and Species] Directive'). The great crested newt is listed on Annex II and Annex IV of the Directive. The former Annex relates to the designation of Special Areas of Conservation (SACs) for this species; even where great crested newts occur outside SACs, the inclusion on Annex II serves to underline their conservation significance. Inclusion of the Annex IV ('European Protected Species') means that member states are required to put in place a system of strict protection as outlined in Article 12, and this is done through inclusion on Schedule 2 of the Regulations. Regulation 43 makes it an offence to:

- Deliberately capture or kill a great crested newt [Regulation 43(1)(a)]
- Deliberately disturb a great crested newt [Regulation 43(1)(b)]
- Deliberately take or destroy the eggs of a great crested newt [Regulation 43(1)(c)]
- Damage or destroy a breeding site or resting place of a great crested newt [Regulation 43(1)(d)]

The legislation applies to all life stages of great crested newts.

Breeding birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built or,
- take or destroy an egg of any wild bird.

This protection applies from the moment the nest is being built. Additional protection against disturbance on the nest or of dependent young is provided for birds included on Schedule 1.

Badger

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under the Act it is illegal to:

- Wilfully kill, injure or take a badger or attempt to do so;
- Cruelly ill-treat a badger; and,
- Interfere with a sett by doing any of the following:

  (i) damaging a badger sett or any part of it;

  (ii) destroying a badger sett;

  (iii) obstructing access to a badger sett;

  (iv) causing a dog to enter a sett; and,

  (v) disturbing a badger while it is occupying a sett.