

Network Rail

**170248 Headbolt Lane New Station
GRIP 5**

**Landscape and Ecological Management
Plan**

170248-ARU-REP-EEN-000024

FINAL | 18/08/2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 276736-29

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1.0 Introduction

Background

- Layer.studio have been commissioned to prepare this Landscape and Ecological Management Plan (LEMP) for a new train station development located at Headbolt Lane, Kirkby. The survey area is centred at OS Grid Reference SJ 41325 99798, with its nearest postcode being L33 1WD. The site area referred to throughout this document can be seen on the drawings listed in below.
- The site location is outlined in drawing 170248-1584-ZZ-ZZZ-DRG-A-AR-013006 (Planning Application Drawing – Landscape Plan) available in appendix 1 covering the Headbolt Lane station development. This project is part of a wider program of works being carried out by Network Rail to widen the tracks, and covers areas outside of this red line boundary, but covered by the ecology/ arboriculture reports referenced within this document.
- The LEMP requirement was outlined in the 'Issues and Risk Log' planning ref: 200/00006/PREAPP "A Landscape and Ecological Management Plan (LEMP) which details habitat compensation and enhancement proposals for the site should be produced and submitted prior to determination of any future planning application."
- The aim of the landscape management plan is to ensure that all landscape elements establish and mature successfully. The proposals aim to successfully mitigate against any negative impact of the development, resulting in positive net gain to biodiversity.
- A series of drawings and documents have been produced as part of the design development and should be read in conjunction with this management plan. Sources of information are:
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013006 Landscape Plan
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013030 Landscape Plan Zoom in 1
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013031 Landscape Plan Zoom in 2
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013032 Landscape Plan Zoom in 3
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013033 Softworks
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013034 Softworks Tree Planting Plan
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013035 Landscape and Ecological Strategy
 - 170248-1584-ZZ-ZZZ-DRG-A-AR-013036 Planting Sched
 - Arboriculture Impact Assessment (Miranda Cowan Ecology)
 - Preliminary Ecological Assessment (NLG)

Existing Site Conditions

- The close context of the site is residential suburbs interspersed with amenity greenspace with rural agricultural land beyond. A water course 'Kirkby Brook' runs through the site with patches of semi improved neutral grassland, poor semi-



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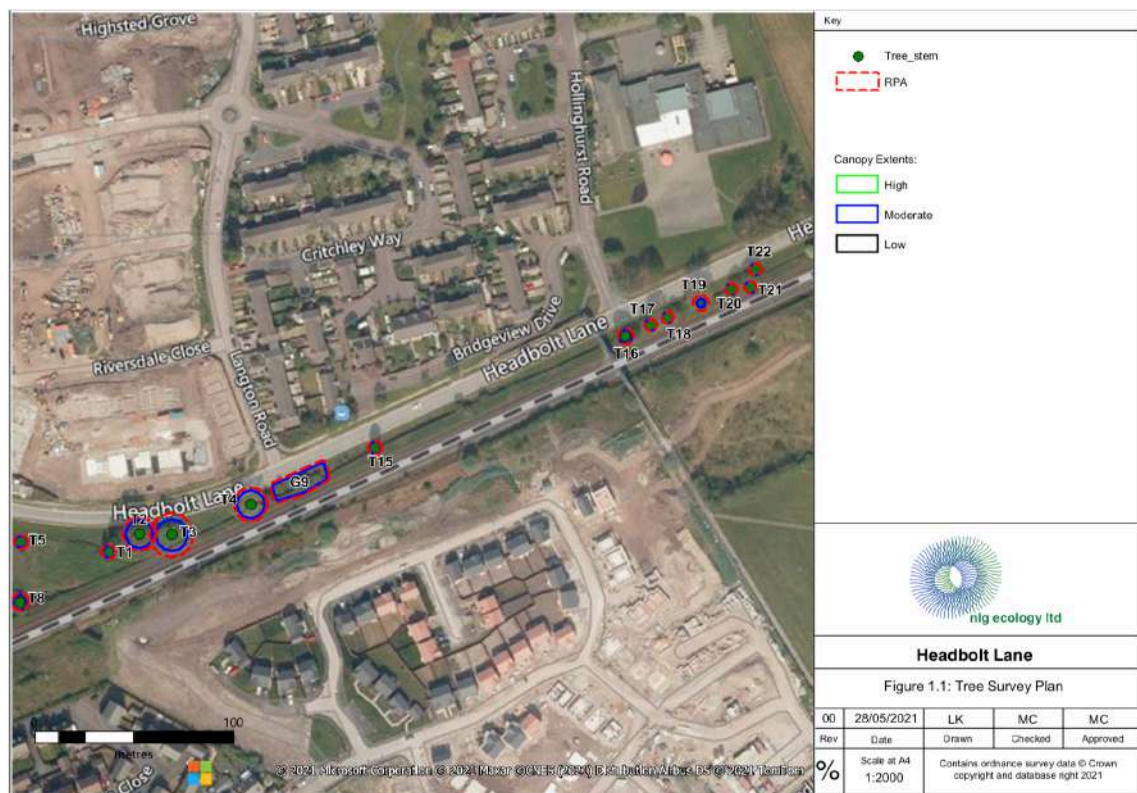
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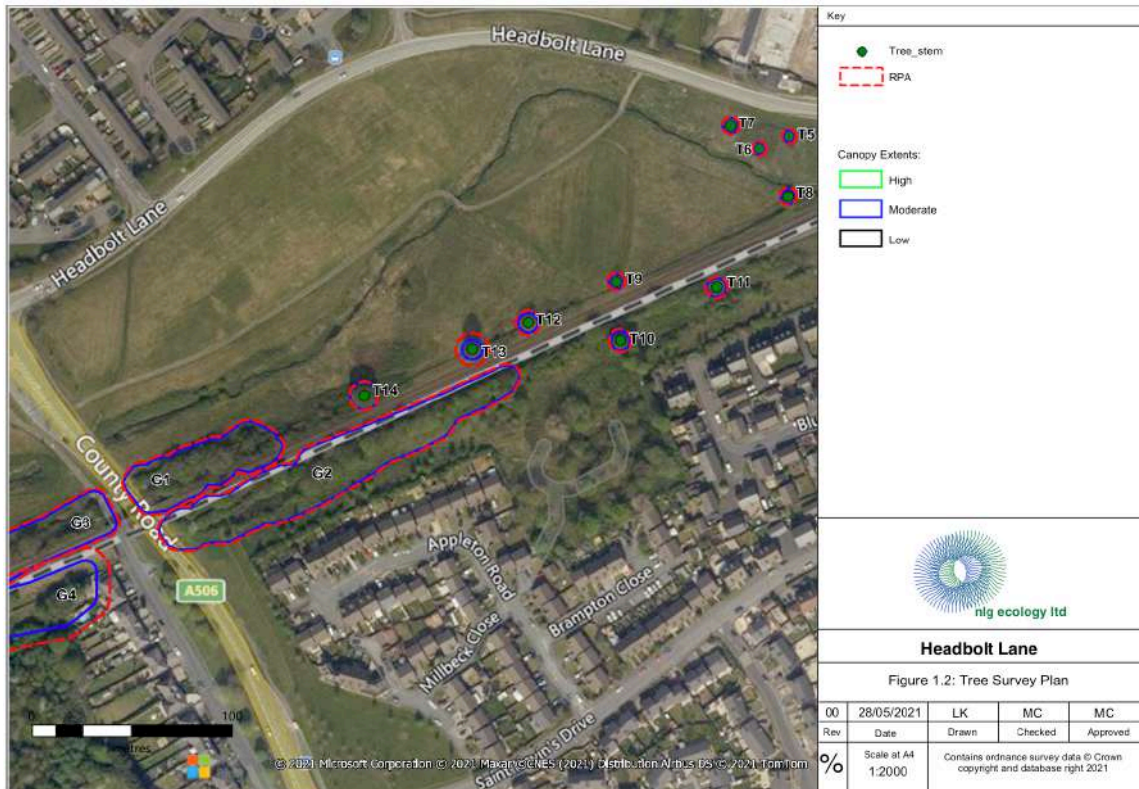
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improved grassland and dense scrub. There are no existing public rights of way through the site but a metalled footpath traverses the site and crosses the river in two places, joining the A506 and Headbolt Lane.

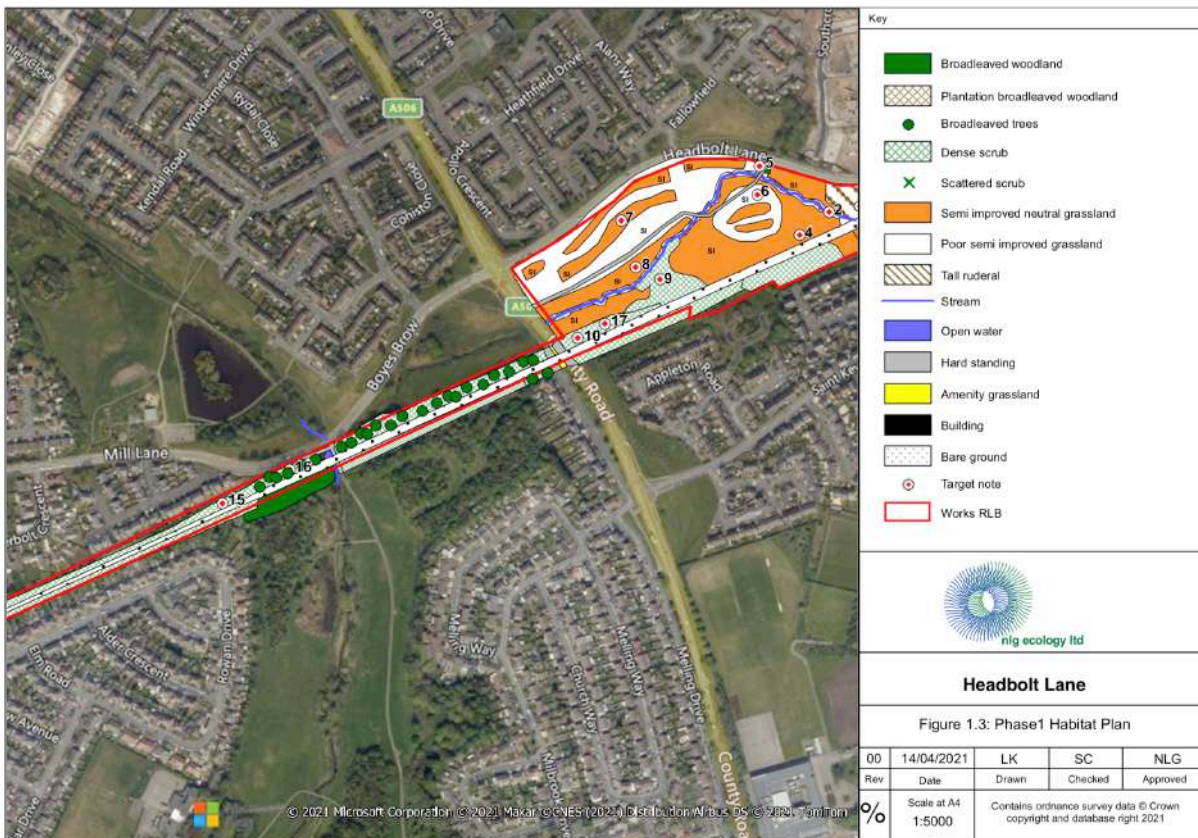
- An Arboricultural Impact Assessment (AIA) was carried out, by Miranda Cowan 4/6/2021 and highlights the extent of structural vegetation on site (See below). The AIA describes the extent of tree loss envisaged. Where possible the landscape designs have retained existing trees and any trees removed/ retained can be seen on the landscape drawings. Tree loss has been mitigated through extensive new tree planting and habitat creation as indicated on the aforementioned drawing.

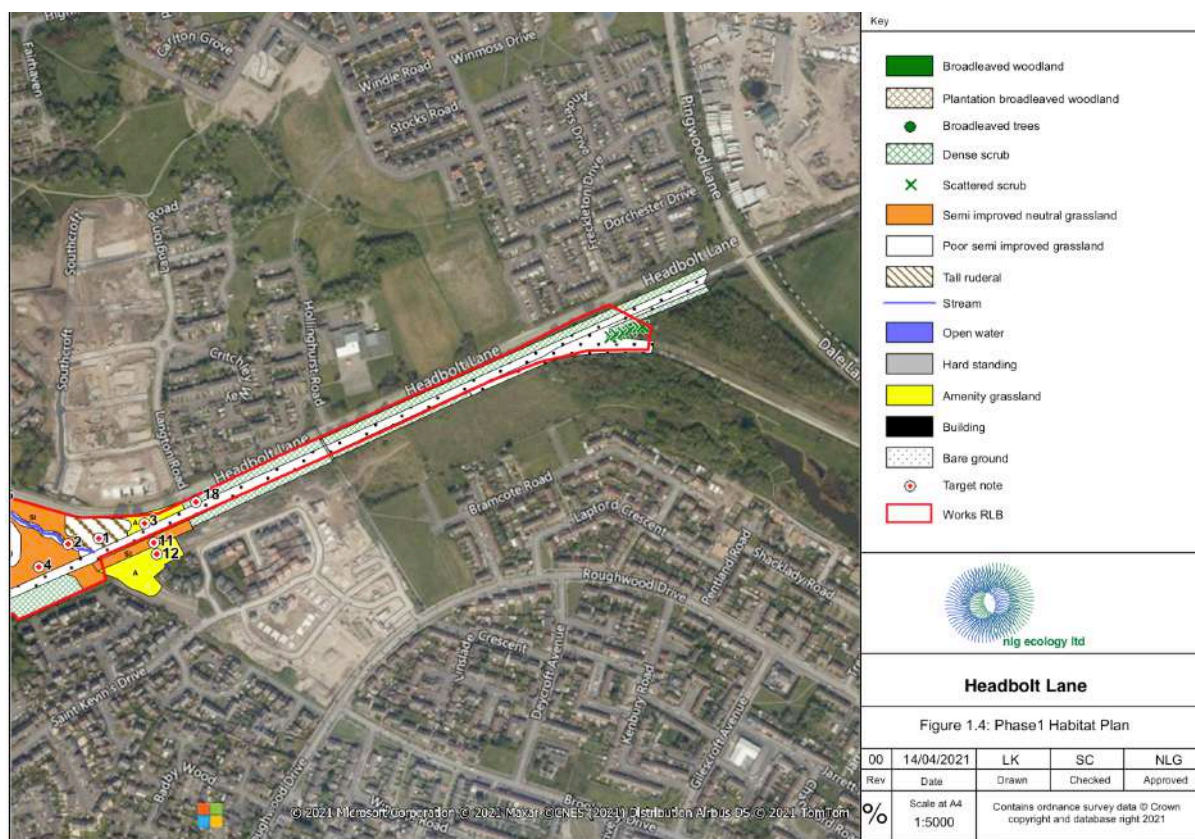
Arboricultural Location Plan, (Cowan. M/ NLG Ecology, 2021, showing wider site area)





Existing Habitats Plan 1.3 & 1.4 (NLG Ecology, 2021 showing wider site area)





Ecological baseline

- A total of five habitats were identified within the Headbolt Lane station development. Habitats are briefly summarised below. The full Preliminary Ecological Appraisal report should be referred to for further detail (PEA; NLG Ecology Ltd, 2021). Habitat areas are illustrated in Appendix 2.
- Semi-improved and poor semi-improved neutral grassland: a mix of semi-improved and poor semi-improved grassland predominate the area within the Headbolt Lane station development.
- Tall ruderal vegetation: an area of tall ruderal vegetation was recorded on the eastern side of Headbolt Lane station development.
- Dense scrub: areas of dense scrub were recorded within the southern boundary of Headbolt Lane station development with areas encroaching into the grassland.
- Running water: Kirkby Brook runs through the site and is culverted at either end. The water was recorded to be slow flowing with a silty channel bed.
- The habitats present within the site have the potential to support the following protected/notable species and species groups below. The full Preliminary Ecological Appraisal report should be referred to for further detail (PEA; NLG Ecology Ltd, 2021).
 - Bats;
 - Badger;
 - Hedgehog;

- Breeding birds; and
- Amphibians.

2.0 Design Objectives

Objective 1: Integrate the development into its surroundings, increase site biodiversity and complement the existing site vegetation.

- Achieved through varied planting typologies (refer to planting schedule), including a mixed palette of ornamental and native species; trees, shrubs and grasses; and providing habitat and biodiversity enhancements across the wider site.
- The landscape design will reflect the local context in order to integrate the development into its surroundings.

Objective 2: To prescribe all necessary management and maintenance principles and tasks to enable successful establishment, ensuring the continued maturing of the soft landscape.

- Achieved through provision of thorough maintenance and management instructions. To be implemented by competent contractors via the client team.

Objective 3: To maximise the nature conservation value of all plantings and wildlife habitat on site.

- Native tree species rich hedgerow and grassland planting has been indicated in order to mitigate the loss of habitats through the development. It is also envisaged that these 'habitat areas' should only require minimal maintenance, and be 'wild'-reinforcing the river bank character and creating valuable habitats.
- The enhancement of existing poor-semi-improved grassland will be undertaken through seeding of retained areas with a native grass mix with a minimum of 20% wildflower and sedge.
- Protection of habitats during the construction phase is detailed in the Construction Environmental Management Plan (CEMP) document carried out by others.
- Log piles utilising wood cuttings from trees within the site will be created and placed on the peripheral boundaries of the site adjacent to areas of retained dense scrub or created native hedgerows with trees.
- Himalayan balsam - *Impatiens glandulifera*, was recorded within the site. A separate invasive species management plan will be developed prior to construction works. Management of Himalayan balsam in areas within the Headbolt Lane station development which are being retained will be managed for invasive species.

3.0 Vegetation Types

- The proposed landscape strategy fits into 2 categories, Public Realm to the main station and car park, and Habitat Areas, illustrated in drawing 013006 available in appendix 1. Public Realm areas include more ornamental planting and specimen trees to improve the amenity value of the site, while also offering biodiversity and wildlife value. The habitat areas are designed to boost the local biodiversity and offer improved habitats, also increasing the amenity value to the public.

Vegetation Typologies.

- Specimen tree planting
- Native hedge planting
- Ornamental shrubs and perennials
- Wildflower Planting
- Native tree and understorey planting
- Marginal Aquatic planting
- Grassland Seeding inc.
 - Neutral grassland enhancement
 - Neutral grassland creation
 - Modified grassland planting

A full list of species proposed is available in appendix 1

Specific ecological and wildlife habitat provisions are also proposed for the site.

- Standing log piles and stumperies for invertebrates, amphibians and hedgehogs.
- The above will require varying management in order to successfully achieve the design objectives.

4.0 Planting & Management Principles

This section outlines the principles and goals for the suggested vegetation typologies. Full planting schedule available in appendix 1.

Proposed Tree and Hedge Planting

- To ensure satisfactory establishment and continuing health.
- To maintain the plants in a healthy condition and develop the site's structure.
- To ensure continuity of the overall design concept.
- To maximise conservation and wildlife value.



- To provide ecological connectivity through the site and provide additional foraging and commuting resource for species such as bats, breeding birds and hedgehog.
- To provide a visual screening from the development

Ornamental Shrubs and Perennials

- To ensure satisfactory establishment and continuing health
- To maintain plants in a healthy and attractive condition
- To ensure continuity of the overall design concept.
- To establish a mechanism for the replacement of any failing plant or one which has reached maturity.

Wildflower Planting to Public Realm

- To ensure satisfactory establishment and continuing health.
- To maintain the area in an attractive and healthy condition.
- To maintain the integrity of the species mix specified and remove any non-native self-seeded material
- To maximise species diversity, conservation and wildlife value including procedures for inspection, suitable cutting regimes and re-seeding if required.

Native Tree Planting to Habitat areas

- To ensure satisfactory establishment and continuing health.
- To maximise conservation and wildlife value.
- To maintain the plants in a healthy condition and develop the site's structure.
- To provide visual screening to development.
- To provide ecological connectivity through the site and provide additional foraging and commuting resource for species such as bats and breeding birds

Marginal Aquatic Planting

- Management and eradication of Himalayan balsam along Kirkby Brook to increase biodiversity.
- The addition of marginal aquatic plant species to the banks of Kirkby Brook to increase plant diversity and structure within the sward.
- To ensure satisfactory establishment and continuing health.
- To maximise conservation and wildlife value.

Enhancement of Existing Grassland and Grassland Seeding

- Seeding of retained areas of grassland Identified as poor semi-Improved in the PEA report. Creation of species rich neutral grassland in non-public realm areas.
- To maximise conservation and wildlife value.
- To ensure satisfactory establishment and continuing health.



- In addition, creation of neutral grassland in the area earmarked for future expansion of the proposed car park is proposed.

Management of Invasive Plant Species

- Himalayan balsam was recorded within the site. A separate invasive species management plan will be developed prior to construction works. Management of Himalayan balsam in areas within the Headbolt Lane station development which are being retained will be managed for invasive species.

Wildlife Habitat Provisions

- The following habitat and wildlife provisions are proposed. The following paragraph outlines the principles and goals for the suggested provisions. The locations are detailed in the Landscape and Ecological Strategy drawing 000013.

Log Piles

- The creation of log piles utilising logs and branches from vegetation required for removal within the wider site will be sited on the peripheral boundary of the Headbolt Lane station development. The log piles will provide habitat for invertebrates, amphibians and hedgehogs.
- Any trees removed for the development should be left standing to decompose naturally and only removed if necessary.
- Log piles should be placed in areas of sunlight or partial shade and in areas without frequent disturbance.
- Log piles are ideally sited adjacent to areas of existing dense scrub or adjacent to the created hedgerow.
- Annual maintenance (cutting/removal of dead branches) of hedgerows and trees within the site can be utilised to add to existing log piles.

5.0 Management Plan

- Set out in the following tables are the maintenance operations that should be carried out in order to achieve the design objectives and to ensure the establishment of high quality and diverse habitats to compensate for the biodiversity loss arising from the development. They have been set out in a format that can be easily followed by all parties, ensuring that the plan exists as a working document and not an archived report. The management prescriptions are flexible such that each section can be changed and updated on an annual basis, allowing targets to be set, progress monitored and accurate reporting.
- Where necessary maintenance of ecological enhancements shall be undertaken/supervised by a qualified ecologist. The management plan is for a period of 10 years, however monitoring may be extended if the target condition of habitats has not been reached. Ecological elements will be subject to an annual



monitoring visit to include an appraisal of the habitats present at the site (in conjunction with monitoring), assessment of the success of the management plan to date, liaison with the management representative regarding any potential issues and any required revisions to the plan. Monitoring visits will be undertaken in July and a general walkover undertaken. Each habitat (e.g. new hedgerow, neutral grassland) will then be assessed through the following activities:

- Photograph
- Full species list including percentage ground cover (for habitats)
- Refugia to be checked for use by wildlife
- A written description of the habitat, how well it is establishing and whether it has reached its target condition as outlined in the Biodiversity Net Gain report.
- The data will then be analysed with reference to the original ecology appraisal and assessed in relation to the aims and objectives of the management plan. A report will be produced following each monitoring visit which will be submitted and addressed as part of the management plan review. A system of reporting should be established for any problems to be reported. This report log should be addressed as part of the management plan review. Following each monitoring visit the management plan should be reviewed in light of the results and should any changes be necessary a revised version will be produced and issued to the landscape manager.

Use of Chemicals

- Chemicals generally should not be used, unless specifically instructed to do so. No chemicals are to be used when the building is occupied. All chemicals, herbicides, pesticides and fertilisers, should be approved by Natural England and should be used, stored and disposed of in accordance with NE guidelines and COSHH Regulations 1988 / 2002.

Maintenance Operations and Frequency for Plants

Planting Typology	Prescription	Year (s)	Season	Frequency (per year)
Specimen Tree Planting	<u>Maintenance operations to include:</u>			
	Maintain a 1m weed free ring around the base of each newly planted tree by hand weeding operations.	1 – 5	As required	As required
	Check stakes and ties for looseness, breaks or decay and adjust, re-fix or replace defective items. Remove stakes and ties when instructed.	1 – 5	As required	Monthly
	Application of granular fertiliser (15:15:15).	1 – 5	Spring	1
	Water as necessary to ensure establishment and continuing health	1 – 5	As required	As required



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Ensure trees remain firmly bedded after disturbance and re-firm as necessary	1 – 5	As required	As required
Trim all dead, dying, damaged and crossed wood (To be left in piles on site)	Ongoing	Spring/Autumn	2
Control all pests and diseases as necessary	1 – 5	As required	As required
Replace any dead or dying trees planted in year 1.	Ongoing	Autumn	1
Replace any dead/ underperforming trees planted. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause.	6 – 15	Autumn	1
Carry out an annual inspection of all trees and carry out remedial work as necessary	Ongoing	Autumn	1
Dead foliage/wood etc. should be left in situ or removed to established habitat piles to provide additional habitat for invertebrates.			

Planting Typology	Prescription	Year (s)	Season	Frequency (per year)
Ornamental Planting	<u>Maintenance operations to include:</u> Maintain all areas in a weed free condition through hand weeding operations. Herbicide applications on instruction only. Application of granular fertiliser (15:15:15). Water as necessary to ensure establishment and continuing health Ensure plants remain firmly bedded after disturbance and re-firm as necessary Control all pests and diseases as necessary Replace any dead or dying plants. Prune early flowering shrubs after flowering Prune late flowering shrubs before new growth Prune evergreen shrubs Prune herbaceous perennials as required to maintain form and supply supports as needed. Replace any dead/ underperforming plants. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause. Control all pests and diseases as necessary Pruning of suitable bird nesting habitat should take place outside of the breeding bird season (March – September). If works must be undertaken during the nesting season the trees should be subject to a nesting bird check by a qualified ecologist prior to the works. Works within 5 m of occupied nests must be delayed until the nest is declared empty by a qualified ecologist.	Ongoing Ongoing Ongoing 1 – 5 Ongoing Ongoing Ongoing Ongoing Ongoing Ongoing Ongoing Ongoing 1-10	As required Spring As required As required Autumn Early summer Early spring Mid spring Early summer Autumn As required Summer	As required 1 As required As required 1 1 1 1 As required As required As required
		Ongoing	All	Always

Wildflower seeding to public areas	Avoid the use of fertilizers within wildflower areas, which would give a competitive advantage to fast growing species and lead to an overall decline in diversity.	Ongoing	All	As required
	Water as necessary to ensure establishment and health. Inspect yearly and remove invasive, non-native, and undesirable species (Common nettle (<i>Urtica dioica</i>) – Creeping thistle (<i>Cirsium arvense</i>) – Bramble (<i>Rubus fruticosus</i>) – Any other non-native invasive species or those listed on Schedule 9 of the Wildlife & Countryside Act) using methods such as hand pulling.	Ongoing	Spring	1
	Before each cut remove all litter and debris.	1	Late summer	See description on left
	In the first growing season after the plants have set seed (August – September) cut to height of 40 mm using strimmers. Arisings should be left to drop seed for a few days and then placed in compost heaps in locations to be agreed. Continue to cut every 6–8 weeks until autumn, or so that the height of growth does not exceed 500mm.			
	In subsequent years cut once to 150 mm after the plants have set seed (August – September). Again, arisings should be left for a few days to set seed then placed in compost heaps.	Ongoing	Late summer	See description on left
Hedge Planting	Assess establishment of wildflower species yearly. Consult an ecologist if areas are failing and consider re-seeding.	Ongoing	Late summer	1
	Carry out an annual inspection and carry out remedial work as necessary.	Ongoing	Spring	1
	Water as necessary to ensure establishment and continuing health, particularly during the spring/summer months in the first years of establishment.	1–10	As required	As required
	Ensure plants remain firmly bedded after disturbance and re-firm as necessary ensuring plants maintain an upright position.	1–10	As required	As required
	Replace any dead or dying plants.	1–10	As required	As required
	Prune as required which will be undertaken between October and February. The hedgerow will be cut by layering every ten years to ensure the density of hedgerow from the ground up.	Ongoing	As required	Autumn
	Where planting continually fails to establish, undertake investigations to ascertain any underlying cause.	1–10	As required	As required
Tree Planting to Habitat Areas	Carry out an annual inspection of all trees and carry out remedial work as necessary	1–10	Spring	1
	Maintain a 1m weed free ring around the base of each newly planted tree by hand weeding operations.	1–10	As required	Until established
	Check tree stakes at least yearly and ties for looseness, breaks or decay and adjust, re-fix or replace defective items. Remove stakes and ties when fully established.	1–10	As required	Until established
	Water as necessary to ensure establishment and continuing health	1–10	As required	As required
		1–10	As required	As required
	Ensure trees remain firmly bedded after disturbance and re-firm as necessary	1–10	As required	As required
		1–10	As required	As required
	Replace any dead or dying specimens.	1–10	As required	As required

	Where planting continually fails to establish, undertake investigations to ascertain any underlying cause. Pruning and thinning should take place outside of the breeding bird season (March – September). If works must be undertaken during the nesting season the trees should be subject to a nesting bird check by a qualified ecologist prior to the works. Works within 5 m of occupied nests must be delayed until the nest is declared empty by a qualified ecologist.	1-10	As required	As required
Marginal aquatic Planting	Removal of annual weed growth to encourage establishment of a diverse sward Cutting back and removing short sections of vegetation in rotation	1-5 Ongoing	Spring/Summer September – November	2 Every 2-3 years
Neutral Grassland	Control of unwanted/invasive species by hand pulling or if appropriate, spot herbicide treatment Mowing. Cut to a height of 50-75mm. All arisings to be removed. Mow several times in the first year to control annual weeds during the first year of establishment. Subsequent years require cutting and arising removal in autumn	Ongoing Ongoing	Spring Spring summer and Autumn	1 See description on left
Management of invasive species - Himalayan balsam	Control of invasive species by hand pulling, cutting back or, if appropriate, spot herbicide treatment	Ongoing	Spring	1

Maintenance Operations and Frequency for Wildlife Provision

Invertebrate Habitat	Standing log piles and stumperies for invertebrates can be built from any arising from habitat areas. Check still present and in good order annually. Add additional materials when required and utilise materials from the site	1-10 1-10	Winter As required	1 As required

Appendix 1- Site Plans

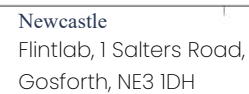


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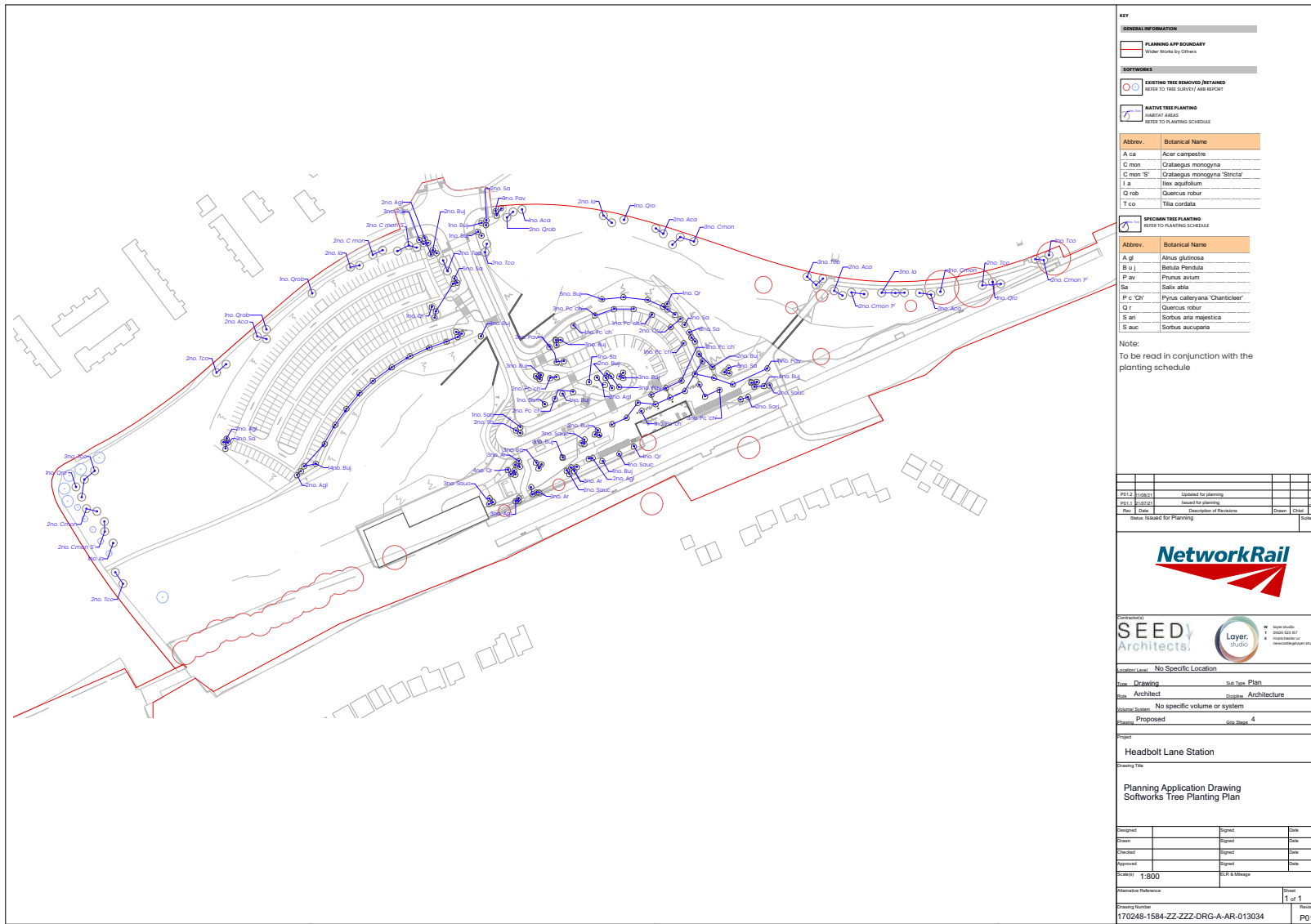
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Specimin Tree Planting

Abbrev.	Botanical Name	Common Name	Girth (cm)	Height (m)	Root Zone	Specification	Qty
A gl	<i>Alnus glutinosa</i>	Common Alder	18-20	425-600	RB	3x; EHs; clear stem min. 200cm	As Shown
B u j	<i>Betula Pendula</i>	Silver Birch		200-250	RB	3x; Multi-stem; bushy; 3 stems min.	As Shown
P av	<i>Prunus avium</i>	Wild Cherry	20-25	450-500	RB	EHs; clear stem min. 200cm	As Shown
S a	<i>Salix alba</i>	Willow		200-500	RB	3x; Multi-stem; bushy; 3 stems min.	As Shown
P s QY	<i>Prunus cerasifera</i> 'Chanticleer'	Flowering Pear 'Chanticleer'	20-25	500-550	RB	3x; Semi-natural; clear stem min. 200cm	As Shown
Q Y	<i>Quercus robur</i>	Common Oak	20-25	450-600	RB	EHs; clear stem min. 200cm	As Shown
S ar	<i>Sorbus arbuscula</i>	Whitebeem	18-20	450-500	RB	3x; EHs; clear stem min. 200cm	As Shown
S auc	<i>Sorbus aucuparia</i>	Rowan	HS	360-425	RB	3x; HS; clear stem 175-200cm; 5 trks	As Shown

Ornamental shrubs and grasses -2823m2

Abbrev.	Botanical Name	Common Name	Girth, cm	Height, cm	Root Zone	Specification	Density m ²
	<i>Actaea simplex</i>	Bugbane	3L			Full pot	5
	<i>Alaya reptans</i>	Bugle	2L			Full pot; Sept to April planting; British native origin	3
	<i>Althum schoenopragmum</i>	Chives	3L			Full pot	5
	<i>Arenaria nemoralis</i>	Wood Anemone	2L			Full pot	3
	<i>Aquilegia McKana Hybrids</i>	Columbine McKana Hybrids	3L			Full pot	6
	<i>Aquilegia vulgaris</i>	Grenny's Bonnet	2L			Full pot	6
	<i>Atlythum lila femina 'Fitzwilliam'</i>	Mrs Fizzell's Lady Fern	6L			Full pot	4
	<i>Calceolagris x acutifolia 'Yari Forester'</i>	Feathered Reed Grass 'Yari Forester'	3L			Full pot	3
	<i>Carex diopisces</i>	a New Zealand Sedge	3L			Full pot	3
	<i>Carex phyllocephala 'Sparkler'</i>	Sparkler Sedge	3L			Full pot	3
	<i>Oxleya temata 'Sundance'</i>	Common Orange Blossom 'Sundance'	40-60	9L		Bushy, 5 brks	3
	<i>Comus sanguinea</i>	Common Dogwood	40-60	3L		Branched, 4 brks	3
	<i>Cardioides pallidus 'Albinostrata'</i>	Pampas Grass 'Silver Stripe'		5-7.5L		Full pot	3
	<i>Deschampsia cespitosa</i>	Tufted Hair Grass	3L			Full pot	4
	<i>Deschampsia cespitosa 'Laurauger'</i>	Tufted Hair Grass 'Laurauger'	3L			Full pot	5
	<i>Dryopteris erythrosora</i>	Japanese Roly Buckler	3L			Full pot	3
	<i>Echinacea paradoxa</i>	Yellow Coneflower	3L			Full pot	3
	<i>Echinacea purpurea</i>	Purple Coneflower	3L			Full pot	5
	<i>Echinops bannaticus 'Taplow Blue'</i>	Blue Globe Thistle 'Taplow Blue'	3L			Full pot	3
	<i>Hedera colchica</i>	Pernian Ivy	60-80	3L		Cane; several shoots; 3 brks	3
	<i>Hedera helix</i>	Common Ivy	40-60	3L		Several shoots; 3 brks	5
	<i>Heuchera 'Caramel'</i>	Coral Flower 'Caramel'				Full pot	5
	<i>Kochia repens</i>	Rooper's Red Hot Poker		3L		Full pot	4
	<i>Lonicera x borealis 'Dromgore Scarlet'</i>	Scarlet Trumpet Honeysuckle 'Dromgore Scarlet'	80-100	3L		Cane; several shoots; 3 brks	3
	<i>Lonicera fragransissima</i>	Winter Honeysuckle				Branched, 5 brks	3
	<i>Lonicera periclymenum</i>	Common Honeysuckle	60-80	3L		Cane; several shoots; 3 brks	3
	<i>Luzula sylvatica</i>	Great Wood-rush				Full pot; Sept to April planting; British native-origin	5
	<i>Paspalum caerulea</i>	Blue Passion Flower	80-100	3L		Cane; several shoots; 3 brks	3
	<i>Pennisetum alopecuroides 'Hameli'</i>	Fourtain Grass 'Hameli'		3L		Full pot	3
	<i>Pitcairnia tentaculiflora</i>	Kochia	30-40	3L		Branched 3 brks	3
	<i>Polygodium vulgare</i>	Common Polygod		3L		Full pot	4
	<i>Prunus lusitanica</i>	Portuguese Laurel	40-60	6L		Bushy; 5 brks	3
	<i>Rosmarinus officinalis</i>	Rosemary	30-40	3L		Bushy; 4 brks	4
	<i>Rosmarinus officinalis 'Savem Sea'</i>	Rosemary 'Savem Sea'	30-40	3L		Bushy; 4 brks	4
	<i>Silene tenuisima</i>	Common Feather Grass	3L			Full pot	7

Bulb Clusters to Ornamental Beds 400m2

Abbrev.	Botanical Name	Common Name	Root Zone	Specification	Density m ²
	<i>Allium sphaerocephalon</i>	Round-headed Leek		Grade 5+	6
	<i>Anemone nemorosa</i>	Wood Anemone		Full pot	6
	<i>Oxycoccus 'Jackanapes'</i>	Mottletail 'Jackanapes'		Grade 6+ Topsize	20
	<i>Psittula melanotis</i>	Snake's Head Psittilla		Grade 6+ Topsize	10
	<i>Narcissus 'Thais'</i>	Daffodil 'Thais'		Grade 10/12	10
	<i>Teucrium laeta</i>	Grassroot		Grade 6+ Topsize	10

Individual Tree Planting to Habitat Areas

Abbrev.	Botanical Name	Common Name	Girth (cm)	Height (m)	Root Zone	Specification	% mix
A ca	Acer campestre	Common Maple	12-14	300-425	RB	Heavy Standard	As Shown
C mon	Cotoneaster monogyna	Common Hawthorn	12-12	300-350	RB	Standard	As Shown
C mon 'S'	Cotoneaster monogyna 'Stricta'	Hawthorn 'Stricta'	10-14	300-425	RB	Heavy Standard	As Shown
C m 'S'	Ilex aquifolium	Common Holly	8-10	200-250	RB	Standard	As Shown
C m b	Quercus robur	Common Oak	12-12	300-350	RB	Standard	As Shown
T co	Lila cordata	Small-leaved Lime	12-14	300-425	RB	Heavy Standard	As Shown

Sub-Canopy Species to Habitat Areas - Total area aprox 1003m2

% mix	Botanical Name	Common Name	Griv. Da. cm	Height cm	Root Zone	Specification	Density
20	<i>Alnus glutinosa</i>			80-100	BR	Transplant	4m cc
20	<i>Betula pendula</i>			80-100	BR	Transplant	4m cc
10	<i>Salix caprea</i>			80-100	BR	Transplant	4m cc
10	<i>Salix viminalis</i>			80-100	BR	Transplant	4m cc
10	<i>Sorbus aucuparia</i>			80-100	BR	Transplant	4m cc
10	<i>Eunymus europaeus</i>			80-100	BR	Transplant	4m cc
20	<i>Ilex aquifolium</i>			80-100	BR	Transplant	4m cc

Understorey Species to Habitat Areas

% mix	Botanical Name	Common Name	Size	Height cm	Pot Size	Specification	Density
20	Viburnum opulus			40-60	BR	Transplant	2m ccs
20	Corylus avellana			40-60	BR	Transplant	2m ccs
10	Ilex aquifolium			60-80	5LPG	Transplant	2m ccs
10	Crataegus monogyna			60-80	BR	Transplant	2m ccs
10	Crataegus monogyna 'Stricta'			60-80	BR	Transplant	2m ccs
20	Sambucus nigra						

Native Mixed Hedge - 541 l/m

Abbrev.	Botanical Name	Species including	% mix	Specification	in/m
Mixed		Quickthorn	25	Instant hedging: 40cm wide x 100cm long trough; pre-formed with continuous root-strip dense, straight sided, furnished to base, neatly clipped - Planted in a double row	541m
		Blackthorn			
		Fieldmaple	25		
		x5 Species of the following dependant on seasonal availability: Common Alder, Bird Cherry, Guelder Rose, Hazel, Dog Rose, Common Dogwood, Elder, Hornbeam, Spindle, Wild Crabapple			
			25		

Wildflower Mix Adjacent to Station - 456m2

Abbrev.	Product Name	Species including	Rate			Specification	Area m ²
	Native Meadow Mix- Pictorial Meadows	Perennial native meadow	2g/m ²			https://www.pictorialmeadows.co.uk/product/native-meadow/	456

Grassland Habitat Areas - Aprox 28282m2

Botanical Name	Rate	Specification	Area m2
EM2 - standard general purpose meadow mixture	4g/m2	https://wildseed.co.uk/mixtures/view/3/standard-general-purpose-meadow-mixture	

Aquatic/ Marginal Habitat Areas -Aprox 1792m2

Abbrev.	Botanical Name	Species including	Rate		Specification	Area m ²
	EP1 - pond edge mixture	4g/m ²	4g/m ²		https://wildseed.co.uk/mixtures/view/13	

[illegible]