Kirklees Council

TCF Heckmondwike

Biodiversity Enhancement and Management Plan (BEMP)

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TCF Heckmondwike

Biodiversity Enhancement and Management Plan (BEMP)

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WSP

8 First Street
Manchester
M15 4RP

Phone: +44 161 200 5000

WSP.com

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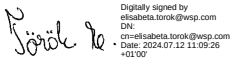
Prepared by	Bethan Pugh/ Abbie Case	Rosie Pope		
Signature				
Checked by	Sophie Trigg	Elisabeta Torok		
Signature				
Authorised by	Hannah Williams/ Joe Gough	Elisabeta Torok		
Signature		 Digitally signed by elisabeta.torok@wsp.com DN: cn=elisabeta.torok@wsp.com Date: 2024.07.12 11:09:26 +01'00'		
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Appendices

1 Introduction

1.1 Project Background

1.1.1. The Transforming Cities Fund (TCF) comprises a £317m programme of investment that aims to deliver a transformational programme of new infrastructure and help create a step change in travel across the Leeds City Region (LCR). The West Yorkshire Combined Authority's TCF Vision is: "*to support delivery of inclusive growth across the Leeds City Region, through an innovative and coordinated walking, cycling and bus package, which provides genuine sustainable and healthy travel options for our communities along our corridors of greatest economic need, and transforms accessibility from new development sites and accommodates growth at key public transport hubs*."

1.1.2. The Heckmondwike Bus Hub Scheme (the 'Proposed Development') would reconfigure the existing bus station and provide new facilities to encourage sustainable transport measures. The Proposed Development comprises a new 'fit for purpose' bus station at Heckmondwike to provide increased capacity for bus services, improved interchange opportunities, improved waiting environment, and improved access to information. The 'Site' is located in the county of West Yorkshire at grid reference SE 21524 23532. The Site is bordered to the southwest by the B6117, the south by the A638, the east by Royle Fold Road and the north by George Street. The Site is surrounded by commercial and residential urban development, as well as Green Park to the west. The location of the Site is shown on **Figure 1**.

1.1.3. Habitat creation works proposed to compensate for the effects of the Proposed Development, are detailed in an accompanying Biodiversity Net Gain (BNG) assessment report (WSP, 2024a[1]). Habitats previously mapped within the Site are shown on **Figure 1.**

1.1.4. This Biodiversity Enhancement and Management Plan (BEMP) is submitted in order to discharge Condition 4 of the approved planning application. As reproduced below, Condition 4 refers to the preparation of a BEMP as stated:

> *'a. Description and evaluation of features to be managed and enhanced;*
>
> *b. Extent and location/area of proposed enhancement works on appropriate scale maps and plans;*
>
> *c. Ecological trends and constraints on Site that might influence management;*

[1] WSP (2024) Transforming Cities Fund – Heckmondwike Bus Hub. Biodiversity Net Gain Assessment.

d. Aims and Objectives of management;

e. Appropriate management Actions for achieving Aims and Objectives;

f. An annual work programme (to cover an initial 5 year period capable of being rolled forward over a period of 30 years);

g. Details of the management body or organisation responsible for implementation of the BEMP;

h. Ongoing monitoring programme and remedial measures; and

I. The BEMP will be reviewed and updated every 5 years and implemented for a minimum of 30 years.

The BEMP shall also set out (where the results from the monitoring show that the Aims and Objectives of the BEMP are not being met) how contingencies and/or remedial action will be identified, agreed and implemented so that the development still delivers the fully functioning biodiversity objectives of the originally approved BEMP. The approved BEMP will be implemented in accordance with the approved details.'

1.1.5. This document presents a BEMP plan to support the delivery of habitat creation and enhancement as described within the BNG assessment report (BNG, 2024a). The proposed created habitats are shown in **Figure 2.** To achieve the proposed net gain, this document sets out specific proposals for management and maintenance tasks.

1.1.6. This document should be read in conjunction with the following:

- Biodiversity Net Gain Report – produced by WSP in 2024 (WSP, 2024a)
- Landscape specification – TCF-WSP-KHBH-XXX-SPE-LE-00001 Rev P03 (WSP, 2024b)
- Landscape design – TCF-WSP-KHBH-XXX-DR-LE-000001_P05 (WSP, 2024d)
- Landscape Management Plan – TCF-WSP-KHBH-XXX-LMP-LE-000001 Rev P04 (WSP, 2024e)

2 Biodiversity Enhancement and Management Plan

2.1 Overview

2.1.1. This BEMP is based on the suggested structure of landscape ecological management plans as contained in British Standard 42020:2013 Biodiversity — Code of practice for planning and development[2].

2.1.2. The purpose of this BEMP is to guide the establishment and maintenance of the landscape works for a period of 5 years following completion. The aim of the BEMP is to achieve a biodiversity net gain on Site comparatively to the baseline prior to the development, through creation of habitats of a higher biodiversity value.

2.2 Ecological trends and constraints that might influence management

2.2.1. Certain operations required to implement this management plan could negatively affect ecological features and/or contravene nature conservation legislation. For example, legally protected species could be present and be affected by management, or legally controlled plant species could be present or colonise the Site and be spread by management. Proposed habitat management and creation in this BEMP is based upon the Preliminary Ecological Appraisal (PEA) report (WSP, 2021) and Landscape Management Plan (WSP, 2024e).

2.2.2. Removal of trees should be undertaken outside the bird nesting season (1st March to 30th September inclusive). Should these activities be planned within this period, they should be preceded by an ecological assessment by a Suitably Qualified Ecologist (SQE) to confirm the absence of active bird nests. If an active nest is recorded, a minimum buffer of 5m should be implemented and remain in place until the nest is confirmed inactive by a SQE.

2.3 Description and evaluation of features to be managed

A description of the features to be managed on the Site is provided in **Appendix A** of this document. Habitats are described in terms of the UK Habitat Classification (UKHab) definitions, using the following documentation:

- UK Habitat Classification Field Key (Butcher *et al*, 2020a);
- UK Habitat Classification Habitat Descriptions Version 1.1 (Butcher *et al*, 2020b); and
- UK Habitat Classification User Manual (Butcher *et al*, 2020c).

[2] The British Standards Institution (2013). BS 42020:2013 Biodiversity — Code of practice for planning and development. British Standards Institution, London.

Habitats to be retained, enhanced, or created are identified with the corresponding distinctiveness and condition. An evaluation of the nature conservation importance of these features is also provided.

2.4 Aims and objectives of management

2.4.1. Objectives to achieve this for each ecological feature are provided in **Appendix B**. The parameters of these objectives including the target distinctiveness, condition, and Area-based Habitat Units (ABHU) (no hedgerows or river habitat was present within the Site) will be the parameters that will be measured to identify progress and determine if the objective has been achieved.

2.4.2. The overall aim of this BEMP is to facilitate delivery of habitat compensation measures described in the accompanying Biodiversity Net Gain Assessment Report (WSP, 2024a) which used the Natural England Small Sites Biodiversity Metric - Beta Test. Figures produced for the BNG assessment report are shown in **Appendix F**.

2.5 Prescriptions for management

2.5.1. **Appendix C** sets out the habitat creation management prescriptions required to achieve the stated objectives and end targets (**Appendix B**). The Appendix provides a works schedule and details of those responsible for undertaking each intervention.

2.5.2. Kirklees council (the Developer) is responsible for the creation and establishment of the works. The Developer will appoint a management company working under the direction of an Ecological Clerk of Works (ECoW) to oversee the delivery of the proposed plan in this BEMP, prior to any work commencing on Site.

2.5.3. The ECoW will be a qualified ecologist and member of the Chartered Institute of Ecology and Environmental Management or be otherwise approved by the Local Planning Authority (LPA).

2.5.4. Maintenance of the green wall will be undertaken by green wall specialist maintenance contractor from completion of construction and ongoing. A green wall specialist can provide a specialised unique maintenance contract which includes regular monthly visits and horticultural husbandry visits, twice annually.

2.5.5. The green wall specialist contractor will carry out maintenance tasks monthly, which may include:

- Checking for pests and diseases
- Checking for airborne weeds
- Cleaning around the green wall
- Trimming and pruning where necessary
- Shaping plants
- Planting replacements if necessary
- Applying biological control through irrigation system

- Checking moisture levels
- Irrigation system service (ensuring even distribution, re-calibration through the seasons, and checking for any frost damage though winter).

2.6 Prescriptions for monitoring

2.6.1. **Appendix D** sets out monitoring of the ecological features to be managed, to assess whether the stated aim and objectives of the project are being met (**Appendix B**). The Appendix provides a works schedule and details of those responsible for undertaking each intervention and includes condition assessment surveys based on the appropriate guidance as published by Natural England[3].

2.6.2. The created habitats proposed in **Appendix B** will be reported on in year 1, 2, 5, 10, 20 and 30 to measure the effectiveness of the BEMP. This will be carried out by a suitably qualified ecologist who is capable in undertaking habitat condition assessments, as per the Chartered Institute of Ecology and Environmental Management (CIEEM) competency framework[4].

2.7 Ongoing monitoring and remedial measures

2.7.1. In addition to the management and monitoring activities, a review of this BEMP should be undertaken every five years to ensure that the results of monitoring activities and remedial measures identified are captured and implemented; or if necessary, to ensure that the objectives of the Plan are reviewed to allow for appropriate adaptive management measures to be taken. Changes to this plan should be captured in **Appendix E**.

2.7.2. For each of the first five years of the proposed management within this BEMP, a progress report which includes the tables within **Appendix A-E** will be sent to Kirklees Council. This will report on progress of the annual work programme and confirmation of required actions for the next 12-month period.

2.8 Glossary of terms

2.8.1. **Appendix G** provides a glossary of terms used in this document.

[3] Natural England (2021). The Biodiversity Metric 3.0 (JP039) – Habitat Condition Assessment Sheets. Available at: The Biodiversity Metric 3.0 - JP039 (naturalengland.org.uk)
[4] Chartered Institute of Ecology and Environmental Management (CIEEM) (2021). Competency Framework. Available at: Competency-Framework-2022-Web.pdf (cieem.net)

2.9 Project references

WSP (2021) TRANSFORMING CITIES FUND, HECKMONDWIKE BUS HUB – Ecological Constraints Assessment

WSP (2024a) TRANSFORMING CITIES FUND, HECKMONDWIKE BUS HUB - Biodiversity Net Gain Report

WSP (2024b) Landscape specification – TCF-WSP-KHBH-XXX-SPE-LE-00001 Rev P03

WSP (2024c) Planting Design – Drawing Ref. TCF-WSP-KHBH-XXX-DR-LE-000002 Rev P02

WSP (2024d) Landscape design – Drawing Ref. TCF-WSP-KHBH-XXX-DR-LE-000001 Rev P05 WSP (2024e) TCF HECKMONDWIKE BUS STATION Landscape Management Plan – TCF-WSP-KHBH-XXX-LMP-LE-000001 Rev P04

Appendix A

Description of features to be managed on Site

Table A-1 - Description and Evaluation of Habitats to be Managed On Site.

Habitat type	Habitat Retained / Created or Enhanced	Distinctiveness	Target Condition	Habitat Area (M^2)	Habitat Units (HU)	Nature Conservation Importance (as Determined through Legal / Policy Protection)
Grassland - Modified grassland g4	Created in a moderate condition.	Low	Moderate	88	0.0306	The grasslands will be valuable in providing habitat and resources to a range of species, including pollinating invertebrates.
Other neutral grassland	Created in a moderate condition.	Medium	Moderate	240	0.1609	
Other green roof	Created in a moderate condition.	Low	N/A (Moderate in SSM)[5]	157	0.0565	The green roof will be valuable in providing

[5] Based on condition sheets within metric and UKHab guidance, the condition for green roof is auto-assigned 'N/A'. To avoid a calculation error, the SSM requires a condition to be inputted for the green roof. Therefore as a precaution, a moderate condition has been assigned.

Habitat type	Habitat Retained / Created or Enhanced	Distinctiveness	Target Condition	Habitat Area (M²)	Habitat Units (HU)	Nature Conservation Importance (as Determined through Legal / Policy Protection)
						habitat and resources to a range of species, including pollinating invertebrates.
Facade-bound green wall	Created in a moderate condition.	Low	Moderate	2	0.0005	The green wall will be valuable in providing habitat and resources to a range of species, including pollinating invertebrates.
Introduced shrub	Created in a poor condition.	Low	Poor	5	0.0010	Introduced shrub can provide habitat and

Habitat type	Habitat Retained / Created or Enhanced	Distinctiveness	Target Condition	Habitat Area (M²)	Habitat Units (HU)	Nature Conservation Importance (as Determined through Legal / Policy Protection)
						resources to a range of species, including pollinating invertebrates and birds.
Rain garden	Created in a moderate condition.	Low	Moderate	52	0.0189	Retains water in the natural environment and stops it reaching the sewerage system.
Urban trees	Created in a moderate condition.	Medium	Moderate	23	0.0069	These trees would provide cover, resources, and habitat for a range of species including birds.

Appendix B

Aims and objectives

Table B-1 - Aims, Objectives and Management Options – Habitats

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
Area habitats					
N/A- to be created on cleared land post development	Created: Grassland - Modified grassland g4	Moderate	This area of grassland will be located on verges, where footfall and activity are expected to be heavier. Frequent mowing regimes and soil compaction from footfall reduces species diversity, creating modified grassland. Management should aim for achieving moderate condition as defined within the Biodiversity Metric 3.1 Habitat Condition Assessment. This will require a **minimum of 4 out of 7 of the condition criteria to be achieved[7].** For moderate condition to be achieved, the grassland should be planted with between 6-8 species per m^2, with perennial ryegrass *Lolium*	Low	0.0306

[6] Objectives follow habitat definitions from UKHAB and Natural England (The Biodiversity Metric 3.1 (JP039) – Habitat Condition Assessment Sheets (2022)).

[7] Criteria as shown in the Biodiversity Metric 3.1: Auditing and accounting for biodiversity - Technical Supplement Part 1a (2022)

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
			perenne and white clover *Trifolium repens* present. Grass cover should be over 75%. In addition, physical damage should be less than 5% of the total grassland area, cover of bracken *Pteridium aquilinum* and scattered scrub should be less than 20% and cover of bare ground between 1% and 10%. There should be an absence of invasive non-native species (INNS).		
N/A- to be created on cleared land post development	Created: Other neutral grassland (including wildflower meadow and wildflower mounds)	Moderate	Management should aim for achieving moderate condition as defined within the Biodiversity Metric 3.1 Habitat Condition Assessment. **This will require a minimum of 3 out of 7 of the condition criteria to be achieved. Invasive non-native species should be absent.** To achieve a moderate condition, the grassland should be planted with between 9 and 15 native species per m^2, with perennial ryegrass *Lolium perenne* present at <30%. The cover of wildflowers and sedges should make up more than 10% of the grassland, excluding creeping buttercup and other species indicating a sub-optimal condition such as common ragwort *Jacobaea vulgaris,* creeping thistle *Cirsium arvense* and broadleaved dock *Rumex obtusifolius*.	Medium	0.1609

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
			Cover of bare ground should be between 1% and 5%. Bracken cover should be less than 20% and scrub (including bramble *Rubus fruticosus*) less than 5%. There should be an absence of INNS. This grassland will provide a low maintenance solution to bringing biodiversity into the Proposed Development. Newly planted areas should be kept free from weeds, litter, pests and diseases, and kept in good condition. These grassland areas will visually soften the landscape and bulbs will provide early spring visual interest.		

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
N/A- to be created on cleared land post development	Created: Other green roof	N/A[8] (Moderate in SSM)	Create green roof on the hub building which will contribute to improving air quality and increase biodiversity. The roofs will also provide visual amenity and contribute to attenuating storm water run-off. The green roof should be created with wildflower species turfs and sedum blankets. Sedum blanket system should be a minimum depth of 80mm.	Low	0.0565

[8] Based on condition sheets within metric and UKHab guidance, the condition for green roof is auto-assigned 'N/A'. To avoid a calculation error, the SSM requires a condition to be inputted for the green roof. Therefore as a precaution, a moderate condition has been assigned.

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
N/A- to be created on cleared land post development	Created: Facade-bound green wall	Moderate	Create a facade-bound green wall with plants growing in substrates such as containers or textile systems. This wall will contribute to improving air quality and the visual façade of the domineering wall. Management should aim for achieving moderate condition as defined within the Biodiversity Metric 3.1 Habitat Condition Assessment. **This will require a minimum of 2 out of 4 of the condition criteria to be achieved.** To achieve a moderate condition, species composition and structure should be varied and included wildflowers, to provide opportunities for wildlife, including insects. Plants can include native and non-native species but should be beneficial to wildlife. Planting of INNS should be avoided.	Low	0.0005
N/A- to be created on cleared land post development	Created: Introduced shrub	Poor	Shrubs planted will be climate resilient, non-native, and identified as Introduced shrub. However, shrub should be composed of a variety of species, to provide year-round visual interest and enhance opportunities for wildlife on Site, including flowering or berry producing	Low	0.0010

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
			species which can support birds and insects throughout the majority of the year. This shrub should also be free from weeds, litter, pests and diseases and in good condition. Species composition and structure should be varied and include wildflowers, to provide opportunities for wildlife.		
N/A- to be created on cleared land post development	Created: Rain garden	Moderate	Create a rain garden with deep-rooted plants and grasses. Regular maintenance should be undertaken to ensure it is free of litter, weeds, pests, diseases and functioning effectively. It should be located near runoff sources to create a suitable, sustainable system to reduce runoff rainwater reaching the sewer system. This bioretention system will be functional and promote biodiversity and be visually stimulating. Management should aim for achieving moderate condition as defined within the Biodiversity Metric 3.1 Habitat Condition Assessment. **This will require a minimum of 2 out of 4 of the condition criteria to be achieved.** To achieve this condition, species composition and structure should be varied and included wildflowers, to provide opportunities for wildlife.	Low	0.0189

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
			Plants can include native and non-native species but should be beneficial to wildlife. Planting of INNS should be avoided.		
N/A- to be created on cleared land post development	Created: Urban Trees	Moderate[9]	Trees will enhance opportunities for wildlife on Site, visually soften the landscape and provide mitigation for lost tree planting. Herbicides should not be used on trees and they should retain >75% canopy for age range and height. Management should aim for achieving moderate condition as defined within the Biodiversity Metric 3.1 Habitat Condition Assessment. **This will require a minimum of 3 out of 6 of the condition criteria to be achieved.** To achieve this condition, the trees should be native species with little or no evidence of damage from anthropogenic activities. More	Medium	0.0069

[9] This condition is predetermined by the SSM.

Baseline Habitat Type	Habitat Retained / Created or Enhanced	Target Condition	Objectives[6]	Target Distinctiveness	Target ABHU
			than 20% of the tree canopy should be oversailing vegetation beneath.		

Appendix C

Management prescriptions

Table C-1 - Management Prescriptions, Responsibilities and Work Schedule

Ecological Feature	Management Prescription	Responsible	Timing (also refer to Appendix D)
Created: Modified grassland	Creation methods ▪ A suitable seed mix will be sown at the recommended rate prescribed by the supplier.	Suitably qualified contractor appointed by Kirklees Council (KC)	Year 1
	Once Established ▪ To be mown at a length of 50mm. Modified grassland forms at the verge at the edge of the Other neutral grassland (wildflower meadows) to ensure they do not appear unkempt and to allow for a lower distinctiveness grassland due to heavier footfall and general disturbance. ▪ Modified grassland areas are to be cut once every four weeks from March to October. ▪ Monitor success of establishment annually, undertake over-seeding if required during next season. ▪ Spot treatment with non-residual herbicide to eradicate noxious/notifiable weed species if required. ▪ Monthly visits to remove any litter, debris and arisings off Site to approved recycling facility. ▪ Apply sufficient water during the growing season and more regularly during periods of drought and hot summer months.	Suitably qualified contractor appointed by KC.	Year 1 onwards

Created: Other neutral grassland (including wildflower meadow and mounds)	<u>Creation methods:</u> ■ The ground will be prepared appropriately, with measures taken to test the soil pH, reduce soil fertility, such as stripping turf and the top 5 to 10cm of topsoil or deep ploughing the grassland (i.e., burying the topsoil); ■ A diverse seed mixture containing native and locally sourced (i.e., within the region, or else, the UK) species suited to the soil conditions should be used. Yellow rattle *Rhinanthus minor* could be used, a parasitic species that can help combat competitive grass species; ■ The optimal time to sow seeds is September/October, though April/May is also suitable; and mow newly sown grassland regularly as required to control annual weeds throughout the first year of establishment, removing arisings. This will reduce weeds and help maintain balance between faster growing grasses and slower developing wildflowers.	Suitably qualified contractor appointed by KC.	Year 1
	<u>Once established:</u> ■ Grassland will be reviewed regularly to ensure the condition of the habitat matches the UKHab Condition Classification, in accordance with Natural England Biodiversity Metric 3.1. ■ First year management: Cut regularly throughout the growing season in establishment year to 40-60mm. Cutting to 40-60mm when height reaches 150mm.	Suitably qualified contractor appointed by KC.	Year 1 onwards

	■ Second year and on-going management: grass to be cut 2-3 times each year. Including a 'hay cut' between late August and October after flowering, with the sward cut to 70mm. Then a cut of 50mm to remove excess grass the following March and April. The grass should not be cut from spring through to August, to give sown species an opportunity to flower. ■ Grassland to be maintained at a varied height, with at least 20% of the sward being less than 70mm and at least 20% being taller than 70mm. Cutting shall be by hand strimming twice a year between late August and October. ■ Encroachment of undesirable weed species (e.g., common nettle, dock *Rumex sp*. (excluding common sorrel *Rumex acetosa*), creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, willowherb *Epilobium sp*., bramble) will be monitored. During the early developmental stages of the grassland sward some 'undesirable' species are to be expected and should become less dominant as the communities become established. However, where the levels of weed growth are excessive (e.g., where weed species occur in more than 5% of the total area), control measures may be required. Invasive non-native species should be controlled where present. ■ Monthly, remove any litter, debris and arisings off Site to approved recycling facility. ■ Monthly inspection		

	▪ Grasses: Comb out dead and winter damaged leaves in early spring. Remove dead foliage and old flowered stems in spring. ▪ Apply sufficient water during the growing season and more regularly during periods of drought and hot summer months. ▪ Leave 10% of each seeded area uncut to provide shelter for animals and invertebrates through the winter, cutting a mosaic, with scalloped edges.		
Created: Other green roof	Creation methods: *creation methods to be confirmed and undertaken by green roof specialist contractor. Methods to be added as an appendix to the BEMP and changes to BEMP recorded in the change log (**Appendix E**).*	Suitably qualified contractor appointed by KC.	Year 1
	Once established: *Maintenance activities to be confirmed and undertaken by green roof specialist maintenance contractor. Details will be added as an appendix to the BEMP once confirmed by the specialist contractor and changes to BEMP recorded in the change log.* Maintenance may include: ▪ Prune overgrown planting annually (September) ▪ Remove and dispose of weeds twice a year. ▪ Water as necessary to maintain healthy condition of plants (in periods of drought). ▪ Inspect twice annually for damage to fittings and overall units, replacing/rectifying as necessary.	Suitably qualified contractor appointed by KC.	Year 1 onwards

	▪ Apply fertiliser annually (spring) to suppliers' specification. ▪ Ensure outer edge gravel is sufficiently topped up and kept free of vegetation/debris.		
Created: Facade-bound green wall	<u>Creation methods:</u> *creation methods to be confirmed and undertaken by green roof specialist contractor. Methods to be added as an appendix to the BEMP and changes to BEMP recorded in the change log (**Appendix E**).*	Suitably qualified contractor appointed by KC.	Year 1
	<u>Once established:</u> *Maintenance activities will be undertaken by a specialist green wall contractor*	Suitably qualified contractor appointed by KC.	Year 1 onwards
Created: Introduced shrub	<u>Creation methods:</u> ▪ Remove any suckers from shrubs by cutting back level with the source stem or root. ▪ New plants to be watered before and after planting out. ▪ Add fertiliser application to the planter and planting bed, once annually in spring.	Suitably qualified contractor appointed by KC.	Year 1
	<u>Once established:</u> ▪ Maintain bark mulch (avoid pine mulch) to a depth of 75mm. ▪ Allow shrubs to develop and mature without becoming overgrown, or cause nuisance through blocking footpaths and sight lines.	Suitably qualified contractor appointed by KC.	Year 1 onwards

	▪ Pruning scheduled to allow flowering: will be carried out to encourage dense, healthy, bushy growth and desirable ornamental features. ▪ Hand-pull coarse, noxious or notifiable weeds to keep a weed free area around the base of shrubs. This should be undertaken monthly. Non-residual herbicide only to be used if non-chemical techniques are not feasible, applied via spot-treatment only. ▪ Qualified/suitably experienced contractors to inspect and check condition of planting at each month visit. Remove and replace failed planting and where disease is identified treat with appropriate pesticide should removal not be required. ▪ Monthly, remove any litter, debris, and arisings off Site to an approved recycling facility. ▪ Ongoing watering as required – this may be daily for establishment of new plants and increasing in periods of drought or during excessive hot periods. ▪ Re-mulch as needed annually in March to maintain 75mm depth. ▪ Apply sufficient water during the growing season and more regularly during periods of drought and hot summer months.		
Created: Rain garden	<u>Creation methods</u>: ▪ New plants to be watered before and after planting out.	Suitably qualified contractor appointed by KC.	Year 1

	▪ Apply bark mulch (avoid pine mulch) to a depth of 75mm.		
	▪ Plants to be watered as necessary for the continued thriving of all planting, but particularly in dry weather. ▪ Regular inspection of the rain gardens for silt accumulation, blockages, collapses. ▪ Removal of litter and debris offsite during monthly visits, to an approved facility. ▪ Apply fertiliser after installation (unless after August) or at the start of the next growing season in spring. ▪ Maintain bark mulch (avoid pine mulch) to a depth of 75mm. ▪ At the end of the growing season trim older flowering stems of herbaceous perennials.	Suitably qualified contractor appointed by KC.	Year 1 onwards
Created: Urban Trees	<u>Creation methods:</u> ▪ Urban trees, where possible, should be planted between November and February with placement of bark mulch around the base of the trees to prevent weed growth and ensure moisture control. ▪ Tree species will be native and an appropriate size for the proposed planting location. ▪ Any failed tree saplings should be removed and replaced with an appropriate alternative species.	Suitably qualified contractor appointed by KC.	Year 1

	▪ Fertiliser substrate should be present within the compost mix when planted. ▪ Tree ties and stakes should be put in place and if required tree guards placed around the trunks/whips. ▪ Check below-ground root anchor systems and that grates, grilles and other street furniture do not damage or compromise the trees, taking remedial action where appropriate.		
	<u>Once established.</u> ▪ To be inspected annually during the growing season. Check for damaged, dead, or diseased trees, remove trees where damage has occurred that would jeopardise long term survival of the tree and replace in the next planting season following identification, with equal or other approved tree in size and form should environmental function be compromised. ▪ Inspect planting for wind blow and re-firm trees where leaning/uneven soil and check staking and tree ties; tighten, repair or replace where necessary. ▪ Monthly removal of coarse, noxious or notifiable weeds from around the base of the trees to a radius of 500mm. Weeds are to be hand-pulled where feasible, otherwise spot-treated with non-residual herbicide. ▪ Prune to remove any dead, dying or diseased wood, retain required form and promote new growth.	Suitably qualified contractor appointed by KC, with any tree works being carried out in accordance with British Standards.	Year 1 onwards

	■ Remove stakes and tree ties at Year 3 if tree has reached required establishment. If not, review in Years 4 and 5. ■ Cut back and remove any epicormic growth. ■ During the monthly inspection, all trees within the Site should be assessed to see if disease is present. Where disease is identified, treat with appropriate pesticide. ■ Inspect mulch mats and pegs three times a year. Damaged items shall be replaced with mulch-mats to match the originals. If possible, biodegradable or recyclable mulch mats should be used. ■ Ongoing watering as required – this may be weekly but increasing in periods of drought or during excessive hot periods. (As a guide, 14-16cm girth trees will need 35 litres of water weekly and 16-18cm girth will need 80 litres, adjusting for weather conditions). ■ Watering trees every few days encourages the root system to grow downwards, and therefore strengthening the tree. ■ Inspect planting for wind-throw, re-firm trees and check staking and tree tie requirements; replace where necessary.		

Appendix D

Monitoring prescriptions

Table D-1 - Monitoring Prescriptions, Responsibilities and Work Schedule

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
Modified grassland	Annual monitoring visit for the first five years (including a UKHab survey and Biodiversity Metric 3.1 condition assessment) to assess progress to objectives and identify requirement for remedial measures. Monitoring to include audit to check on implementation of management measures.	Suitably qualified ecologist appointed by KC.	Annual years 1-10		
	Check the establishment of seed mix across the area, identifying any bare ground patches that may need to be re-sowed.				
	Check for encroachment by invasive trees, shrubs, weed species and indicators of water logging (such as large sedges, rushes or reeds).				
Other neutral grassland	Annual monitoring visit (UKHab survey and condition assessment) to assess progress to objectives and identify requirement for remedial measures. Monitoring to include audit to check on implementation of management measures.	Suitably qualified ecologist appointed by KC.	Annual years 1-10, 15, 20 and 30.		

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
	Check the establishment of seed mix across the area, identifying any bare ground patches that may need to be re-sowed. Monitoring to include audit to check on implementation of management measures.				
	Check for encroachment by invasive trees, shrubs, weed species and indicators of water logging (such as large sedges, rushes or reeds).				
Other green roof	*Maintenance subject to recommendations of specialist contactors*, but recommendations include:	Suitably qualified ecologist appointed by KC.	Annual years 1-10		
	Inspection to check the green roof has successfully established, and plants are taking root, growing and are in a good healthy condition. Inspections should include UKHab survey to assess progress to objectives and identify requirement for remedial measures.				

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
	Apply slow releasing fertiliser (subject to suppliers' specifications)				
	Annually inspect for general damage and condition of planting and fixings/structural elements. Assess whether gutters and drains are free of debris. Excess dead plant matter should be removed to avoid encouragin fungal disease.				
	Annually check that overgrown planting has been pruned and that vegetation encroaching into unwanted areas has been removed. Taller flower species should be cut back to approximately 150mm above substrate surface in autumn/winter after seeding.				
	Monitoring to include audit to check on implementation of management measures.				
Façade-bound green wall	*Monitoring tasks to be identified and undertaken by green wall specialist maintenance contractor twice monthly. Methods to be added as an appendix to the BEMP and changes*	Suitably qualified ecologist	Annual years 1-5		

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
	*to BEMP recorded in the change log (**Appendix E**). Monitoring to include audit to check on implementation of management measures.* *Recommendations may include:*	appointed by KC.			
	Indicative task: Inspection to see if the green wall has successfully established, and plants are taking root, growing and are in a good healthy condition. Inspections should include UKHab survey and condition assessment to assess progress to objectives and identify requirement for remedial measures				
	Indicative task: Prune as appropriate new shoots and excessive growth				
	Indicative task: Inspect to ensure good plant health and feed growth into steel grid for shaping.				
	Indicative task: Twice monthly inspect green wall, for no litter and silt accumulation and check for drainage performance.				

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
	Check that older flowering stems or herbaceous perennials have been trimmed at the end of the growing season.				
	Check annually that the combing out of dead and winter damaged leaves of grasses has been undertaken and dead foliage and old flowered stems removed.				
Introduced shrub	Check that the habitat has been created according to the specifications mentioned previously, and the habitat is establishing well. Monitoring to include audit to check on implementation of management measures.	Suitably qualified ecologist appointed by KC.	Annual years 1-10		
	Annual checks that pruning has been undertaken to encourage dense, healthy, bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.				

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
	Annual checks for removal of any suckers from shrubs by cutting back level with the source stem or root.				
	Annual checks for removal of coarse, noxious or notifiable weeds to keep a weed free area around the base of shrubs. Removal should be undertaken by hand if possible.				
	Annually check that mulch layers in planters and rain gardens have been topped up.				
Rain garden	Annually inspect rain gardens, for no litter and silt accumulation and check for drainage performance. Inspections should include UKHab survey and condition assessment to assess progress to objectives and identify requirement for remedial measures. Monitoring to include audit to check on implementation of management measures.	Suitably qualified ecologist appointed by KC.	Annual years 1-10		

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
	Annually check that mulch layers in planters and rain gardens have been topped up.				
	Check that older flowering stems or herbaceous perennials have been trimmed at the end of the growing season.				
	Check annually that the combing out of dead and winter damaged leaves of grasses has been undertaken and dead foliage and old flowered stems removed.				
Urban Trees	To be inspected annually during the growing season. Inspections should include UKHab survey and condition assessment to assess progress to objectives and identify requirement for remedial measures. Monitoring to include audit to check on implementation of management measures.	Suitably qualified ecologist appointed by KC.	Annually 1-5 Years 10,15,20 and 30.		
	Check below-ground root anchor systems and that grates, grilles and		Years 1, 3, 5 ,8 &10		

Ecological Feature	Monitoring Prescription	Responsible	Required (Years)	Date Last Undertaken	Actioned by
	other street furniture do not damage or compromise the trees.				
	Annually monitor trees for signs of poor health/defects. Take remedial action if required.		Annually 1-5		
	Annually monitor to see if any tree branches which are dead/dying or are encroaching on paths/pedestrian and vehicular access areas.				

Appendix E

Change Log

Table E1 below provides details of changes that have been made to the Plan and records to refer to informing the changes.

Table E-1 - Change Log

Date	Change	Reason	References / Linked Documents

Appendix F

On Site Baseline and Post Development Maps

N

Legend

Red Line Boundary

UKHab Habitat Types

g4 - modified grassland

u1b - developed land, sealed surface

Individual trees

wsp

Client: Kirklees Council

Project: Transforming Cities Fund – Heckmondwike Bus Hub

Title: Figure 1 - Baseline UKHab Map

Drawing No:	Figure 1	Drawn:	PN
Date:	12/14/2023	Checked:	AC
Scale:	500 @ A3	Approved:	JG

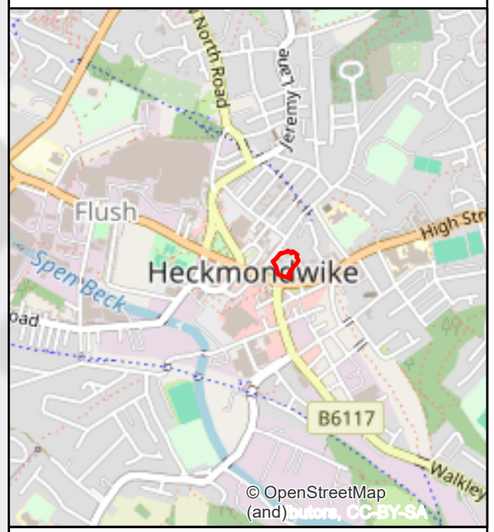
N

Legend

Red Line Boundary

UKHab Code

- g3c - other neutral grassland
- g4 - modified grassland
- u1120 - green wall
- u1160 - introduced shrub
- u1190 SuDs / Rain Garden
- u1b - developed land, sealed surface
- u 1110 - green roof
- Proposed Trees



wsp

Client: Kirklees Council

Project: Transforming Cities Fund – Heckmondwike Bus Hub

Title: Figure 2 - Post-Development UKHab Map

Drawing No:	Figure 2	Drawn:	PN
Date:	7/10/2024	Checked:	AC
Scale:	600 @ A3	Approved:	JG

Appendix G

Glossary

Table G-1 - Terms of Reference Used in This Document

Term	Description
BNG	Biodiversity Net Gain.
Condition (of habitats)	Condition is defined as the quality of a habitat. For example, a habitat may be in poor condition if it fails to support some of the rare or notable species for which it is valued or if there are certain threats or disturbances affecting it such as pollution, erosion or invasive species. Assessed on a scale of poor, moderate, good in accordance with published guidance (at the time of writing, the Biodiversity Metric 3.0 Technical Supplement (2021)).
Distinctiveness (of habitats)	A collective measure of biodiversity, including parameters such as species richness, diversity, rarity and the degree to which a habitat supports species rarely found in other habitats. Classified on a scale of very low, low, medium, high or very high in BNG assessments.
Habitat of Principal Importance (HPI)	Habitats identified under Section 41 of the Natural Environment and Rural Communities Act (2006) as being priorities for the conservation of biodiversity in England. This list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act, to have regard to the conservation of biodiversity in England when carrying out their normal functions.
Habitat Unit (HU)	Habitat Unit - this is a nominal figure that is derived from a calculation using numerical values assigned for the distinctiveness, condition and size (area), connectivity and strategic significance of a habitat. Post-Development Biodiversity Units are calculated using risk factor multipliers to aid the discussion of loss, impacts avoided and gains of habitat as a result of management and development activities. The tool automatically calculates the number of Biodiversity Units based on the information that the user inputs.
Hedgerow unit (HeU)	Hedgerow Unit – is the same as a hedge unit except that the measurement unit is length instead of area. BU and LU cannot be added together for this reason.

8 First Street
Manchester
M15 4RP

wsp.com